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THE USE OF A BUDGETING PROCESS. AN EMPIRICAL RESEARCH ON ITALIAN LISTED FAMILY FIRMS

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**7th Annual Conference of the
EuroMed Academy of Business**

The Future of Entrepreneurship

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Yaakov Weber,
Evangelos Tsoukatos

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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 260 people from over 68 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

Many people and organizations are responsible for the successful outcome of the 7th Annual Conference of the EuroMed Academy of Business.

Special thanks go to the Conference Chair Dr Rotem Shneor, the Conference Organising Committee and the University of Agder, in Norway, 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

**THE COOPERATIVE AS A FORM OF EVER-EVOLVING ENTERPRISE.
TWO CASES OF COMMUNITY-BASED COOPERATIVE IN PUGLIA***

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ABSTRACT

Since its origin, the cooperative organisation of economic activity has been analysed on the basis of alternative scientific paradigms. The different approaches are due to the multiple perspectives suggested by a phenomenon multi-faceted in itself and that can be observed starting from different premises and purposes. Starting from these considerations, it seemed us appropriate to analyse the cooperative forms of enterprise focussing on the economic aspects of the production of goods and services, carried out in enterprises in which the management is entrusted to bodies different from those allocating the financial capital. Taking this into account, the first part of this work will focus on the definition of the cooperative forms of enterprise in general economic theory and in business theory. On the basis of the theoretical-conceptual profiles of reference, this study proposes an interpretation of the cooperative enterprise representing a reference model of the economic production that can at the same time increase both the economic development and the wealth of a whole community. With specific regard to this latter aspect, the second part of this work will focus on two cooperatives from Puglia, structured as community-based cooperatives, which tend to associate the pursuit of economic goals with the social and economic development of the local communities in which they operate. Through the illustration of two case studies (the community-based cooperatives Melpignano and Jemma) this paper aims to highlight the potential of community-based cooperatives for the support and the economic and social development of local area and its residents.

Keywords: *cooperative, community-based cooperative, local economic and social development*

* This work is the result of a common commitment, anyway primary research and development responsibility for particular paragraphs may be suggested as Francesco Giaccari first paragraph, Roberta Fasiello second and third paragraphs, Stefano Adamo fourth paragraph.

THEORETICAL PROFILES OF THE COOPERATIVE ENTERPRISE

The economic theory of the cooperative enterprise

The first studies on cooperation tried mostly to identify the fundamental purpose of the cooperative enterprise, comparing the economic substance of cooperative acting with its social relevance. Vermiglio (1990) offered a brief overview of the Italian economic theory, highlighting the initial polarization of the scientific debate that, if on one side rejected that cooperative enterprises could have economic purposes, on the other hand recognized their status of enterprises having the same economic objectives of capitalist firms.

The first position (Lorenzoni, 1936) reflected the ideological significance of the experience of cooperative enterprises, considered as an instrument of redemption of the underprivileged classes from the logic of finance capital. In fact, the cooperative enterprise allowed participants to carry out a joint economic activity in such a way that democracy and solidarity among equals was guaranteed. Cooperatives differed from capitalist enterprises as the finance capital had not a key role and the surplus was distributed on the basis of the activity performed within the cooperative by the single associates.

The second position recognized the cooperative enterprises the same economic character of capitalist enterprises (Pantaleoni, 1925). In fact, it was the economic motive that drove individuals to adhere to cooperative enterprises on the basis of self-interest and benefits in terms of reduced costs or increased remunerations. In line with this perspective that recognized both cooperatives and companies the same economic status, there was the position of those who, while interpreting cooperatives as enterprises, highlighted their specificities (Tamagnini, 1954). In fact, the primary goal of cooperative associates was the joint economic activity that allowed either the most convenient exploitation of the labour they supplied, or the indirect benefit deriving from the increased income resulting from the reduction in purchase costs. It followed that profitability was, however, an unavoidable element of cooperative enterprises, though it was not the fundamental one (Sapelli, 1981). In other words, if income was the end of the capitalist enterprise, it was a condition (a measure of efficiency) for the operations of the cooperative.

Many studies, especially Anglo-Saxon ones, subsequently gave theoretical models that put cooperative enterprises at a disadvantage compared to capitalist enterprises, due to: the particular distribution of property rights that would affect the objective function and the strategies (Ward, 1958); the weakness that derived from underfunding (Furubotn and Pejovich, 1970); the risk of inefficient choices or decision paralysis due to the voting right "one vote for one person" (Hart and Moore, 1990); and the scarce availability of capital, as the distributed control power exerted by the plurality of associates discouraged outside investment.

Economic models often suffer from the oversimplification of the underlying reality, which certainly gives the possibility to formalize the premises, the analyses and the conclusions of the analyses, but does not enclose the set of variables that are involved in practice and worth to be taken into account. With reference to cooperative enterprises, the approach which considers only the economic dimension appears restrictive, ignoring the other elements that determine the cooperative acting. Elements that find expression in the advantages of performing a common economic activity that allows to share resources, expertise and common values, which reinforce the protection of interests otherwise compromised.

An effective and important commentary on these positions was developed by Zamagni (2005), who highlighted the discriminatory use of the efficiency concept, focussed only on the relationship between means and outcomes, costs and benefits, but disregarding the interests and meta-economic impacts deriving from belonging to a social structure. From a historical point of view, the cooperative was created after the establishment of the capitalist firm, which can mean either that it was the result of the market failures, and that it occupied space and needs otherwise ignored, or, rather, that it represented "*a more advanced way of doing business in socially advanced systems*". In the first case, the cooperative enterprise was relegated to a niche position, while in the second case, it could become the evolution of the capitalist enterprise in the long run.

The business theory of cooperative enterprises

The interest of scholars of business administration around the themes posed by the cooperative enterprises grew progressively, especially in the second half of the past century. According to a frequent distinction, these studies were developed around three fields (Zan, 1990; Garzoni, 2003): *the classical doctrinal position of the cooperative enterprise, the business-mutualistic position and the socio-economic position*.

With regard to the classical approach, it started from the rejection of the Fauquet taxonomy (Fauquet, 1948), that identified two types of firms: *profit-oriented firms* (coinciding with capitalist firms) and *service firms*. However, all businesses could be framed as service firms, or as tools by which various stakeholders could meet specific needs. In all companies stakeholders agreed to be paid on a residual base according to the results achieved (Tessitore, 1968). It follows that the specific characteristics of the cooperative enterprise lay in other features, and in particular in the shareholders' role and in the manner in which the business risk affected the remuneration, taking into account the nature of the interests involved.

In fact, the distinguishing elements of enterprises are not the production processes, but the difference in risk-taking and distribution of income. In capitalist enterprises the owner, holding the property rights guaranteed by the provision of the financial capital, in consideration of his managing power, accepts

any possible and residual remuneration, whose amount depends on the ability to achieve the appropriate level of income. In cooperatives, the person who accepts the residual remuneration was a plurality of people conferring specific inputs, varying according to the cooperative type. Further differences between cooperatives and capitalist firms could be found in the structure of the economic entity and in the ownership of the capital (Vermiglio, 1990), as in the cooperatives the economic entity has a broader connotation than in capitalist enterprises, both in terms of the number of involved subjects, and in terms of the complexity of the interests they bore.

The business-mutualistic position (Zan, 1990) recognized that the cooperative enterprise was characterized by the fact that the people taking the business risk were those that conferred specific factors of production and that the residual remuneration they received contained a *component* of profit (Marchini, 1977). However, the profit deriving from cost savings and additional remuneration, and resulting from the common management of the cooperative enterprise, were not the primary objective of the cooperative, as the consideration of the social group to which associates belonged and their intrinsic motivation could not be ignored.

The third position placed the cooperative enterprise in a broader context, underlining its potential to balance economic and social issues (Matacena, 1990). The analysis model focussed on the qualifying characters of cooperative enterprises, with specific regard to their fundamental objectives that could not be easily separated between economy and social life. The cooperative enterprise was defined as an *"economic institution based on the rules of proper management (with reference to the constraint of dynamic economic balance, i. e. economic, financial and capital self-sufficiency) but oriented to the achievement of several socio-economic objectives"*.

Cooperative enterprises had the same character of entrepreneurship of the capitalist ones, as they operated in the same way. The difference was represented by the social objectives oriented to enhance collective wealth. In this sense, the overcoming of the mutualistic vision oriented to increase the advantages of the contributing associates appeared evident, as the boundaries of cooperative acting are those of the entire community.

The above review of economic and business theories demonstrates the complex purposefulness and the morphological diversity of the cooperative enterprise. The reflection on the institutional forms capable of overcoming the dichotomy between the market and the public is of major importance, particularly in a time characterized by the increasing role played by cooperatives and social enterprises, despite the continuing and deep downturn in economic activity.

The development of cooperation, in its various forms, may be helped by the sharing of a conceptual scheme that overcomes positions sometimes inspired by ideological paradigms or by reductive conceptions of the enterprise efficiency, based solely on the ability to minimize the costs or to maximize

the money flow. The enterprise is no longer considered as a mere set of production means, but as a complex institution. The organisational forms of economic activity cannot be treated only in static terms searching for the conditions ensuring short-run equilibrium, as the economic behaviours of all actors are dictated by a number of reasons (Borzaga, 2008). Any firm is able to continue its operations when it manages to match cost efficiency with the multiple social needs it collects.

To integrate the above interpretations, it is necessary to recall the fact that the cost-effectiveness can be pursued within a wide range of choices, ranging from the search for the maximum efficiency of the contributed capital to the mere respect of the budget constraints in the absence of investment, while the social objectives can be pursued with varying intensity, starting from the utmost care of the social impact of economic production to the simple creation of goods appreciated by consumers.

The institutional structure of cooperative enterprises gives them the propensity and the ability to build composite forms of production and to incorporate into their choices both economic efficiency and social objectives.

In accordance with the above statements, it is ultimately possible to conclude that cooperative enterprises experience a continuous adaptation between economic and social incentives around which all the activities of economic production are developed. In this sense, the differentiation of forms observable in the composite universe of cooperatives can be justified, with some cooperatives more oriented to achieve the economic needs of their associates and others to achieve objectives having a strong social impact.

THE COMMUNITY-BASED COOPERATIVES: TWO CASE STUDIES IN PUGLIA

In this analytical perspective, it is interesting to focus on community-based cooperatives, a further experience of the complex universe of the cooperative ways in which the economic activity can be directed. Specifically, the community-based cooperatives arise from collective initiatives promoted by a community of individuals (citizens) who belong to a defined territorial context and participate in the activities taking, even at the same time, the role of labour providers and users/associates.

The main purpose of the community-based cooperatives is that to meet the needs, in terms of both supply of goods and services and employment in a geographically well-defined community (Pearce, 1993). Such needs are left partly or totally unfulfilled both because of the scarce capacity of state and market intervention to meet them (Kingma, 1997; Weisbrod, 1975), and because of the welfare cuts and the consequent privatisation of some public services. In a wider perspective, it can be said that they are a new model, governed by the citizens of a given community for the purpose of producing goods and

services for the benefit of the local area and its residents (Fasiello, 2012; Gordon, 2002; Peredo and Chrisman, 2006).

However, the community participation in the management, while representing one of the main distinguishing features of this model, is not exclusive, because other (natural and legal) persons from outside the community can participate in corporate governance as well.

The community-based cooperative (or enterprise), while presenting many aspects similar to the social cooperative, as provided by the Italian legislation in Law no. 381/1991 (and to the social enterprise, as provided in Law no. 118 of 2005), does not coincide with such models, as there are no provisions to limit its fields of activity or constraints concerning the employment of disadvantaged people (disabled, drug addicts, alcoholics, prisoners, etc.) (Fasiello, 2012). The community-based cooperative, in fact, can carry out different types of activities (not just social healthcare and education services), provided that there is a link with a geographically defined community, the citizens' active participation and the goal of the local economic development.

In the community-based cooperative associates can be natural persons but also legal persons, public bodies, associations and foundations. Associates can play various roles, since there may be:

- working members, who provide their work consistently with their qualification and professional skills;
- user members, or individuals whose participation is due to the need they have to use the goods and services produced by the cooperative;
- financing partners or investors, who give the capital in order to obtain a profit, whose influence must be limited in order to avoid that they can exercise control at the legal and economic level.

It follows that the community-based cooperatives can be considered as a cross form of cooperative not coincident with a particular type or defined size, but characterized by the aim of creating proper conditions for the benefit of that particular community that participates actively to the economic development of the territory to which they belong (Giaccari and Fasiello, 2013).

In Puglia two community-based cooperatives have been recently formed: the first one, the "Community-based Cooperative of Melpignano", that has already been the subject of numerous studies (Bartocci and Picciaia, 2013; Gaudio, 2012; Giaccari and Fasiello, 2013; Stomeo, 2012), operates mainly in the renewable energy sector; and the second one, the "Community-based Cooperative Jemma of Zollino", that deals with the production and sale of local agricultural products. Both case studies are briefly analyzed on the basis of data and official documents and by means of a structured questionnaire with open-ended questions administered by direct interview to the President of the cooperative and the Mayor of the Municipality. In the case studies we highlighted the role played by local public administrations, the activity performed and the ways for citizens' participation.

THE COMMUNITY-BASED COOPERATIVE OF MELPIGNANO

The "Community-based Cooperative of Melpignano" was established on 18th July 2011 as a result of a series of initiatives and activities undertaken for several years by the Municipal Administration (MA) of Melpignano in order to combine tradition with modernity and obtain economic sustainable development. In fact, this small village of Salento has become famous for the "Notte della Taranta", a festival organized together with other municipalities in the Greek Salento, that has contributed to the recovery and valorisation of the local cultural traditions and music. In 2007 the Municipality of Melpignano joined the National Association of Authentic Villages of Italy (AssoBAI) and today it is one of the founders of the National Association of Virtuous Municipalities, associations aimed at the valorisation and the sustainable economic development of the local communities and committed in reducing energy consumption, wastes and rubbish, in protecting land resources and in promoting recycling. It was in this context that the project for the establishment of the "Community-based Cooperative of Melpignano" was designed. In particular, on the occasion of a conference on responsible tourism organized in June 2010 in Cefalù, the National Legacoop President Giuliano Poletti offered AssoBAI, represented on this occasion by the mayor of Melpignano Ivan Stomeo, to experience a new form of cooperation, based on the self-organisation of the citizens of a community for the purpose of self-managing the development of their own territory. This new model was the community-based cooperative and the Municipality of Melpignano, thanks to the activism of its Mayor Ivan Stomeo, was one of the first municipalities to embrace such an initiative. On 9th February 2011, following the signing of the Memorandum of Understanding between Legacoop and AssoBAI, were organized public meetings aimed at the various groups operating in the area (trade associations, local tourist offices, etc.) and at the citizens of Melpignano (including those that for study and work reasons no longer resided in Melpignano). The involvement of the citizens occurred through direct contact (letters and questionnaires) and the activation of a help desk in the Town Hall. Following this, on 18th July 2001, the cooperative was established by 71 associates, including the municipality (which could participate by resolution of 11/07/2011). In this phase, the Municipality played an initial role of promotion and support aimed at allowing a subsequent independent development of the cooperative. In relation to this, in November 2012, the Municipality of Melpignano left the cooperative, which acquired full autonomy becoming expression of the will and capacity of the community to adopt a tool aimed at the harmonious development of its multiple resources.

Currently, the cooperative has 140 associates, who participate as both users (about 120) and self-employed professionals (electricians, plumbers, etc.) and whose skills are used, upon payment, for the implementation of the cooperative projects. Some of the associates live in the neighbouring towns or in other regions and participate in the cooperative because of their relations (by kinship, previous

residence) with the local community, or because they possess skills not available in the area and useful for the performance of the cooperative activities.

Each associate, upon acceptance of the application submitted to the Board of Directors (BoD) of the cooperative, pays a fee of € 25.00. The share capital currently amounts to € 4,450.00, but the cooperative also makes use of third-party capital, as it has obtained loans by Banca Etica (€ 320,000.00 to install photovoltaic panels and € 62,000.00 for the project *The water houses*), Banca Sella (€ 33,000.00) and a loan of € 100,000.00 awarded by Coopfond. The governing bodies of the cooperative are the Associates Assembly, that appoints the BoD members, and the BoD currently consisting of a President (Maria Cristina Schirinzi), a vice-president and three other directors. The cooperative operates in the fields of energy production (Ateco code 35.11) and trade and retail through vending machines (Ateco code 47.99.2). In its initial phase, the cooperative implemented a project for the production of energy through the installation of 34 photovoltaic systems on the roofs of the associates' houses for a total of 200 kw installed. This project was carried out thanks to a feasibility study (developed through the collaboration between the University of Salento and Officina Creativa), highlighting that these plants could cover about 47% of the annual energy needs of Melpignano through the production of about 729,000 kWh per year (compared to a total annual energy demand of the residents of approximately 1,563,562 Kwk). From the production of photovoltaic energy the cooperative is currently achieving annual average revenues equal to an average of € 53,000.00 (in 2013). From the implementation of this project derive direct and indirect benefits for the citizens of Melpignano. In fact, the users/associates (i. e. associates that allowed for the installation of a photovoltaic system on their roofs) have the right to free solar energy for twenty years, while the workers/associates and the professional associates were paid for the work they did for the realization of the photovoltaic systems and all citizens, including non-associates, benefit of the gains from the sale of the energy they do not consume. In this respect, the statute provides that the profits earned by the cooperative cannot be distributed to the associates. The Associates Assembly allocates such gains either for the implementation of services for the community (e. g. the management of canteens and sports facilities) and the improvement of urban quality (e. g. maintenance of public parks and roads), or reinvests them in new economic initiatives aimed at sustainable development and employment increase.

Moreover, in the past year (2013), the cooperative made a profit of around € 8,000.00 from another project, *"The water houses"*. This project consists of the installation of automatic dispensers of both still and sparkling drinking water in various municipalities of the province of Lecce. Currently, there are 10 dispensers available (but within April 2014 other 10 dispensers will be installed) capable of generating annual revenues of around € 34,000.00 (in 2013). *"The water houses"*, apart from ensuring a direct economic benefit to the cooperative and an indirect one to all citizens, supplying them drinking water

at a reduced cost (only 5 cents per litre), reduce plastic waste (citizens can buy a kit of 6 reusable glass bottles from the cooperative) for the advantage of the health of both consumers and the environment. In addition to these activities, the cooperative aims to involve citizens in other initiatives for the management of public spaces (such as the management of the school canteen, the creation of a tourist information centre and the opening of a workshop to rediscover authentic flavours), the exploitation of local resources, and the creation of new job opportunities, in order to support local vocations and an environment-friendly development.

THE COMMUNITY-BASED COOPERATIVE JEMMA OF ZOLLINO

The community-based cooperative Jemma was established at conclusion of a process undertaken 8 years before by the Mayor (Francesco Mario Pellegrino) of the Municipality of Zollino in the province of Lecce (Puglia, Italy) and aimed at the promotion of the agricultural products typical of the local area. In the initial step, the Municipal Administration (M.A.) started a collaboration with a group of farmers, to try to valorise the local agricultural products, legumes in particular. The main aim of this collaboration was to prevent cultures and traditional activities of land cultivation from extinction, due to the lack of interest shown by the young sons and daughters of local farmers. This lack of interest was also motivated by the low income prospects of farming, due to the difficulty of a profitable placement of the local agricultural products on the market at competitive prices. In an area with agricultural vocation, like the Municipality of Zollino, and where there are no employment and development opportunities other than agriculture, the loss of the agricultural traditions and the extinction of local agricultural products would have produced very negative long-term economic and social impacts. This initial collaboration between the Public Administration and farmers-citizens for the protection of the distinctive characteristics of local legumes has led to some remarkable results, like the insertion into the list of the Traditional Agricultural and Food Products of Puglia Region of two typical legume species from Zollino, submitted to the public packaged for sale during the Saint John's fair, held every year on 24th June. The success achieved, as to the relevant sales volumes and the favourable prices obtained, pushed the M.A. to involve young people in taking advantage of the positive market response.

It was so started the second phase, that led to the establishment of the community-based cooperative Jemma. The M.A., thanks to the experience gained in the neighbouring Municipality of Melpignano and to the aid of Legacoop Puglia, urged all citizens to participate in a series of public meetings to gain consent and support for the project and to illustrate the development opportunities, not only in agriculture, that the cooperative would have brought about over time in the local area. The response of the territory was positive. In this phase, the support by Legacoop Puglia and Confesercenti (Commerce, Tourism and Service Enterprises' Association) was steady.

The community-based cooperative Jemma was established in September 2012 by 9 under forty founding members residing in the territory. One of the associates was the Mayor, who participated not as a representative of the Municipality, but as an individual. Currently the cooperative is made up of 47 ordinary associates, all young individuals, for the most part resident in Zollino. Non-resident associates (about ten) generally have family ties with the residents of Zollino or have been admitted to the cooperative for the skills they possessed (in the agronomic field for example), and considered useful for the cooperative. Among the 47 associates, only one is a permanent employee with the position of farm hand, the others participate in the cooperative activity through the associated management, that is to say by supplying their work as employee or self-employee, on the basis of contractual relations defined from time to time. The share capital of the cooperative is, as with all cooperative forms, a variable capital (Cassandro, 1976) and consists of shares of 25 Euros each. Initially, the cooperative started operating with a capital of 900 Euros, currently the share capital amounts to 4,700.00 Euros (100 Euros contributed by each associate). In fact, although the statutes provide for a minimum amount of 25 Euros, in an internal regulation, the cooperative provided for a fee of 100 Euros per member. The share capital is the only financial source currently used by the cooperative, as it did not resort to any other form of financing.

The cooperative bodies are the Board of Directors and the Assembly of the Associates. There are no statutory auditors. As required by cooperative's articles, the Assembly of Associates has to be summoned at least once a year, but it meets on average once every two months in order to update associates on the activity progress, to collect the associates' views and opinions useful for the improvement of the activity and to provide the associates with information and incentives. Currently, the Board consists of 5 members (all cooperative associates) appointed by the Assembly: the President (Antonio Calò), the Vice-President (Francesco Mariano) and 3 Directors (Castellano Raffaella, Francesca Gemma and Alessandra Pellegrino). The Board of Directors, beyond the management tasks, has the power to evaluate the applications to become associates of the cooperative, as both working and non-working members.

At statutory level, the cooperative is expected to carry out various production and service activities. The wide dimension of the purpose of the undertaking is aimed: - to involve the largest possible number of community members; - to encourage the use of the expertise existing in the area for the creation of new jobs; - to supply services for the benefit of the community as a whole; and - to provide employment opportunities for residents through the provision of organized services to third parties. This purpose has not been fully realized until now, partly because the cooperative is still in a start-up phase, but mainly because it has found administrative and bureaucratic obstacles that have effectively prevented the implementation of multi-sector and multi-target activities.

In line with the agricultural vocation of the territory, the cooperative produces and sells the following legumes: the *Nano-Pea of Zollino*, the *Cuccia (Broad Bean of Zollino)*, the *Grass Pea (called Toleca)*, the *black and white chickpea*. These legumes are grown on the land granted on free loan by non-associated residents and by the M.A., or grown by associates on their own land and then transferred to the cooperative, which completes the manufacturing process (cleaning and selection of the products, packaging) and deals with the market placement. There are associates who deliver the cooperative their agricultural products grown on their own plots of land located in the area, while the cooperative deals with the packaging and the market placement. In this case, the remuneration of the associates is carried out in the exchange relation established with the cooperative, that transfers to associates the 75% of the revenues obtained by the sale of the transferred agricultural products and holds the remaining 25% to cover the costs of packaging and distribution of the products and the operating costs of the cooperative. In addition, associated and non-associated cooperative members provide their uncultivated land (currently about 2 hectares), in exchange for receiving enough legumes for the needs of the family, benefiting at the same time of a free maintenance of the ground. Even the M.A., upon request by the cooperative, has made available a hectare of land on a free loan for the cultivation of legumes, under the cooperative's commitment to manage the ground, thus preventing the M.A. from paying the maintenance costs. The other plots of land used by the cooperative are grown autonomously by associates who deliver it their products.

The cooperative uses about 17-18 hectares. The products of the cooperative can be bought by residents directly from the cooperative store, at lower prices than the standard market prices, also thanks to the possibility of selling to local residents (families and restaurants) the unpackaged product. Legumes are mainly sold to people outside the Municipality of Zollino, thanks to agreements with agents that are responsible for the distribution of the products in stores dedicated to the sale of typical food products even outside the Province of Lecce (such as in the regions Puglia and Campania and on the French Riviera). The limited production volumes do not allow Jemma, however, to enter into agreements for large supplies of product with distributors at national and international level interested in the product (just think of Eataly). Therefore, the need to increase the production quantities while maintaining the traditional methods of production and the quality of the raw materials (seeds used are selected from the local production) becomes more and more urgent. In this regard, it must be considered that the limited production volumes are due not only to the limited availability of original local seeds, but also to the peculiarities of the production cycle of legumes (cultivation is made on a three-year rotation basis, so that the purpose of the production increase can only be achieved by cultivating a greater number of hectares). In this sense, the challenges, that the cooperative has to face, are the following: - to attract the interest of a greater number of associates, owning land in the local area; - to overcome the

cultural barriers discouraging the inclusion into the project of land owners belonging to the neighbouring municipalities; - to develop a more stable cooperation with the territory for the expansion of lands obtained on free loans and used for the production; - to acquire the right to use such land for a sufficiently long period (at least ten years). The entire community of Zollino takes advantage of the presence of the cooperative in terms of image return and development of the economic activities existing in the local area. In fact, the cooperative is able to attract customers from the neighbouring towns, so that the largest part of its products are sold in the provincial market. Then, there are various initiatives, such as the patronal feast, festivals and fairs that attract flow of tourists interested also in the cooperative products.

CONCLUSIONS

As shown in the present work, cooperatives are a form of enterprise which developed subsequently to capitalist ones. To conclude, let's recall what Zamagni (2005) stated: *"Two interpretations can be given to this historical fact. The first sees the cooperative as the answer to a specific "failure" of the capitalist form of enterprise, i. e. as a kind of remedy or compensation for what the capitalist enterprise fails to obtain or to achieve... The second interpretation, however, sees the cooperative as a more advanced way of doing business in socially advanced systems... The first leads to relegate the cooperative to a niche position, useful and effective as long as you want, but to be included in the group of the exceptions to the rule... The second interpretation, however, leads to see the cooperative enterprise as the form to which the capitalist form of enterprise may tend in the long run, in advanced market economies"*. The present study focuses on the second interpretation and, in this sense, the study of the characteristics of community-based cooperatives, albeit limited because of the number of words allowed, is of great help to confirm the opportunities that cooperatives are able to offer for their ability to meet the needs of economic development and employment with the need to protect health and the environment in small local communities. The two case studies from Puglia show that job creation and the development of entrepreneurial activities on the part of the citizens can be implemented using this new cooperative model in which citizens self-manage the development of the local area through the production of goods and services at advantageous economic conditions, valorising local resources and creating employment, while at the same time protecting the environment and the natural and cultural vocations of the territory.

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CROSS-CULTURAL ISSUES IN OFFSHORING: GERMAN MANUFACTURING AND ENGINEERING IN INDIA

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ABSTRACT

This study focused on German middle-sized manufacturing and engineering companies offshored to India. The aim was to explore the working experiences of senior Indian managers, and to gain some understanding of how they perceive the cultural distance between the two countries. Further, and more importantly, how they manage the cross-cultural working environments within the offshored industry in order to progress their careers to senior levels.

Face-to-face semi-structured interviews were conducted amongst Indian senior technical and HRM managers, with more than ten years working experiences in German offshored manufacturing and engineering companies. The findings revealed that misunderstandings arising from strategic and operational paradoxes embedded in cross-cultural operations were a part of the daily working experiences. However, careers of those capable and willing to manage the cultural diversity were given an opportunity to progress to senior levels and to operate globally, beyond the initial German-Indian cultural boundaries. Further, the findings suggest that for the offshoring industry to effectively manage a culturally diverse workforce, it needs to understand individuals' constructs of the self, of others, and the relationship between the two, since these determine the individual's experiences on the emotional, cognitive and motivational levels. Thus deep understanding of cross-cultural issues and effective management of individuals ultimately impact the working relationships and the organizational outcomes.

Key Concepts

Offshoring, cross-cultural awareness, cross-cultural dimensions, cultural distance, globalization, cultural convergence and divergence, the self, emotion, cognition, motivation.

INTRODUCTION

Offshoring became a preferred modus operandi for organizations in today's global knowledge- and service-based economies. It is driven by the liberalization of governmental controls, the rise of supporting institutions and an access to new markets. Instant communications and fast moving and reliable transportation enabled organizations to geographically separate, or 'offshore' manufacturing and services in time and space (Quinn, 1999; Grossman and Rossi, 2006). 'Offshoring', sometimes referred to as 'a captive offshoring' includes manufacturing, and activities that do not require shipment of physical products thus can be performed in a foreign country. Blinder (2006) described offshoring as a migration of jobs but not the people who perform them.

The manufacturing industries began to outsource their non-core operations back in the early 1970s and services soon followed (Taylor and Bain, 2000, 2005; Hirschheim and Lacity 2000, Kanban, et al., 2003). Traditionally, China held a leading position in outsourced manufacturing. However, India with its English speaking and highly technically qualified young workforce, replaced China as a desirable destination for both outsourcing and offshoring, particularly in the ICT, engineering and R&D. Its rapid offshore market grew by about sixty per cent per annum, which accounts for over thirty percent of today's overall global outsourcing contract value (Tapper, 2004, Brown and Stone 2004, Mehta et al., 2006, Budhwar et al., 2006).

Germany, due to falling birthrates found itself short of technically qualified workforce, thus offshoring to India provided an attractive solution (Thurm et. al., 2007; Brandernburg and Domschke, 2007; 2009; Preissig, 2009; Heidemann, 2012; Demographic Change in Germany, 2011). Further, the move offered cost benefits from the economies of scale and, an entry into rapidly growing Asian markets.

Recently published research on management challenges in offshoring found an inverted U-shape relationship between suitability of tasks for offshoring and the level of skill and professional experience required to carry these out competently (Pollak 2003, Thurm 2004, Grossman and Rossi, 2006; Youngdhal et.al., 2008; Contractor et al., 2010; Mihalache et al., 2011; Jensen and Pedersen, 2012). Offshoring into a geographically and culturally different parts of the world carries both benefits and risks, depending on the task complexity. On the one hand, in labour intensive manufacturing employees perform relatively simple and repetitive tasks, thus instructions can be expressed in explicit symbols that are clear and relatively easy to learn. The output then can be successfully maintained and with fewer misunderstandings than tasks that require greater conceptual knowledge and skills (Hamlin et al., 2001, Levy and Murnane 2004, Leamer and Storper 2001). Knowledge intensive activities, on the other hand, consist of complex, non-routine tasks that require specific technical knowledge supported by shared tacit know-how skills. Some researchers reported that

organizations tend to radically re-engineer their processes for the purposes of offshoring. This tends to result in reduced quality of the R&D output, and the readiness to innovate (Brenner and Tushman, 2003; Grimpe and Kaiser 2010; Mihalache et al., 2011). Heenan and Perlmutter (1979) classified relationships between headquarters and offshored activities

according to the degree to which they are ethnocentric, polycentric, region-centric, or geocentric. In ethnocentric relationships, policies and procedures are imposed from the top; in polycentric, these are adapted and implemented locally. In region-centric relationships, the headquarters act as a buffer between the regions, and in geocentric relationships policies and procedures are developed with the input of all parties. Cultural diversity is having a potential both for synergy and disruption, depending on variables such as language, political stability, level of development, market size and sophistication, since they all can create the 'distance'. Finally, today's evidence shows that corporations rarely fall victims to the 'lack of fit' between national cultures. More often than not, corporate cultures are seen to modify the dynamics of national cultures (Buckley and Casson, 1976, 1979; Erramilli, 1996; Morosini, 1998; Parkhe, 1991; Shenkar, 2012).

Culture and HRM in offshoring

In the late 1990s, organizations downsized, delayed and re-engineered their processes in order to become more flexible in keeping pace with new technology and the growing global competition. Re-engineering and managerial control required equally flexible HRM practices (Betcherman *et al.*, 1994). This meant selecting the human resource policies and practices that would best support that strategy. The new HRM embraced ideas of continuous employees training and development. A case was made for the inclusion of the HRM into the strategic decision making processes in order to develop a global approach to manage rapidly growing culturally diverse workforce (Brewster, 1990; Pettigrew and Henry, 1990; Guest, 1991; Sisson, 1994; Legger, 1995; Storey, 1995; Erickson and Gratton, 2007).

The present management literature suggests that successful organizations clearly and visibly articulate their values; focus on activities such as effective coordination of shareable ideas and, on cross-culturally transferable management capabilities. The HRM role is to attract and retain highly engaged diverse employees. Some believe, thus is achievable only when the HRM function becomes integrated into the strategic decision making processes (Yeung et al., 1999; Daniels and Radebaugh, 1998; Hamlin et al., 2001; Teece, 2007; Stahl and Bjorkman, 2006; Sparrow and Brewster, 2006; and Morris and Snell, 2011). This further demands a thorough awareness of the cultural assumptions underlying the HR practices themselves, and an ability to evaluate and resolve problems arising from cultural distance.

However, issues arising from managing a culturally divergent workforce make it almost impossible to develop a universally integrated HRM model. Morris and Snell (2011) attempted it by configuring

organizations' existing cross-cultural intellectual capital (individual, organizational and social) with their capabilities (generation of ideas, sharing knowledge and implementation of new ideas). The model was then tested in a number of manufacturing global organizations. The findings revealed two key conclusions:

1. successful development of organizational capabilities in cross-cultural contexts depend on how well the relationship between the individual, organizational and social dimensions is configured, and
2. all the tested dimensions were found to be equally important, although their impact on organizations' abilities to generate new ideas, to share knowledge and to implement new ideas in cross-cultural environments significantly differed.

In conclusion, Morris and Snell's (2011) research findings suggest, that an operable integrated HRM approach toward the more difficult aspects of cross-cultural diversity could hold a key role in the development of both organisation and employees' coping skills. While corporation cultures may show similarities, individuals in these corporations come from different cultures and hold different self-constructs, and how they see others. These constructs can and often do influence, the nature of individual experience, in terms of cognition, emotion and motivation (Markus, Kitayama, sighted in Baumeister, 1999).

Cross-cultural perspectives

Culture is a complex construct consisting of social norms, values, beliefs and attitudes. It is often difficult to separate national cultures from their economic and political factors, although there is considerable evidence that some aspects of culture differ across national borders and have a significant impact in the workplace. For the purpose of this paper, Hofstede's (2001) 5D Model of cultural differences was used for determining the relative cultural distance between German and Indian technical employees, and more importantly, because the model tends to form a basis for a cross-cultural orientation training used by companies operating in different geographic areas.

Hofstede offers an insight into cultural distance by offering two outcomes: 1) it enables us to categorize seemingly inconsistent observations by asking questions about the assumed universality of motivation, cognition and emotions, and 2) the categories then help us to identify the role of culture in mediating and regulating individual and corporate behaviours.

The 5D Model consists of the following bipolar dimensions: individualism versus collectivism, power distance, uncertainty avoidance, and masculinity versus femininity. Later Bond (1991) and Minkov (2010) added *pragmatism versus normative orientation* and *indulgence versus restraint* dimensions.

Hofstede's socio-cultural dimensions are the following:

1. *Individualism versus collectivism* dimension compares group harmony and consensus against

individual approach to life:

- *individualism* is the tendency to rely on and take care of oneself, and
 - *collectivism* is characterized by a tight social network to which individuals belong, and feel different from other groups.
2. *Power distance* dimension addresses the extent to which the less powerful members in organization accept unequal power distribution.
 3. *Uncertainty avoidance* dimension refers to attitudes and behaviours toward uncertainty. (i.e.: avoidance of risk, and preference for predictability and control).
 4. *Masculinity versus femininity* dimension, addresses:
 - *masculine* cultures that emphasize assertiveness, competitiveness and materialism, and
 - *feminine* cultures that are concerned with quality of relationships, nurturing and social well-being.
 5. *Pragmatism versus normative orientation* dimension describes how people in the past, as well as today, relate to the fact that so much that happens around us cannot always be explained:
 - *organisations with normative* orientation generally have a strong concern with establishing the absolute truth, are normative in their thinking, exhibit respect for traditions, and focus on achieving quick results, and
 - *organisations with a pragmatic orientation* believe that truth depends very much on situation, context and time. These tend to adapt traditions to changed conditions and show perseverance in achieving results.
 6. *Indulgence versus restraint* dimension juxtaposes the free gratification of human needs against strict social norms:
 - *indulgence* stands for a society that allows relatively free gratification of basic and natural human drives related to enjoying life and having fun, and
 - *restraint* stands for a society that suppresses gratification of needs and regulates it by means of strict social norms.

The above 1 – 4 socio-cultural dimensions represent individuals' values and norms passed on from one generation to another during the process of socialization. The latter were added to support today's global business and organizational environments.

Trompenaar et.al.(1998) and Hall, et.al.(1960, 1984, 1990) developed further dimensions, such as 'universalism versus particularism', 'monochronic versus polychronic' and 'high versus low context culture'. These additional dimensions were extending the discussion beyond the scope of this study, thus were excluded.

The Table 1 below shows the current cultural values of India and Germany on the above 1 – 6 dimensions as published by the Hofstede Centre (2014).

	Country	Country	Score
Socio-cultural Dimensions	INDIA	GERMANY	Differences
Power Distance	71	26	+45
Individualism versus Collectivism	49	72	-23
Masculinity versus Femininity	57	68	-11
Uncertainty Distance	31	55	-24
Pragmatism v. Normative Orientation	52	57	+5
Indulgence versus Restraint	26	40	-14

Source: The Hofstede Centre (<http://geert-hofstede.com>), 2014

Table 1: The Comparison of Scores Between India and Germany in Hofstede's 5D Model of Cultural Differences

The above score differences between German and Indian cultures show Germany low on the power distance, and relatively high on uncertainty avoidance and individualism. India is high on power distance, but low on uncertainty avoidance and individualism.

Both cultures are relatively high on masculinity, which doesn't show in the scores. In India people are known to restrain from indulging in masculine displays to an extent that they might be naturally inclined to. In Germany, the focus is on success and achievement, validated by material gains. Work is the center of individual's life and visible symbols of success in the work place are important.

In Indian organizations, the real power is centralized and employees expect to be directed and told what is expected of them. However, Indian employees show a relatively low need for certainty provided by planning, tend to be patient, tolerant and inventive in "bypassing the system" when seeking answers to problems. Indians more than Germans show a preference for belonging to a larger social framework, where hiring and promotion decisions are often based on relationships.

Kogut and Singh (1988), Barkema et al. (1997) and Barkema and Vermeulen (1998) examined the role of uncertainty avoidance. They reported that uncertainty avoidance was more important than any other cultural dimensions in predicting outcomes. Hofstede's critics argue that his assumptions of

cultural equivalence are misleading. Further, his cultural distance index used to measure the constructs relies on national culture measures alone, where corporate cultures and behaviours tend to be overlooked (Goodstein & Hunt, 1981; Haspeslagh & Jemison, 1991; Schwartz, 1994; Schwartz & Bilsky, 1990). Whether we agree or not, cultural distance, by definition, implies homogeneity within national cultures, stability and symmetry between the home and host cultures. Further, it implies causal effects, on entry mode and performance. The culture distance construct is often used when explaining why companies fail, although, we have to remember that the construct of culture distance is difficult to conceptualize and could prove misleading for assessing success or failure in offshoring.

THE METHODOLOGY

The key objectives of the study were to explore the expectations and realities of senior Indian managers employed by German offshored engineering and manufacturing companies. In particular, an information was sought about the process of their recruitment, cultural socialization, technical training, performance appraisal, compensation and rewards and career development.

Data collection

Qualitative methods offer a broad range of techniques for describing, decoding and explaining meanings of observed social phenomena (Van Maanen, 1983; Easterby-Smith et al. 1991; Walker, 1991; Miller, 1991), Interviewing is a basic data gathering technique, and range from structured or directed questions to unstructured or open account. In depth, face-to-face interviews are the fundamental approach, and are appropriate where the primary purpose is to understand the meaning of issues and situations that aren't structured in advance by the researcher. This method is particularly effective for gaining new insights into management issues since it allows the researcher to probe the interviewee's personal experience and to encourage them to explore their personal values and beliefs. This has to be handled sensitively and with a considerable skill, if the researcher is to be trusted. Further, there is a need to understand the constructs used by the participants, and to understand their worlds. The researchers in this study opted for a semi-structured, face-to-face interviews, where respondents were asked to explore a number of open questions. The questions were structured around the topics of their job selection, socialization into the company, technical training, performance appraisal, compensation and rewards and career development.

The participants

For the purpose of this paper, the snowballing method was used to select participants. The participants were senior Indian managers (nine technical and three HR) working for large German manufacturing or engineering companies. All were male, held technical degrees, and were aged

between mid forties to mid fifties. Each was in charge of more than hundred employees. The participants worked for German offshored companies for more than ten years, although except of one, who was employed by the same company continuously for twelve years, the rest were in their present employment for less than two years. One of the participants held eighteen positions in German offshored companies over the past fifteen years. Each attended cultural orientation workshop at the beginning of their employment, held locally, but then regularly participated in technical coaching programmes held in Germany. One commutes to Europe every six weeks and one currently manages his team in India from Germany. The HR managers spent two years in the company's HR department to learn the rules and procedures there, and to learn German.

Time, data collection, place and recording technology

The in-depth interviews were recorded in face-to-face situations. The participants were given the six topics outlined above and invited to talk freely about their experiences in German offshored companies. The interviews took place in the participants' offices over a period of six months in the first part of 2012. Each participant was visited twice and the duration of each interview was dependent on the availability of 'free' time and willingness to participate in the study. The first interview took a place during the working hours and the follow up interviews took place after working hours. In the latter, the 'mirroring' technique was used to clarify earlier reported issues. The interviews were digitally recorded and later transcribed and reflected upon in order to spot consistency in the narrative, signs of fatigue, a potential social desirability bias, or politically correct responses.

THE INTERVIEWS

The interviews data were summarized into three broad categories: Recruitment, Compensation and Reward, Socialisation, Training and Performance Appraisal, and Cross-Culture Issues, and presented in Tables 2 – 4 below:

Recruitment, Compensation and Rewards
<ul style="list-style-type: none"> • The central HR department is at the company's Headquarters in Germany, although the HR rules and policies are implemented locally.
<ul style="list-style-type: none"> • Technical employees are routinely recruited from other offshored companies.
<ul style="list-style-type: none"> • In order to reduce the negative impact of attrition, some offshored companies began to recruit individuals over the age of 35 years.

<ul style="list-style-type: none"> • Western educated employees are sought after; since they are expected to adjust faster, although they expect higher salaries and a rapid promotion.
<ul style="list-style-type: none"> • IT specialists and engineers expect to be promoted within 3 years.
<ul style="list-style-type: none"> • IT specialists and engineers are more interested in good salaries than in long-term benefits such as healthcare and pension.

Table 2: The Senior Indian Managers' Reflections on Recruitment, Compensation and Rewards

The qualitative data in the above Table 2 suggest that the Indian managers are comfortable with uncertainty by being prepared to change jobs in order to secure the best position available (as predicted by Hofstede's 5D Model). However, their senior management status suggests a high level of individualism and lower power distance, which differs from Hofstede's numeric indicators on the *Power Distance* and *Individualism versus Collectivism* culture dimensions.

Bhatnagar (2007) surveyed the Indian offshoring employment opportunities and concluded that while India has a large talent pool at the entry levels, the available pool of middle and senior management is relatively small. The latter's annual attrition rates were estimated at about 30-35 per cent (Phukan, 2007). This is seen as a potentially serious problem both for India and the whole offshoring industry in terms of developing trust and a shared base for a long-term productive relationship. The above findings tentatively support Bhatnagar and Phukan's conclusions, although it isn't clear from their statement, what assumptions underlie their vision of 'a long-term productive relationship'.

Socialisation, Training and Performance Appraisal
<ul style="list-style-type: none"> • Cross-cultural awareness training for expats is carried out in Germany and for Indian technical employees in India. These tend to be delivered by external trainers.
<ul style="list-style-type: none"> • In the past, only German engineers were project leaders. Now they come to India only for up to three months at a time. This, in the view of their Indian colleagues often causes communications and timely resolution of problems.
<ul style="list-style-type: none"> • All development and technical training programmes (both technical and cross-cultural orientation) were developed in Germany.
<ul style="list-style-type: none"> • Indian project managers are trained in Europe and the training was considered excellent.
<ul style="list-style-type: none"> • Manual prototype testing is always carried out in India, for costs reasons.
<ul style="list-style-type: none"> •
<ul style="list-style-type: none"> • Today, Indian project leaders can expect to spend working 3 – 6 months per annum in Europe, while directing the operations in India from there.
<ul style="list-style-type: none"> • Indian engineers working as global project leaders can spend up to 2 years

in Europe.
<ul style="list-style-type: none"> • Finally, the managers felt that they need to be included more in planning and decision making processes.
<ul style="list-style-type: none"> • European style appraisals tend to offend Indians who, on receiving lower than expected rating, tend to leave.

Table 3: Socialisation, Training and Performance Appraisal

The above findings suggest that the cultural orientation programmes tend to be left to external training companies to develop and to deliver on behalf of the parent company, while the technical development programmes are developed at the parent company. Further, the above table reveals some misunderstandings arising from strategic and operational paradoxes embedded in cross-cultural operations that are an integral part of the daily working experiences. However, careers of those capable and willing to manage cultural diversity were given an opportunity to progress to senior levels and to operate across cultural boundaries.

In terms of Hofstede's 5D Model of cultural dimension, the above findings suggest high individualism, and low power distance amongst the managers, which doesn't comfortably fit into the model.

Cross-Cultural Issues and Career Development
<ul style="list-style-type: none"> • When misunderstandings arise, these are attributed to German engineers not speaking fluent English.
<ul style="list-style-type: none"> • The managers felt that they alone were expected to culturally adapt, rather than it being a two-way process.
<ul style="list-style-type: none"> • The managers raised questions about European and Indian technical teams being valued equally.
<ul style="list-style-type: none"> • The managers reported problems when communicating with the local and central HR departments. These were referred to as 'a nightmare' and 'unresponsive' to the local needs.
<ul style="list-style-type: none"> • The managers are used and willing to work long hours, if needed, and don't understand they are discouraged from working outside the official working hours and at weekends.
<ul style="list-style-type: none"> • Not all German engineers are seen as 'multiskilled', on occasions were reported to arrive unprepared, and are known to refuse to help by claiming that: '... this isn't their job, ...'.
<ul style="list-style-type: none"> • Until recently, German engineers held all senior positions.
<ul style="list-style-type: none"> • The HR managers were satisfied with their role, although would welcome greater interaction and an exchange of ideas with the Headquarters.

Table 4: Cross-Cultural Issues

The above table shows that the company aims and objectives are clearly carried out by a diverse workforce with different work ethics. This suggests that the relationship between German offshored companies and Indian technical employees is becoming professionally integrated without necessarily narrowing the culture distance. The next step to ask is if there are recognizable and universal aspects of culture-free components of cognition, emotion and motivation, and to what extent these help to unify diversity. However, answering these questions extends beyond the scope of this study.

DISCUSSION

Hofstede's 5D Model of cultural dimensions was used as a framework to gain an insight into the cultural differences between German and Indian offshoring operations. This offered a fairly familiar conceptual framework for the researchers to work with when attempting to categorize seemingly inconsistent observations by asking questions about the assumed universality of motivation, cognition and emotions, and to identify the role of culture in mediating and regulating individual and corporate behaviours. Hofstede (1989) believes that some cultural differences are less disruptive than others, although the expatriate literature suggests that adjustment to similar cultures can be just as difficult as adjustment to distant ones (Black & Mendenhall, 1991; Brewster, 1995; O'Grady & Lane, 1996).

This study focused only on the offshoring experiences of senior Indian senior managers and the study findings suggest that in spite of the considerable culture distance between the two nations, Indian technical employees are offered an opportunity to become integrated into the parent company and at relatively senior levels without losing their cultural identity.

Leading culturally diverse teams requires an understanding of leadership and its effectiveness and is an accurate predictor of performance outcomes. Effective leadership has a positive impact on employee task performance, organizational identification and organizational citizenship behaviour (Piccolo, Greenbaum et al. 2010, Walumbwa, Mayer et.al. 2011). It plays an important role in the process of sense making and sense giving, thus the culture construct in the role of leadership is an important one.

Culture is a dynamic force for change, influencing and being influenced by other world-views and acts. A belief that today's globalization has a homogenizing influence on local culture has not been so far supported. However, leveraging the benefits of offshoring against protecting the local culture requires a careful approach. Different cultures have different concepts of individuality that determines the basic relatedness with others and with institutions. The difference between individuals in 'independent' or 'interdependent' cultures has a distinct set of consequences for their cognition, emotion and motivation, and none of the three components have been found as being culture-free.

Cultural distance aside, financial threats to offshoring can be considerable. The initial investment in the relocation requires additional resources without affecting the daily activities. This can weaken the communication of the strategic objectives to the employees, introduce uncertainty, detract the focus on innovation, and lose experienced employees. The introduction of culture distance construct adds complexity, which is difficult to include in the calculations during the initial planning process.

In conclusion, if offshoring is not to buckle down under the weight and cost of culture distance, the HR function has to take on the responsibility for managing culturally diverse recruitment, develop culturally aware leaders, and provide direction, without undermining the individual's self-construct. By attracting, and developing employees who are comfortable with the strategic and operational paradoxes embedded in the global organizations and who are capable of maintaining cultural diversity, the HRM becomes the key change agent in helping organizations to achieve their strategic aims.

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ORGANIZATIONAL STRUCTURE AND PERFORMANCE OF THE PROPERTY-CASUALTY INSURANCE INDUSTRY IN JORDAN

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ABSTRACT

This study investigates the effect of organizational structure on firm performance, in the Jordanian property-casualty insurance industry. Jordanian insurance companies take only two organizational forms: conventional stock insurance companies and Islamic mutual insurance companies (Takaful). A total of 28 insurance companies over 9 years period is analyzed using a multi-regression model. In general, the findings show no significant impact. These results are inconsistent with agency theory. The empirical evidence suggests that each structure has its own comparative advantage. During the sample period, there was a backward in the performance of the Jordanian insurance companies, although there are large differences between companies. Premiums growth rate decreased from 12% in 2004 to 7% in 2011, while that of the payment increased from 15% to 22% during the same period. Islamic insurance market share increased significantly from 4.8% in 2003 to 7.9% in 2011, indicating that this form of insurance is gaining a market.

Keywords: *Organizational Structure, Conventional Insurance, Takaful, Performance, Jordan.*

INTRODUCTION

An insurance company is a financial institution, similar to others such as banks and credit association, but is distinctive in that it might have a number of organizational forms such as stock, mutual, reciprocal and Lloyds' associations. Jordanian insurance companies take only two organizational forms: conventional insurance companies and Islamic mutual insurance companies (Takaful). These two types of insurers can be seen as a stock form and a mutual form, respectively. The stock form of an insurance company has the standard corporate form, which separates the roles and interests of the owners (shareholders) from the customers (policyholders) and managers. Such structure promotes efficiency via specialization, however, causes agency problems among these parties. Although the mutual form of insurance company has the standard corporate form, it has unique relationships between shareholders, policyholders and managers. There is no agency conflict between shareholders and policyholders

because the later combines the policyholders and shareholders functions and are residual risk bearers. Policyholders are not a fixed-claim party.

It is expected that the performance of these two forms of insurers might be varied. One reason for this might be explained by the fact that insurance regulation mitigates agency costs of fixed claim (policyholders claim) in stock insurance companies, while it is not the case in mutual insurance companies. Another reason lies in the mutual form, which combines the policyholders and shareholders functions. Thus, eliminating agency problems between these two parties by making them the same party. However, this increases the contracting costs between shareholders and managers (Mayers and Smith, 1981). (Jensen and Meckling, 1976) advocated that contracting is costly and it is not optimal to mitigate all agency problems. (Fama and Jensen, 1983) argue that firm's organizational structure can be used as a mechanism to control for agency problem, therefore, its performance.

This study investigates the effect of organizational structure on firm performance, incentive problems, and financial decisions in the Jordanian property-casualty (non-life) insurance industry. The importance of which can shed lights onto the theory for several reasons. First, the agency and information costs of various types of organization structures are different. Second, unlike companies in the U.S. property-casualty insurance industry, Jordanian insurance companies take only two organizational forms: conventional stock insurance companies and Islamic mutual insurance companies (Takaful). Stock companies separate the functions of managers, stockholders, and policyholders, while Islamic mutual companies merge the owner and customer functions, i.e. policyholders both supply capital and are residual risk bearers. Therefore, it is intuitive to examine performance and incentive problems. Third, there have been many empirical examinations undertaken on industrial firms, but few on financial firms. Fourth, there are a few literatures, if any, examining the Jordanian insurance industry in terms of performance and structure. Fifth, some of the Jordanian insurance firms recently offer savings-type policies, which are not offered in the United States. This unique feature, where applicable, enables us to examine the hypothesis that insurance companies issuing savings-type policies to mitigate the costs of conflicts between owners and customers. Thus, the empirical investigation of the relationship between organizational structure and firm performance in the Jordanian insurance industry should be helpful in this regard.

This study will be organized as follows: In addition to this section one, the introduction, section two reviews the related literature. This is followed by section three, which describes the Jordanian insurance industry. The forth section discusses the main research questions and the results of the empirical analysis. The article concludes with a brief summary and discussions.

METHODS

The literature on the relationship between the structure of an organization's "property rights" and its real activities and performance can be traced back to the pioneered work of (Berle and Means, 1932) and (Coase, 1937) (in Lai and Limpaphayom, 2003). Later on, (Alchian and Demsetz, 1972), (Jensen and Meckling, 1976), (Mayers and Smith, 1981, 1986) and (Fama and Jensen, 1983) developed this stream of research by focusing on principal-agent activities in different ownership and organizational structures through the incentive conflicts between contracting parties. The purpose of this study is to build on these researches by investigating the impact of organizational structure on firm performance, incentive problems, and financial decisions in Jordanian property-casualty insurance industry.

Many studies examined the relationship between firm's organizational structure and performance in the insurance industry. However, the evidences are conflicting. There are two opposing views. One exploits that stock form is more efficient (Brockett *et al.*, 2005) and (Cummins *et al.*, 1999), while the other documented the opposite (Eling and Luhn, 2010).

Moreover, (Ismail *et al.*, 2011) examine the relationship between efficiency and organizational structure for Takaful operators and insurance industry in Malaysia. Using data envelopment analysis (DEA), they find that conventional insurance companies are more technically efficient than Takaful. In addition, they asserted that the organization form has an impact on efficiency.

In Jordan, (Ajlouni and Tbaishat, 2010) measure the technical efficiency of Jordanian insurance companies using DEA, during (2000-2006). The sample consists of 22 conventional insurance companies listed in Amman Stock Exchange (ASE). The inputs variables used to measure efficiency are: technical reserves, equity, borrowings, and operating expenses. While the outputs include: premium and investment income. The results reveal that insurers' efficiency is increased over the study period, and ASE values the technical efficiency of insurance companies by appreciating their stock prices.

The Middle East and Central Asia insurance markets continue to be propelled forward by comparatively low insurance penetration ratio of 1.51%, of which 0.38% for life and 1.13% for non-life business; combined with rapid economic development across the region. Recent analysis has highlighted that total premiums in 2010 grew by 12.61% to reach USD 33,932 million, where life business grew by 16.4% to reach USD 8,633 million. Non-life business grew by 11.36% to reach USD 25,299 million. This might be explained by population growth and economic development witnessed in the region. However, the region insurance market contributes to less than 1% of the world market; presenting 0.34% and 1.39% of the world market for life and non-life business, respectively (Swiss Reinsurance, 2013). This indicates that culture, economics, religion and the smallness of the economy did not account for the development of the insurance business. Indicating a significant and further

growth potential but on the other hand, the Middle East and Central Asia will still have to face a number of challenges that affect its performance.

Jordan is a small country with an open economy in the Middle East. It has been remarkably successful in achieving rapid economic growth in the context of financial and political stability (Vittas, 2004), which stimulated the growth of the financial system. For insurance industry, all companies, the stock and mutual Takaful, are private.

Insurance Commission Annual Reports provide the main source of the data used in this study. There are 26 insurers with complete records for the period 2003 through 2011, the latest available data. The Jordanian insurance industry consists of 28 companies. All of which are listed on Amman Stock Exchange (ASE). Three of which are Islamic insurance providers, with a market share of premiums of about 8%. Table (1) provides summary statistics of the insurance industry in Jordan during the period of the study (2003-2011).

It can be seen that total assets (and investment) of the industry has doubled from JD 309 (214) million in 2003 to JD 723 (455) million in 2011, while equity (and earnings before taxes (EBT)) was JD 124 (22) million in 2003, suffered from the losses during the last three years of the study period, but managed to reach JD 317 (-6) million in 2011. The reason for this loss can be explained by the growth rates of both premiums and payments. While the premiums increased from JD 172 million in 2003 to JD 437 million in 2011, with a total growth rate of 99%, payments jumped from JD 108 million in 2003 to JD 345 million in 2011, with a total growth rate of 127%.

ALL Firms	Total Equities (JD)	Total Assets (JD)	TA Growth Rate %	Investment (JD)	EBT (JD)	Premiums (JD)	Premiums Growth Rate %	Payments (JD)	Payments Growth Rate %	Islamic Insurance Premiums Market Share
2003	124,128,620	308,457,182		214,235,949	21,983,672	171,524,856		107,726,523		4.8%
2004	161,438,389	366,076,166	19%	264,937,167	39,991,180	191,423,990	12%	123,919,007	15%	4.7%
2005	277,221,711	526,163,013	44%	410,068,227	90,619,294	219,268,633	15%	142,829,427	15%	4.6%
2006	285,100,275	547,995,842	4%	408,007,331	21,519,206	258,736,796	18%	174,389,020	22%	4.3%
2007	326,860,516	636,193,239	16%	462,334,413	16,734,027	291,648,954	13%	207,560,671	19%	5.1%
2008	355,359,986	678,023,793	7%	479,601,149	22,593,139	333,023,330	14%	218,951,245	5%	6.3%
2009	359,112,755	695,479,749	3%	484,550,578	7,307,146	365,153,255	10%	262,997,646	20%	7.8%
2010	353,581,001	718,713,399	3%	473,875,623	15,911,756	408,628,460	12%	282,104,035	7%	7.9%
2011	316,708,800	723,222,799	1%	455,006,445	-6,472,549	436,679,793	7%	345,242,500	22%	7.9%

Table (1) *Summary Statistics of the Insurance Industry in Jordan during the Period (2003-2011) (US\$ 1 = JD 0.70).*

Sources: *Insurance Commission Annual Reports, Various Years.*

Table (2) shows some statistics of the insurance companies operating in Jordan in 2003. There were 26 companies, 2 of which are Islamic insurers. These are Al-Baraka for Takaful and Islamic Insurance. In terms of the total assets (net premiums), Islamic Insurance ranked 14 (10) among 26, while that of Al-Baraka ranked 26 (still 26). The statistics indicate that conventional companies are larger than Islamic mutual companies.

No.	Code	Company Name (2003)	Total Equities (JD)	Total Assets (JD)	Premiums (JD)	Payments (JD)	Net Premiums
1	ArJoGer	Arab German Insurance	4,432,983	17,005,823	6,519,088	4,684,090	1,834,998
2	ArJoInsG	Arab Jordanian Insurance Group	5,173,906	7,614,657	3,599,925	2,133,908	1,466,017
3	NISR	AL- Nisr Al - Arabi Insurance	2,945,396	10,252,574	6,507,185	4,235,244	2,271,941
4	USA	American Life Insurance	11,879,750	52,845,245	13,013,686	6,014,347	6,999,339
5	ORIENT	Arab Orient Insurance	3,441,571	10,813,198	11,228,137	6,289,418	4,938,719
6	UAE	Emirates (was Oasis Insurance)	1,794,967	4,303,812	5,923,691	5,094,990	828,701
7	EUR	Euro Arab Insurance Group	1,098,850	5,001,714	5,873,400	4,418,771	1,454,629
8	ASSURER	Arab Assurers	2,417,354	5,710,044	5,065,710	3,592,253	1,473,457
9	BARAKA	Baraka Takaful (was Arab-American) Ins	1,395,077	3,033,760	2,378,656	2,670,636	(291,980)
10	ARAB	Arab Life & Accident Insurance	5,164,343	16,308,702	11,261,588	6,836,952	4,424,636
11	MANAR	Al-Manar (was Arabian Seas) Insurance	2,554,444	5,313,193	2,588,519	2,100,025	488,494
12	UNION	Arab Union International Insurance	3,050,958	5,796,321	2,470,041	1,526,607	943,434
13	DELTA	Delta Insurance	4,498,890	8,056,420	3,318,072	2,180,153	1,137,919
14	GENERAL	General Arabia Insurance	4,895,041	10,840,782	7,398,214	4,645,554	2,752,660
15	GERASA	Gerasa Insurance	2,023,280	4,456,378	3,038,059	2,266,043	772,016
16	HOLY	Holy Land Insurance	2,707,279	6,213,329	2,648,205	1,941,491	706,714
17	ISLAMIC	Islamic Insurance	4,182,006	8,339,275	5,877,249	3,478,519	2,398,730
18	JERUS	Jerusalem Insurance	5,055,685	11,358,637	7,070,530	3,543,943	3,526,587
19	FRENCH	Jordan French Insurance	5,814,225	13,545,469	7,216,489	5,904,472	1,312,017
20	JORDAN	Jordan Insurance	18,517,895	33,468,114	12,429,452	7,335,781	5,093,671
21	JOINTL	Jordan International Insurance	6,457,110	13,086,402	9,534,506	5,150,471	4,384,035
22	ME	Middle East Insurance	10,717,658	22,833,809	13,858,466	7,964,754	5,893,712
23	NATIONAL	National Ahlia Insurance	2,714,371	7,869,202	7,641,693	5,584,910	2,056,783
24	PHELAD	Philadelphia Insurance	2,490,880	6,594,877	3,172,004	1,631,628	1,540,376
25	UNITED	United Insurance	4,284,915	9,304,881	7,063,084	3,506,453	3,556,631

Table (2) *Equities, Assets and Net Premiums of Insurance Companies in Jordan in 2003 (US\$ 1 = JD 0.70)*Sources: *Insurance Commission Annual Reports, Various Years.*

No.	Code	Company Name (2011)	Total Equities (JD)	Total Assets (JD)	Premiums (JD)	Payments (JD)	Net Premiums
1	ArJoGer	Arab German Insurance	5,355,197	31,737,742	23,363,341	37,318,488	(13,955,147)
2	ArJoInsG	Arab Jordanian Insurance Group	4,235,461	13,437,998	8,437,198	7,659,495	777,703
3	NISR	AL- Nisr Al - Arabi Insurance	18,384,755	40,791,867	20,809,076	11,154,516	9,654,560
4	USA	American Life Insurance	16,857,348	71,615,426	16,227,924	7,691,232	8,536,692
5	ORIENT	Arab Orient Insurance	23,115,107	60,125,256	66,102,873	47,036,723	19,066,150
6	UAE	Emirates (was Oasis Insurance)	2,532,698	12,158,999	15,150,173	13,924,220	1,225,953
7	EUR	Euro Arab Insurance Group	5,582,803	17,622,796	14,410,001	14,135,760	274,241
8	ASSURER	Arab Assurers	2,682,574	12,194,574	8,159,662	10,861,769	(2,702,107)
9	BARAKA	Baraka Takaful (was Arab-American) Ins	(2,864,052)	4,186,433	4,566,196	5,739,035	(1,172,839)
10	ARAB	Arab Life & Accident Insurance	8,726,678	21,755,536	12,047,945	9,100,731	2,947,214
11	MANAR	Al-Manar (was Arabian Seas) Insurance	10,121,078	19,230,843	9,087,522	9,740,216	(652,694)
12	UNION	Arab Union International Insurance	6,715,506	19,915,707	11,750,672	13,324,468	(1,573,796)
13	DELTA	Delta Insurance	9,249,132	15,351,624	8,120,332	4,502,141	3,618,191
14	GENERAL	General Arabia Insurance	9,959,018	19,847,264	13,699,951	8,764,030	4,935,921
15	GERASA	Gerasa Insurance	1,429,109	2,501,148	78,718	1,140,081	(1,061,363)
16	HOLY	Holy Land Insurance	2,703,286	6,708,318	5,534,587	9,996,646	(4,462,059)
17	ISLAMIC	Islamic Insurance	14,987,339	23,396,678	16,175,990	11,125,989	5,050,001
18	JERUS	Jerusalem Insurance	11,481,063	22,258,251	11,944,493	7,931,071	4,013,422
19	FRENCH	Jordan French Insurance	5,361,646	18,902,843	20,721,851	16,396,209	4,325,642
20	JORDAN	Jordan Insurance	44,286,066	76,845,633	40,465,349	28,523,650	11,941,699
21	JOINTL	Jordan International Insurance	21,281,552	35,346,762	17,815,221	12,910,246	4,904,975
22	ME	Middle East Insurance	31,543,782	69,066,209	29,264,988	13,976,356	15,288,632
23	NATIONAL	National Ahlia Insurance	6,412,957	13,783,802	10,784,193	7,387,697	3,396,496
24	PHELAD	Philadelphia Insurance	4,222,470	10,207,289	6,940,891	4,277,997	2,662,894
25	UNITED	United Insurance	11,073,026	21,833,006	13,297,847	9,544,140	3,753,707
26	YARMOK	AL Yarmouk Insurance	9,182,356	13,147,611	8,462,975	6,090,894	2,372,081
27	GULF	Gulf Insurance	7,020,293	18,634,206	9,242,129	8,560,648	681,481
28	FIRST	First Insurance	25,070,552	30,618,978	14,017,695	6,428,052	7,589,643

Table (3) *Equities, Assets and Net Premiums of Insurance Companies in Jordan in 2011 (US\$ 1 = JD 0.70)*Sources: *Insurance Commission Annual Reports, Various Years.*

Table (3) shows the same data of the insurance companies operating in Jordan in 2011. There were 28 companies, 3 of which are Islamic insurers. These are Al-Baraka for Takaful, Islamic Insurance and the First Insurance. In terms of the total assets (net premiums), the First Insurance ranked 8 (6) among 28, Islamic ranked 9 (7), while that of Al-Baraka ranked 27 (24). The Islamic mutual companies have expanded by time, and as their markets become more established, as they become more efficient.

The main hypothesis of this study relates to how the organizational and governance structure of non-life insurance companies affect their performance and financial decisions. It examines the way the insurance companies' structure affects performance. Given the importance of insurance companies to the well-being of the financial system, the monitoring mechanisms of these firms should emphasize the financial health and operational efficiency. Since Jordan has two types of insurance companies, i.e. conventional insurance companies and Islamic mutual insurance companies. This study predicts that conventional insurers are more efficient than Islamic insurers, because of diversification and operational efficiency. Thus, perform better. (Mayers and Smith ,1981) and (Fama and Jensen ,1983) asserted that each organizational form has its advantages over the other form.

There are two Islamic insurance companies among the 28 non-life insurance companies in Jordan. This provides an opportunity to examine the operational efficiency of both form of organizations, and the extent of incentive conflicts for Islamic and conventional insurers in Jordan. However, there is a limitation of such comparison given that there are only two Islamic insurers in the sample.

In addition, insurance companies have some implications with regard to agency conflicts. Conventional insurance companies' customers purchase insurance policies with known premiums and claims. Islamic insurers are monitored differently. There are no fixed claims in the Islamic insurance. Thus, agency cost of fixed claims in the stock form of insurance is higher than that of Islamic one. Thus, it is expected that agency conflicts between shareholders and policyholders for Islamic insurers is less than that for conventional insurers, which should result in higher free cash flow levels in conventional insurance companies.

EMPIRICAL RESULTS

This study uses pooled cross-sectional time-series data, summarized in table (4) below, in a multiple regression model to investigate the relationship between organizational structure and firm financial performance. It examines the operational efficiency of the insurance companies as measured by profitability.

Year	ROA	Log Total Equities	TL/T.Eq	Loss Ratio	Stdev for LR in All Lines Co/Year	LINDXall:L Rall*W8all
2003	0.07100	8.0939	1.4850	0.78000	0.264341	0.628052
2004	0.10900	8.2080	1.2676	0.78000	0.269822	0.647354
2005	0.17200	8.4428	0.8980	0.79000	0.276360	0.651390
2006	0.03900	8.4550	0.9221	0.82000	0.300971	0.674002
2007	0.03000	8.5144	0.9464	0.85000	0.309361	0.711680
2008	0.03300	8.5507	0.9080	0.82900	0.294850	0.657465
2009	0.01100	8.5552	0.9367	0.89000	0.437577	0.720239
2010	0.02200	8.5485	1.0327	0.85400	1.270361	0.690368
2011	-0.00900	8.5007	1.2836	0.94300	0.570763	0.790608

Table (4) *Yearly Averages of the Variables Used for Testing the Study Hypotheses*

According to the initial analysis of the Jordanian insurance companies, as reported in table (2) and (3) above, it is expected that the well-established organizational form of the conventional insurance to be more profitable than the newest entrant of the Islamic insurance form. This is in line with (Jensen and Meckling, 1976).

This study employs the following model (Lai and Limpaphayom, 2003) to test the impact of organizational structure on profitability:

$$ROA_{jt} = a + \beta_1 SIZE_{jt} + \beta_2 LEV_{jt} + \beta_3 LR_{jt} + \beta_4 SHARE_{jt} + \beta_5 \delta LR ALL_{jt} + \beta_6 D_{jt} + \beta_7 LINDX_{jt}$$

Where:

ROA_{jt} : Return on assets of company j in year t.

SIZE_{jt} : Natural logarithm of the company j's total equities in year t.

LEV_{jt} : Liabilities to equity ratio of company j in year t.

LR_{jt} : Loss ratio, the total compensations paid to the total premiums received of company j in year t.

SHARE_{jt} : The market share of company j in year t, measured by the company's premiums to the total premiums of the insurance industry.

$\delta LR ALL_{jt}$: The standard deviation of loss ratio across all lines of insurance in company j in year t.

D_{jt} : Dummy variable indicating 1 for conventional stock insurance and 0 for Islamic mutual insurance company.

LINDX_{jt} : The loss exposure index.

The loss exposure index is used to control for the impact of losses in specific lines on profitability. It is calculated by computing the industry annual average of loss ratios by insurance line and weight of the company's exposure (premium by line) to that particular insurance line. High loss ratios will have a high index value.

Table (5) reports the regression results, using STATA©. The profitability measure (ROA) is the dependent variable and the organization form is the independent variable. The dummy variable has a

positive coefficient, indicating, as predicted, that conventional insurance is more profitable than the newest entrant of the Islamic insurance form, however, the results are not significant and cannot be generalized. The results are similar using return on equity as an alternative measure of profitability (the results are not reported herein).

The regression coefficient for the organizational form dummy variable is not statistically significant indicating that, after controlling for other variables, there is no significant difference in terms of profitability between Islamic mutual and conventional stock forms of organization in Jordan.

To check for robustness of the results, insurance line dummy variables are used instead of the loss exposure index as well as return on equity as an alternative measure of profitability, and obtain similar overall results.

Number of obs.	=	241				
F (7, 233)	=	13.83				
Prob > F	=	0.0000				
R-squared	=	0.2935				
Adj R-squared	=	0.2723				

ROA		Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
-----+-----						
-						
logteq		-0.0294874	.0264676	-1.11	0.266	-.0816339 0.022659
tl2teq		-0.0374519	.0075374	-4.97	0.000	-.0523022 -0.0226017
lossratio		-0.0116244	.0054346	-2.14	0.033	-.0223317 -0.0009172
mrktshare		3.406512	.6209583	5.49	0.000	2.183102 4.629923
stdevlrall		0.0036058	.0033401	1.08	0.281	-.0029749 0.0101865
dummy		0.0074332	.0221745	0.34	0.738	-.0362549 0.0511213
lindxall		-3.099815	.8245452	-3.76	0.000	-4.724332 -1.475298
_cons		0.2335444	.1814314	1.29	0.199	-.1239113 0.5910001
Bold figures indicating significant result at 5% level of significance or less						

Table (5) *Stata© Regression Results of the Impact of Organizational Form on the Profitability of the Insurance Companies in Jordan during 2003-2011*

DISCUSSION AND CONCLUSION

This study contributes to the literature in providing new evidence on the evaluation of performance of the insurance industry. It extends existing cross-sectional comparisons by analyzing the performance of the conventional stock form and the mutual Islamic Takaful form of insurance. This study is the first to determine the effect of organizational form on the performance of the Jordanian insurance industry.

Among these are the Islamic mutual Takaful insurance companies. In general, the findings show no significant impact. These results are inconsistent with agency theory. The empirical evidence suggests that each structure has its own comparative advantage. The results are in line with other cross-sectional comparisons in the insurance literature (Eling and Luhnen ,2010)), and in conflict with others (Brockett et al. ,2005), (Cummins et al. ,1999) and(Ismail *et al.* ,2011)).

A total of 28 insurance companies over 9 years period is analyzed using a multi-regression model, allowing us to glean a broad range of new insights into the performance of the insurance industry in Jordan.

During the sample period from 2003 to 2011, there is a backward in the performance of the Jordanian insurance companies, although there are large differences between companies. Premiums growth rate decreased from 12% in 2004 to 7% in 2011, while that of the payment increased from 15% to 22% during the same period.

Moreover, Islamic insurance market share increased significantly from 4.8% in 2003 to 7.9% in 2011, indicating that this form of insurance is gaining a market.

More investigation into this study finding might provide valuable insights into the competitiveness of insurers from different forms. At the company level, the results can be used to compare different insurance markets, which might be of interest for regulation and insurance associations. Also, the findings can help managers in making decisions regarding growth.

A number of important issues regarding performance in insurance markets still need to be examined. Among these are the lines of insurance (such as auto, freight, fire or liability insurance), which are expected to show largely different performance levels due to different net premiums variability.

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“SHARING ECONOMY”, “CROWDSOURCING” OR “CROWD-FUNDING”? EMPIRICAL ANALYSIS OF THE ITALIAN CASE.

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ABSTRACT

No clear, univocal distinction between the phenomena of “*crowdfunding*”, “*crowdsourcing*” and “*sharing economy*” emerges from an analysis of the literature. For example, the term “*crowdfunding*” appears to be used incorrectly to designate other processes of “*crowdsourcing*” or, more generally, “*sharing economy*”. The research goal, after carrying out a more detailed analysis of the individual phenomena, is to offer a more precise outline of the characteristics of “*crowdfunding*” by identifying the needs that it satisfies.

Keywords: *crowdfunding, customer’s needs, platform, crowdsourcing, sharing economy.*

INTRODUCTION

The term crowdfunding, which, besides its literal signification, can perhaps be more accurately defined as funding from below, is based on a more innovative idea than is apparent. Generally speaking, someone that participates in a crowdfunding campaign by contributing their own resources does so in order to satisfy a personal need, in the search for some form of gratification. It is thus of little import whether the request be for the production of a film, a technological object, an innovative enterprise, a donation (*pro bono*), or whether some form of reward is offered in exchange. In any case, seeking money from the crowd does not mean addressing everyone, but rather identifying, and often constructing, a group of people from the mass who wish to make the project their own, to the point of sustaining it economically.

Crowdfunding therefore presents multiple, varied possibilities. Thanks to the web, it is capable of mobilising resources, intelligence and participation both around global projects, by addressing a worldwide community (especially video games aficionados) and highly localised projects, by mobilising other interests than traditional finance related ones. The problem is that projects drawn up on the basis of a top-down logic, with neither involvement nor preparation, will inevitably be unsuccessful.

In Italy, collective funding platforms have existed for just under a decade (the “oldest” was set up in 2005). According to the data collected by the Italian Crowdfunding Network (ICN), the most representative association for Italian platforms, there were over 30,000 projects on the territory in April

2013, 9,000 of which were online, and of which around 28% were successful. While not very successful in financing individual needs or aspirations, crowdfunding is a successful means of financing community projects: the phenomenon not only responds to the economic crisis and a miserly banking policy on the credit front, but also to the complex nature of the needs.

This study is geared at analysing the phenomenon and systematising it from an economic and business perspective, beginning with an analysis of the needs to which it responds.

RESEARCH QUESTION

The research goal, after different definitions of the phenomenon, is to offer a more precise outline of the characteristics of “crowdfunding” by identifying the needs that it satisfies.

METHODOLOGY

In order to reach the research goal, we have adopted a qualitative analysis approach to the phenomenon of “crowdfunding” through a study of the Italian platforms and an analysis of the needs that they satisfy.

The research was divided into six stages. Specifically, the following research path was adopted:

1. Analysis of the level of development and examination of the existing national and international theory on the phenomena of “crowdfunding”, “crowdsourcing” and “sharing economy”.
2. Establishment of the analysis sample, consisting of the 45 “crowdfunding” companies operating in Italy. They were identified via the *crowdfunding.it* platform, and an analysis of the companies’ Ateco code (statistic business classification code).
3. Construction of a database of the sample crowdfunding companies, geared at identifying, for each sample company:
 - a. the type of company (non-for-profit, profit, public company),
 - b. the type of crowdfunding on the basis of the classifications adopted in national and international literature (reward based, equity based, donation based, lending based),
 - c. the need satisfied [Sharing, belonging, accessibility, visibility, support (moral, material, economic and financial)].
4. Identification of the needs satisfied by the sample platforms.
5. Analysis of the uniformity and non-uniformity of the needs.
6. Definition of the commonness of the needs satisfied by “crowdsourcing” and classification of the platforms.

SAMPLE

The sample was drawn up using the 45 existing Italian “crowdsourcing” platforms (already active or about to be activated) on 30th November 2013, identified through the platform *crowdfunding.it* and an analysis of the companies’ Ateco code.

The sample (Figure 1) is made up of not-for-profit companies (11) and for-profit companies (34). No public companies are included.

On the basis of the subdivision of the four crowdfunding models, we can note that 54% are reward based, of which 96% are for-profit companies, 4% are not-for-profit companies; 18% are equity based, of which 88% are for-profit companies and 12% not-for-profit companies; 22% are donation based, of which 40% are for-profit companies and 60% not-for-profit; 6% are lending based, 100% of which are not-for-profit (Figure 2).

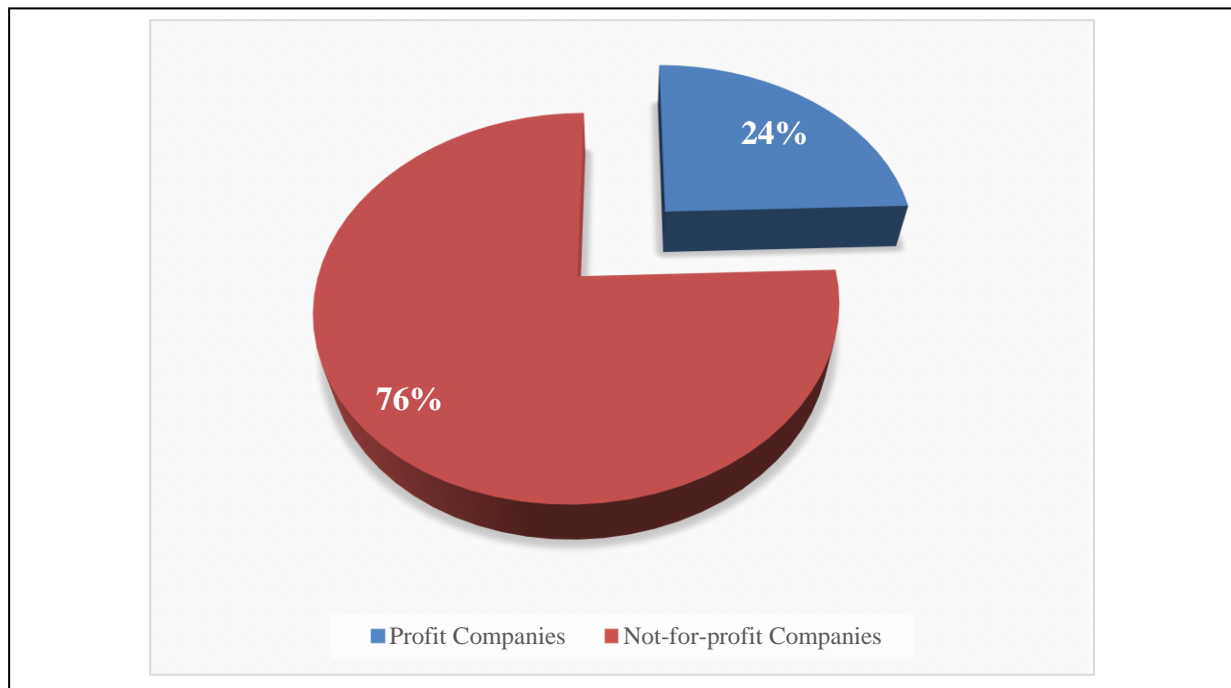


Figure 1. *The analysis sample*

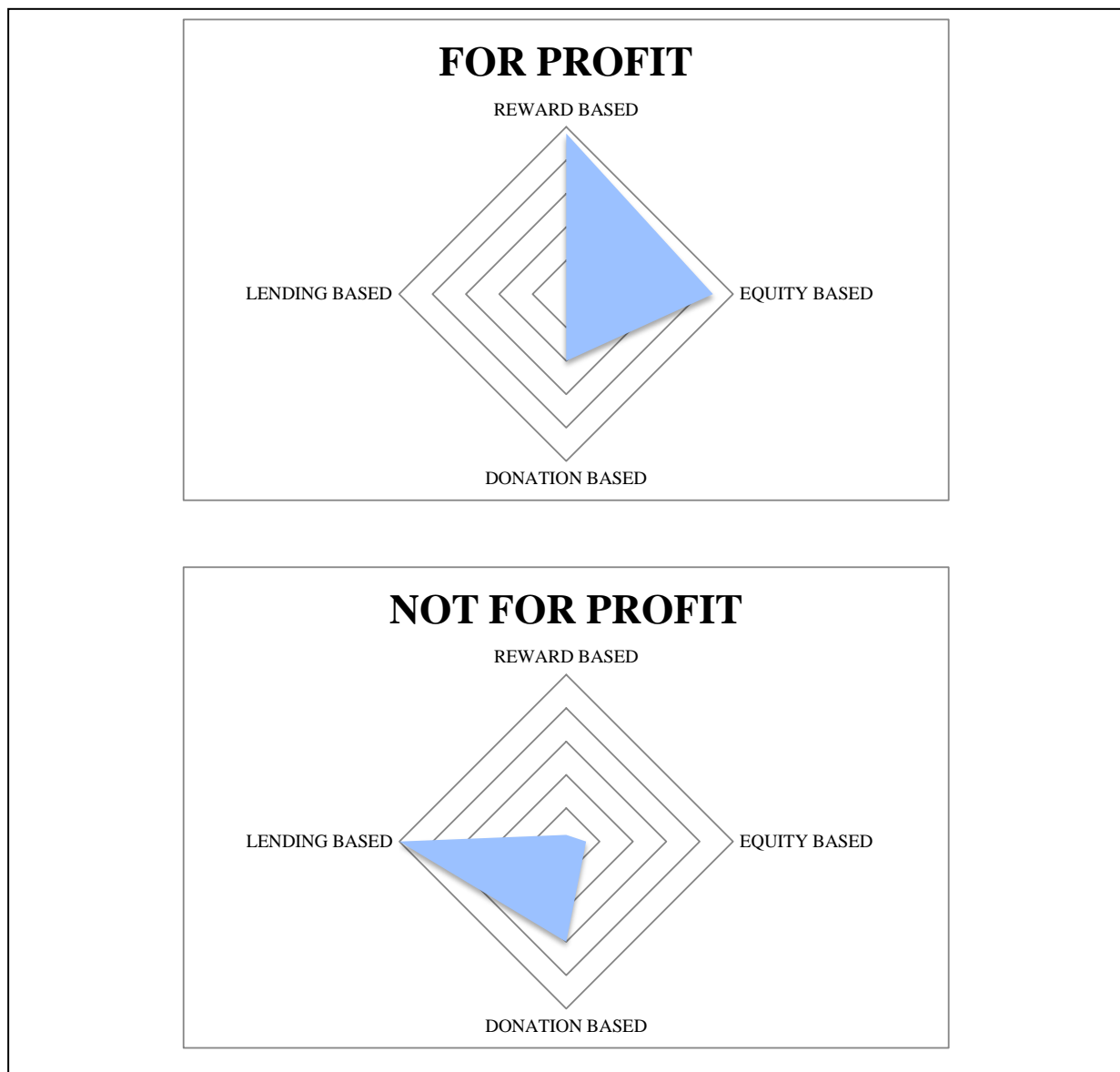


Figure 2. Crowdfunding models: distribution for-profit and non-for profit

THEORETICAL BACKGROUND

According to the aim and objectives of the study, in this section we commented strength and weaknesses of different definitions of crowd-phenomenons, followed by a brief introduction to the classification of needs, whose analysis would be foundation of the following section.

1) *Economic business approach to the study of "crowdfunding"*

In order to define a phenomenon from an economic and business-related perspective, a systematic approach can be adopted in relation to the functional areas. This involves studying the business system in its individual components, in order to reduce its complexity, both through an analysis of the

company functions, and through an interpretation of the main processes that connect the various functional areas and direct them towards the achievement of communal objectives (organisation, surveying of administrative processes for the drafting of financial documents of external import, planning and testing, etc.). All of this is conducted from an anthropological perspective: the company comes into being in order to satisfy a need (Giovanni Ferrero, 1987). Identifying that need, defining and characterising it, is therefore the first step to being able to study the phenomenon in economic and business-related terms.

This is the theoretic premise that led us to study the business system, which has already been examined through numerous studies adopting different approaches. We have endeavoured to synthesise these below, beginning with the definitions provided by literature.

2) *Definition of "crowdfunding".*

Even though "crowdfunding" can be seen to be a relatively recent phenomenon (especially in Italy), it has nonetheless been the subject of numerous studies, especially in recent years. We believe, however, that these studies have not provided a comprehensive examination of the phenomenon (Belleflamme et al. 2011; Lambert and Schwienbacher 2010). One might therefore posit that the existing literature has only provided a satisfactory and thorough description of the main, most general characteristics of crowdfunding, which is a vast and often many-sided phenomenon. Substantial areas of research and important aspects thus still remain to be covered in this regard.

Even if it is now commonly held to represent an autonomous phenomenon (Mollick, 2013), the most common, well-known definitions of crowdfunding generally refer to the phenomena of crowdsourcing (Poetz and Schreier, 2012) and microfinance (Morduch, 1999). More specifically, according to a number of authors (Larralde and Schwienbacher, 2010), crowdfunding can be understood to constitute a part or category of the wider, more general concept of crowdsourcing.

A number of different definitions of crowdfunding have been offered by various authors, with the goal of identifying its characteristic elements and delineating its boundaries, establishing a significant distinction between it and other similar phenomena.

According to Guidici et al. (2012), crowdfunding consists "*in getting large group of people to finance a project by using a website or other online tool to solicit funds*", while Lambert and Schwienbacher (2010) hold that "*crowdfunding involves an open call, essentially through the Internet, for the provision of financial resources either in form of donation or in exchange for some form of reward and/or voting rights in order to support initiatives for specific purposes*". Finally, according to Larralde and Schwienbacher (2010), the phenomenon can be defined as "*the financing of a project or a venture by a group of individuals instead of professional parties (like, for instance, banks, venture capitalists or business angels). In theory, individuals already finance investments indirectly through their savings, since banks act as intermediary between those who*

have and those who need money. In contrast, crowdfunding occurs without any intermediary: entrepreneurs “tap the crowd” by raising the money directly from individuals. The typical mode of communication is through the Internet».

On the basis of these definitions, the main components of crowdfunding can be described as follows:

1. a large group of people (crowd),
2. a provision of financial resources (funds),
3. internet-based means, peer-to-peer, websites or other online tools (Lin and Viswanathan, 2013),
4. a specific objective: a project, specific initiatives or other specific purposes. Burkett (2011) also considers collections made by fans of bands to represent a form of crowdfunding,
5. a form of “return” for the crowdfunders, which can also be of a “moral” nature (for example in a free distribution or donation), or another type of “reward”, gratification or right to vote.

The definition provided by Lambert and Schwienbacher (2010) appears to contain a reference to one of the most well-known applications of crowdfunding, i.e. the fund-raising for Barack Obama’s electoral campaign.

According to the research and consultancy firm Massolution, which published the Crowdfunding Industry Report (2013), an analysis of the development and trends that crowdfunding has undergone over recent years and the developments it is likely to undergo in the immediate future, large companies tend increasingly to use crowdfunding as means of diversifying their portfolio, above all in terms of new Research & Development providers.

Crowdfunding has now emerged as a viable, scalable alternative to public and private finance.

These developments have implications for how governments frame economic development programs, and leverage public investments.

Behind the scenes, major, global companies are running the rule over crowdfunding as a way to leverage their innovation portfolios into the marketplace. Crowdfunding is helping enterprises to interact with lead customers, and validate R&D outputs.

The types of crowdfunding are:

- Reward based¹
- Donation based¹

¹ This business model is used by project owners who want to collect donations for a specific project and can give (often small) non-financial rewards in return. The rewards are of a symbolic value and provided by the investee. They are usually much lower than the donation amount, to ensure there is enough money left for the project. Nevertheless, the perception of the value can be much higher, for example special VIP tickets as a reward for a higher donation. A reward in this context should not be understood as a token of appreciation. In general, the parties do not consider it a legally binding obligation to provide the goods and do not classify it as a sale. When the different reward-levels are chosen wisely, it is possible to receive a much higher average donation than with a pure donation-based approach [A Framework for European Crowdfunding (2012)].

- Equity based²
- Lending based³

There is a gap in the literature in relation to the crowdfunding sector model, which analyses the peculiarity of business models, starting with the customers' needs.

3) *Definition of "sharing economy".*

In the last decade, a large number of neologisms have been created to designate phenomena which are at times different, at others very similar. Words such as "sharing economy", "shared economy", "Peer Economy", "Collaborative Economy" often overlap and lack a common definition in literature as well as an in-depth analysis through commonly accepted interpretive models.

"An economic model based on sharing underutilized assets from spaces to skills to stuff for monetary or non-monetary benefits" (Botsman, Rogers, 2010), establishing the introduction of a new way of thinking and a means of utilising resources in an effective, efficient manner as one of the characteristics of sharing economy.

An analysis of the importance and "strength" of this "new" approach to business and economic development was also provided recently by Lisa Gansky in her celebrated work *The Mesh: Why the Future of Business is Sharing*. In its 9 March 2013 issue, the magazine "The Economist" dedicated an article to this phenomenon, underlining above all the immense, unexplored capacities that it offers and affirming that "this emerging model is now big and disruptive enough for regulators and companies to have woken up to it. That is a sign of its immense potential. It is time to start caring about sharing".

A significant element that needs to be taken into account when analysing any form of sharing economy or crowdfunding, even though it belongs to a more sociological perspective, in connection also with Maslow's famous "hierarchy of needs table" (see elsewhere), is the "social group" concept, above all in relation to the thinking of Thorstein B. Veblen. The definition of "social group" is equally complex, and there have been numerous, often differing, attempts in literature to define it. For the purposes of our

¹ this model is used to attract donations for specific projects. Unlike with traditional fundraising, donations are collected and ear-marked for a specific project. Because funders know that their money will be used on a very specific project, they are more willing to donate higher amounts per person [A Framework for European Crowdfunding (2012)].

² When a company wants to attract an investment from a group of people, instead of funding by a business angel or another private investor, this is called equity crowdfunding. Some funders are primarily interested in investing in projects that share their own values, that are locally engaging, or that create jobs in their community. Others have a real knowledge of what the market, project, or company is addressing and desires to bring funds and expertise to the success of the project. This practice is very similar to business angels. Equity crowdfunding also generally includes equity-like arrangements, offering the same payoff as equity (shares), and where the "funder" is actually merely a creditor who has a contractual right to receive that payoff [A Framework for European Crowdfunding (2012)].

³ With lending-based crowdfunding, a company will borrow money from a group of people instead of a bank. The role of the platform can be diverse. Some of the platforms will act as a middle-man and will also make the repayments to the lenders, where other platforms act only as match-makers and the borrower and lenders will be connected when the deal is closed [A Framework for European Crowdfunding (2012)].

analysis and an examination of the phenomena of sharing economy and crowdfunding, a fundamental aspect of the formation of a group is furnished by the interactive relationship established between its members. As a consequence, a “social group” can be defined as such only when numerous people recognise themselves as being a part of it (one is reminded of the widespread phenomenon of virtual communities). A “group” can thus be defined (Rugiadini, 1979) as “a collection of individuals with common characteristics, between whom a system of social relations is established, which manifests itself and requires an interdependence of behaviour between members”. As a result, each member of the group “fulfils” a particular “function” or “role”, to be understood as a “behavioural model” which meets the requirements and expectations attributed by the group to each individual member. The element and function of each element within the group offers an interesting perspective for studying and analysing individual behaviour in sharing economy and crowdfunding.

4) *Definition of “crowdsourcing”.*

“Crowdsourcing” (a combination of “crowd” and “outsourcing”), is the increasingly widespread procedure of turning to the online “crowd” in order to find solutions to problems of various types. The term was first used by Jeff Howe, in an article in the magazine Wired in June 2006, entitled “The Rise of Crowdsourcing”. It was defined as “the act of taking a job traditionally performed by a designated agent (usually an employee) and outsourcing it to an undefined, generally large group of people in the form of an open call”. This illustrates the importance of crowdsourcing for companies. Already well accustomed to calling upon the process of outsourcing, such companies discovered a new global, shared tool free from the restriction of territorial barriers.

Unlike outsourcing, crowdsourcing makes it possible to contract out one or more activities to a group of people or community. It privileges a model of open collaboration, which is dependent neither on dimensions nor on geographical area. In 2010, in “Harvesting Knowledge. Success criteria and strategies for crowdsourcing” Henk van Ess affirmed that “crowdsourcing is channelling the experts’ desire to solve a problem and then freely sharing the answer with everyone”. Crowdsourcing is therefore seen as a search, on the part of companies, for experts to resolve their own problems. What distinguishes it from mere consultancy is the fact that the solution provided by an expert is shared on the web and can be added to or modified by the community. Given the chaos that can ensue from the active involvement of a community of individuals which is not managed in a coordinated, rigorous manner, crowdsourcing currently presents considerable limitations.

What is more, while spontaneous collaboration remains fundamental, it can well be assumed that there will be some form of remuneration for those that collaborate actively and profitably.

5) *Definition and classification of needs.*

A large part of the national and international literature from the social and economic sciences sets consumption in terms of a response to a need (Sertorio and Martinengo, 2005).

As early as the 1930s, John Maynard Keynes drew a distinction between “those needs which are **absolute** in the sense that we feel them whatever the situation of our fellow human beings may be, and those which are **relative** in the sense that we feel them only if their satisfaction lifts us above, makes us feel superior to, our fellows” (Keynes, 1930).

Around twenty years later, Galbraith (Galbraith, 1952) recognised the importance of distinguishing between **wants** and **needs** and proposed a distinction between so-called “natural” needs, i.e. those tied to the individual, and “artificial” needs, which emerge when one’s “natural” needs have been fulfilled and are heavily influenced by advertising and communications.

Maslow’s contribution (1973) is particularly significant since it enables us to identify and classify the needs which form the basis of the successive classification of the “crowdfunding”, “crowdsourcing” and “sharing” economy platforms, as a response to the satisfaction of a need. Maslow draws up a theory of motivation, within which needs are classified according to three levels:

1. fundamental needs (physiological, safety, affection, love, belonging, esteem, self-fulfilment),
2. knowledge and understanding needs,
3. aesthetic needs.

We have identified the following categories of need:

1. Need for generosity,
2. Need for convenience,
3. Need for accessibility,
4. Need for belonging.

DISCUSSION

Our analysis of crowdfunding from the perspective of need has led us to identify various categories.

Before identifying the need typologies, it is necessary to first ascertain the targets of crowdfunding, namely:

- a) Public, private or not-for-profit companies keen to promote projects or initiatives,
- b) Private parties, keen to promote, sustain or finance projects or initiatives.

These parties take an interest in crowdfunding first and foremost because it satisfies various needs, as set out in the table below (Table 1).

Parties	Need
Private Parties	Sharing Belonging Accessibility
Companies	Visibility Support (moral, material, economic and financial)

Table 1. *Parties and needs*

Surveys by Istat have confirmed presence of these needs on the market.

The need for sharing, belonging and accessibility are amply illustrated by the combined propensity for internet, social network and social shopping usage. For Italy, the current social network penetration rate is equal to 34% of the total population. This figure, among others, emerged from research published by eMarketer (www.emarketer.com) on the state of social networks in Europe. Facebook remains the most widely used platform in Europe. In this regard, unlike the overall classification list, the United Kingdom is in the leading position in terms of usage on the national territory (29 million). Once again, Italy is in fourth place in terms of registered users: of the total 21 million, 18 million are registered on the social network Menlo Park and use it systematically. This figure is also set to rise. It is estimated that it will go up to 22 million – out of a total of 25 – by 2017. Again, the study conducted by eMarketer recorded 174 million social network users in Europe, a figure set to rise to over 207 million by 2017; there are currently 148.5 million Facebook users, going up to 177 million by 2017. As for the future, Italy seems destined to reach 25 million users in 2017, engaged in tweeting, posting, and commenting. The increase will stand at just over 5%. The need to share is thus on the rise.

As regards the need for visibility, internet platform usage now represents a consolidated tool for achieving greater visibility without the restriction of territorial barriers. According to the census taken by Istat in December 2013, 94% of Italian firms with more than 10 employees have internet access and 76% of companies use the web to engage with the public authorities, at various levels. Broadband connections are very widespread (88%), even if at unremarkable speeds (73% run at less than 10 Mbit/s). On the other hand, only 63% of companies (again with more than 10 employees) have a website. Few make purchases online (27%) and even less sell via the internet (5.4%). Istat's survey on the use of ICT within companies provides contradictory results. While on the one hand the internet and the web are a given in companies, one can still note a certain inertia in relation to the usage of new technologies at all levels. For example, it is certainly significant that 65% of companies have made use of services offered on the web by the public authorities (PA): 39% have sent forms filled out online to the PA (employee contributions, company revenue, VAT, customs documents). And yet less than 15% use electronic invoicing in a format which allows for automatic data processing. The general impression is that companies have equipped themselves, or are doing so, but without having fully

grasped the potential offered by ICT. E-commerce is another example. Electronic commerce is the norm in 3 out of 10 companies. Yet, as we have suggested, only 5.4% sell their own products online and the volumes in play are very limited (5% of the total turnover).

Nonetheless, there is still a large difference between small and large companies. According to Istat, the gap in the use of new technologies is in the order of 30% for activities such as 3G usage for accessing the internet, sending forms filled out online to the PA, completing complete administrative procedures online, e-commerce, and the use of collaboration software.

And yet, 90% of companies with more than 250 employees have their own company homepage, a percentage which drops to 60% for companies with less than 50 employees.

But how exactly is the site used? Catalogues or price lists are the most frequently offered services (33%). 13.5% offer visitors the possibility of ordering online and only 6.1% offer an online order tracking service. The concept of the “window-shopping site” still persists in many cases. In this regard, crowdfunding platforms can represent a duplication of virtual shop-windows.

There is a strong need for support in periods of economic crisis such as the one we are currently undergoing, in which structural funds and the inclination to invest become scarce.

Support can be categorised according to three profiles:

- Moral, adhesion to the project or initiative,
- Material, exchange of objects, lending of facilities, etc....,
- Economic and financial, financing through money or in kind.

In the collective mind-set, crowdfunding came about so as to satisfy the same need, but through a different method. However, beginning with the need, research has demonstrated that “crowdfunding” is often confused with “crowdsourcing”.

Where the need for sharing and belonging for private parties is combined with a need for visibility and material support for companies, the phenomenon can be defined as “crowdsourcing”. Where, however, the need for sharing and belonging for private parties is combined with the need for economic and financial support for companies or other private parties, the phenomenon can be defined as “crowdfunding”. This suggests that there are two business sectors with typically divergent economic and business functions and characteristics.

By reclassifying the “crowdfunding” platforms from the sample analysed in light of the identification of the needs satisfied by crowdfunding platforms, it becomes apparent that it is not possible to apply the “crowdfunding” model to all 45 entities sampled. Rather, one should apply the “crowdsourcing” model since the economic and financial need is not satisfied.

Specifically, two platforms currently classified as “reward based” crowdfunding are reclassified using the “crowdsourcing” model.

CONCLUSIONS

On the basis of the analyses carried out, crowdfunding can be defined on the basis of the need that it satisfies. In particular, if the need satisfied relates to sharing, on the one hand, and economic and financial support on the other, we are dealing with homogeneous companies, which belong to the crowdfunding sector. If, however, the need satisfied relates to sharing and material or moral support, the relevant model is “crowdsourcing”, which describes a business sector with different characteristics from those of the “*crowdfunding*” sector. The two business models belong to the macro phenomenon of “*sharing economy*”.

The following prospects for future research and in-depth study thus emerge:

- An analysis of the “crowdsourcing”, “crowdfunding” and “sharing economy” models in relation to functional areas.
- An examination of the validity of identifying needs as a parameter for classifying the platforms, extending the analysis to an international sample.
- A verification of the sustainability of the business model.

MAIN IMPLICATIONS

In this paper we reached the following goals:

- 1) We made a clear distinction among the meaning and characteristics of crowdfunding, crowdsourcing and sharing economy
- 2) We grounded the crowdfunding phenomenon on the analysis of needs and wants

We firmly believed that any valid sustainable crowdfunding model should be originated and deeply rooted in strong needs classification and analysis.

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CORPORATE GOVERNANCE IN FOUNDERS' CONTROLLED COMPANIES

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ABSTRACT

The extensive research on corporate governance, economies transition and strategic management delivers interesting and important insights into the characteristics of companies operating in different countries. Ownership structure with the reference to the comparative studies worldwide, types, forms and patterns identified in companies as well as the logic behind the behavior of different owners constitutes an important theme in management studies. Research reveals the crucial importance of the ownership patterns with the reference to the shareholder identity and concentration of shares for the standards of corporate governance including the aspects to transparency, board independence and composition (professional directors, diversity), board committees, the incentive function of executive compensation. Corporate governance literature indicates that certain shareholder types may have impact on the quality of board work, effectiveness of executive compensation and disclosure. The proposed paper analyzes the corporate governance standards in companies owned and controlled by private entrepreneurs in Poland. The paper is based on a representative sample of 100 companies listed on the Warsaw Stock Exchange and had collected data as no data base on such characteristics of Polish listed companies is available. More precisely, the paper investigates whether the founder control translates into better or worse quality of corporate governance with the reference to transparency and IR standards, board structure and composition (independence and professional experience of board directors) and the structure of executive compensation as compared to the practice denoted for the overall population of listed companies.

Keywords: *corporate governance, founder control, ownership, listed companies*

INTRODUCTION

Ownership structure remains the crucial company's characteristics, belongs to the most important governance mechanisms, and delivers fundamental legacy for oversight and control (Fama and Jensen, 1983; Shleifer and Vishny, 1997). The studies on ownership structure patterns, dynamics and characteristics help understand the directions of strategic development of companies (Demsetz and

Keith, 1985). Research reveals the crucial importance of the ownership patterns with the reference to the shareholder identity and concentration of shares for the standards of corporate governance including the aspects to transparency, board independence and composition, board committees, the incentive function of executive compensation. Corporate governance literature indicates that certain shareholder types may have impact on the quality of board work, effectiveness of executive compensation and disclosure. The understanding of the relationships between the ownership structure and corporate governance and the impact of different shareholder upon the quality of corporate governance reveal to be of crucial importance for the functioning of any public listed company (Allen and Gale, 2000). The paper analyzes the corporate governance standards in companies owned and controlled by private entrepreneurs in Poland. The paper is based on a representative sample of 100 companies listed on the Warsaw Stock Exchange and had collected data as no data base on such characteristics of Polish listed companies is available. More precisely, the paper investigates whether the founder control translates into better or worse quality of corporate governance with the reference to transparency and IR standards, board structure and composition (independence and professional experience of board directors) and the structure of executive compensation as compared to the practice denoted for the overall population of listed companies.

The paper is organized as follows. The first section discussed the ownership structure from the perspective of potential principal agent conflict focusing on the specific case of the founder control over the company. The second section delivers outlines the research methodology and results, while the third section discusses the findings on corporate governance of founders' controlled companies. The final remarks are presented in the conclusion section.

FOUNDER CONTROL AND CORPORATE GOVERNANCE

The analyses on ownership structure distinguish degree of concentration (dispersed vs. concentrated ownership) and the shareholder identity (individual vs. institutional shareholders, state ownership, managerial ownership, financial and non financial) (Shleifer and Vishny, 1997; Faccio and Lasfer, 2000). Moreover, the studies focus on the identification of methods enhancing control versus the shares owned realized by the use of preferred shares or the adoption of pyramidal structures. The analysis of ownership structure allows to relate a specific ownership patterns and characteristics to companies behavior, strategy, governance and performance. The perspective of agency theory provides framework of the analysis of the benefits and challenges of different ownership structure patterns for corporate governance and performance indicating way and means for lowering the principal agent conflict. Dispersed ownership offers a lot of opportunities for raising significant funds and risk diversification, it however leads to increased principal-agent conflicts as the residual rights of

control are in the hands of executives (Monks and Minow, 2004). Shareholders face the limited possibility to monitor and control executives and experience the problems of hidden action, hidden information and hidden intention (Jensen and Meckling, 1976; Shleifer and Vishny, 1997). Dispersed ownership also is characterized with the free rider problem as the holders of small stakes are not interested in collecting and processing information for the evaluation of the executives (Grossman and Hart, 1988). They remain passive and vote by feet not getting involved in the supervision and governance (Monks and Minow, 2004). The concentrated ownership is seen as the solution to agency conflicts and free rider problem (Jensen and Meckling, 1976; Shleifer and Vishny, 1997) and is believed to lead to higher profitability when the dominating owners are active (Neun and Santerre, 1986; Holderness and Sheehan, 1988). The positive impact of the dominant shareholder reveals an asymptotic functions as the improvements in efficiency and firm value are possible to a certain point. The ownership concentration proves to be an important monitoring mechanism being the second best solution when market mechanisms are not working well (Morck and Steier, 2005). The majority shareholder is able to internalize the costs of collecting information and to exert effective control over management as they possess significant stakes and crucial know how. Some doubts refer to the threat of the majority shareholder abusing their position via representatives on the board favoring them at the cost of minority shareholders (Fama and Jensen, 1983). The dominant shareholders may expropriate minority shareholders through a tunneling or compensation policy (Stulz, 1988), blocking dividend payout or limited access to information. Additionally, the ownership concentration may be exerted with the use pyramidal structures and preferred shares, adopted separately or jointly. Pyramids consist of several layers of ownership relationships characterized by complicated structure of cross shareholdings and mutual capital interlocks with listed companies placed at the apex of these structures (Perkins et al., 2008; Zattoni, 1998; Bennedsen and Nielsen, 2006). The form of a pyramid allows for the separation of control and cash flow rights (i.e. participation in profit) (Claessens et al., 2002) what is viewed as the process of leveraging control rights versus cash flow rights (Vilalonga and Amit, 2007).

The theoretical framework on founders' controlled companies is derived in the vast literature on family companies which "have been recognized as an important governance structure of business organizations in both developed and developing economies" (Chu, 2009) as more and more is known and understood on their contribution to the development of national economies, employment and GDP growth. Research indicate that family firms constitute over 35% of the S&P 500 Industrials, and families own nearly 18% of their firms' outstanding equity (Anderson and Reeb 2003). Yet despite the numerous presence of family firms still little is known about the strategic approach of families and founders to corporate governance (Barontini and Caprio, 2005). According to the principal agent

theory founder and family control appear also to be important governance mechanisms as it depicts some degree of ownership concentration and is related to the involvement in management and supervision (Shleifer and Vishny 1986), vision and motivation for firm growth (Chu, 2009; Jayaraman et al., 2000), strong identification with the company and the decrease of the classic principal agent conflict (Wasserman, 2003) characterized with short-termism and myopia of corporate managers (Bertrand and Schoar, 2006).

The family control may however be seen as a drawback for effective corporate governance due to the dominant position in the decision process, the tendency to lower the board independence (Anderson and Reeb 2004), interest in non pecuniary consumption which draw scarce resources away from profitable projects, focus on family's interest as the expense of firm performance and minority shareholders (Ramachandran and Marisetty, 2009; Anderson and Reeb 2004). Founder who perform also the executive functions expose firms to a self-control problem (Schulze et al., 2001) what increases principal agent conflict and is detrimental to performance. On the basis of the literature review the following hypotheses were formulated.

- H1a: The founders' controlled companies are characterized by smaller market capitalization as compared to the overall sample companies.
- H1b: The founders' controlled companies where the founder gets involved in management or supervision are characterized by smaller market capitalization as compared to the overall sample companies.
- H2a: The founders' controlled companies are characterized by the higher degree of ownership concentration as compared to the overall sample companies.
- H2a: The founders' controlled companies where the founder gets involved in management or supervision are characterized by the higher degree of ownership concentration as compared to the overall sample companies.
- H3a: The founders' controlled companies are characterized by the lower number of notified shareholders in their ownership structure as compared to the overall sample companies.
- H3b: The founders' controlled companies where the founder gets involved in management or supervision are characterized by the lower number of notified shareholders in their ownership structure as compared to the overall sample companies.

As the literature review indicates founders do tend to adopt preferred shares or use pyramids in order to maintain control over the established companies. As studies in emerging markets and continental Europe suggest both solutions benefit the controlling shareholders, provide for lower transparency of listed companies and may result in the majority (controlling) shareholder abusing minority shareholders rights (Zattoni, 1999; Perkins et al., 2008). Pyramids are formed to provide the control

over the company. Founders may reveal the tendency to focus on the family control and the internal shareholding to maintain control and may hinder the access to information and influence over the company for the minority shareholders. Hence, the following hypotheses were formulated.

- H4a: The founders' controlled companies are characterized by the more frequent adoption of preferred shares as compared to the overall sample companies.
- H4b: The founders' controlled companies where the founder gets involved in management or supervision are characterized by the more frequent adoption of preferred shares as compared to the overall sample companies.
- H5a: The founders' controlled companies are characterized by the more frequent adoption of pyramidal structure as compared to the overall sample companies.
- H5b: The founders' controlled companies where the founder gets involved in management or supervision are characterized by the more frequent adoption of pyramidal structure as compared to the overall sample companies.
- H6a: The founders' controlled companies are characterized by the worse corporate governance standards i.e. lower transparency, lower board independence, lower number of board committees, lower compliance with best practice as compared to the overall sample companies.
- H6b: The founders' controlled companies where the founder gets involved in management or supervision are characterized by the worse corporate governance standards i.e. lower transparency, lower board independence, lower number of board committees, lower compliance with best practice as compared to the overall sample companies.

The comparative analysis conducted in different countries reveals that the adoption of control enhancing measures is associated with poorer transparency and the increased threat of the abuse of minority shareholders. These problems appear to be stronger in the case of emerging markets characterized by weaker investor protection and corporate governance standards (Berglof and Claessens, 2006). Less transparent companies are less attractive for investors controlling smaller stakes, particularly for financial institutions. Addressing this finding the following hypothesis was formulated.

- Hypothesis 7a: The founders' controlled companies are less attractive and are characterized by the lower presence of financial institution in their shareholders structure as compared to the overall sample companies.
- Hypothesis 7b: The founders' controlled companies where the founder gets involved in management or supervision are less attractive and are characterized by the lower presence of

financial institution in their shareholders structure as compared to the overall sample companies.

RESEARCH

Methodology

The research was conducted between October 2013 and March 2013. As no data base on information on pyramidal structures is available, all data used for the purpose of this analysis was hand collected. In order to assure for the representative sample of 100 companies listed on the Warsaw Stock Exchange, the set of 25% of companies were investigated. For the purpose of the research the sample covered 25 largest companies out of every four 100s of largest companies in terms of market capitalization. The sample was composed of non financial companies listed on the Warsaw Stock Exchange. In the case of bankruptcy and the lack of data two companies were rejected and replaced by the subsequent companies on the list. The research used the following variables:

- Market capitalization
- Degree of ownership concentration (concentrated from the threshold of 30% votes, dispersed)
- Founder's control
- The stake controlled by the founder
- The largest shareholder identity (foreign, domestic, individual/ founder, financial, other)
- The size of the largest stake
- The size of the largest stake 2 identifying potential shareholders' coalition
- The use of preferred shares
- The use of a pyramidal structure
- The involvement of the individual shareholder, usually founder, (if denoted) in management or supervision – as the presence in supervisory or management board
- Board independence
- Transparency
- Formation of committees
- CG index – the sum of board independence, transparency and formation of committees

The statistical analysis was conducted with the use of the standard SPSS software.

*Initial results*Descriptive statistics – the overall sample

The descriptive statistics reveal that 71% of sample companies are characterized by the ownership concentration understood as the stake of the majority shareholder of 30% of votes and more. The general characteristics of the concentration and size variables is presented in Table 2.

Table 2: Descriptive statistics

Variable	Average	SD	N
The stake of the largest shareholder	42.88	21.725	100
The stake of the largest shareholder 2	50.12	19.877	100
Market cap	2124.36	5775.648	

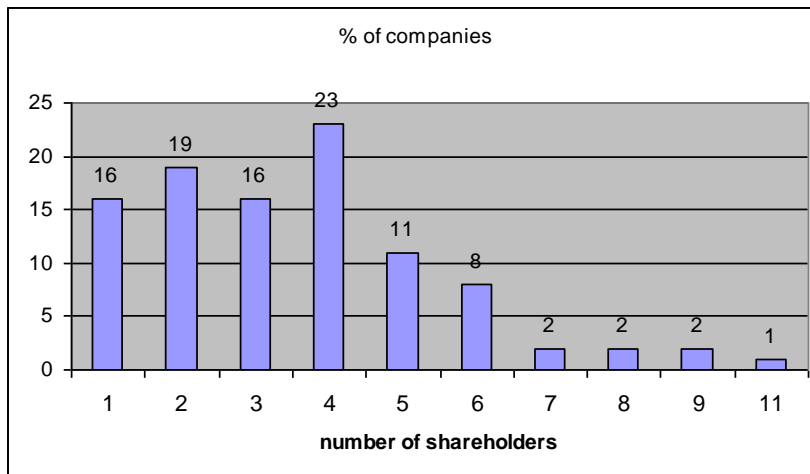
As shown in Table 2 the average stake of the largest shareholder accounted for nearly 43% of votes, while taking into account the coalitions and agreements between investors the average stake of the largest shareholder jumped to 50% of votes. The breakdown of sample companies with the reference to the identity of the largest shareholders is presented in Table 3.

Table 3: The breakdown of sample companies with the reference to the identity of the largest shareholders

Shareholder identity	Number	Percent	Cumulative percent
The state	11	11.0	11.0
Foreign investor	15	15.0	26.0
Domestic investor	30	30.0	56.0
Individual/ founder	29	29.0	85.0
Financial	14	14.0	99.0
Other	1	1.0	100
Total	100	100	

The founders or other individual control was noted in the case of 62% of sample companies while the presence of such an investor on supervisory or management board was revealed in the case of 36%. The average number of shareholders disclosed in the annual reports of sample companies was estimated at 3.5 investors. Additionally, the descriptive statistics reveal that in 74% of samples companies there are up to 4 shareholders disclosed in the annual report (i.e. controlling 5% or more). The detailed data is presented in Figure 1.

Figure 1: The number of shareholders in the ownership structure of sample companies



56% companies adopted pyramidal structure as the mechanism for control while 14% used preferred shares. The collected data denoted the most severe structural problems of Polish companies – amongst sample companies 84 companies do not form board committees (except for the audit committee), 40 companies do not appoint independent directors, IR websites of 24 companies were categorized as very poor.

Statistical analysis

To test the hypothesis H1a and H1b which assumed that the founders' controlled companies are characterized by smaller market capitalization as compared to the overall sample companies the t tests were conducted. The analysis reveals statistically significant results indicating that the founders' controlled companies appeared to be smaller in terms of market capitalization ($t(98)=3.622$; $p<0.001$). In the case of founders' controlled companies when the founder gets involvement in the management and supervision the results are also statistically significant ($t(98)=2.045$; $p<0.01$). This results support the hypotheses H1a and H1b.

The t tests were also run for verification of the hypotheses H2a and H2b. The analysis revealed statistically significant results showing that the founders' controlled companies are characterized by the higher degree of ownership concentration (as measured by the first concentration variable) as compared to the overall sample companies ($t(98)=1.621$; $p<0.1$). In the case of founders' controlled companies when the founder gets involvement in the management and supervision the results are also statistically significant ($t(98)=2.719$; $p<0.01$). Interestingly, the second measure of ownership concentration did not revealed statistically significant results. This findings support hypotheses H2a and H2b. The analysis showed also statistically significant results indicating that the founders' controlled companies are characterized by the lower number of notified shareholders in their ownership structure as compared to the overall sample companies ($t(98)=-3.330$; $p<0.001$). In the case

of founders' controlled companies when the founder gets involvement in the management and supervision the results are also statistically significant ($t(98)=-1.647$; $p<0.1$). Thus, the hypotheses H3a and H3b were supported.

To test for the hypotheses H4a and H4b as well as H5a and H5b the cross tabulation analysis was conducted as the variable are not quantitative. The analysis did neither reveal statistically significant results of the use of preferred shares by the founders' controlled companies as compared to the overall sample companies ($\chi^2(1)=1.897$; $p>0.1$) nor found statistically significant results of the adoption of pyramidal structure by the founders' controlled companies as compared to the overall sample companies ($\chi^2(1)=1.853$; $p>0.1$). Therefore hypotheses H4a and H5a were rejected. Interestingly, the results were statistically significant in the case of founders' controlled companies when the founder gets involvement in the management and supervision the results are also statistically significant both for the use of preferred shares ($\chi^2(1)=9.1121$; $p<0.01$) and the adoption of pyramidal structures ($\chi^2(1)=18.561$; $p<0.001$). Therefore hypotheses H4b and H5b were supported.

The t tests were also run for verification of the hypotheses H6a and H6b. The analysis revealed statistically significant results showing that the founders' controlled companies are characterized by the worse corporate governance standards measured as the variable combining transparency, board independence and board committees formation ($t(98)=1.718$; $p<0.1$). The findings support the hypothesis H6a saying that the founders' controlled companies reveal lower standards of corporate governance i.e. lower transparency, lower board independence, lower number of board committees (measured by a combined variable), as compared to the overall sample companies. The relations was also supported in the case in the case of founders' controlled companies when the founder gets involvement in the management and supervision ($t(98)=1.852$; $p<0.1$) what supports hypothesis H6b.

To test for the hypotheses H7a and H7b the cross tabulation analysis was conducted as the variable are not quantitative. The analysis revealed statistically insignificant results ($\chi^2(1)=2.532$; $p>0.1$) rejecting hypothesis H7a. Thus the founders' controlled companies are less attractive and are characterized by the lower presence of financial institution in their shareholders structure as compared to the overall sample companies. In the case in the case of founders' controlled companies when the founder gets involvement in the management and supervision the analysis revealed statistically significant results showing that the founders' controlled companies are characterized by less frequent presence of financial institution in their shareholders structure as compared to the overall sample companies ($\chi^2(1)=6.977$; $p<0.01$). Hence, the hypothesis H7b was supported.

DISCUSSION

The descriptive statistics reveal that the founders' control remain a frequently noted governance mechanisms as it is noted in 62% of sample companies. In the case of 30% sample firms founders get involved in management and supervision indicating that the underdevelopment of the separation of management and control amongst Polish listed companies. 71 of 100 sample firms reveal concentrated ownership and the average stake of the largest shareholder is estimated at nearly 43% what is consistent with the previous studies. Since the newly founded companies are managed or supervised by the first generation of entrepreneurs it is expected that the pyramidal forms depict relatively simple patterns. The Polish market economy has been developing for the last 20 years, so has corporate governance what is illustrated by three final variables denoting the most severe structural problems of Polish companies. Amongst sample companies 84 companies do not form board committees (except for the audit committee provided by the hard law), 40 companies do not appoint independent directors, IR websites of 24 companies were very poor. Statistical analysis delivers additional insights of the characteristics of founders' controlled companies in Poland. The analysis reveals statistically significant results indicating that the founders' controlled companies appeared to be smaller in terms of market capitalization. The results remain statistically significant in the case of founders' controlled companies when the founder gets involvement in the management and supervision. The analysis also showed that the founders' controlled companies are characterized by the higher degree of ownership concentration (as measured by the first concentration variable) as compared to the overall sample companies. In the case of founders' controlled companies when the founder gets involvement in the management and supervision the results are also statistically significant. Interestingly, the second measure of ownership concentration did not revealed statistically significant results. The analysis showed statistically significant results indicating that the founders' controlled companies are characterized by the lower number of notified shareholders in their ownership structure as compared to the overall sample companies. The results remained statistically significant also for founders' controlled companies when the founder gets involvement in the management and supervision supporting. However, the analysis did neither reveal statistically significant results of the use of preferred shares by the founders' controlled companies as compared to the overall sample companies nor found statistically significant results of the adoption of pyramidal structure by the founders' controlled companies as compared to the overall sample companies. Interestingly, the results were statistically significant in the case of founders' controlled companies when the founder gets involvement in the management and supervision the results are also statistically significant both for the use of preferred shares and the adoption of pyramidal structures. The findings showed that the founders' controlled companies reveal lower standards of corporate governance i.e. lower

transparency, lower board independence, lower number of board committees (measured by a combined variable), as compared to the overall sample companies. The relations was also supported in the case in the case of founders' controlled companies when the founder gets involvement in the management and supervision. The analysis notes that the founders' controlled companies are less attractive and are characterized by the lower presence of financial institution in their shareholders structure as compared to the overall sample companies. In the case in the case of founders' controlled companies when the founder gets involvement in the management and supervision the analysis revealed statistically significant results showing that the founders' controlled companies are characterized by less frequent presence of financial institution in their shareholders structure as compared to the overall sample companies.

CONCLUSION

This paper focuses on the specificity of founders' controlled companies addressing their overall characteristics and the standards of corporate governance. The paper attempts to fill in the gap in corporate governance literature since there is practically no research on corporate governance practices of Polish founders' controlled companies which make for 62% of the sample firms. As the statistical analysis revealed as compared to their peer the founders' controlled companies are found to be smaller in terms of market capitalization, characterized by higher degree of ownership concentration, lower number of notified shareholders and lower standards of corporate governance measured by a combined variable of transparency, board independence and formation of specialized board committees. Additionally, In the case when the founder get involved in management and supervision founders' controlled companies are characterized by more frequent use of preferred shares and pyramidal structures and less frequent presence of financial institution in their shareholder structure.

The research has however several limitations. The research is based on a small sample of 100 firms covering 25% of companies listed on the Warsaw Stock Exchange. The hand set data was collected for 2011 only. The wider time span of the data would allow to trace the dynamics of the founders' control in Poland as well as depict additional statistical relations. The analysis uses simple statics and traces characteristics of the sample companies while a more complex statistical analysis would be helpful in understanding the logic of founders' control in Poland.

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REACHING ORGANIZATIONAL OUTCOMES IN THE HEALTHCARE SECTOR

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ABSTRACT

This paper aims to examine management practices in the healthcare sector in Portugal. More specifically, intends to assess the effects of the adoption of a set of accounting and management practices, involving various aspects such as organizational innovation, or the use of measuring systems, as a mean to achieve organizational results, through effectiveness and efficiency.

Usually hospitals are regarded as a kind of organization with a greater degree of complexity both in their structure and administration. This complexity poses a challenge to this research, but also justifies its interest, as it contributes to mitigate the gap that the literature exhibits within this strand of research, particularly when regarding the Portuguese environment.

The objective of the paper is to examine the management practices in Portuguese hospitals, with a focus on innovation, which is a critical variable in the healthcare sector, while inquiring whether the adoption of an innovative attitude, together with the implementation of reward and training programs, may contribute to achieve organizational outcomes. The completion of the investigation relies on a survey directed to Portuguese hospitals, using interviews and the questionnaire methodology.

Keywords: *Innovation, reward and training policies, performing evaluation systems, healthcare*

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INTRODUCTION

Usually hospitals are seen as one of the organizations with a greater degree of complexity at either in structure or at administration level. There are even authors who argue that healthcare organizations are of high difficulty as to its management, cataloguing them as "extraordinarily complicated

organizations", although their complexity can be mitigated when their dimensions are analysed separately (Glouberman and Mintzberg, 2001a, 2001b: 58), a methodological approach which will be used in this article. One of the gurus of management, referring to hospital organizations, pointed out them as being the most complex to manage (Drucker, 1989). A very own special dynamics of the market in which they operate and the existence of specific characteristics of their business models and management are major factors contributing to this complexity (Jacobs, 1974). Such complexity is a challenge for this paper, but also justifies the research interest in an area where there is still much to investigate.

The health sector in Portugal is in a phase of deep reform standing before a crisis plaguing the country and also an increasing life expectancy, causing the "welfare state" financing model, that is based on the principles of solidarity and security, prevailing in European countries for over a century, being currently at risk as it does not appear sustainable due to increased demand and lack of economic growth, coupled to demographics associated with an ageing population, which is lacking for broader attention and medical care.

This paper aims to examine management practices in the hospital sector in Portugal. More specifically, intends to assess the effect of the adoption of a set of accounting and management practices, involving various aspects such as organizational innovation, or the use of measuring systems, as a mean to achieve organizational results, through effectiveness and efficiency.

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The objective of the paper is thus to examine the management practices in the Portuguese hospitals, with a focus on innovation, which is a critical variable in the healthcare sector, while inquiring whether the adoption of an innovative attitude, together with the implementation of reward and training programs, may contribute to achieve organizational outcomes. The completion of the investigation relies on a survey directed to Portuguese hospitals, using interviews and the questionnaire methodology.

PREVIOUS RESEARCH AND HYPOTHESES

In order to be synthetic, this section presents some literature review together with the research hypotheses developed for this research.

The majority of authors argue that the purpose of innovation implies the need for structural adjustments, as well as the monitoring of market dynamics (eg Miller, 1987; Habib and Victor, 1991;

Naman and Slevin, 1993; Miles et al, 2000; Slater and Olson, 2000; Abernethy and Lillis, 2001). Pursuing this type of attitude, the need for continuous monitoring, regarding best practices in office, become relevant, while structural arrangements that enable greater organizational fluidity, resulting in the creation of autonomous units, are regarded as a very interesting option (eg Lawler, 1993; Cohen and Ledford, 1994; Scott and Tiessen, 1999; Bouwens and Abernethy, 2000; Abernethy and Lillis, 2001).

Bearing in mind that organizational decentralization propels the possibility of greater responsibility at the autonomous units level, it becomes evident the need of development of incentive policies, both at administrative and clinical management levels, the adoption of which can likely to stimulate and guide their management efforts (eg Abernethy and Lillis, 2001; Glickman et al, 2007). As for the effectiveness of such incentives, however, there may be some doubts, particularly when the size of the bonus is disproportionate to the inherent objectives (see eg Glickman et al, 2007).

Additionally, there is also the issue related to the fact that the incentive systems contemplate organizations, not rewarding individual professionals. This is the case of the largest incentive program launched to date in 2003 in the U.S., the Hospital Quality Incentive Demonstration, organized by the U.S. Centers for Medicare and Medicaid Services and directed to the compensation of the performance measured across a standard base on the centers doctors, but without addressing the clinical and operational staff, having even been called into question as the size of the allocated bonus, which many considered insufficient to stimulate a significant improvement of quality of services (see eg Glickman et al, 2007:345).

Despite the existence of such issues, what seems indisputable is the fact that the strategic design of an innovative attitude justifies the adoption of a policy for performance incentives (eg Abernethy and Lillis, 2001; Glickman et al, 2007), so together with the rational already developed before in this paper, we formulate the following hypothesis:

H1: There is a positive relationship between a strategic emphasis on service innovation and the adoption of a bonus policy.

Concurrently, and in the wake of the theories discussed above (vid. eg Law et al, 1996; Gupta et al, 1997; Abernethy and Lillis, 2001), taking into account that the purpose of adopting a policy of incentives will be particularly in order to achieve organizational results, measured in both increases in efficiency and effectiveness, two other hypothesis can therefore be drawn, as shown below:

H2: There is a positive relationship between the existence of a policy of performance bonuses and the possibility of achieving organizational results through efficiency gains; and

H3: There is a positive relationship between the existence of a policy of performance bonuses and the possibility of achieving organizational results via efficiency gains.

As organizational innovation can lead to the implementation of an incentive scheme with the aim of achieving organizational results, it can then also be expected to be accompanied by the implementation of a training policy. This will also be the case of the hospital sector, in addition to financial and performance assessment, it is important to have generic medical training programs, so that it may ensure the timeliness of medical professional skills, ensuring their preparation for action in dynamic environments that fit the attitudes of innovation (see eg Abernethy and Lillis, 2001).

In line with the above, with the expectation that a strategic vision supporting innovation will lead to a boost in adopting education policies, it makes the following hypothesis reasonable:

H4: There is a positive relationship between a strategic emphasis on service innovation and the existence of incentives for human resources training.

In this context, the importance of training policies, according to Govindarajan (1988), is of particular relevance to this paper, especially at the level of practice, as it suggests that the CEO of multi-businesses organizations should not adopt a uniform standard for the management, but should, conversely, adopt a flexible approach in order to adapt the strategy to individual business units. In particular, this study has practical applications in two critical areas: the strategy of human resource management and control system, which will be discussed later. From the point of view of strategic human resource management, has implications not only for those responsible for the selection and development of managers from diversified firms, but also to the managers in general, as all decisions are made with same objective in mind, ie find a way to improve overall effectiveness.

Based on the reasoning that has been developed in this paper and is supported by the theories presented earlier, as looking obtaining organizational outputs from a strategic approach to innovation, will be thus expected an orientation of a training policy for obtaining results. However, unlike previous hypotheses that were formulated based on the adoption of a policy of incentives, in the case of organizational results expected in relation to the output resulting from the implementation of a training policy it is not expected to achieve efficiencies but only obtaining efficiency, since it is assumed that such training will be more directed towards clinical, or related services, and not so much to financial gains.

Accordingly, from the implementation of a training policy output, another hypothesis can be outlined:

H5: There is a positive relationship between the existence of a policy of human resource training and the possibility of achieving organizational results via efficiency gains.

METHODOLOGY

The investigation relies mostly on a survey directed to Portuguese hospitals, using interviews and the questionnaire methodology.

The preparation of the questionnaires was preceded by pilot interviews with experts in the field of the hospital sector, particularly involving from doctors and medical assistants to administrators responsible for hospital management. Exploratory interviews were previously conducted towards elements responsible for clinical units, and also top hospital management members. In metric terms, the majority of questions were prepared in "closed" mode, using a Likert scale of 7 levels, with different degrees of qualitative assessment, as you can see in appendices.

The theoretical description and presentation of the metric adopted for each variable used in the theoretical model subject to testing in this paper is now discussed.

Service innovation

Like Abernethy and Lillis (2001), this research follows the strategic typology structured by Miles and Snow (1978), with the aim of examining the extent to which hospital organization was determined to meet the needs of the market, or took advantage of the opportunities offered within this sector by making changes in the range of services offered. This typology is intuitively appealing, since the development and adoption of innovation in services is directly related to the description of a prospector. Adopting this strategy type is also advantageous because of its massive use, as well as having already been tested for its theoretical strength (Doty et al. 1993). Additionally, it has also been examined considerably in terms of metrics within the social sciences, particularly with regard to psychology (Snow and Hrebiniak, 1980, Shortell and Zajac, 1990). Although Miles and Snow (1978) describe as the prospector as the one who always tries to be the first among the pioneers in the development of new products and/or services, having a high capacity for the exploration and exploitation of market opportunities, in this paper, however, the key point of interest lies in identifying the hospitals on a scale of between prospector, aggressive in seeking opportunities up to defensive, ie more concerned about keeping the areas where it is already present. Naturally, the classification of hospital organizations from a range of prospectors versus defensive, follows the logic adopted by Abernethy and Lillis (2001), based on Miles and Snow (1978), being focused on the analysis of the level of dedication of these organizations as service innovation, insofar as this is reflected in the consequent degree of change in their service mix. As previously mentioned, innovation service is regarded as a continuous, in which one end is shown a hospital involved in little change, while the other end is shown a hospital that is continuously changing the range of services offered.

Thus, in this research is adopted the metric used by Abernethy and Lillis (2001), which operationalized the construction of the representation of this continuous offering, according to two extreme descriptions of the strategic position of a particular hospital, questioning the organization

regarding the degree of change and innovation in the supply of services, to be classified by the respondents 1 to 7, within the spectrum of this continuum.

More specifically, the questionnaire refers to two types of hospitals, one in the conventional manner, Hospital A, resistant to change, which is not in the forefront of offering new services or as to the monitoring of market innovations that have occurred in their sector, which tends to focus on current areas of operation, not valuing incentive policies or the training of its human resources. Therefore, a low score answering this question gives an indication of a classic hospital that is perfectly framed in a community, which offers basic services in general medicine and surgery. Certainly away from a great complexity in terms of providing services, this type of hospital organization may even have some degree of innovation, but necessarily at a very limited scale, because their primary concern will be maintaining the status quo, trying to ensure providing a good level of existing services.

On the other hand, a higher score response, gives an indication of a respondent from a type B hospital, which corresponds to an organization that tends to offer a wider range of innovative medical services compared to other hospitals, in both similar size characteristics, given subject themselves to a greater extent of rules and market dynamics. In this case, it is about a hospital that conducts relatively frequent changes in its set of services, quickly responding to new opportunities or evidence of new market needs, and therefore is continuously at the forefront of developing new services being followed up by other hospitals. Usually, this type of hospital organizations values the training of its human resources and adopts incentive systems. The B Hospital is directed to be an innovation both in terms of services as to the level of information and control systems organization, because there is concern about adopting the most advanced practices in management.

Bonus and training policies

Assuming that at least some hospitals take an innovative approach, concerned with the need for structural adjustments, in order to monitor the dynamics of the market, one should expect the existence of autonomous units within the organizational decentralization, which justifies the interest in the development of incentive policies, both as well as the qualification of employees, by implementing a vocational training level of clinical management and administrative staff.

Thus, it seems pertinent to examine the extent to which the innovation will justify the adoption of a bonus policy, related to performance, so a question of the inquiry seeks to assess the existence of the bonus level in Portuguese hospitals. Additionally, given the evidence already examined before is expected that the aim of implementing a bonus policy is mainly related to achieving organizational outcomes, both in terms of efficiency and effectiveness, which is intended to be measured with question 3 [a), b)]. The rationale behind the existence of a policy associated with the assumption of an

innovative attitude related to incentives can also be applied to the justification of the interest in adopting a policy of training. In fact, it is expected that an innovative approach not only results in the adoption of a system of incentives, but also result in the implementation of a training policy, also with the aim of achieving organizational results. As discussed earlier in this paper, the existence of training, both physicians and other programs, will be relevant in the hospital, because it allows the current skills of its professionals, ensuring their ability to act in dynamic environments resulting from an attitude of innovation.

Assuming the expectation that a strategic vision supported innovation, that will stimulate the adoption of education policies, is framed in the questionnaire, among many items, including direct measurement of possible policy interventions.

However, in terms of organizational outcomes, unlike the output expected from the adoption of a bonus policy, in the case of the implementation of a training policy is not expected to achieve efficiency gains, but only effectiveness, since, as already discussed it is assumed that such training will be targeted to clinicians, or related services, and not for financial purposes. Consequently, the measurement of a positive relationship between the existence of a policy of human resource training and the possibility of obtaining efficiency gains can be realized, but only indirectly.

Performing evaluation systems

Based on the seminal work of Hopwood (1976), and in subsequent literature (eg Hartmann, 2000; Otley and Fakiolas, 2000), which, however, is only focused on the dimensions of the mechanism developed by Hopwood, Abernethy and Lillis (2001:118), who used an instrument developed with the purpose of capturing the construction of Performance Measurement Systems (PMS), this research also incorporates the latest research that includes criteria for both quantitative and qualitative performance (Ittner and Larcker, 1998), as well as considers studies carried out in the hospital sector and other service sectors that included similar procedures to the research presented in this study, following the steps of Abernethy and Lillis approach (see eg Abernethy and Stoelwinder, 1991, Smith, 1993; Lee et al, 2000; Watkins, 2000).

Concurrently, this paper includes the measurement instrument adopted by Abernethy and Lillis (2001), who consider seven items as relevant in assessing the performance of clinical units, concluding, from a previous factor analysis that provided support for the identification of the two dimensions of performance measurement (SMD) systems, they could be categorized as follows: i) the items of the performance level of cost and productivity (throughput) represent a more quantitative factor associated with performance management in resources (RMP or resource management performance); ii) while the remaining items represent measures of performance of a more qualitative nature,

representing the performance criteria of clinical management (CMP or clinical management performance).

Organizational outcomes

The measurement of organizational outcomes in the hospital sector include both the aspect of efficiency and effectiveness, so Abernethy and Lillis (2001) developed a working instrument that required senior management to disclose the criteria considered most important in determining the actual hospital performance. Taking advantage of this prior work by Abernethy and Lillis (2001), this study's interviews were initially conducted using an exploratory nature, with several officers and staff of the hospital, and also medical management, in order to confirm the relevance of such criteria in the framework of the hospital sector in Portugal. As a result of such an inquiry, we developed a tool for evaluating hospital performance perceived by the management which includes six items, two of which are related to management efficiency and the remaining four concerning the efficacy of medical service.

Sample

The sample taken for the study of hospital sector in Portugal is composed by 49 responses from a set of 96 questionnaires sent between 2010 and 2011, corresponding to a list of 65 public hospitals and 31 private, which has been determined as to be the hospital population on the date of early 2010. More specifically, 36 responses were deemed valid, from public hospitals, and 13 private entities questionnaires were validated as well, representing a response rate of 55.38% for public hospitals and 41.93% for the private ones. The percentage of total valid responses was 51.04%. Finally, it is also important to note that private hospitals compose 26.53% of the sample, while public hospitals comprise 73.47%. In terms of characteristics of the hospital sector represented in the sample can be pointed out that, on average, the public sector hospitals are larger and more complex organizational structures. In fact, while the average number of hospital beds in the public sector totals about 336 (35 observations), this number in the private sector decreases to only 123 (13 observations), for an overall average of 278 beds in the entire sample (48 observations). Regarding the number of clinical departments of the hospital, it amounts to an average of 15 for public hospitals (34 observations), while in the private sector is less than 3 (12 observations), adding that on average almost 2 heads of department have training in hospital administration in the public sector, while the private sector the average is only 0.25, for the same number of observations referenced above. As for the experience of the directions, the differences are less significant. Nevertheless, the indicators of seniority are superior in the private sector. In terms of seniority of clinical management, it overcomes the three years in the

public sector, and 8 years in the private, and the time period of the collaborative clinical director of collaboration in the hospital, not necessarily in a managerial capacity exceeds 16 years in both the public and private sectors. With regard to the administration and/or hospital management, the average time served in roles of administration is about 7 years in the public sector, while the private sector amounts to almost 13 years. Finally, the period of collaboration in the hospital, not necessarily corresponding to administrative tasks only, amounts to 10 years in the public sector and 13 years in the private sector.

Variable aggregation using factorial analysis (principal component analysis)

Following the factor analysis made, regarding identification and dimensional grouping, from the items placed in the questionnaire shown in the Appendix, the variables constructed to test the theoretical model, are shown in the table 1.

IO	Innovation Organizational
RMP	Resource Management Performance
CMP	Clinical Management Performance
RO1	Return/Outcome (Efficiency)
RO2	Return/Outcome (Effectiveness)
PB1	Policy Bonus (Efficiency)
PB2	Policy Bonus (Effectiveness)
PF1	Policy Formation-Training
PF2	Policy Formation-Training (Effectiveness)

Table 1 – Variable list

RESULTS AND CONCLUSIONS

The research hypothesis were tested using correlations between the variables constructed as shown before in this paper. Before a detailed examination is made, table 2 offers a global view of the results obtained. Hypothesis were constructed assuming positive correlation, as expected signal. All correlations stated are statistically significant at least at the confidence interval level of 95%, for both Pearson and Spearman ranks, unless stated otherwise, or inconclusive.

Hypothesis	Results
<i>H1: IO_PB</i>	Inconclusive (Accepted at 90% - Pearson)
<i>H2: PB1_RO1</i>	Inconclusive
<i>H3: PB2_RO2</i>	Accepted (+)
<i>H4: IO_PF1</i>	Accepted (+)
<i>H5: PF2_RO2</i>	Accepted (+)

Table 2 – Hypothesis testing results

Organizational innovation and bonus policy

According to our findings, there is a positive relationship between IO and PB, with a correlation of 36.7 %, statistically significant only at 90 % (value 0.0852, Pearson correlation) for 23 observations, nevertheless without enough evidence, or statistical power, allowing to clearly accept Hypothesis 1, Nevertheless, one cannot suggest neither its rejection in a wider confidence interval, such as the significance level of 10%. Thus, like Abernethy and Lillis (2001) and Glickman et al. (2007), it does seem that the strategic design of an innovative attitude justifies the adoption of a policy of incentives for performance, even if one can assume in our study that there is a weak positive relationship between a strategic emphasis on service innovation and the adoption of a policy on bonuses.

Existence of a policy of bonuses and premiums and organizational outcomes (efficiency)

There is a positive relationship between PB1 and RO1, with a correlation of 19.4%, but that is not statistically significant (test value 0.37 for 23 observations), so we are not able to conclude about the acceptance or rejection of hypothesis 2. Therefore one cannot even clearly suggest the existence of a positive relationship between the adoption of a policy of performance bonuses and the possibility of achieving organizational results through efficiency gains.

Bonus and bonus policy and organizational outcomes (effectiveness)

There is a positive relationship between PB2 and RO2, with a correlation of 61.5%, statistically significant at the 99% level, for 23 observations, and therefore we infer about the non-rejection of Hypothesis 3. Thus it can be stated that there is a positive relationship between the existence of a policy of performance bonuses and the possibility of achieving organizational results via efficiency gains.

Organizational innovation and training policy

There is a positive relationship between IO and PF1, with a correlation level of 39.4%, statistically significant at the 99 % confidence interval, for 48 observations, thus Hypothesis 4 cannot be rejected. Thus, according to this hypothesis one can conclude that there is a positive relationship between a strategic emphasis on service innovation and the existence of incentives for training of human resources

Training policy and the possibility of efficiency gains and organizational outcomes (effectiveness)

There is a positive relationship between PF2 and RO2, statistically significant at the 99% confidence interval, using 48 observations, with a correlation level of 59.2%, implying the non-rejection of hypothesis 5. Accordingly, one can conclude that there is a positive relationship between the existence

of a policy of human resource training and the possibility of achieving organizational results via efficiency gains.

Global evidence

Overall, not a single hypothesis was rejected. Just two could not be statistically accepted, suggesting the quality of the model literature used, and the theorization and model testing performed here. These facts contribute to the validation of the methodology and testing used, which is not unrelated to the quality of the literature used to support this study. Moreover, the results shown in this paper generally corroborate the theoretical formulations and previous results obtained from some noteworthy literature used in this investigation, such as the case of the prominent articles produced by Abernethy and Lillis (2001) and Govindarajan (1988).

As caveats, one should highlight that only a small number of healthcare organizations surveyed employed policy bonus and/or have full performance measuring systems in place, which probably is the main justification for the inconclusive results obtained for hypotheses one and two.

While focusing in the Portuguese healthcare sector, this paper allowed not only to highlight the importance of some critical factors, such as innovation, reward, and training systems as a way of obtaining organizational outcomes within the scope of the Portuguese reality, but also allowed to corroborate evidence suggested by remarkable research made elsewhere, such as in the case of Australia (Abernethy and Lillis, 2001).

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APPENDIX - QUESTIONNAIRE

1. Hospital A - Offers a relatively stable set of services and tends to focus on a particular segment (i.e., geographical region) of the population and offers a more limited range of services/programs than other hospitals of similar size and function. Generally, Hospital A is not at the forefront of new services or market developments in health care. Developments in services/programs tend to concentrate on current areas of operation. It believes that doing the best job possible in its existing range of services/programs and refining existing services/programs are of utmost importance.

Hospital B - Makes relatively frequent changes in, and additions to, its set of services/programs and tends to offer a wider range of medical services compared to other hospitals of similar size and function. Hospital B responds rapidly to early signals of market needs or opportunities and it consistently attempts to be at the forefront of new service/program developments. Other hospitals often follow Hospital B in the development of these services/programs. This type of hospital may not maintain its strength in all of the areas it enters.

Please indicate the positioning of your hospital within the two extreme situations presented, in which "1" represents the type of Hospital A and "7" the kind of Hospital B.

2. What kind of additional compensation the hospital offers to its employees?

	Fixed Bonus	Individual Variable Bonus	Team Variable Bonus
a) Board/Administrators			
b) Clinical Service Coordinators			
c) Doctors			
d) Nurses			
e) Technical Staff			
f) Administrative Staff			

3. Indicate to which extent the following items influence the performance bonus:

1- Well below average	4- Average	7- Well above average
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a) Budget performance

1 2 3 4 5 6 7

- b) Throughput targets
- c) Quality of patient care
- d) Research output of the unit
- e) Adherence to standard procedures)
- f) Cooperation with other units in the hospital
- g) Harmony of the unit

4. Indicate your level of agreement with each of the following statements:

1- Totally Disagree	4-Neither agree or disagree	7- Totally Agree
----------------------------	------	------------------------------------	------	-------------------------

- | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a) The hospital provides ongoing training to its employees to improve the level of service | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) The hospital provides training to new employees on how to deal with patients | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) The hospital provides training to its employees on ways to improve services to users | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d) The hospital employees receive training on how to deal with problems that patients present | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e) The hospital trains its employees to know how to deal with complaints from users | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

5. Indicate your level of agreement with each of the following statements:

1- Totally Disagree	4-Neither agree or disagree	7- Totally Agree
----------------------------	------	------------------------------------	------	-------------------------

- | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a) The government has the responsibility to promote and oversee the development of individual skills of employees | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) The hospital has mechanisms for monitoring and evaluation that support the development of individual skills | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) The performance assessment includes identifying needs and learning opportunities of employees (eg . , mentors , clinical supervision , incident analysis) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Clinical Coordinators are responsible for developing the skills of their employees , as a learning environment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e) There are formal mechanisms that allow employees to engage with the management before and after training | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f) There are formal mechanisms for listening to the needs of users that inform the definition of hospital service strategy | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g) There are formal procedures that allow learning from mistakes | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| h) The identification of needs for skill development is linked to the definition of a service strategy hospital | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| i) The hospital conducts satisfaction surveys to employees and disclose the results internally " | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

IMPACT OF DIFFERENT FORMS OF THE FINANCIAL INVESTMENTS ON THE ACCOUNTING SYSTEM.

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ABSTRACT

The general lack of public resources for the provision of infrastructure has led to the development of different forms of public-private partnerships for investment in the health sector. Next to the project finance, by now reinforced, the use of leasing real estate in construction has grown significantly. Moreover, the contract availability was recently introduced by D.L. the 1/2012. Literally and practically, there are studies that allow neither to understand what tools are more appropriate and convenient for the financing of health investments, nor to evaluate the conditions of application of themselves. For this reason it is important to analyze different tools that can be useful to understand the real essence and conditions of use, in order to find effective and efficient responses to the financing of investment projects in the health sector. In a range of possible tools, definitely the methods of accounting and impact on the public budget are an essential element, especially in the light of the dispositions of Eurostat which, according to "Treatment of public private partnerships" of 11 February 2004, sets out the circumstances in which the assets related to such forms of public-private partnerships can be classified off-balance and therefore have no impact on the public debt. The aim of this paper is to analyze in detail in the context of contracts for public private partnerships, the main instruments for financing public investment: the concession to build and operate-project finance, leasing finance / real estate and contract availability.

Keywords: *Public-Private partnership, Project Finance, Leasing contract, Availability contract, Accounting, Health Sector, Ipsas, Finance Investment.*

CONCESSION TO BUILD AND OPERATE WITH PROJECT FINANCE

The involvement of private capital in the construction of public works and in the management of public services is a worldwide phenomenon that buys every year more and more importance, in spite of the turmoil that cross the international financial markets.

In a first phase, this phenomenon has been identified with the term, Anglo-Saxon origin, project finance, which represents a funding mechanism that is based on the ability of an initiative to repay the debt contract in the construction phase with the cash flows generated by its subsequent management.

From the beginning, this method of financing has represented an important opportunity both to overcome the problem of reducing the public debt, and for the design and management efficiencies that can be achieved thanks to the possibility of risk sharing with operators private and their contribution of know-how (Amatucci, Longo, 2009, p.178).

In the Green Paper on Public-Private Partnerships made public in April 2004 by the European Commission (COM2004_327), we provide a classification of partnerships based on current practice in member countries, where there is explicit reference to the *partnership contract*, in which the private assumes responsibility for the design, financing, construction and management of public initiative, making fall back upon themselves, in particular, the economic and financial risk.

The elements common to these forms of partnership can be summarized as follows:

- Credit lines long-term (average 25-30 years old), inclusive of planning, financing, management and maintenance of the work, usually without the transfer of ownership to the private sector, which remains an option only for certain contracts;
- Creation and management, through a company set up ad hoc (SPV, Special purpose Vehicle) by private investors, with the possibility of recourse to the financial market independently;
- Financing in whole or in part insured by private entities and by their sponsors and guaranteed by a mechanism of no-recourse, with debt leveraging rather stringent (70-80% of the investment);
- Mechanism of return on investment during the management secured by cash flows generated from the sale of services to citizens (user charges), or by the public, however, linked to the services provided by the operator;
- Engagement of economic and financial risk of the initiative by the private sector.

The concession to build and operate has different models (Amatucci F., 2008, p. 13):

- 1) D.B.O.T. (Design, Build, Operate, Transfer): This is the basic layout of the concession because it involves the design of the intervention and the realization of the work by the dealer; the economic exploitation of the initiative, through the management of the service and the sale to users, and the transfer of the work on the public body at the end of the concession period. As there is no financial intervention by the public, we can use it only for fully self-profitable operation;
- 2) D.B.O.S.T. (Design, Build, Operate, subsidize, Transfer): In this model, due to the insufficient level of charges, during the management phase is added to a government grant as a contribution in cash or ownership or enjoyment of real property;
- 3) D.B.O.S.L.T. (Design, Build, Operate, subsidize, Lease, Transfer): this model is used for the realization of works used and managed directly by the government, which are useful

to the provision of public services. The government pays a periodic fee to the dealer, directly against the project company.

Comparing the benefits of the project (in addition to those outlined above, we can add the alleviation of problems associated with long lead times typical payment contract traditional) we have to reflect on the complexity of the instrument that involves the integration of different skills and needs resources capable of dealing with the legal, technical, financial, contractual initiative. The project finance, in fact, requires the development of specific skills, in order to assess carefully the mode of application and convenience. This phenomenon requires that the government not only plays the traditional role of the buyer but also the role of the most complex and ambitious project manager of public works, to evaluate "ex ante" efficiency and convenience of the instruments, structuring and negotiating transactions the best solutions with private operators, monitoring economic and financial investment, measuring their impact on the territory and their ability to meet the needs of users. Project finance also (and should be stressed), is not the recipe for all situations and should not be overlooked also the situation of a credit crunch, which imposes constraints in access to capital and financing costs certainly higher than forms traditional (Old V., 2012, p. 30).

In the health sector, despite the strong control of the initiatives by the region, companies enjoy greater autonomy in the management of financial resources. In this area we are not seeing the application of a model "pure" project finance (ie without the involvement of both in financial terms and risk-taking by the company public health), but the development of hybrid forms of intervention defined public-private partnerships characterized by a broader engagement between the private and public entities for the realization of the investment (Lecci F., Amatucci F., 2006, p. 690).

In general, we can define a partnership as a collaborative relationship based on the convergence of interests and aims to pursue joint economic and social objectives, from which individual participants indirectly derive individual benefits. A prerequisite for the success of these relationships is, therefore, a significant involvement of the various partners, it is realized with the contribution and exchange of capital, financial resources, scientific and managerial know-how, human resources, distinctive skills, flexibility in organization and managerial and entrepreneurial capacity.

LEASING CONTRACT

Leasing is an atypical financing according to which a party to the lessor allows the lessee to acquire the availability of an asset, instrumental to economic activity, behind the payment of a periodic fee and, at the end of the contract period, to acquire the property through the exercise of the redemption behind the payment of a fee established at the time of conclusion of the contract, which is generally lower than the market value of the property.

This can be traced back to a long-term financing, since it shares the burden linked to the availability of the property over a period of time many years as long as the use of the asset, thus expanding the possible choices and making more efficient coordination of available resources (Amatucci F., 2010).

This operation involves three parties:

- The individual user who, not having the necessary amounts, turns to the leasing company to get a good (movable, immovable, intangible) for a specified period of time during which pays a regular fee and termination of the contract may choose to return the asset, to renew the contract or purchase the goods by paying the redemption price;

- The leasing company that finances the operation. It will target a company to provide you the leased asset;

- The supplying company that will build a work according to the instructions provided by the user company or provide an asset.

Therefore, the leasing company and the supplying company will enter into a contract of sale of goods or contract for the construction of a building, while the leasing company and the user will enter into the leasing contract.

The risks of the operation remain with the user and the property passes to the user only if he exercises the purchase option otherwise remains with the lessor who will extend the maturity of the contract or reallocate well. The lease can be classified into finance leases and operating return (sales and lease back).

A finance lease is included as part of a trilateral at which there were precisely the user / lessee, the lessor / landlord and the company that the availability of good or must build it. In this case, the lessor is a financial intermediary distinct from the producer of the good, which transfers all the risks and rewards of ownership to the lessee.

The rent includes in addition to the charges relating to the availability of good even in the depreciation and financial charges. They are not including the cost of maintenance and operation remain as to the lessee.

The rent includes, in addition to the charges relating to the availability of good, even the amount of depreciation and financial charges. the costs of maintenance and operating costs are not included, the lessee pays them.

The goods of the contract may be movable or immovable property typically equipped with high technological content and, if they are available on the market, are produced on the basis of specific instructions of the user. In addition to funding, the lessor may also provide other types of services of a commercial nature (maintenance, service, insurance, ...) to allow a correct and effective use of the leased asset.

An operating lease is made by the same manufacturer that gives enjoyment in a good, generally standardized, for a periodic fee, for a period less than the asset's useful life. At the end of the contract, the product will be redeemed or intended for new uses. This type of contract is particularly useful when the asset is subject to rapid obsolescence of technological progress.

In the sales and lease back, the user / lessee sells its own goods or property to the leasing company that pays a price. At the same time the leasing company enters into a lease agreement with the user about precisely those goods. The assets therefore remain at disposal of the user paying the royalties and the end of the contract may decide to purchase assets.

It may be useful if the user is in temporary financial difficulties.

The government, in recent times, have made use of a particular type of leasing: leasing real estate under construction, introduced in our system with the Finance Act 2007 (L. 27/12/2006, n. 296) and in particular 'art. 1, paragraph 907, which provides that public authorities for the construction, acquisition and completion of public works may also use the leasing contract.

The government, in recent times, have made use of a particular type of leasing: leasing of public property, which was introduced in our system with the Finance Act 2007 (L. 27/12/2006, n. 296) and in particular art. 1, par. 907, which provides that public authorities for the construction, acquisition and completion of public works may also use the leasing contract.

The government should launch a public tender, concerning the implementation of a property through a leasing contract. The competition's purpose is the selection of both the lender that the implementer both in possession of the subjective requirements, technical and economic prescribed by the notice. In the offering, the implementer must define the characteristics and methods of realization of the work as well as its costs, which will be translated into the lease payments.

The award has to be made with the criterion of the most economically advantageous. With the award, the contracting authority will allocate an additional surface rights to the leasing company awarded the contract so that it can provide to carry out the work to the construction company detected already in the tendering process. The contracting authority verifies the correct execution of the work.

The advantages of leasing by public administrations can be so identified (Bisio L., Nicolai M., 2009, p. 310):

- Possibility of financing the investment, the public administration uses the asset without incurring investment costs;

- Credit lines remain the same, making it more available lines of credit;

- Procedural simple: with the same race the government chooses the leasing company and the manufacturer;

- The entity pays the royalties, after testing when it is fully available to the well;

- The periodic payment of fees allows the sharing of the cost over several years;
- The fee is an expense as incurred and does not contribute to the achievement of the debt limit as opposed to the interest on loans and bonds;
- Simplification of accounting, you have to account only the fee;
- At the end of the period there is a possibility not to redeem the good of replacing an asset with more innovative more efficient;
- It is essential that the risks remain charged to the private sector (construction risk, project, time, ...).

The circular of the Council of Ministers on 27 March 2009, which incorporates the Eurostat decision February 11, 2004 provides that the assets, subject to such operations are not recorded in the accounts of public administrations, for the calculation of net debt, only if there is a substantial transfer of risk from the public to the private. This happens if the private entity assumes the risk of building and at least one of the two risks: availability or demand.

The construction risk concerns events associated with the design phase and construction of the infrastructure such as, for example, late delivery, non-compliance with predetermined standards, additional costs, technical deficiencies, negative externalities, including environmental risk.

The availability risk relates to the operational phase, and it is connected to a poor or inadequate management of 'public work, following which the quantity and / or quality of the service provided are below the levels provided for in the contract. This risk can be considered on the private individual if the government payments are related to the effective attainment of the service rendered.

The risk of demand, however, is the typical risk related to the use of the work (or related service) by the end user.

The development of the instrument has been slowed due to three main factors (Marsilio M., 2006, p. 124):

- the absence of specific legislation, which has raised doubts regarding the real estate leasing as to its compatibility with the laws on public works, and with the principles on transparency and competition from public procedures;
- the partial knowledge of the public operators of its characteristics and potential applications as compared to other possible solutions for financing and realization of investments;
- the reluctance shown by the operator in the industry to offer solutions for the needs of public administration other than the models offered to private companies;
- substantially more expensive than a medium-term loan.

AVAILABILITY CONTRACT

The liberalization decree (D.L. 1/2012) has introduced the contract availability, a new instrument of public- private partnership.

By means of such a contract are assigned, at the risk and expense of the fiduciary, the construction and availability in favour of the contracting authority of a work intended for the exercise of private property for a public service, in view of a compensation. The contract fiduciary at their own risk has to plan, support, and carry out the work intended for a public service, guaranteeing the public administration client, the constant availability, and the perfect maintenance and management.

As indicated in art. 160ter of D. Decree 163/2006 (Code of Public Contracts), the public administration has to remit (pay out) to the fiduciary a monthly periodical payment in order to benefit from the availability of these facilities. This payment will be totally filled if its use is complete, but it will be proportionally reduced or cancelled during periods of decreased or no availability of the public administration for maintenance, defects or any other reason not evaluated (considered) among the risks at the expense of the contracting authority, allowing the public administration to fully transfer the risk of availability to the private entity.

Any contribution can be paid in the process, just in case the government intends to acquire ownership of the property at the end of the contract. The payment can not exceed the limit of fifty percent of the value of the work in order to meet one of the indicators reported by Eurostat.

In this case it is possible to pay a redemption or transfer price. Such a price has to coincide with the residual market value of the asset (Ricci P., 2005) taking in account both paid fees and any public contribution supplied during the asset construction.

Through the contract availability, the public entity can have available real assets for a long period without being dependent on a leasing company and raising the liabilities of the balance sheet, so as to avoid increasing the national debt. In fact, the property of the work, which is realised by the contract fiduciary, is private even if aimed at the management of a public service.

The advantages of such a contract are:

- the focus is on the availability of the work from the public, not on the property itself. To provide a public service is no longer necessary to increase public property, but it is possible to turn to the market in order to use a private work;
- the government has no risk associated with the realization of the work (perfectly in accordance with the Eurostat principles);
- all risks concerning ordinary and extraordinary maintenance of the property are at the expense of the fiduciary (this aspect is also in line with the principles Eurostat);

- given the private nature of the work, the contract can not concern properties that have to be realised on state property, such as roads, cemeteries, ports, prisons. On the contrary such a contract is compatible with the realization of real estate areas in order to put within public offices, directional complexes, exhibition space, affordable and popular housing. When the public administration is not suppose to acquire the ownership of the work, the contract availability finds its ideal application in those contexts where the service is performed for a limited time. Conversely, where it is expected the final redemption, the pattern bargaining will present several similarities with the leasing under construction and will be particularly suitable for the creation of works aimed at developing essential and continuing services.

The contract availability could be confused with the availability of an operating lease, which relates to the provision of the conductor of an asset that is usually available to the lessor, who is obliged to provide further services connected with perfect efficiency of the asset (maintenance, etc.) upon payment of the fees. However, the operating lease relates to goods that have a rapid economic obsolescence (such as. Transportation, computer equipment, etc.). Indeed, such goods are designed to meet temporary needs of the user, who does not want to take the risk (and cost) related to the rapid deterioration of the good themselves. The contract availability assumes instead that the estate (presumably the real estate) specified in the contract has to meet enduring needs, even if not permanent.

ACCOUNTING MODALITY ACCORDING TO THE NATIONAL AND INTERNATIONAL ACCOUNTING STANDARDS

After analyzing the main characteristics of the different types of partnership, it is essential to reflect upon the accounting modality for such forms of financing investments in the Italian health sector: an analysis of the impact on the accounting system in the context of the national and international accounting standards. As earlier highlighted, the use of PPP was mainly driven by the limits imposed by reducing the public debt and the cutting transfers. However, the accounting framework is rapidly evolving and therefore it needs a clear institutional position (Borgonovi E., 2012, p.13).

The principal element of the project finance transaction is the presence of a special purpose entity, which can take different legal forms and institutional arrangements, such as joint stock companies, limited liability company, foundation. A special purpose entity concerns itself with the design, financing, implementation and management of the work.

Its significant element is the economical, legal and financial separation from its promoters, so as to avoid the confusion of liabilities and assets related to the project. The establishment of the project company also makes possible to differentiate the project finance transactions (the group of companies

is the project company) from the traditional concession (where there is no this kind of constitution) (Emperors G., 2003, p. 33). Relating to the operation of concession project finance, it is possible to have two different procedural schemes, depending on the degree of the public administration intervention: public model of a low resolution (procedure with promoter), in accordance with the 'art. 153 del Codice dei Contratti' and model high-definition public conforming to the 'art. 143 del Codice dei Contratti'.

In the first model, the essential elements of the operation are defined by the Public Administration and are placed at the base of the subsequent public competition for award of the concession. In second, the administration merely defines a general diagram about the operation, leaving the private entity (promoter) to identify the operation, reserving only the right to evaluation of the proposal (Old V., 2008, p. 35).

The weakness of the Italian regulatory framework is the overlap developed in the last years between legal procedures for the selection of private operators which enter into PPP contracts and the contractual and financing instruments that can perform operations of PPP.

The procedure conforming to the art. 153 del D. Lgs. 163/2006 is indicated as project finance, even if it does not require the establishment of the project company, which, instead, is crucial for the project financing of an investment. In accordance with the art. 143 of the same Code, the grant is regulated, but it is not specified if this procedure can also be used to realize transactions of project finance (Vecchi V., Borgonovi E., 2012 p.3).

Therefore, the Italian regulatory framework is the result of progressive layers to take into account the experience and the positions of different stakeholders.

However, it could be introduced into the code of contracts an article so as to put order and summarize, to set out the legal procedures, contractual arrangements and the financial instruments that can be used in order to create and manage public works and infrastructure through PPP forms precisely in Italy, where, because of high public debt accumulated, there should be the interest in finding mechanisms to conceive, PPP transactions that could be classified as *off balance*.

Indeed, in Italy the uncertainty about the possible impact on the public finances of operations as well as considered strategic, has caused the abandonment of such transactions, to the obvious detriment to the growth and recovery of competitiveness of the country itself.

At European level it is worth mentioning some important updates published on the website of Eurostat, ESA95 Manual. They are on the government deficit and debt, with particular reference to Chapter VI.5 about the "Public Private Partnerships (PPPs)", which are essential in order to emphasize its complex elements of understanding and evaluation.

The aim of the rules dictated by Eurostat for PPPs is to offer services to public administrations the opportunity to realize public works, placing them out of their budget.

In particular, the assets in such contracts are not classified as public assets and, therefore, they are not recorded in the national budget if there is a substantial transfer of the project risks to the private.

Eurostat, also in the last version of the 'Manuale' has left the risk criterion as basic parameter to take the decision about the statistic and accounting treatment of the PPP operations.

Specifically, it is pointed out that in case the private partner bears the development risk and at least one among the availability and demand ones, the infrastructure object of the PPP contract could be classified by the administration as "non government" and accounted as *off balance* (modello risk & reward) (Vecchi V., Borgonovi E., 2012, p. 13). In this last version, apart the gather indications from risks analyses, taking into account any mechanism (public funding of the investments, public guaranteeing, contract expiring clause in particular favor of the authority in case of termination in advance, etc.) according to which the public partner takes the most part of the risks in the project, it is clearly indicated that the realised asset will be classified *on balance*.

At an international level, then, the important *The International Public Sector Accounting Standards Board* (IPSASB has approved a standard, '*Accordi per servizi in concessione: Concedente*' - IPSAS 32).

The accounting standard, governs the accounting treatment of concessions in public budgets, providing a substantial alignment with the accounting suite (IFRIC 12), in force since 2010 (Technical Unit Project Finance, 2012).

The accounting standard, governs the accounting treatment of concessions in public budgets, providing a substantial alignment with the accounting suite (IFRIC 12), in force since 2010 (Technical Unit Project Finance, 2012).

In substance, the IPSAS 32 is applied when the government has the hold on the infrastructure (principle of *control*), in other words when (art.9):

- it controls or regulates what services the operator should provide through the licensed infrastructure, to whom the service has to be provided and at what price;
- it holds a significant residual interest in the asset at the end of the concession.

In the above mentioned cases, the infrastructure concession has to be considered *on balance*, in other words it will have to be recognized in the public balance sheet at fair value and, in return, a debt will be recognized. The licensed operations allow the opportunity, in general to the governments and the public sector, to build the infrastructure necessary to maintain and improve key public services.

The use of these tools continues to increase because of the current global financial and economic crisis, and the possibility to rely on such a standard is important because, until now, the public sector has not had an international guide relative to these kinds of transactions. The lease is accounted for by

applying the international accounting standards for the public sector IPSAS 13. This principle separates the financing lease from the operating one, according to the lessor or lessee attribution of the risks and the benefits related to the property of the asset.

A financing lease is a contract that conveys to the lessee all the risks and benefits of the property, independently from the passage of title on the property, according to which the accounting method is applied to the financing lease and the equity method to the operating lease.

THE ACCOUNTING FINANCIAL METHOD

This method applied to the finance leases ratifies that the asset is written when the delivery takes place in the balance sheet of the user. In accordance with the prevalence of substance over form, the lease has to be considered as a purchase of fixed asset.

Contract stipulation

At the stipulation of the lease, the user has to register in the balance sheet the leased asset as activity and the corresponding amount in liabilities as debt.

This amount is the lower current value of the leased asset at the time the lease starts and the present value of minimum lease payments under the lease.

The present value of the payments has to be made using the implicit interest rate, in other words the rate that allows to match, at the beginning of the lease, the total present value of the minimum lease payments for the lease and of the no guaranteed residual value according to the current value of the leased asset.

If the leasing real estate is under construction, the registration of the property should be done during the trial, in other words when the tenant takes possession of the property.

Rental payments for the duration of the contract

The paid fee is composed of a share capital value which will reduce the overall debt recognized in the liability of the balance sheet and of a share interests that instead will be recognized as financial interest expense on the revenue account.

Depreciation of the asset

The value of the asset is depreciated according to the criteria laid down in the beginning IPSAS 17 for depreciable assets that are owned. The depreciation expense has to be ascribed for the entire period of use. If there is reasonable certainty to exercise the right of redemption at the end of the lease, then the expected period of use and therefore depreciation will coincide with the asset's useful life, otherwise it will refer to the duration of the contract.

Redemption of the asset

If the redemption price is included in the initial value of the asset, at the end of the contract no writing will have to be detected. In the opposite case an increase in assets of an amount equal to the paid price will be detected, this value amortized over the remaining life of the asset.

THE ACCOUNTING PROPERTY METHOD

The property method applied to the operating lease provides that the leased assets are amortized and recognized in the lessor. In the financial statements of the user the rents paid periodically under the heading "Costs for use of third party beautiful" in the income statement have to be noticed.

No detection should be carried out in the memorandum accounts given that the contractual risks bear upon the lessor and the lessee may revoke the commitment of returning the asset. Instead, with adequate advance notice (Bonacchi M., Ferrari M., 2007, p. 67), it will have to be provided in the notes to the point 9) sufficient information to assess the exposure in terms of commitments and their relevance for the clarity and transparency of the balance sheet (Principle OIC 12 note 47). Only when the user acquires legally the property, the asset will be recorded in fixed assets in the balance sheet and amortized over the period of service life remaining.

The transaction arising from the contract availability, given the absence of a specific discipline and given its nature, can be treated as a traditional contract of "expenses for leased assets to third parties", and then, treated similarly to operating lease. In terms of the allocation of risks, the contract availability complies with the requirements of Eurostat so as a PPP may be considered *off-balance*: in this case the risk both of construction and availability are allocated to the private partner.

The public user will have to notice in the revenue account, under the heading "Costs for use of third party assets", the amount of the periodic fees paid to the company which benefits from the contract availability. In the memorandum accounts will be recorded the value of the used asset, the amount of commitments for future payments to be paid to the company, and the expected price for the eventual redemption. Only if the public administration decides to exercise the purchase option and so to transfer legally the property of the asset, the latter may be included among the assets of the balance sheet and amortized throughout the remaining years of service life.

CONCLUSION

After analyzing the three instruments, in this study have come up some critical elements that have to be investigated in the choice of how to finance investment in the health sector. By analysing the impact in the balance sheet of those financial instruments evaluated in range of the financial system and the economic-sheet, it has come up that the latter allows to operate a economic and financial control really important to the instruments, whose impact escapes the traditional balance sheet.

However, the analysis shows how the accounting method, especially in our country, is not the critical factor in choosing the most appropriate means to finance public investments, particularly those that are most impacted on the budget. Only the integrated analysis of the different assessments (economic, financial, equity) with other corporate variables (such as cost effectiveness, risks of the operation, complexity of use, margins and rigidity future action) allows the public decision-maker to choose the financial instrument most appropriate and consistent with the type of investment to do.

Of course, the correct use of these tools and the complete evaluation of their impact on the long-term corporate economy is possible only when the economic accounting balance sheet is adopted.

The financial system alone does not allow to capture the different aspects of complex and innovative evaluation tools such as forms of public-private partnerships. In the evaluation of the different instruments, the most critical element is represented by the allocation of risks between the public and the private entity. Indeed, the substantial difference between the three instruments is realized in the establishment of a project company, Project finance, which assumes the risks even after the delivery of the property. However, in the real estate leasing and contract availability is not expected the establishment of a specific legal institution, so that to pass in part the risks previously assumed to the public administration. This could create a substantial discrepancy between the three instruments: the first (project finance) aimed at the realization of the work and the transfer of risk to the private entity (construction, but also management and demand), even after the delivery of the work; second and third (real estate leasing and contract availability) aimed at the mere construction of a work, funded through the payment of the leasing fee / availability.

In conclusion, if from the accounting point of view there are no significant differences between the instruments, legally it is desirable that the legislator brings back the procedures relating to the three instruments to a single path so that the procedural variable does not distort the comparison between similar instruments (as is the case in other countries). Therefore, the application of project finance, leasing, and contract availability can not result from a priori choice but from a legal and financial economic analysis.

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MODELING THE NUMBER OF CREDIT CARDS HELD BY ITALIAN HOUSEHOLDS: A PANEL DATA APPROACH

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ABSTRACT

Credit cards, both as mean of payment and borrowing, rise many economic issues. Firstly, the credit card industry can be viewed as a two-sided network industry characterized by externalities that could harm competition. Particularly, the fact that consumers hold or use credit cards from multiple networks is known as 'multi-homing' and in some theoretical models is of great importance in determining the outcome of the industry. Moreover, some studies show that the multiple credit cards can be seen as a device to access to more financing, making family bankruptcy more likely. In this paper we model the number of credit cards held by a panel of Italian household over the period 1991-2010 using demographic, socio-economic and geographical variables as potential predictors and panel data techniques for count data. Our estimates show that such variables are suitable in explaining the credit card ownership.

Keywords: *Credit cards, Panel data, Count-data models*

INTRODUCTION

A credit card is a system of payment since it allows the cardholder to pay for goods and services without using cash. This presupposes that the card issuer has granted a line of credit, mostly uncollateralized, from which the user borrows to either pay to the seller or withdraw cash from an ATM. In case of revolving credit card, the cardholder does not pay his balance in full each month, but in installments and the issuer charges an interest rate.

These characteristics of credit cards entail many economic issues. Firstly, from an industrial organization perspective, the credit card industry can be viewed as a network industry, like electricity supply, telecommunications and railroads (Economides, 1996). In fact, the participation of a new economic agent to the network involves positive externalities for other participants.

More precisely, credit cards are two-sided network goods (Rochet and Tirole, 2004; Rysman, 2009) as the benefits for the users depends on the number of sellers in the network and, similarly, the benefits

for the sellers increase with the number of the users (Chakravorti, 2003). In turn, these network effects give rise to competition policy issues (Carlton and Frankel, 1995; Lemley and McGowan, 1998).

In this context, the fact that consumers hold or use credit cards from multiple networks is known as “multi-homing” and in some theoretical models it is of great importance in determining the outcome of the industry (Rochet and Tirole, 2003; Guthrie and Wright, 2007). Empirically, however, it is not clear what should be intended for multi-homing (Snyder and Zinman, 2008). More precisely, two issues arise. First, one should establish whether what matters is merely the possession of multiple credit cards or even their actual use. The second question concerns the substitutability between debit cards and credit cards in deciding whether a given cardholder is a multi-homer or not.

Secondly, since credit cards allow borrowing without applying for personal loans, there exists an incentive in building up large debts (Loke *et al.*, 2011). Probably, the sharp increase in bankruptcy filing rates in the United States from 1980 to 2004 has been due to the growing credit card debt of families (White, 2007). Castronova and Hagstrom (2004) model the credit card demand as a two-stage decision: first, cardholders obtain the right to borrow within a certain limit; then they borrow a fraction of that limit. Using the Survey Consumer Finances as data source, they conclude, among other things, that consumer who want to borrow more do not apply for an higher limit, but hold more credit cards. Thus, the multiple credit cards can be seen as a device to access to more financing.

Although borrowing by means of credit cards could seems irrational, given the high interest rates charged and the large profits earned by issuers (Ausubel, 1991), some authors have maintained that this behavior is nonetheless consistent with economic theory (Zywicki, 2000). Brito and Hartley (1995) show that consumers could be willing to pay high interest rates on credit card debts in order to avoid the costs of bargaining with financial institutions or those associated with precautionary money holding.

If so, another apparent contradiction emerges. Data show that many consumers simultaneously hold costly credit card debts and low-return liquid assets, so that it would be rational to repaying their outstanding balances (Gross and Souleles, 2002; Telyukova and Wright, 2008). However, this action (known as “co-holding”) can be explained as an attempt to self-control compulsive buying or the need to complete transactions for which a credit card cannot be used (Gathergood and Weber, 2013).

In the light of these considerations, it is of interest to study the factors affecting the choice of holding multiple credit cards. On one hand this could be a first step toward a more in deep understanding of multi-homing.¹ On the other hand, the factors influencing the number of credit cards held could help in predicting family bankruptcy end explaining the “co-holding” phenomena. Besides our results could be of help in designing marketing strategies by firms operating in such market, aiming to capture new consumer segments.

¹ The two concepts are not overlapping but clearly multiple credit cards are a necessary, although not sufficient, condition for multi-homing.

In the literature, several econometric techniques have been used to model the credit card ownership of individuals or households. If the focus is on the choice between to use or not use credit cards, the natural choice is the logit or probit models (Yayar and Karaca, 2012). Other studies, such as (Pulina, 2011), try to identify the factors affecting the type of credit card used by means of a multinomial logit model. When data on the number of credit cards held are available, several authors (Kinsey, 1981; Chien and Devaney, 2001; Tan *et al.*, 2011) have used the tobit model. However, since the variable under consideration is a nonnegative integer, it can be better to resort to count data models as, for example, in (Loke *et al.*, 2011).

Particularly, for the first time in the literature, we employ panel data techniques for count data. In this context, modeling heterogeneity is quite important since there is no theory to guide the choice of variables affecting the number of credit card held.

Our aim is to investigate the determinants driving the credit card ownership and analyse the implication of socio-economic, demographic and geographic variables in the card payment system. We estimate several Poisson regression models and compute the marginal effects of the covariates on the number of credit cards held. The data used in the empirical analysis come from several waves of the Survey of Household Income and Wealth (SHIW) conducted by the Bank of Italy. We found that factors such as age, income, wealth, sex, geographic location, education and marital status are effective in explaining the number of credit cards held by Italian household.

The paper is organized as follow. The next section illustrates the econometric models used, while Section 3 is devoted to the description of data and variables. Results are presented and discussed in Section 4. Finally, the last section draws some conclusions.

ECONOMETRICS

A very commonly used technique for modeling count data is the Poisson regression.¹ Given a set of N independent observations $(y_{it}, \mathbf{x}_{it})$ where y_{it} is a count and \mathbf{x}_{it} is a vector of covariates, assume that y_{it} given \mathbf{x}_{it} is distributed as a Poisson, that is

$$f(y_{it}|\mathbf{x}_{it}) = \frac{e^{-\mu} \mu^{y_{it}}}{y_{it}!} \quad (y_{it} = 0, 1, 2, \dots). \quad (1)$$

The conditional mean is parameterized as

$$E(y_{it}|\mathbf{x}_{it}) = \mu_{it} = \exp(\mathbf{x}_{it}'\boldsymbol{\beta}), \quad (2)$$

¹ For an introduction to count data models, see Cameron and Trivedi (1998) and Long and Fresse (2001).

where $\boldsymbol{\beta}$ is a vector of parameters to be estimated.¹ Since $Var(y_{it}|\mathbf{x}_{it}) = E(y_{it}|\mathbf{x}_{it}) = \mu_{it}$, the model is heteroskedastic. It can be easily estimated by maximum likelihood.

The equality between the mean and the variance of the Poisson distribution, also known as equidispersion property, is very often rejected by data, since the variance exceeds the mean. One simple solution to this problem is to use robust standard errors. Then, first we estimated a Poisson regression on the pooled sample.

With the estimated parameters at hand, marginal effects can be calculated. The effect of one-unit change in the j -th regressor on the conditional mean, evaluated at the sample mean of the covariates, is given by

$$MEM_j = \frac{\partial E(y|\mathbf{x})}{\partial x_j} = \beta_j \exp(\bar{\mathbf{x}}' \boldsymbol{\beta}). \quad (3)$$

A better approach (Bartus, 2005) is to use (7) (with \mathbf{x}_i in place of $\bar{\mathbf{x}}$) to compute the marginal effect over all individuals and then taking their average, that is

$$AME_j = \frac{1}{N} \sum_{i=1}^N \beta_j \exp(\mathbf{x}_i' \boldsymbol{\beta}). \quad (4)$$

Besides, for a dummy variable, one should use the finite difference method. In this case the marginal effect is the change in the conditional mean when the variable changes from 0 to 1. Formally, let $\mathbf{x}_i = [\mathbf{z}_i d_i]$ and $\boldsymbol{\beta} = [\boldsymbol{\beta}_z \beta_d]$, where d_i is the dummy variable. Then

$$AME_j = \frac{1}{N} \sum_{i=1}^N \{\exp(\mathbf{z}_i' \boldsymbol{\beta}_z + \beta_d) - \exp(\mathbf{z}_i' \boldsymbol{\beta}_z)\}. \quad (5)$$

If the assumption of independence of y_{it} is relaxed, one can resort to the population-averaged Poisson regression in order to model the correlation $\rho_{ts} = \text{Cor}\{[y_{it} - \exp(\mathbf{x}_{it}' \boldsymbol{\beta})][y_{is} - \exp(\mathbf{x}_{is}' \boldsymbol{\beta})]\}$. We estimated this model assuming ρ_{ts} can vary freely between t and s . Even in this case, we used robust standard errors to cope with overdispersion.

Modeling the heterogeneity of the cross-sectional units (households) calls for panel data models. In this case, including an intercept for each cross-sectional unit, the conditional mean is parameterized as

$$E(y_{it}|\alpha_i, \mathbf{x}_{it}) = \exp(\gamma_i + \mathbf{x}_{it}' \boldsymbol{\beta}) = \alpha_i \exp(\mathbf{x}_{it}' \boldsymbol{\beta}) \quad (6)$$

¹Note that, by (2), $\mu > 0$.

where $\gamma_i = \ln\alpha_i$.

The standard random-effects model assumes that α_i is distributed as a Gamma with mean 1 and variance η . As an alternative, one can assume that $\gamma_i = \ln\alpha_i$ is normally distributed with mean 0 and variance σ_α^2 . We estimated both models, using bootstrapped standard errors based on 100 replications, again to take into account the possibility of overdispersion.

If the individual effects are not random, but additional parameters to be estimated, one obtains the fixed-effects model. One shortcoming of this model is that it does not allow time-invariant covariates. Since most regressors discussed in the next section have this characteristic, we did not consider the fixed-effect model.

DATA AND VARIABLES

The data used in this study come from the Survey of Household Income and Wealth (SHIW) conducted by the Bank of Italy since 1977 and every one or two years.

The survey involved about 8000 households in each wave, which were representative of the Italian population. The respondent was the head of the household, who supplied information on composition of the family and the socio-demographic characteristics of its members, employment, income and consumption, wealth, use of the payment instruments and relationship with the financial intermediaries. While some questions concern every member, some others involve the household as a whole.

Due to lack of data, we limited our analysis to the period 1991-2010, during which nine waves have been carried out. We also excluded households for which less than three observations were available. The final sample consists of 26340 observations on 6279 households. The panel is unbalanced, and includes about 4 observations for each household.

The variables drawn or constructed from the dataset¹ are described in Table 1, while their descriptive statistics are shown in Table 2 and 3.

CRECAR is the number of credit cards held by the household and represents our dependent variable. On average, each family in the pooled sample holds 0.36 credit cards. However, about 75% of the sample has no credit cards, while a large portion (about 23%) holds one or two. The maximum number of credit cards held is 10. The variable is overdispersed, since its variance is equal to 0.73.

As regressors we consider two distinct sets of variables.² The first set includes the following variables:

¹The dataset is freely available at <http://www.bancaditalia.it/statistiche/indcamp/bilfait/dismicro>.

² Before proceeding, it is worth noting that CRECAR is available only at a family level, while most of the variables we are going to discuss in the text concern the head of household (see Table 3). Then we are assuming that the

- the age of the head of household (AGE). It is expected that households whose head is older held more credit cards. However, behind a certain threshold value the relationship should invert and become negative. To test this hypothesis, we include the square of AGE (labelled as AGESQ) as an additional regressor;
- the number of the household members (NCOMP). Larger families are likely to own more credit cards, so the expected sign of the corresponding coefficient is positive;
- household net wealth (WEALTH). A larger wealth should reflect a higher standard of living and thus the propensity to hold more payment instruments. Moreover, for wealthy people, increasing the number of credit cards held could be a way of showing their social status (Gan et al., 2008). Then we expect a positive coefficient for this variable;
- the household net disposable income (INCOME). Households that earn more should fulfill the income requirement for credit card eligibility more easily, so it is expected that this variable positively affects the credit card ownership.

The second set of covariates aims to capture the effect of geographic and other socio-demographic factors and consists of the following groups of dummy variables:

- *Geographic location* (NORTH, CENTRE and SOUTH). This group of dummies records the location where the household resides. As it is well known, in Italy the level of social and economic development reduces going from North to South. Thus, assuming NORTH as the reference group, we expect the sign of the SOUTH coefficient to be negative, that is households located in the southern regions should possess less credit cards. By the same reasoning, the CENTRE variable should negatively impact on the number of credit cards, but its effect should be lower in magnitude;
- *Municipality size* (SMUN, MMUN, LMUN). These variables consider whether a given household resides in a small (up to 40,000 inhabitants), medium (from 40,000 to 500,000 inhabitants) or large (more than 500,000 inhabitants) municipality, respectively. Considering SMUN as reference, both MMUN and LMUN coefficient are expected to be positive, since living in a more dynamic social and economic environment - as it occurs in larger cities - should foster the credit card ownership;
- *Sex* (MAL, FEM). Both variables are either zero or one depending on the gender of the family head, being MAL the omitted category. The sign of the FEM coefficient is not a priori determinable;
- *Education* (NSC, CSC, HSC, BDP). By means of this group the effect of education is considered. The head of family could have no education (NSC), attended the compulsory school (CSC),

latter variables give a good description of some characteristics of the household considered as a whole. This seems to us to be a better solution with respect to resort to some index based on all family members' data.

hold a high school diploma (HSC) or attained a Bachelor/post-graduate degree. Again, considering the first variable as the reference group, the coefficients of the remaining dummies should exhibit a positive sign. Indeed, more educated individuals are expected to be more confident in using a larger number of credit cards and managing additional bills;

- *Marital status* (MAR, SIN, SDW). Here we take into account whether the head of family is married (MAR), single (SIN) or separated/divorced/widower/widow (SDW). Married people could possess multiple credit cards in order to manage the family balance sheet more efficiently. On the other hand, not married individuals (especially singles) could be more prone to credit card ownership because of a more free lifestyle. Thus for this variables we have no a priori knowledge about the sign of their coefficients. As before the omitted category is the first one (MAR).

Summing up, and jointly considering the reference groups defined above, the “base” head of household is a married male, with no educational qualification and living in a small municipality located in the North of the country.

Moreover, on the basis of the figures reported in Table 3, we can state that in 2010 the most frequent profile in the sample is a married male, who has completed the compulsory school and residing in a small sized city of northern Italy.

Variable	Description
CRECAR ^a	Number of credit cards held by the family members (dependent variable)
AGE ^b	Age of the head of household
NCOMP ^a	Number of the household members
WEALTH ^a	Net wealth (real assets + financial assets - financial liabilities)
INCOME ^a	Net disposal income of the household
DUMMY VARIABLES	
<i>Geographic location^a</i>	
NORTH*	North
CENTRE	Centre
SOUTH	South
<i>Municipality size^a</i>	
SMUN*	Small municipality (up to 40,000 inhabitants)
MMUN	Medium municipality (from 40,000 to 500,000 inhabitants)
LMUN	Large municipality (more than 500,000 inhabitants)
<i>Sex^b</i>	
MAL*	Male
FEM	Female
<i>Education^b</i>	
NSC*	No educational qualification
CSC	Compulsory school degree
HSC	High school degree
BDP	Bachelor's degree or post-graduate qualification
<i>Marital status^b</i>	
MAR*	Married
SIN	Single
SDW	Separated/divorced or widower/widow

^aVariable (or group) refers to the household as a whole.

^bVariable (or group) refers to the head of household.

*Reference group.

Table 2. *Description of the variables*

Variable	Mean	Std. Dev.	Min.	Median	Max.
CRECAR ^a	0.36	0.73	0	0	10
AGE ^b	56.65	14.37	20	56	98
NCOMP ^a	2.81	1.31	1	3	12
WEALTH ^c	0.28	0.5	-0.64	0.17	28.56
INCOME ^d	41.62	32.11	-75.68	34.08	811.09
Observations	26340				

^aUnits – ^bYears – ^cMillions Euro - ^dThousands Euro

Table 3. *Summary statistics*

Variable	Obs.	Perc.
<i>Geographical location</i>		
NORTH*	1341	48.8
CENTRE	517	18.8
SOUTH	890	32.4
<i>Municipality size</i>		
SMUN*	1369	49.8
MMUN	1212	44.1

LMUN	167	6.1
<i>Sex</i>		
MAL*	1735	63.1
FEM	1013	36.9
<i>Education</i>		
NSC*	111	4.0
CSC	1617	58.8
HSC	744	27.1
BDP	276	10
<i>Marital status</i>		
MAR*	1779	64.7
SIN	248	9.0
SDW	721	26.2
Total	2748	100

*Reference group

Table 4. *Dummy variables summary statistics – year 2010*

EMPIRICAL RESULTS AND DISCUSSION

Using the data set described above, the pooled, population-averaged and random-effects Poisson (both with gamma and normal distributed intercepts) regression models have been estimated by means of maximum-likelihood. Results are reported in Table 4.

In all models, most parameters are highly significant. Moreover, standard errors are quite similar. Thus, in discussing results we will focus on the random-effects model with normally distributed intercepts.

The coefficient of AGE is positive, while that of AGESQ is negative, which implies an inverted U relationship between the age and the number of credit cards. Put differently, this means that the number of credit cards held increases as age increases, but only up to a certain value, from which it decreases. From the estimated coefficients, this value is equal to $0.1068/(2*0.0011) = 48.55$.

Variable	Pooled	Population-averaged	Random-effects (Gamma)	Random-effects (Normal)
Constant	-5.5329*** (0.3946)	-4.9782*** (0.3546)	-6.0974*** (0.3972)	-6.6682*** (0.4102)
AGE	0.0918*** (0.0111)	0.0817*** (0.0113)	0.1023*** (0.0095)	0.1068*** (0.0101)
AGESQ	-0.0010*** (0.0001)	-0.0009*** (0.0001)	-0.0010*** (0.0001)	-0.0011*** (0.0001)
NCOMP	-0.0402* (0.0211)	0.0329 (0.0217)	0.005 (0.0194)	-0.0083 (0.0203)
WEALTH	0.0436** (0.0219)	0.0539*** (0.0122)	0.0877*** (0.0226)	0.0892*** (0.0219)

INCOME	0.0041*** (0.0006)	0.0030*** (0.0006)	0.0039*** (0.0005)	0.0039*** (0.0005)
<i>Geographic location</i>				
CENTRE	-0.1841*** 0.0462	-0.1980*** 0.0544	-0.2546*** 0.0476	-0.2406*** 0.0516
SOUTH	-0.6732*** (0.0518)	-0.7069*** (0.0573)	-0.8611*** (0.0541)	-0.9443*** (0.0598)
<i>Municipality size</i>				
MMUN	0.1045*** (-0.0394)	0.1482*** (-0.0441)	0.1372*** (-0.0426)	0.1380*** (-0.0475)
LMUN	0.1662*** (0.0633)	0.2533*** (0.0697)	0.1682*** (0.0623)	0.2119*** (0.0720)
<i>Sex</i>				
FEM	-0.0583 (0.0518)	-0.0502 (0.0572)	-0.1248** (0.0510)	-0.1172** (0.0545)
<i>Education</i>				
CSC	2.1327*** (0.2889)	1.5414*** (0.1985)	2.0705*** (0.3083)	2.0069*** (0.3102)
HSC	3.2014*** (0.2906)	2.3281*** (0.2019)	3.0708*** (0.3068)	3.1227*** (0.3107)
BDP	3.4304*** (0.2932)	2.7008*** (0.2036)	3.4425*** (0.3105)	3.5728*** (0.3175)
<i>Marital status</i>				
SIN	-0.4097*** (0.0810)	-0.1721** (0.0741)	-0.2521*** (0.0648)	-0.2909*** (0.0718)
SDW	-0.3779*** (0.0711)	-0.2980*** (0.0809)	-0.3341*** (0.0645)	-0.3477*** (0.0690)

Significant at: *** = 1% level; ** = 5% level; * = 10% level.

Standard errors of the parameters in parentheses.

Reference groups: NORTH, SMUN, MAL, NSC, MAR.

Table 5. *Estimation results – Dependent variable: CRECAR*

Average marginal effects (AME) are shown in Table 5. For AGE the AME is -0.0131, which means that, on average, one more year of age is associated with 0.0131 fewer credit cards. Thus the impact of the

age on the credit card ownership is fairly small.¹ The NCOMP parameter is not significant, meaning that the number of credit cards is unaffected by the household size. Maybe, this variable would be better measured if it was net of the number of children in the family. Actually, they are not legally able to own a credit card.

The household net wealth (WEALTH) is significant and, as expected, it exerts a positive effect on the quantity of credit card. The magnitude of the marginal effect, however, is negligible: if wealth increases by one million, then number of credit cards increases by only 0.0892.

The number of credit cards also increases with income (INCOME) by 0.0039 for each additional thousand euros or, which is the same, by 4 for each million euros. Thus, when considering the economic well-being of households, the decision on how many credit cards to hold seems to be driven mainly by income, although its effect is not so high.

Turning to the dummy variables included in the model, those associated to the geographic location (CENTRE and SOUTH) are both strongly significant and negative, confirming that, as one moves from North to South along the country, households tend to hold fewer credit cards. As already noted, this can be explained by the lower level of socioeconomic development prevailing in the southern part of Italy. Particularly, households living in the South own 0.9443 fewer credit cards than those residing in the North (which represents the reference group). The same applies to families located in the central Italy, but the effect is much lower (0.2406).

Among the variables recording the size of the municipality where the household lives, MMUN and LMUN, they are both significant and shows a positive sign. Looking at the magnitude of the marginal effect, we can state that the number of credit cards held by families living in medium sized cities increases by 0.1380 with respect to that held by families residing in small municipalities. For large cities the marginal effect is 0.2119.

We also found that households whose head is a woman possess fewer credit cards than households with a male head, although the difference is quite small (0.1172). The number of credit cards held is higher when the head is more educated, as shown by the positive sign of the coefficient CSC, HSC e BDP. Particularly, families whose head attended the compulsory school hold 2.0069 more credit cards than those whose head has no education. If the head of household attained a high school diploma or a Bachelor/post-graduate degree, then the family holds 3.1227 and 3.5728 credit cards, respectively, more than the reference group. In other word, an increasing relationship between the number of credit cards held and the level of education seems to exist. Finally, households held fewer credit cards, if their heads are single or separated/divorced/widower/widow. The marginal effects are 0.2909 and 0.3477 respectively.

¹However, since the relationship is not linear, the marginal effect varies with the age.

Variable	AME
AGE	-0.0131*** (0.0020)
NCOMP	-0.0083 (0.0203)
WEALTH	0.0892*** (0.0219)
INCOME	0.0039*** (0.0005)
<i>Geographic location</i>	
CENTRE	-0.2406*** (0.0516)
SOUTH	-0.9443*** (0.0598)
<i>Municipality size</i>	
MMUN	0.1380*** (0.0475)
LMUN	0.2119*** (0.0720)
<i>Sex</i>	
FEM	-0.1172** (0.0545)
<i>Education</i>	
CSC	2.0069*** (0.3102)
HSC	3.1227*** (0.3107)
BDP	3.5728** (0.3175)
<i>Marital status</i>	
SIN	-0.2909*** (0.0718)
SDW	-0.3477*** (0.0690)

Significant at: *** = 1% level; ** = 5% level; * = 10% level.
Standard errors of the marginal effects in parentheses.
Reference groups: NORTH, SMUN, MAL, NSC, MAR.

Table 6. *Average marginal effects for the random effects (normal) model*

CONCLUDING REMARKS

In this paper we have studied the determinants of the use of one of the major electronic banking services (credit cards) by Italian families. Using data from the Survey of Household Income and Wealth

(SHIW) conducted by the Bank of Italy and panel count data models, we have found that factors such as wealth, income and geographic location of the household, and socio-demographic characteristics of the head of household are effective in predicting the number of credit cards held. Among those factors, those exerting a stronger impact are the location where the household resides and the level of education of the head of household. More precisely, families living in the South of Italy possess fewer credit cards, while families whose head is more educated held more credit cards.

Our results could be of interest for implementing marketing strategies in the credit card industry and specifically to concentrate effort on particular customer segments. Moreover, they could be of help in understanding some characteristics of the credit card market such as “multi-homing” and “co-holding”.

Some extensions of our model would be of interest. First, one could take into account dynamic and possible serial correlation among observations. In other words, the number of credit cards could depend on the number of credit cards held by the household in the previous year. Another interesting extension would be the use of zero inflated and hurdle models to accommodate the large proportion of households not holding a credit card. We leave this for future research.

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MARKET EFFICIENCY AND TECHNICAL ANALYSIS IN THE CENTRAL AND EASTERN EUROPEAN REGION

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ABSTRACT

In this paper we make a detail evaluation of stock market efficiency in Central and Eastern Europe (CEE). First, we employ 686,243 prediction models derived from 44 technical analysis indicators and determine that significant inefficiencies exist for stock prices in this region. We show that investor success slightly depends on the target investment asset, country and prediction model, but more heavily depends on market conditions in specific time intervals. Because the latter do not shows improvements in time, we support the Adaptive Market Hypothesis for the region. Next, we focus on finding out what are the determining factors for market efficiency using linear and GLM models. We find that the main determining factor for market efficiency in the CEE region is price momentum, and argue that price anomalies are due to investor overreactions. Also, we find that liquidity has an almost insignificant effect on stock market efficiency in the region.

Keywords: *Adaptive Market Hypothesis, Bootstrap, Efficient Market Hypothesis, Central and Eastern Europe, Stock Markets, Superior Predictive Ability, Technical Analysis*

INTRODUCTION

Market efficiency is a longstanding hot topic in financial literature. The Efficient Market Hypothesis (EMH) has been developed in the 1960's by Samuelson (1965) and Fama (1965, 1970) and despite its criticism from Behavioral Finance (see Shiller, 2003) and recent competitors like the Adaptive Market Hypothesis (AMH) of Lo (2004, 2005), it is still the dominant theory that explains price behavior in financial markets. Many empirical evidence against it have been documented ("anomalies"), but they have either disappeared, have been proved to be wrong or have been simply accommodated by developments in theory (like the evolution from constant to time varying expected returns, thoroughly explained by Fama (1991)).

Recent developments follow approximately the same pattern. For example, Ross (2013) developed his Recovery Theorem, which has already been put to use by Audrino, Huitema, and Ludwig (2014) to successfully time the market and gain (fictive) abnormal returns. We are still waiting to see if their findings have some economic validity and if they'll stand the test of time.

Meanwhile, we have witnessed the transformation of the EMH into a more relative theory. Because starting with Grossmann and Stiglitz (1980) we know that a fully efficient market is impossible, researchers have gradually abandoned the absolute state of market efficiency concept in favor of examining the differences in efficiency between different markets and linking their evidence to differences in specific market characteristics. Thus, emerging markets came into the focus of researchers. Also, a time relativization has occurred, with the AMH being the time-domain equivalent of the relative EMH for the cross-section of markets (and, in more detail, specific asset groups, industries, and even individual assets). Lim and Brooks (2011) detail on the developments of the methodology and evidence in this aspect, noting an increasing support for the AMH.

This paper tries to evaluate the relative informational efficiency in stock markets of the Central and Eastern European (CEE) countries, but using a different approach¹. The main limitation of existing papers is their practical inapplicability. Lim and Brooks (2011) point out that “proponents of the EMH always dismiss negative empirical evidence on the grounds that those detected stock market predictable patterns do not give rise to profitable investment strategies”. This is due to methodology limitations (like the lack of cost and risk adjustments or the improper treatment of the data snooping bias) or simply to abstract findings to whom the average investor might not relate to (see Timmerman and Granger, 2004, for a detailed discussion on why the detection of certain anomalies does not necessarily reject market efficiency).

The way to eliminate those limitations is by using practical investment techniques that actual investors use, and the natural solution is technical analysis, a century old foe of efficient markets. We know that investors, including sophisticated ones (like fund managers), use technical analysis in some way or another in decision making (see Menkhoff, 2010), so it is clear that technical analysis indicators are practical. We also have a substantial body of scientific literature that tests technical analysis indicators², but few and incomplete studies exist for the CEE region³.

This paper aims to compensate the existing deficiencies, in order to cast a clearer view regarding stock market efficiency in the CEE region. Specifically, we try to answer the following questions: can investors gain abnormal returns in the CEE stock markets using some practical investment models derived from technical analysis? Are the CEE stock markets efficient? What theoretical framework best describes the informational efficiency in the CEE countries? What are the determining factors for stock market efficiency in the CEE region?

¹ Many papers exist that do exactly that, but using standard methodologies. For example, Dragota and Tilica (2013) have investigated if the CEE stock markets are efficient or not using a complete arsenal of econometric tests, like autocorrelation, unit root, filter rules, variance ratio and so on. They have found significant statistical evidence of price movements inconsistent with the EMH.

² Please see Park and Irwin (2007) for an excellent review. Also see Taylor (2014) for a more recent example.

³ A recent example is Anghel (2013, 2014a) that only threats the case of Romania. Also, Anghel (2014b) searches for predictable patterns in the CEE region using only one technical analysis indicator, namely the RSI.

The paper is structured as follows: section 2 details on the methodology, section 3 presents and comments on the results, while section 4 concludes.

METHODOLOGY AND DATA

There is no investment method that conflicts with the EMH more than technical analysis. Although efficient market advocates dismiss its applicability, investors widely use it on the world financial markets (Menkhoff, 2010). The success (predictive ability) of technical analysis is negatively related with the degree of market efficiency. In order to study the latter, we hereby employ a total of 686,243 prediction models (trading rules) derived from 44 technical analysis indicators developed in the last 60 years (table 1 lists them and Colby, 2002, offers detailed explanations). The idea is very simple: if the market is efficient, then the recommended investing method is the passive buy-and-hold strategy (this is the benchmark used here). If it is not, then an active trading rule that has economic potential exists, and our task is to find it. To do so, simple trading simulation is performed.

No.	Name (Symbol)	Number of specific models
1	Accumulation Swing Index (ASI)	210
2	Arms Ease of Movement (EMV)	840
3	Aroon Oscillator (AO)	10,507
4	Balance of Market Power (BMP)	39,207
5	Bollinger Oscillator (%b)	12,402
6	Center of Gravity Oscillator (COG)	252
7	Chaikin Money Flow (CMF)	25,258
8	Chaikin Oscillator (CO)	6,174
9	Chande Momentum Oscillator (CMO)	27,969
10	Commodity Channel Index (CCI)	616
11	Consecutive Win-Lose (WL)	21
12	Demand Index (DI)	25,258
13	Detrended Price Oscillator (DPO)	672
14	Dynamic Momentum Index (DYMOI)	37,584
15	Filter (F)	51
16	Inertia Indicator (INI)	22,464
17	Kase Convergence Divergence (KCD)	43,141
18	Kase Peak Oscillator (KPO)	8,624
19	Klinger Volume Oscillator (KVO)	6,174
20	Know Sure Thing (KST)	5,488
21	Linear Regression Slope (LRS)	371
22	Market Volume Impact (MVI)	252

23	Money Flow Index (MFI)	24,978
24	Moving Average Convergence Divergence (MACD)	4,704
25	New Relative Volatility Index (NRVI)	30,331
26	On Balance Volume (OBV)	210
27	PDM (+DM) vs MDM (-DM) crossover rule	441
28	PI Opinion Oscillator (PI)	7,107
29	Polarized Fractal Efficiency (PFE)	60,426
30	Random Walk Index (RWI) for High prices	450
31	Rate of Change (ROC)	672
32	Relative Momentum Index (RMI)	48,600
33	Relative Strength Index (RSI)	10,864
34	Relative Vigor Index (RVig)	60,426
35	Relative Volatility Index (RVI)	16,859
36	Stochastic Momentum Index (SMI)	33,250
37	Stochastic Oscillator (%K)	1,769
38	Stochastic RSI Oscillator (SRSI)	16,859
39	The Quantitative Candlestick (Qstick)	840
40	Triple Exponential Smoothing (TRIX)	3,402
41	True Strength Index (TSI)	60,426
42	Ultimate Oscillator (UO)	22,842
43	Vortex Oscillator (VX)	7,114
44	Williams Variable Accumulation Distribution (WVAD)	210

Table 1. *Summary of technical analysis indicators used in testing*

The problem with testing this vast amount of trading rules is eliminating the inherent data snooping bias¹. This is done here by using the Superior Predictive Ability (SPA) test of Hansen (2005), which is an evolution of the Reality Check test of White (2000). Other econometrical tests have been developed for this kind of applications², but the SPA is the most appropriate for the purposes of this research, because (1) we are only interested if a single rule from the “rule universe” is capable of outperforming the buy-and-hold strategy and (2) it delivers a direct measure of market efficiency³.

¹ This is a major limitation in the literature, but ways to eliminate it have fortunately been developed (see Park and Irwin (2007)).

² See Corradi and Swanson (2013) for a detailed review.

³ The null hypothesis p-value (“SPA p-value” from now on) in the SPA test can be economically interpreted as a measure of market efficiency. Note that the SPA p-value is roughly the inverse percentile at which the SPA test statistic (calculated for the best trading rule in the universe) is found within its simulated empirical distribution (determined using the bootstrap simulation after controlling for data snooping). This leads to a natural association between the SPA p-value and the predictive ability of the best model in the trading rule universe. Specifically, when the p-value is large, then the best model has no predictive ability. The smaller the p-value, the greater the predictive ability of the best model. When the p-value is close to zero, then we have superior

The SPA test is implemented following Hansen's (2005) exact guidelines, using the stationary bootstrap of Politis and Romano (1994) and blocking rules derived from Hall, Horowitz and Jing (1995). However, several methodology adjustments and restrictions are implemented in order to take account of known market limitations and existing best practice guidelines in empirical tests. First, because of existing market restraints on short selling, only long trades are taken into account. Second, all trades are performed with a one day delay after a trading signal has occurred, so there is no simultaneous trading that might bias the estimators. Third, it is assumed that 100% of the portfolio is invested in the market when opening new positions. Fourth, the results are adjusted to all measurable trading costs: when trading, (1) a broker fee of 0.5% of traded value (this being the cost of trading for the average investor in the period) is deducted together with (2) the High-Close or Close-Low intraday spread¹. Finally, the technical analysis indicators are tested separately² and then the results are aggregated for each sample using the lowest p-value rule³.

The data sample is formed using daily prices (open, high, low, close) and volume of the most important 395 stocks listed in 18 CEE countries⁴, starting January 1, 1991 and ending November 14, 2013. The data of the top companies using the market capitalization criteria is collected from Thomson Reuters⁵.

In order to evaluate the time-varying nature of market efficiency, the test is conducted in a non-overlapping sub-sample framework, with each sub-sample representing one calendar year of trading data. Sub-samples with less than 65 observations are excluded because of insufficient liquidity that would greatly diminish the tests statistical power.

The initial goal of this investigation is to use the SPA test to discover for each year and for each company included in the sample if specific technical analysis rules have superior predictive ability over

predictive ability. As a consequence, the closer the p-value is to 1, the more efficient is the market under scrutiny, while the closer the p-value is to 0, the less efficient. Please see Hansen (2005) for the exact equations and detailed estimation procedure.

¹ This is done in order to incorporate the price impact cost of active trading, that we know an investor faces. This adjustment essentially replicates the scenario in which investors' trade at the least favorable price during the day following the occurrence of a trading signal, i.e. the highest price when buying and the lowest price when selling. This a prudent approach that introduces a downward bias to the return estimators and an upward bias to the SPA p-value, thus rejecting the EMH less often.

² This means that 44 separate "rule universes" are tested and then the results are aggregated. This is based on the hypothesis that investors become specialized in certain technical analysis indicators, and do not more than one when making investment decisions. Anghel (2014) has proved that investors that use a wide arsenal of technical analysis indicators when making decisions are not necessarily the smarter ones, mainly because of the large data snooping bias inherent in large "rule universes". The old saying of "can't see the forest through the trees" perfectly characterizes this situation.

³ This means that the final p-value is calculated as $\min(pvalue_m)$, where $m=1..M$ is the number of tests (rule universes) for a given sample.

⁴ The countries are Bosnia And Herzegovina (15 companies), Bulgaria (15), Cyprus (19), Czech Republic (13), Estonia (16), Greece (39), Croatia (23), Hungary (13), Lithuania (24), Latvia (23), Poland (36), Romania (39), Serbia (14), Russian Federation (33), Slovenia (7), Slovakia (7), Turkey (39) and Ukraine (20).

⁵ This is available at the Bucharest University of Economic Studies through the PROFIN project financed together with the European Union through the POSDRU program.

the benchmark. The event when the SPA null is rejected is named a “positive discovery”, because it rejects the weak form EMH for the company and time frame on which the test was carried out. Note that a threshold of 10% is used here to identify superior predictive ability rules, so weak statistical significant results are also taken into consideration. Also note that 1000 simulations are performed when implementing the bootstrap procedure.

The secondary goal of this paper is explaining what factors influence market efficiency in the CEE region. This is done using the SPA p-value, which interpreted as explained earlier can be linked with many different independent variables in a regression model.

RESULTS AND INTERPRETATION

Table 2 presents the test results grouped by sample year, while table 3 presents the results grouped by sample country. The last 4 columns in each table report the results of a linear regression with dummy variables, where each dummy represents a separate year/country. The dummy coefficient can be interpreted as the average SPA p-value obtained for the group in question. The last row in the tables presents some relevant test statistics for this regression.

We see that testing the 44 indicators yields a total of 4,317 positive discoveries, which represent 2.39% of the total test results. Note that the majority of them occur in 2008 (a success rate of 20% accompanied by a dummy coefficient of 0.3647), this pointing to a big efficiency meltdown during the climax year of the recent global financial crisis.

This indicates that superior trading models to the benchmark exist. This in turn means that on the CEE stock markets, situations exist when the future price behavior can be anticipated using technical analysis indicators that are calculated solely using historical trading data, although they are very scarce. Because of this, we cannot reject the weak form EMH as a whole for the CEE region in the 1991-2013 period, but we can reject it for specific situations and conclude that the CEE stock market shows periodic signs of inefficiency. Because we see that efficiency is not improving in time (there is no positive trend for the dummy coefficients and no negative trend for the success rates), the results are more consistent with the AMH of Lo (2004, 2005), meaning that abnormal return opportunities appear from time to time depending on specific market conditions, but they are sooner or later arbitrated away. This result is in accordance with the major trend in international literature as pointed out by Lim and Brooks (2011).

Year	Observations	Positive	Success	Coefficient	Std.	t-Statistic	Prob.
		discoveries	rate		Error		
1991	731	1	0.14%	0.8053	0.0099	81.6989	0.0000
1992	1075	5	0.47%	0.7314	0.0081	89.9760	0.0000
1993	1118	0	0.00%	0.8077	0.0080	101.3396	0.0000
1994	1591	33	2.07%	0.7862	0.0067	117.6628	0.0000
1995	2236	5	0.22%	0.7838	0.0056	139.0675	0.0000
1996	2795	53	1.90%	0.7688	0.0050	152.5076	0.0000
1997	3182	0	0.00%	0.7905	0.0047	167.3095	0.0000
1998	4343	106	2.44%	0.7251	0.0040	179.3043	0.0000
1999	5074	1	0.02%	0.8099	0.0037	216.4622	0.0000
2000	6106	210	3.44%	0.7152	0.0034	209.6889	0.0000
2001	7009	107	1.53%	0.7477	0.0032	234.8802	0.0000
2002	7654	261	3.41%	0.7192	0.0030	236.1016	0.0000
2003	8299	6	0.07%	0.8289	0.0029	283.3454	0.0000
2004	8944	16	0.18%	0.8222	0.0028	291.7626	0.0000
2005	10363	26	0.25%	0.8274	0.0026	316.0481	0.0000
2006	11567	22	0.19%	0.8263	0.0025	333.4481	0.0000
2007	13072	104	0.80%	0.8167	0.0023	350.3602	0.0000
2008	13588	2726	20.06%	0.3647	0.0023	159.5002	0.0000
2009	13287	12	0.09%	0.8025	0.0023	347.0934	0.0000
2010	14491	21	0.14%	0.8118	0.0022	366.6886	0.0000
2011	15222	422	2.77%	0.6785	0.0022	314.1120	0.0000
2012	14921	133	0.89%	0.7686	0.0022	352.2633	0.0000
2013	14276	47	0.33%	0.8148	0.0022	365.3041	0.0000

Included observations = 180944, Adjusted R² = 0.1676, Log likelihood = -17463.83, Durbin-Watson stat = 1.3790, Akaike Info. Criterion = 0.1933, Jarque-Bera statistic = 72484.22 (0.0000), Breusch-Pagan-Godfrey statistic = 913.1035 (0.0000).

Table 2. SPA test results grouped by sample year

Country	Observations	Positive	Success	Coefficient	Std.	t-Statistic	Prob.
		discoveries	Success rate		Error		
BA	3225	342	10.60%	0.6082	0.0051	119.7193	0.0000
BG	6149	268	4.36%	0.7345	0.0037	199.6295	0.0000
CY	9546	309	3.24%	0.7025	0.0030	237.8945	0.0000
CZ	5848	32	0.55%	0.7645	0.0038	202.6187	0.0000
EE	6622	228	3.44%	0.7644	0.0035	215.6031	0.0000

GR	26832	537	2.00%	0.7372	0.0018	418.5134	0.0000
HR	9202	203	2.21%	0.7199	0.0030	239.3565	0.0000
HU	7869	92	1.17%	0.7536	0.0033	231.6906	0.0000
LT	11051	387	3.50%	0.7333	0.0027	267.1687	0.0000
LV	7826	301	3.85%	0.7603	0.0033	233.1032	0.0000
PL	15652	83	0.53%	0.7966	0.0023	345.4314	0.0000
RO	19694	469	2.38%	0.7863	0.0021	382.4370	0.0000
RS	4386	179	4.08%	0.6953	0.0044	159.5981	0.0000
RU	6493	182	2.80%	0.7396	0.0036	206.5599	0.0000
SI	3526	221	6.27%	0.7373	0.0049	151.7319	0.0000
SK	3096	10	0.32%	0.7631	0.0052	147.1641	0.0000
TR	27348	87	0.32%	0.8104	0.0017	464.4706	0.0000
UA	6579	387	5.88%	0.6280	0.0036	176.5501	0.0000

Included observations = 180944, Adjusted R² = 0.0244, Log likelihood = -31830.34, Durbin-Watson stat = 1.5817, Akaike Info. Criterion = 0.3520, Jarque-Bera statistic = 51293.77 (0.0000), Breusch-Pagan-Godfrey statistic = 859.7757 (0.0000).

Table 3. *SPA test results grouped by sample country*

Table 3 paints a relative efficiency picture of the countries in the CEE region, with Turkey being the most efficient, while Bosnia And Herzegovina being the least efficient. It seems that efficiency varies with the maturity and size of markets, but there are not sufficient observations to clarify this aspect in a statistical significant way. We can instead deduce that market efficiency and, in turn, investor chances of gaining abnormal returns, only slightly varies from country to country in the CEE region. A similar analysis is performed when grouping the results by company and by technical analysis indicator (which are not reported here because of space constraints) and the relatively smooth regression coefficients and low goodness of fit measurements also indicate that the investor chances of gaining abnormal returns only slightly depend on the target investment asset or specific prediction model used. Next we move to investigating the factors that influence market efficiency in the CEE region, using linear and GLM regressions. Two such factors are taken into consideration, namely liquidity and price momentum. The inclusion of liquidity among the explanation factors is rather obvious. Two proxies are used for it, namely a volume-related proxy in the form of the relative turnover (traded volume divided by the total number of shares) and a time-related proxy in the form of the relative number of trading days (number of days for which trades exist divided by the maximum number of trading days in the period). On the other hand, momentum (calculated as the total subsample return) is chosen as a determinant because, in an economic sense, it is a function of information and investor behavior, since it is determined by the way investors interpret the newly arriving information and incorporates it into

market prices. If investors would behave in a way described by the classical financial theory, then they would incorporate the newly arriving information very efficiently into trading prices. Because we now know that market inefficiencies sometimes appear in the CEE region (results in tables 1 and 2), we use price momentum to try to find out if there is a link between investor behavior and those inefficiencies, i.e. if investors overreact to information in such a way as to generate abnormal return possibilities for arbitrageurs.

Table 4 presents the results of the linear regressions relating the SPA p-value with each explanatory variable separately. The equations are of the form: $p_{SPA} = \alpha + \beta x + \varepsilon$ and the tests are based on a total of 4208 observations that were earlier obtained from the SPA tests (4208 is equivalent to the total number of valid subsample that were analyzed). We see that a positive relationship between market liquidity and market efficiency exists (first two columns), but the relationship is very weak. A visual representation of the data points and fit is provided in figure 1(a, b). Several GLM models (not reported here) are further used to confirm this initial finding, and the results point to the same conclusion, namely that liquidity has a very small impact on informational efficiency in the CEE countries. Note that the exclusion of extreme illiquid subsamples (with less than 65 trading days in a year) may bias these results, although not by much because companies that trade between 65 and 130 days in a year (that is less than half of the total trading days) may also be considered illiquid in the current financial markets, especially since we are talking about the biggest companies listed in the analyzed region.

Moving on, we notice a much stronger relationship between efficiency and price momentum, which is rather intuitive because price momentum essentially means high autocorrelation (notice that momentum explains one third of the variation in the SPA p-value, which is really a lot given results are calculated on such a daily frequency). Using the Quandt-Andrews unknown breakpoint test, the equation is broken down in several sub-samples. The separate equations are reported in columns 5-9 on table 4. A very interesting aspect of this division is that it singles out several ranges for the predictor variable that exactly represent qualitative characterizations of market trends (these are described in row 2 of table 4, while the range extremes are reported in rows 4 and 5). The results point out that market momentum has a strong influence on market efficiency. For example, we see that very severe downtrends (that experience log-returns of between -726% and -96%) are always inefficient¹ and surely the result of irrational behavior. We also see that the relationship is valid for both momentum directions (the coefficients are positive for downtrends and negative for uptrends), but is much more significant on the negative momentum side, this pointing out that situations of overreaction to negative events are much more common and have a higher impact on market efficiency than situations of

¹ The equation in this case levels down to $SPA\ p\text{-value} = 0.0658$ (because the other explanatory variables are not statistically significant). This means that there is at least one trading rule in the 600+ thousand universe that has superior predictive ability when compared with the buy-and-hold rule.

overreaction to positive events. This result explains the efficiency meltdown in 2008 and points out that investors display some common behavioral biases, especially panic, in times of major (and maybe autocorrelated) negative information.

Stati stic	Results of separately regressing spa p-value on the three independent variables			Results of regressing spa p-value on total sample return (ret), broken down into relevant subsamples				
	ntd	pct	ret	ret	ret	ret	ret	ret
Independen t variable (x) Sample description	Full sample	Full sample	Full sample	Very severe downtren d	Severe downtren d	Downtren d	No trend	Uptrend
From...To	1..4208	1..4208	1..4208	1..282	283..923	924..1461	1462..227 2	2273..420 8
Minimum*	0.1776	0.0000	-7.2644	-7.2644	-0.9602	-0.2989	-0.8570	0.1499
Maximum*	1.0000	10.9821	4.4530	-0.9639	-0.2998	-0.8580	0.1499	4.4530
Intercept	0.5062 (0.0000)	0.5062 (0.0000)	0.5062 (0.0000)	0.0658 (0.0000)	0.3853 (0.0000)	0.5329 (0.0000)	0.6321 (0.0000)	0.6626 (0.0000)
Coefficient	0.0368 (0.0000)	0.0202 (0.0000)	0.1576 (0.0000)	-0.0047 (0.3314)	0.1845 (0.0000)	0.3809 (0.0000)	0.5145 (0.0000)	-0.0134 (0.0455)
F-statistic	85.0038 (0.0000)	25.3864 (0.0000)	2401.216 0 (0.0000)	0.9466 (0.3314)	75.4562 (0.0000)	20.5722 (0.0000)	52.5613 (0.0000)	4.0044 (0.0455)
Akaike Info. Cr.	0.1349	0.1489	-0.2967	-2.0888	-1.0489	-0.7620	-0.5408	-0.5271
Adjusted R ²	0.0196	0.0058	0.3633	-0.0002	0.1042	0.0352	0.0598	0.0016
Jarque-Bera statistic	307.34 (0.0000)	299.53 (0.0000)	258.48 (0.0000)	491.48 (0.0000)	148.35 (0.0000)	4.08 (0.1299)	60.36 (0.0000)	572.24 (0.0000)
Durbin- Watson statistic	0.8322	0.8409	1.3180	1.9169	1.9207	1.8584	1.8858	1.9858
Breusch- Pagan- Godfrey statistic	28.0463 (0.0000)	2.4020 (0.1212)	0.0208 (0.8852)	0.6637 (0.4153)	9.2729 (0.0023)	0.4054 (0.5243)	0.7744 (0.3788)	2.4873 (0.1148)
Mean	0.8999	0.2919	0.0763	0.0763	0.0763	0.0763	0.0763	0.0763
Standard Deviation	0.1776	0.6310	0.7227	0.7227	0.7227	0.7227	0.7227	0.7227
Implied threshold**	#n/a	#n/a	-1.7868	#n/a	-1.1178	-0.8214	-0.7474	30.3399

NOTE: ¹ All regressions are performed using normalized independent variables, with the mean and standard deviation of the base (unnormalized) variable being reported in the bottom section of the table.

² P-values in parenthesis.

³ ntd = relative number of trading days.

⁴ pct = relative turnover (or percent of capital traded).

⁵ ret = total log-return within the sample window.

* The minimum and maximum are the extreme values of the range for the base (unnormalized) independent variable.

** The implied threshold is the value of the explanatory variable for which the model predicts a p-value of 0.1, one which would reject the SPA null hypothesis. It is expressed in the same unit of measurement as the base independent variable. A #n/a value is obtained if the calculation is not possible or if the result does not belong to the theoretical distribution of the independent variable.

Table 4. Results for individual linear regression models

The relationship between efficiency and momentum is further analyzed using a wide arsenal of GLM models, to see if this category of models have a higher explanation power than the simple linear regression, which relies on the standard Gaussian distribution. Because the relationship is evident in both directions, a quadratic element is incorporated into the regressions, so the linear predictor in the GLM framework looks like: $\eta_i = \alpha + \beta_1x + \beta_2x^2 + \varepsilon$. But because the relationship is more pronounced on the negative side, equations without this term are also considered (so simple linear regression are also performed, but assuming a different distribution for the response variable). Table 5 reports the models that display the largest explanatory power among the bunch. Notice that the models that have the best goodness of fit measurements all incorporate the quadratic component and use the Gaussian conditional distribution for the response variable, irrespective of the canonical link (so changing the distribution has not much of an effect, but changing the model has). This confirms that both positive and negative momentum has an influence on efficiency. Also notice that these models produce better fits than the previous analyzed linear one. Figure 1(c) gives a visual comparison for the best models in each category and we can see that all of the models fit the data well, especially on the negative side. These results reinforce the idea that there is a strong link between price momentum and market efficiency, this constituting evidence of investor suboptimal behavior in the form of overreactions, both to positive and negative information (the overreactions to negative information – panic – is much more pronounced).

Even more interestingly is the fact that an exact quantitative threshold can be estimated in order to characterize the efficient nature of price movements and investor rationality in CEE countries. When we substitute 0.1 for the dependent variable and solve for the independent variable in the estimated models, the linear equation predicts a threshold log-return of -111.78%, while the best GLM model predicts a threshold log-return of -95.02%. This translates into discrete returns of -67.30% and -61.33%, respectively. Consequently, yearly price movements that are lower than approximately -60% can be considered a result of investor irrational behavior. This conclusion arises because when such price movements occur, technical analysis trading rules display superior predictive ability to the buy and hold model. This is a very interesting finding, as a quantitative threshold that describes investor rationality in the CEE stock markets is described¹.

link	Canonical Distributio n	Lo git Poi sson	Lo git No rmal	Pro bit Pois son	Pr obit No rmal	Lo g-Log No rmal	Complementary Log-Log Negative Binomial (1)
	α	-	0.2 242 (0. 0000)	-	0.1 381 (0. 0000)	0.5 409 (0.0 000)	-0.3285 (0.0000)

¹ Note that this result may be influenced by the survivorship bias inherent in the sample used.

β_1	1.1	1.1	0.61	0.6	0.7	0.9298
	309	125	01	794	770	(0.0000)
	(0.0000)	(0.0000)	(0.000)	(0.0000)	(0.000)	
β_2	-	-	-	-	-	-
		0.4170		0.2530	0.2666	
		(0.0000)		(0.0000)	(0.000)	
R ^{2*}	0.4	0.5	0.42	0.5	0.5	0.3532
	200	209	16	190	200	
Pearson statistic	2.4	0.0	270	0.0	0.0	0.5339
	719	327	48.40	329	328	
Implied threshold	-	-	-	-	-	-1.4171
	1.3279	0.9502	1.4415	0.9212	0.8206	
		3.0		4.0	3.0	
		310		618	795	

NOTE: * The R-squared for the GLM models is a pseudo R-squared calculated as $1 - D_1/D_0$, where D_1 is the residual deviance (or Sum of Square Errors) for the model in question and D_0 is the residual deviance (or SSE) for the model including only a regression constant (alpha).

Table 5. Summary results for best performing GLM models

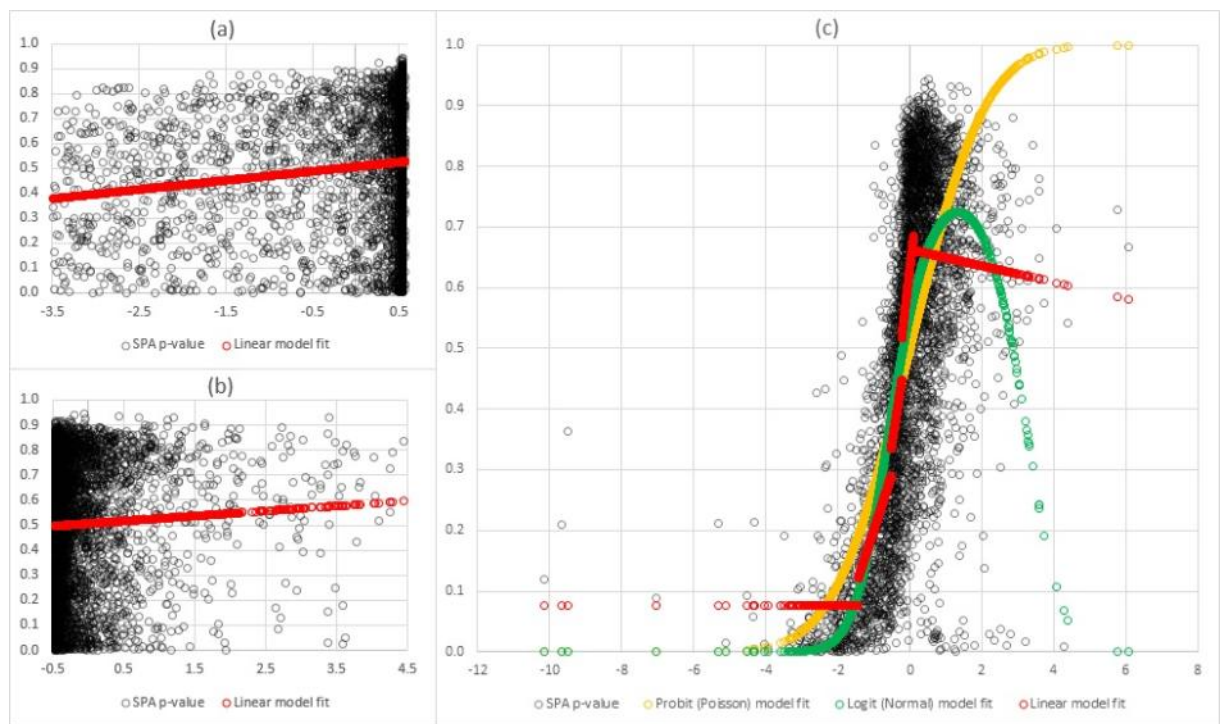


Figure 1. Scatter plot representation and fitted values of the regression models

Finally, we want to see what happens with the relationship when we control for both liquidity and momentum. Table 6 reports the results of the estimated models for each category. We see that the results are in accordance with the previous stated conclusions, namely that market efficiency highly depends on price momentum, while liquidity has only marginal explanation power. A point of emphasis here is the relatively high explanation power of the model in the last column in table 6. It seems that the combination of market momentum and liquidity account for more than half of the

variability in market efficiency (of course, for the stock markets in the CEE region), with momentum playing the more important role. If we view momentum as a proxy for investor behavior, we can argue that the latter is fundamental to the well-being of today's financial markets, more than other economic and market specific factors that may influence it (and were not considered here).

Estimators	Linear model	Logit (Normal) quadratic term	withoutLogit (Normal) quadratic term	with
c	0.5062 (0.0000)	0.0773 (0.0000)	0.224458 (0.0000)	
ntd	0.0299 (0.0000)	0.1491 (0.0000)	0.157437 (0.0000)	
pct	0.0055 (0.0916)	0.0317 (0.0535)	0.025221 (0.0868)	
ret	0.1561 (0.0000)	0.9764 (0.0000)	1.112919 (0.0000)	
ret^2	-	-	-0.421345 (0.0000)	
F-statistic	851.1245 (0.0000)	-	-	
Log likelihood	-	925.03	1306.79	
Akaike Info. Criterion	-0.3187	-0.4378	-0.6187	
Adjusted R ²	0.3774	0.4477	0.5393	
Jarque-Bera statistic	302.85 (0.0000)	362.44 (0.0000)	449.33 (0.0000)	
Durbin-Watson statistic	1.3088	-	-	
Breusch-Pagan-Godfrey statistic	6.5025 (0.0896)	-	-	
LR statistic		3407.60 (0.0000)	4920.77 (0.0000)	
Pearson statistic	-	0.0378	0.0315	

Table 6. Results for regression models when controlling for both liquidity and price momentum

CONCLUSIONS

In this paper we set out to evaluate the market efficiency in Central and Eastern Europe. Using the SPA test of Hansen (2005), we discover that practical technical analysis prediction models display superior

predictive ability to the buy and hold model and, consequently, significant inefficiencies appear from time to time in this region. Also, using several linear regressions with dummy variables, we see that the investor ability to gain abnormal returns is marginally influenced by the country or asset he/she invests in and by the specific prediction models he/she employs, in turn being highly influenced by market conditions in specific time frames. Because these conditions do not seem to improve over time, the Adaptive Market Hypothesis of Lo (2004) is the best framework that explains informational efficiency in the region, thus supporting international evidence highlighted by Lim and Brooks (2011). Finally, we discover that market efficiency is positively (but very weakly) influenced by market liquidity, while price momentum plays the most significant role. Because the latter is a function of information and investor behavior, we conclude that investors exhibit some common behavioral biases in the CEE region from time to time, especially panic. Using the estimated models, a relative yearly discrete return threshold of approximately -60% can be calculated in order to discriminate between rational and irrational price movements.

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A FOCUS GROUP STUDY OF PENSION AUTONOMY AND INVESTING IN NEW ASSET CLASSES

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ABSTRACT

Individuals' involvement in the Dutch pension system is currently limited. In this study, we employ a qualitative method in order both to explore individuals' views on an increased level of pension-autonomy, and to examine their stance with regard to criteria of socially responsible investments and targeted impact investments. Our sample consists of 24 members and managers of the Dutch pension administrative organization "PGGM". Three semi-structured homogeneous focus group discussions have been conducted, each with between 7 and 9 participants. The data was coded both deductively and inductively, following the framework method. We explore three themes regarding retirement issues: (1) general attitude toward retirement, (2) retirement concerns, and (3) pension policy. Our findings indicate that viewpoints on general attitudes toward retirement and retirement concerns were common across our three focus groups. However, we find that members and asset managers have different standpoints on investment criteria. The attitude toward sustainable and impact investing was more favorable to members than to managers. Subsequently, the attitude toward achieving financial efficiency was more favorable to managers. In conclusion, we identify individuals' positive standpoint on increased pension autonomy and their willingness to get actively involved in pension issues together with some self-efficacy concerns. Thus, increased autonomy should be combined with intervention strategies varying from education to carefully designed choice architectures. Future research aims to focus on the consistency of individuals' choices in the long run and place under scrutiny the effect of psychological distance on socially responsible investments and targeted impact investments.

Keywords: *Pension Choices; Pension Autonomy; Impact Investing; Sustainable Investing; Investment Preferences;*

INTRODUCTION

The recent financial crisis has deteriorated the financial position of many Dutch pension funds reflected on their coverage ratios, mainly due to lower interest rates and lower investment returns than before. As a consequence, asset managers, on behalf of pension fund boards, of pension funds are obliged to maintain larger reserves than before. This means that they see themselves confronted with the choice of either decreasing the payments to the pensioners, those who now have reached the pension age, or deciding to increase the pension premiums for younger employees, those who still have to build their future pension rights. The first measure also has impact on the pension entitlements of the active. These developments have aroused attention of the public for pension issues and, particularly, the institutional design of pension funds.

The increased uncertainty of the economic environment hinders any forecasts about financial returns. Still, we attempt to offer two remarks about their future prospects. First, the economic reasoning behind the expectation of high yields seems to be the assumption that our capital still represents a very scarce factor in the world economy. However, it is at least remarkable that on the one hand, the market interest rates on capital are historically low, and, on the other hand, the expectations of high returns on investment are high as ever. Second, we may add that the political influence of emerging economies has increased substantially. Consequently, the excessive availability of non-priced scarce resources (water, soil fertility, abuse of child labor, of women, animal welfare etc.) has aroused concern all over the world. The effect of this concern is that non-priced scarcities have become increasingly being priced scarcities. These are only two possible reasons of why high returns on investments are less self-evident and therefore the expectation of high returns in the future of investments are even less likely to get fulfilled.

From the above mentioned considerations, policy makers for investment funds face the question of how to design the pension funds in the future. This is enforced by the social-cultural tendency that mandatory schemes are losing support, due to emancipation and willingness for control by individuals rather than forced collective arrangements. The study of Goudswaard et al. (2004) showed that willingness to pay increase if transparency is provided on the way the money is spend, i.e. the pension asset is invested. Basically, the question is whether they can continue to oblige people to save and pay fees for pensions on the expectation that by doing so they may expect sufficient financial means at their old age. The question that arises is whether this approach would guarantee them sufficient security of a comfortable last phase of their lives, and if it would give them the certainty of sufficient financial means, despite that they cannot contribute to the national economy any longer. Up to now, these questions were left to be dealt by the boards of pension funds and governments.

However, in recent years, the issue was also taken up by a new class of investors. These investors asked the question which contribution their investments should give to society in the long run. Basically, they felt that investments are not just to yield financial returns, but, that in the first place, their investments should contribute to a better world, for their (grand) children and for those people living in poverty in their daily lives. As a matter of fact, those investors - called *social venturing investors/entrepreneurs* represent an entirely *new asset class*. They introduced an innovation of financial management in which the financial returns no longer are the primary goal of investment but represent a necessary condition to realize certain goals for the society. They were faced with the following set of choice alternatives of investments: the prospect of maximizing financial returns on investments versus the alternative to realize other defined goals for the future. Additionally, participants of pension schemes are increasingly interested to know and understand where their premiums and asset are being invested and whether the current investing practice contributes to their society and economy.

In the meantime, managers of public funds examine their investments with respect to criteria of sustainability and social responsibility. Following the Shell Company, which introduced the so-called people, planet and profit standards, these criteria have now become, more or less, a common practice. In the sustainability reports companies and investment funds report annually on the examination of their activities by those criteria. Well known examples are that most fund managers would not invest in, for instance, the tobacco industry, certain branches of the weapon industry, firms making use of low price imports due to children labor, or uses of resources like wood, fish, farm products etcetera that are not produced sustainably.

The concept of "social venturing investments" is taking these considerations as a starting point but at the same time is making the next decisive step. Social venturing investment not only excludes non-sustainable investment opportunities, but also strives for positive long-term goals: "For which purposes do I want to employ my capital? What do I want my investments to realize? Which are the wicked problems of our times? How to contribute to a better world for the next generation and for those who face starvation?"

Until recently those discussions were the prerogative of asset managers and of high net worth individuals. The financial crisis, which at this moment concerns the whole Europe, has made clear that ultimately the politicians and therefore the civil society, i.e. ordinary people have to provide solutions for the partial break down of the financial system. Therefore, we should not be amazed by the fact that those who have to pay the fees begin to ask themselves the question: "should we not then determine ourselves in what direction our pension capital should be invested?"

Our study aims to fill this gap in the literature by exploring the viewpoint of pension participants not only about having an increased level of autonomy, but also selecting how their pension capital should

be invested. Our study was conducted in the Dutch care and welfare sector. We used homogeneous focus group discussions in order to provide the opportunity to participants to discuss their own beliefs for having an increased level of pension autonomy and choosing to invest their pension capital according to criteria of impact investing and sustainability. A purposive sampling process was used to ensure the inclusion of participants with different socio-demographic characteristics and occupational identity. In more detail, we contrast the views of the members of a cooperative pension fund administrative organization with its asset managers. Our findings add knowledge on the individuals' attitude toward an increased level of pension autonomy and on whether individuals in collective pension systems are willing to accept a lower financial return on the merit of achieving certain social goals.

INCREASING PENSION AUTONOMY

In the Netherlands, most of the Dutch employees are obliged to save in the occupational pension (Els et al. 2007), while the pension system requires limited involvement by individuals. This coercive paternalistic system with the compulsory participation aims to secure people from any unsafe decisions with regard to pension. However, this security implies the restraining, in a quite high degree of the freedom of choice. Benartzi & Thaler (2002) argue that individuals do not have well-defined preferences and sometimes are prone to irrational choices caused by behavioral biases. Thus, individuals make suboptimal choices with regard to investment decisions due to several behavioral biases and therefore a level of paternalism is required. Els et al. (2003) found that Dutch preferred to 'play safe' with their pension but at the same time were willing to have a greater level of autonomy. In a subsequent study, van Rooij et al. (2007) found that around one quarter of the Dutch respondents were willing to have increased pension autonomy. However, they suggested that an increased level of freedom should be accompanied by some level of choice architecture and state interventions due to behavioral biases.

IMPACT INVESTING AND SUSTAINABILITY

The side effects of the financial crisis have caused institutional investors to revise their investment behavior and to look for new investment strategies more socially concerned. Furthermore, the financial crisis brought up to the surface some ethical considerations about the investment process. Some institutional investors, have already engaged to SRI investment policies, showing an increased social responsibility. These institutional investors realized that investing in a long-term horizon, following the criteria of sustainability and social responsibility, can move along with the attainment of financial goals.

Pension funds have started integrating SRI principles in their investment philosophy as they realize that sustainability and social responsibility is part of their fiduciary duty (Koedijk & Slager 2011).

A FOCUS GROUP STUDY IN THE DUTCH HEALTHCARE SECTOR

The influence of people on the investment policy of pension funds in the Netherlands is historically absent. Pension funds have the legal status of foundations. Foundations have no provision for formal ownership. Indirectly, there might be some influence of the fee paying contributors namely via political regulation. This influence, however, is so indirect that we may say that pension funds are based on the concept of “public owned” but not of “public controlled”.

For the pension fund care and welfare (PFZW) a special situation holds. This pension fund (the second largest in the Netherlands, with total assets amounting to approx. € 140 billion) has made a service level agreement with PGGM. PGGM manages the total amount of assets on behalf of the pension fund. PGGM, however, has the legal status of a cooperative. In other words, PGGM is a “member owned”, “member controlled” and a “member benefit” organization. The fund PFZW determines the asset policy of pension capital but at the same time the people who pay the fees to the fund are given voice via the cooperative PGGM.

For this care and welfare sector the new asset class refers to investments in working circumstances, the organization of the care sector and medical innovation. Now, the basic question arises: may we expect that these members are able to contribute to the debate concerning investments that can affect their own future? What are the preferences of those who will depend on care, those that have to provide that care and the future that will apply when the present working population of this sector will have reached the pension aged themselves?

RESEARCH METHOD

Design and sampling

Our sample consisted by 24 individuals grouped in three semi-structured focus group sessions, each with between 7 and 9 participants (in total 13 females and 11 males). The three panels were designed following a purposive sampling process in order to satisfy the criteria of homogeneity and maximum variation in the target phenomenon (Sandelowski 1995). Sim, (1998) argues that heterogeneity in the formation of focus groups with respect to demographic characteristics, educational background, and occupation might influence participants' willingness to express freely their views. Hence, following to Malhotra's and Birks's, (2005) suggestions, we compiled homogeneous focus groups, designed to satisfy the criteria of age and occupational identity. The focus group participants were selected through PGGM member's panel following the aforementioned criteria of age and occupation. Participants

received a small reimbursement which covered their travel expenses. The focus groups discussions were held at the PGGM's headcounters and were conducted in Dutch by the two co-authors¹. Each focus group session lasted 180 minutes, was video-recorded, while two observers were also present in order to take notes.

In the second task they were asked to rank a list of six investment criteria, from most to least important. From the one hand, the list included one attribute which was related to pension efficiency (pension). From the other hand, the list included five attributes related to impact investing (healthy aging, labor, and house), SRI (sustainability), and social initiatives. The moderators introduced the investment criteria of the list one by one and in a fixed order. Subsequently, the moderators instructed participants to individually rank the investments criteria according to their importance.

Data analysis

We analyzed our data with the use of the Atlas.ti version 7 software following the content method (Stewart et al. 2007). The discussions translated and transcribed verbatim by one assistant. We used the framework approach, whereby a coding frame was inductively constructed and systematically applied to data (Pope et al. 2000).

RESULTS

Contextual analysis

We discuss our results around the main themes and the aspects emerged from the focus group discussions: attitude toward retirement, retirement concerns, and pension policies toward increased pension autonomy and involvement.

Attitude toward retirement

Two main themes emerged with respect to the general attitude toward retirement: perception about the post-retirement period of life and uncertainty. The first theme that emerged from the focus groups discussions was the perception about retirement. We noticed some similarities between the three groups according to their retirement perception. Most of the participants highlighted the importance of remaining healthy and active after their retirement. They perceived their post- retirement period as pleasant and also many conveyed the intention to engage in new activities.

The next theme which emerged from the discussion was the increased uncertainty generated mainly by the current economic conditions. Some of the participants expressed their uncertainty about the quality of life after retirement and about future pension's evolvement. Some of the younger participants felt more uncertain about the issues of the state retirement age, the present economic situation and about the labor conditions.

¹ The discussions conducted during the period of May-July 2012

Retirement concerns

The following section describes the theme of retirement concerns. The aspects that emerged from this theme were related primarily to financial concerns followed by health, care, labor, and living concerns. Participants often combined and related financial concerns with the prospect of good life after retirement. More than the other, the younger group concerned about the financial conditions than their older colleagues.

The majority of the participants recognized the importance of saving for their retirement. Some related financial concerns with independence. Participants recognized that staying healthy is very important of having a good quality of life after retirement. In addition, we found that independence was often combined to living concerns and financial concerns. The image of a nursing house admission does not look very appealing to some of the respondents.

Pension policies

We provide two main aspects: pension autonomy and investing in new asset class. The theme of pension autonomy by increasing freedom of choice in pensions was discussed thoroughly. The analysis of the theme revealed a positive attitude with some self-efficacy concerns.

The majority of the participants indicated a positive stance toward increased pension autonomy. Often, participants related the notions of freedom of choice and pension autonomy to the notions of self-control, increased responsibility and decreased collectivity. Some members pointed the complexity of such decisions, the lack of knowledge, and that an increased level of involvement will be time consuming. Some managers suggested that in the case of increase autonomy, people should also be protected by making unwise choices.

In addition to pension autonomy, investing according to certain criteria emerged as a second pension policy. Most of the members expressed a positive view on investing in sustainability and in impact investments and, in general, investing in new asset class. Nevertheless, they pointed at ensuring financial security and pension in combination to the organization's responsibility in society.

INDIVIDUALS' PERCEPTION ON IMPACT AND SUSTAINABLE INVESTING

Participants ranked six investment criteria according to their perceived importance: investing with primary goal on maximizing pension and on financial efficiency (pension); investing according to sustainability criteria (sustainability); invest in improving living conditions (house), invest in improving working conditions(labor); invest in healthy aging (health); and support social initiatives here and now (social initiatives). Participants were informed by the moderators that investing in new asset class imposes a tradeoff between financial efficiency and social return.

On average, the group of 45+ ranked at the top of importance the criteria sustainability and social initiatives. Their younger colleagues ranked working conditions and investing according to sustainable criteria as the most important. In contrast to the two member groups, in average, the criterion of pension efficiency, was ranked as the most important aspect by managers followed by investing in healthy aging.

Furthermore, results show a strong negative relationship between pension and social initiatives and a weak negative relationship between social initiatives and sustainability. The two distinguished clusters highlight the discrepancy between members and managers views on the investment criteria. Managers, at the left half part of the plot, give less importance to the social return and they focus on financial efficiency (negative social return dimension), while the majority of members, depicted at the right half part, have a stronger preference to the five social investment criteria (positive social return dimension).

DISCUSSION

The ongoing debate over pension reforms, underlined by demographic and financial factors, is highly placed in the Dutch political agenda. The plethora of information about the necessity of new policy measures and the forthcoming changes on pension arrangements have created an environment of increased uncertainty which in turn contributed to a higher level of retirement concerns. During the last financial turmoil, some pension funds faced low pension funding ratios due to increased liabilities as a result of lower returns and decreased assets value. The Dutch regulator compelled these pension funds to take necessary measures and implement five years recovering plans in order reach again the prior to financial crisis ratio levels.

Nijboer and Boon, (2012) argue that policymakers should reform the Dutch pension system toward the direction of a libertarian paternalistic interventions as has been described by Thaler's and Sunstein's, (2008) offering more freedom of choice. However, some other scholars question whether individuals are willing to have increased pension autonomy. Boeri et al., (2002) posit that the opposition to reforms is high even among those aware of unsustainability of the pension system. Els et al., (2003) assert that Dutch prefer their pension plan being managed by experts and are willing to pay higher contributions in exchange for guaranteed benefits. Botti and Iyengar, (2006), argue that individuals' choice is moderated by the level of expertise i.e. greater the expertise the more chances an individual has to engage in complex decision process. Van Rooij et al., (2007) argue that individuals' doubts for their financial skills, high risk aversion and the status quo bias make Dutch reluctant to any changes in the pension structure. Van Rooij et al., (2011) found that most of the Dutch prefer a defined benefit pension scheme rather a defined contribution, due to status quo bias. However, as Thaler & Sunstein (2008,

p.248) state “When the choices are hard and the options are numerous, requiring people to choose for themselves might be preferred and might not lead to the best decisions. Given that people would often choose not to choose, it is hard to see why freedom lovers should compel choice even though people (freely and voluntarily) resist it.”

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THE EFFECT OF RESPECT AND RAPPORT ON RELATIONSHIP QUALITY AND CUSTOMER LOYALTY

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ABSTRACT

The development of successful long-term relationships with customers is considered to be a sustainable competitive advantage and the enhancement of relationship quality (RQ) is a very important issue for firms today especially in services. The purpose of this study is to test the effect of respect and rapport on RQ and customer loyalty (CL) in private doctor-patient relationships. A survey was carried out involving a convenience sample of 600 customers of professional doctors from several specialties operating in the district of Athens, Greece. Data was analysed with PLS-PM. Results showed that Rapport is the most significant antecedent of RQ followed by two dimensions of respect, responsibility and understanding. Also, respect and rapport indirectly affect CL through RQ but there is also a direct effect between rapport and responsibility and CL. Findings present managerial implications. Future research should validate results in multi-context or multi-country studies.

Keywords: *Relationship quality, respect, rapport, customer loyalty, PLS, health services*

INTRODUCTION

In today's highly competitive environment that is characterised by rapidly changing customer needs, the development and maintenance of strong, sustainable, and mutually beneficial relationships with customers is considered to be a significant competitive advantage for firms (Wong *et al.*, 2007; Athanasopoulou, 2009; 2012). In services, the importance of relationships is even more pronounced and service providers are increasingly using relationship-based strategies to compete in the marketplace (Rust *et al.*, 2004; Nguyen & Mutum, 2012). Therefore, maintaining and enhancing relationship quality has become a very important issue for firms. Relationship quality has been defined as a bundle of intangible value that augments products or services and results in an expected interchange between buyer and seller (Levitt, 1986). Research shows that relationship quality can replace service quality and customer satisfaction as key superior performance driver (e.g. Palmatier *et al.*, 2006; Rauyruen & Miller, 2007) and affects significantly customer loyalty (Roberts *et al.*, 2003; Vesel & Zabkar, 2010; Yu & Tung, 2013).

The management of relationship quality is particularly important in high credence services where it is very difficult for customers to evaluate service quality even after they have used the service. In such cases, the development of a good relationship with the service provider is critical for long-term customer retention. When a service is difficult to evaluate, consumers often look to other cues, such as aspects of interaction in order to assess service quality (Parasuraman et al., 1985) and reduce their uncertainty regarding the service. The concepts of respect and rapport have been shown to affect relationship quality (Ali & Ndubisi, 2011) of dental clinic customers and their dentists. The purpose of this study is to test the effect of respect and rapport on relationship quality and customer loyalty in private doctor-patient relationships. The paper is structured as follows. First, we review the literature and develop research hypotheses; second, the methodology is presented; then results are analysed and discussed, and finally we conclude with managerial implications; limitations, and suggestions for further research.

LITERATURE REVIEW AND CONCEPTUAL DEVELOPMENT

The development and maintenance of mutually beneficial relationships with customers is at the heart of today's marketing paradigm and considered to be a sustainable competitive advantage for firms (Wong et al., 2007; Athanasopoulou, 2009; 2012). The establishment of successful relationships has many advantages for firms. When customers develop relationships with providers they usually spend more; are enthusiastic advocates of firms; spread positive word-of-mouth; refer service providers to family and friends (Harris & Good, 2004), and steadily support the profitability of firms (Hayes, 2008). In services, the importance of relationships is even more critical for two main reasons. First, the inseparability of production and consumption in services suggests that providers and customers are interdependent (Solomon et al., 1985). Second, customers cannot evaluate services before consumption and relationships serve as a way to reduce the risk involved in service consumption. When a service is difficult to evaluate, consumers often look to other cues, such as aspects of interaction in order to assess service quality (Parasuraman et al., 1985). Thus, by developing a close, personal relationship with customers, firms may retain customers longer. Therefore, the development of a quality relationship with customers has become very important for firms.

The concept of relationship quality has been defined as the quality of interaction between a firm and its customers (Gummesson, 1987). In services, Crosby et al. (1990) define RQ as when "the customer is able to rely on the salesperson's integrity and has confidence in the salesperson's future performance because the level of past performance has been consistently satisfactory". Grönroos (2000) defines RQ as "the dynamics of long-term quality formation in ongoing customer relationships". Researchers agree that relationship quality is not simple and in fact, it is a higher-order construct made of several

distinct, though related dimensions (Crosby *et al.*, 1990; Kumar *et al.*, 1995; Roberts *et al.*, 2003). Relationship quality is generally conceptualized as a multi-dimensional construct consisting of customer satisfaction; trust, and commitment but lately various researchers, especially in retail contexts, measure RQ based on a general measure of customer perception (e.g. Ndubisi, 2007; Rasila, 2010; Khoo-Latimore *et al.*, 2010; Ali & Ndubisi, 2011; Athanasopoulou, 2012).

The literature on the antecedents of relationship quality is vast and covers many related concepts which are buyer-related; seller-related, or relationship-related (Athanasopoulou, 2012). Two of the relatively new antecedents that have emerged are respect and rapport (Gremler & Gwinner, 2000; Ali & Ndubisi, 2011).

The concept of respect is found in psychology (Langdon, 2007) and one of its four themes involves respect as caring. This helps us to understand the concept of respect towards customers (Langdon, 2007; Dillon, 1992). This study adopts the dimensions of respect put forward by Dillon (1992) and used by Ali & Ndubisi (2011). These are attention and valuing to particularity; understanding, and responsibility. Attention and valuing to particularity means appreciating and treating each person as an individual and accepting that they are different from others (Dillon, 1992). Understanding is about trying to understand a person's own consciousness; his activities, and his purposes. Finally, responsibility involves caring for a person in the sense of helping them to pursue their goals and satisfy their needs and wants (Dillon, 1992). All these dimensions are important in the context of doctor-patient relationships where caring for the patient is one of the most important traits of a physician. Therefore, we hypothesise that all three dimensions of respect affect significantly relationship quality:

H1a: Attention and valuing to particularity affects significantly relationship quality

H1b: Responsibility affects significantly relationship quality

H1c: Understanding affects significantly relationship quality

Furthermore, rapport is another concept similar to respect that has been used in a number of disciplines studying human interaction including marketing; psychology, and education (e.g. .

Faranda & Clarke, 2004; Weitz *et al.*, 2007), although a clear definition has not been developed yet. Carey *et al.* (1986) define rapport as a quality of relationships characterized by satisfactory communication and mutual understanding. Tickle-Degnen and Rosenthal (1990) suggest that people experience rapport when "they click" with one another or feel the good interaction due to chemistry. Gremler and Gwinner (2000) define rapport as the character of interaction between employees and suggest that rapport consists of two important dimensions; namely enjoyable interaction and personal

connection. Rapport has been shown to influence relationship quality in dental services (Ali & Ndubisi, 2011). Therefore, the following hypothesis is proposed:

H2: Rapport building affects significantly relationship quality

Both respect and rapport deepen relationships between service providers and customers and lead to sustainability of relationships over time. Therefore, we can also argue that they affect customer loyalty. The link between rapport and loyalty has been examined by Gremler and Gwinner (2008) whereas the effect of respect on customer loyalty has not been researched before. In this study, we argue that both respect, with all of its three dimensions, and rapport affect customer loyalty directly. Therefore we propose the following hypotheses:

H3a: Attention and valuing of particularity affects significantly customer loyalty

H3b: Responsibility affects significantly customer loyalty

H3c: Understanding affects significantly customer loyalty

H4: Rapport building affects significantly customer loyalty

Finally, relationship quality has been shown to affect customer loyalty in many contexts (e.g. Henning-Thurau et al., 2002; Sanchez et al., 2008; Vesel & Zabkar, 2010). Therefore, we can argue that there is also an indirect link between respect and rapport and customer loyalty through relationship quality. As a result we hypothesise that:

H5: Relationship quality significantly affects customer loyalty

The proposed model used for this study is presented in Figure 1.

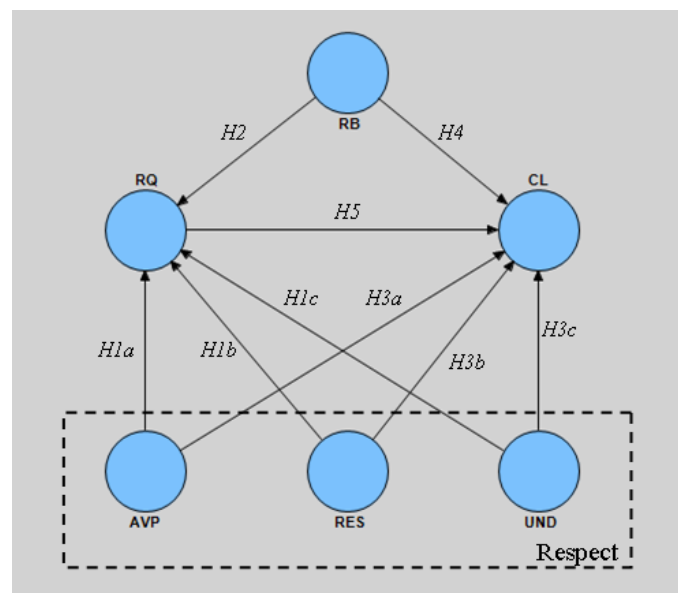


Figure 1: Proposed model

METHODOLOGY

The population of this study is customers of professional physicians from several specialties operating in the district of Athens, Greece. Research participation was purely voluntary. To reach participants a convenient sampling method was used. Twenty appropriately trained students were selected on the basis of some background experience in research and data collection to approach 30 individuals each. Data were collected using a structured questionnaire with questions in prearranged order. The scales used to operationalize the concepts of the proposed model were adopted from different sources to suit the study. Items for Respect and Rapport Building were adapted from Ali and Ndubisi (2011). The items for Relationship Quality were adapted from Hennig-Thurau (2000) and Ndubisi (2007) and for Customer Loyalty from Zeithaml et al. (1996) and Fullerton (2003). All items were measured on a seven-point Likert scale ranging from 1 “strongly disagree” to 7 “strongly agree”.

The fieldwork was conducted in January and February 2014, over a period of four weeks, and the data were collected during operating hours of doctors’ private practices. A total of 600 questionnaires were distributed and 521 were collected. However, 21 were rejected because of incomplete data, resulting in 500 usable responses, yielding a net response rate of about 83%. The demographic profile of the respondents is shown in Table 1. The participants, in terms of gender, are almost equally distributed. Ages of between 18 and 34 years old (58%) were in majority. Most of the respondents had at least a university degree (53%) and work either in the private or the public sector (53%).

Profile	Description	Responses	Percentage
Gender	Male	243	49%
	Female	257	51%
Age	18-24	181	36%
	25-34	111	22%
	35-44	65	13%
	45-54	56	11%
	55-64	41	8%
	64+	46	9%
Education Level	Up to High school	136	27%
	Colledge	99	20%
	University	232	46%
	Prostgraduate	33	7%
Employer	Private	136	27%
	Public servant	129	26%
	Self-employed	62	12%
	Unemployed	173	35%

Table 1: Respondent's demographic profile

The method of Partial Least Squares (PLS) analysis (Gefen & Straub, 2005), an implementation of Structural Equation Modelling (SEM) with SmartPLS 2.0 (M3) (Ringle et al., 2005), was applied to test

the measurement model and the proposed hypotheses. There are two main reasons to use the PLS technique. First, PLS path modelling has less strict requirements on sample size and residual distributions than covariance-based SEM techniques (Chin et al., 2003). Second, PLS-PM is used for plausible causality exploration (prediction) rather than for confirmatory causality testing (Wold, 1981). The aim of the study is much closer to the former causality testing since it is related to the prediction of customers' future intentions based on the optimal linear relationships between the proposed latent constructs. Therefore, PLS is considered more appropriate for this study than covariance-based SEM techniques.

RESULTS

Data analysis involved a two-phase approach (Gefen & Straub, 2005) 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 phase examines the structural relationships among latent constructs.

Assessment of the measurement model

The test of the measurement model involves the estimation of reliability; internal consistency, as well as the discriminant validity of the study's first-order reflective constructs, which indicate the strength of measures used to test the proposed model (Fornell, 1987). 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 (Gefen & Straub, 2005). The factor loadings of all items, as shown in Table 2, exceed 0.72 providing strong support for the reliability of the latent constructs.

Internal consistency is assessed using two measures, Cronbach's alpha and composite reliability (Fornell & Larcker, 1981). Gefen and Straub (2005) suggest that a value of 0.7 for these two measures provides adequate evidence for internal consistency. As shown in Table 2, both Cronbach's alpha and composite reliability (CR) of all reflective measures included in the study exceed 0.88 and 0.91 respectively suggesting that all items are good indicators of their respective components.

Discriminant validity was assessed in two ways. First, the Average Variance Extracted (AVE) is examined. As shown in Table 2, all AVE values are greater than 0.67 which, in turn, exceeds the recommended cut-off value of 0.5 (Gefen & Straub, 2005). Second, the square root of AVE extracted from each construct, as shown in the diagonal of Table 3, is compared with the correlations among constructs, the off-diagonal entries. Table 3 shows that the square root of AVEs for all first-order

constructs are higher than their shared variances. These findings provide strong evidence of discriminant validity among the first-order constructs.

Item ← Construct	Mean Value	Std. Deviation	Std. Loadings	Std. Error	Critical Ratio	Composite Reliability	Cronbachs' Alpha	AVE
E1 ← AVP	5.13	1.38	0.84	0.02	50.82	0.91	0.88	0.67
E2 ← AVP	5.22	1.37	0.87	0.02	52.72			
E3 ← AVP	5.31	1.37	0.87	0.02	56.85			
E4 ← AVP	5.15	1.53	0.79	0.02	34.99			
E5 ← AVP	5.14	1.54	0.72	0.03	27.57			
E6 ← RB	4.95	1.48	0.81	0.02	47.42	0.95	0.94	0.67
E7 ← RB	5.24	1.32	0.86	0.01	63.25			
E8 ← RB	5.14	1.30	0.86	0.01	66.67			
E9 ← RB	4.72	1.56	0.75	0.03	29.29			
E10 ← RB	5.21	1.40	0.82	0.02	47.55			
E11 ← RB	4.35	1.63	0.84	0.02	54.91			
E12 ← RB	4.32	1.73	0.78	0.02	39.20			
E13 ← RB	5.02	1.45	0.82	0.02	41.91			
E14 ← RB	4.36	1.71	0.81	0.02	38.84			
E15 ← RES	5.40	1.37	0.87	0.02	54.28	0.94	0.92	0.76
E16 ← RES	5.45	1.32	0.89	0.01	75.15			
E17 ← RES	5.18	1.51	0.85	0.02	52.44			
E18 ← RES	5.16	1.45	0.90	0.01	79.97			
E19 ← RES	5.40	1.45	0.86	0.01	58.07			
E20 ← UND	5.67	1.25	0.82	0.02	43.91	0.91	0.87	0.73
E21 ← UND	5.15	1.33	0.88	0.01	59.82			
E22 ← UND	5.09	1.36	0.81	0.03	30.32			
E23 ← UND	5.27	1.32	0.90	0.01	77.70			
E24 ← RQ	5.01	1.46	0.88	0.01	62.63	0.94	0.91	0.74
E25 ← RQ	4.27	1.68	0.76	0.03	29.79			
E26 ← RQ	5.13	1.43	0.88	0.01	59.44			
E27 ← RQ	5.12	1.40	0.91	0.01	74.89			
E28 ← RQ	5.18	1.47	0.88	0.01	65.02			
E53 ← CL	5.14	1.53	0.83	0.02	35.06	0.95	0.94	0.77
E54 ← CL	5.11	1.53	0.87	0.02	47.73			
E55 ← CL	5.35	1.49	0.88	0.02	52.58			
E59 ← CL	5.26	1.53	0.90	0.01	88.47			
E60 ← CL	5.22	1.55	0.91	0.01	95.74			
E61 ← CL	5.34	1.55	0.89	0.01	75.42			

Notes: AVP-attention and valuing to the particularity; RB-rapport building; RES-responsibility; UND-understanding; RQ-relationship quality; CL-customer loyalty

Table 2: Item's descriptive statistics and constructs' psychometric properties

	RB	AVP	RES	UND	RQ	CL
RB	<i>0.82</i>					
AVP	0.68	<i>0.82</i>				
RES	0.79	0.71	<i>0.87</i>			
UND	0.71	0.65	0.79	<i>0.85</i>		
RQ	0.78	0.61	0.77	0.74	<i>0.86</i>	
CL	0.72	0.60	0.74	0.68	0.79	<i>0.82</i>

Note: Diagonal elements (italics) are the square root of the variance shared between the constructs and their measure (AVE).

Table 3: Intercorrelations of latent constructs

Assessment of the Structural Model and Hypotheses Testing

The PLS method was also used to confirm the hypothesised relationships between constructs in the proposed model. The significance of the paths included into the proposed model was tested using a bootstrap resample procedure. In assessing the PLS model, the squared multiple correlations (R^2) for each endogenous latent variable were initially examined and the significance of the structural paths was evaluated. The proposed relationships are supported if the corresponding path coefficients have the proposed sign and are significant.

After performing the PLS analysis, results are presented in Table 4.

Relationship	Path coefficient	Standard Error	T-Statistics	R^2	Q^2	Hypotheses test
AVP \rightarrow RQ	-0.01	0.05	0.18	0.70	0.51	H1a not supported
RES \rightarrow RQ	0.26	0.06	4.70			H1b supported
UND \rightarrow RQ	0.25	0.06	4.50			H1c supported
RB \rightarrow RQ	0.40	0.06	7.25			H2 supported
AVP \rightarrow CL	0.05	0.05	1.06	0.68	0.52	H3a not supported
RES \rightarrow CL	0.19	0.06	2.94			H3b supported
UND \rightarrow CL	0.07	0.06	1.25			H3c not supported
RB \rightarrow CL	0.12	0.06	2.05			H4 supported
RQ \rightarrow CL	0.47	0.05	8.59			H5 supported

Table 4: Estimated results of the structural model and hypotheses tests

The most significant factor that affects relationship quality in doctor-patient relationships is Rapport Building ($\beta = 0.40$; $t = 7.25$), followed by Responsibility ($\beta = 0.26$; $t = 4.70$) and Understanding ($\beta = 0.25$; $t = 4.50$). Attention and valuing to particularity does not affect relationship quality since the relevant coefficient is not statistical significant. Therefore, hypotheses H1b, H1c and H2 are confirmed since they were found to be statistically significant and the relevant path coefficients have the hypothesized signs, explaining 70% of the variance in relationship quality, while H1a is not confirmed.

With regards to the direct effects on Customer Loyalty, Relationship Quality is the most important antecedent ($\beta = 0.47$; $t = 8.59$), followed by Responsibility ($\beta = 0.19$; $t = 2.94$) and Rapport Building ($\beta = 0.12$; $t = 2.05$). Attention and valuing to particularity and Understanding do not directly affect Customer Loyalty, since their coefficients are not statistically significant. Thus hypotheses H3b, H4 and H5 are confirmed since they were found to be statistically significant and the relevant path

coefficients have the hypothesized signs, explaining 68% of the variance in Customer loyalty, while hypotheses *H3a* and *H3c* are not confirmed. To further support the predictive validity of the proposed model, the appropriateness of the proposed model is evaluated using the Q^2 measure. This measure indicates the percentage of blind-folded data that can be recreated by the specified model. As shown in Table 4, the blindfolding results of Q^2 for all endogenous constructs, are all greater than 0.5 (threshold level is zero), indicating that the predictive ability of the model is very good.

MANAGERIAL IMPLICATIONS, LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

The findings present many implications for management of relationships in high credence services. First, the most important antecedent of relationship quality is rapport followed by responsibility and understanding. These findings agree with Ali & Ndubisi (2011) although in this study the effects of responsibility and understanding on RQ are almost equal. The importance attributed to rapport also agrees with the conclusions of Yu (2009) who argues that establishing rapport is the very first step in the development of an effective nurse-patient relationship. It seems that as with personal friendly or romantic relationships, having a close connection with the physician where interaction is enjoyable is the most important thing for building a quality relationship. Furthermore, the direct influence of rapport and responsibility on customer loyalty shows that customer loyalty can increase even without a long-term relationship between doctors and patients. If doctors connect effectively with customers and show that they care and help customers realise their goals, then loyalty increases. Of course the indirect influence of respect and rapport on customer loyalty through relationship quality is more powerful since the development of a relationship increases the effect of both respect and rapport.

This study expands knowledge on the antecedents of RQ in services and its effect on CL. However, it refers only to one type of service in one country. Future research can validate these results in multiple service contexts and in multi-country studies in order to examine the role of culture in customer perceptions.

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LEADING FOR TEAM SYNERGY – THE CHALLENGE OF GETTING EXTREMELY TALENTED INDIVIDUALS TO WORK TOGETHER

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ABSTRACT

Teamwork is a skill which many leaders seek to instil in their collaborators. However, it has proven to be elusive in many instances, which thus calls for new approaches. What factors can contribute to superior teamwork, especially amongst superstars? The article discusses what makes a good team player, which is dependent, in part, on good leadership. Drawing on some examples of team play, most notably from sport and the Euro Mediterranean region, individual talent is seen to be something different to what it takes to inspire teammates to victory. The challenge of getting talented individuals to work together is a task becoming more frequent, in organizations as well as in sport. Affable personalities and socially gifted people, in management as well as amongst players / employees, will increase in demand as leaders realize that superstars and other extremely talented individuals may distance themselves from teammates in competitive environments, making teamwork all the more difficult if we still measure [team] success in traditional ways. Attributing a prize to the best team player, the player who is voted to have contributed most to team goodwill, may entice talented individuals to contribute to the team more. The focus needs to be on the team rather than on the individual and if a team wins then, most certainly, all will have played an important part.

Keywords: *Cambridge University Boat Club, F.C. Porto, Seve Ballesteros, soccer, superstars, teamwork, Tiger Woods*

DISCUSSION

A number of studies have focused upon teamwork, as “some collaborative efforts achieve spectacular synergies, [while] many actually backfire – wasting time, money, and resources” (Hansen, 2009, cover-flap). “If people knew how to collaborate well, the world would simply work better” (Hansen, quoted in Collins, 2008, p.ix). Teamwork has been linked to leadership, as “leaders create and change cultures... if the group’s survival is threatened because elements of its culture have become maladapted, it is ultimately the function of leadership to recognize and do something about the situation” (Schein, 1992, p.5).

What makes superior teams work as they do, with each member contributing to the whole, which turns out to be more than the sum of the parts? Global consulting companies such as Accenture, where one of the authors has worked, depend on it. But we don't only see teamwork in corporations. We actually most notably see teamwork in sport. And corporations worldwide have much to learn from this area of human endeavour.

According to a study of a victorious team of rowers at the Cambridge University Boat Club, certain team members make the team perform better. Even if they are not the best of specialists, they may excel at making the team thrive:

“a socially gifted individual may help provide the glue to keep the crew together... For example, the 2007 Cambridge crew included one oarsman who was included in the crew not based on his individual technical skills but because he seemed able to get a higher level of performance out of the rest of the crew. His affable personality was able to defuse conflict and help the crew gel socially.” (de Rond and Holland, 2008, p.32).

Cristiano Ronaldo, recent winner of the Ballon d'Or 2013, naming him world soccer player of the year (he had already won in 2008) has excelled in a number of teams, from Sporting Club of Portugal to Manchester United (UK) to Real Madrid (Spain) to the national team of Portugal. This may be difficult to achieve – to be accepted in various environments, by different people, and under different leaders. In contrast, Argentinian soccer player and rival Lionel Messi (winner of four Ballon d'Or awards) has always played at the same club – F.C. Barcelona (as well as having played for the Argentina national side). Would Messi excel at any club he chose to play at? A number of players have excelled at certain clubs, but some not after changing clubs. This shows the importance of the external environment (made up by the fans, the players and by the clubs themselves), winning in teams not depending solely on the player.

Do team members have to be different or should they be as similar as possible?

Teams require different talents. As egos stretch to and fro, people have to accommodate each other. But there is also a battle for space, in some teams – even in the best of teams. And some teams may perform all the better for it.

Porto Football Club (F.C. Porto) is an example of what teamwork and superior leadership can achieve. F.C. Porto has one of the best track records in recent European club soccer history, despite its comparatively low annual budget. Research has proven that club football is dominated by rich clubs and “inequality has arisen everywhere, between rich and poor players, clubs and nations” (Castillo, 2007, p.25). How then to explain the two European Club Champion Cups won by Porto, in 1987 and in 2004? F.C. Porto is one of the strongest brands in soccer (ranked 21st in Europe by BBDO Consulting, in 2007, in a listing topped by Real Madrid C.F.), due to its sports success and its ability to produce winners. F.C. Porto is known for its extremely strong and distinctive culture, based on discipline but also on passion, having produced star players as well as star coaches, who have moved on to bigger clubs after being successful at F.C. Porto.

People change constantly, as they learn to deal with different situations and evolve. Teams are similar – the same people in a team actually also evolve over time, after each collective experience, making the team better, or certainly different to what it was.

Not all change is successful. Thus the abundant literature on leadership and change (Schein, 1992; Kotter, 1996; Kotter and Cohen, 2002). Certain environments seem to favour certain leaders – for example, situations with less time for decisions may require leaders who are naturally more autocratic; while situations with more time for decisions and a need for innovative input from collaborators may require naturally more participative leaders. According to Dionne et al. (2010, p.1035) “team performance improvement is achieved by participative leadership only when members have both heterogeneous domains of expertise and strong mutual interest.” Zwetsloot et al. (2014, p.1) state further that “participative leadership has a positive effect on job satisfaction.” Certain cultures, however, expect autocratic and somewhat distant leaders. Whether more autocratic or participative, a real challenge for leadership is to get extremely talented individual performers to work together with teammates for the common good. Cristiano Ronaldo will need his teammates to pass the ball to him... What factors can contribute to superior teamwork, especially amongst superstars? This area has not, to our knowledge, been the subject of much research, as table 1 shows – “superstars” and “teamwork” are not words to be found together in the abstract, title or keywords in Science Direct database journal articles.

Table 1. Search form N°1 (format based on Saur-Amaral, 2010).

Content	Explanation
Objective of the search	Reveal whether research into the area of superstars and teamwork has been undertaken by a significant number of researchers and reveal, also, how recent the interest is in this topic
Data base	Science Direct, as this is a major academic data base
Date of search	13-05-2014
Inclusion criteria	Articles published in journals; all years; containing "teamwork" and "superstars" in the abstract, title, or keywords
Total number of articles found	0
First article dating from	Not applicable (no articles found)

Certain sports are more popular in a singles format. Take tennis, for example, and golf, too. In an article about the domination of Tiger Woods on the toughest and richest professional golf circuit in the world – the US PGA Tour – Brown (2011) showed that adversaries have played worse when he was present – returning higher scores especially when he was in contention for the lead:

“On average, golfers’ first-round scores are approximately 0.2 strokes worse when Tiger Woods participates relative to when Woods is absent. The overall tournament effect is 0.8 strokes. The adverse superstar effect varies with the quality of Woods’s play.” (Brown, 2011, p.982).

So,

“when Woods played in a tournament during his heyday, the other golfers’ scores were substantially worse compared to tournaments where Woods did not play. Instead of raising their game to play the superstar, golfers facing Woods tended to wilt” (The University of Chicago Press, 2011).

Brown looked at PGA scores during the period from 1999 to 2010, which is when Tiger Woods was playing at his best. But this intimidation factor has not occurred in team golf to the same degree. In the very mediatic Ryder Cup golf team event (12 player teams, USA vs. Europe, played every two years) players such as the late Spaniard Severiano (Seve) Ballesteros seemingly had a bigger impact than global superstar Tiger Woods, having inspired lower-ranked fellow-team players to excel and become world class players. For example, “to foster a sense of passion in his 2010 European Ryder Cup team, golfer Colin Montgomerie relied on his close friend Seve Ballesteros... After their victory, Montgomerie fittingly credited their half-point winning margin to Ballesteros’s inspiration” (de Rond,

2012, pp.36-37). Tiger Woods has played the Ryder Cup event 7 times since 1997 but has only been on the winning team once (1999). In the period 1997-2012 Team Europe beat Tiger Woods and the USA Team 6 times (Team USA also won in 2008 but Tiger did not play) (Ryder Cup Profile Tiger Woods). This despite the USA Ryder Cup team generally sporting the most best-ranked players in the world rankings. Seve Ballesteros has been an inspiration to team Europe even after passing away: "Dressed in the colours of the late Seve Ballesteros, Europe on Sunday [2012 Ryder Cup] pulled off one of his trademark great escapes in what will go down as the "Miracle of Medinah" as they equalled the biggest singles comeback in Ryder Cup history to win 14-13" (Ryder Cup, 2012). Tiger Woods does appear in the top Ryder Cup stats for Team USA for having been the youngest player on Team USA in 1997 and 1999 (at 21 years of age and 23 years of age, respectively) (Ryder Cup, 2004). This is remarkable in itself. Seve, for his part, holds one of the best point percentages for team Europe (61%) as well as points won (22.5 points) (Ryder Cup, 2004). Seve was a great team player and in doubles "he formed the greatest Ryder Cup partnership of all time with [fellow Spaniard] José Maria Olazábal, winning 11, halving two and losing only two of their matches together." (Ryder Cup News Ballesteros, 2012). So, possibly, some people are strengthened by teams, both giving and drawing strength from them, while others may be weakened by them, teams making them less formidable and more beatable. Significantly though, the Ryder Cup in golf requires players to play as a team for a brief period when normally, week-in, week-out, players actually compete against each other for considerable amounts of money and fame. It may be difficult, in particular for superstars, to play as a team as there is some degree of jealousy on professional sports circuits, given the fame and fortune that some players have achieved (Mansfield and Oliveira, 1994). A number of superstars also tend to be loners and may retreat to a distance (Mansfield and Oliveira, 1994), on and off the competitive stage, to minimize certain bad feelings but also to optimize their concentration levels. However, this perhaps will not benefit a team when superstars are required to be a part of one. What is the solution? Investing money, time and effort in team play, while employing very socially apt individuals, in management as well as amongst the players, may be good advice to Ryder Cup captains for Team USA, albeit not easy to put in practice.

Is it possible to be strong both alone and in teams? That ability does exist (Severiano Ballesteros also won 5 major singles tournaments, versus Tiger Woods' tally of 14 wins in the majors), but it may be in short supply. However, we are evermore required to work together, to produce in teams, indeed before and after work – at the corporation and at home, with our families. And this does not make life simpler, but certainly rather more complex, especially if you are not a naturally-gifted team player. But much as our culture in many respects may be more nurture than genes, depending on what individuals have done during their childhood and formative years, so can the ability to work in teams

be developed further until one excels – and the prize is well worth the effort – as many an example has shown, over the years, in many different industries. In music, for example, the success of the Beatles, “one of the most famous rock bands ever” (Gladwell, 2008, p.55), and of other music bands, such as the Bee Gees, Dire Straits, U2, and more recently Coldplay, has blessed us with their collective talent to perform and produce tunes which stay in our minds and in our hearts. Certain musicians have been more successful in bands than individually, showing the importance of team input and collaboration. Currently, to be able to work well in teams is a skill considered to be a necessity in organizations. Working together may be all the more difficult when big egos are involved. The way [team] success is measured may have to change. While at times individuals do work alone in organizational settings, this is increasingly the exception rather than the norm. Increasingly team work and team players are needed, and so gifted team facilitators need to be developed and sought out, and explicitly rewarded for their efforts, if improved teamwork levels are to be attained. Attributing a prize to the best team player, the player who is voted to have contributed most to team goodwill, may entice talented individuals to contribute to the team more.

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MAKING SENSE OF INNOVATION

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ABSTRACT

The aim of the study was to make sense of what is meant when the word Innovation is used, as reflected upon by a number of academics working in the field. The hypothesis was that there are general broadly shared components that make up this concept while there are others that are less widespread and can be regarded as collateral, but which are fundamental for the final results of the innovative processes.

The work was undertaken on the occasion of an Italian Conference on innovation. Fifty-two papers were presented and a random sample was taken of 50% of the authors. These were asked to indicate the first 5 words that best described the concept of innovation from their own point of view. The replies collected were 23, or 88% of the total sample.

The words were drawn up together into a list of 69 different words. The frequency of the words was then counted and an innovation cloud was constructed that showed their distribution in the minds of these researchers. The word list was subsequently analysed, with comments made on certain aspects. The terms collected from the sample were then arranged in conceptual categories so as to render them utilisable also from a managerial perspective.

The associations revealed have a specific value. They not only offer a better understanding of innovation phenomenon but also potentially in operative terms. This because there is possible utility for management wishing to act on the so-called "first words" on the basis of company innovation processes rather than simply trusting to the better-known conceptual guides generally available in the field of innovation.

Keywords: *mental map, innovation, creativity, change, perceptions, management*

AIMS AND SCOPE

On the occasion of a Conference on the relationship between innovation and the competitiveness of the firm, the perceptions of a sample of innovation experts were gathered to see whether any further lines of enquiry opened up beyond those ideas that usually come up in the academic literature.

Taking up the first five words to which each of the interviewees gave particular value in relation to innovation processes, we sought to give some meaning and to deepen the understanding of the concept and the process of innovation itself.

We thus examined the trends in the literature and went on to analyse the results obtained that could provide new perspectives for further development of the studies as well as food for managerial thought on ways of exploring “the new of innovation”.

UNDERSTANDING INNOVATION: THE PERSPECTIVE FROM THE LITERATURE

Lexical distinctions, conceptual connections and illustrations and classifications

Even though the studies on the subject of innovation amount to an “emerging scientific field” (Fagerberg and Verspagen, 2009) that has developed only in recent times, the concept of innovation in enterprise has long attracted the interest of academics from different disciplines.

The understanding of what is meant by innovation is rooted in a terminological debate replete with lexical distinctions, conceptual connections and illustrations and classifications, beginning with the well-known works of Schumpeter (1934 and 1942) who was the first to concern himself with a differentiation between the terms *innovation* and those such as *invention* and *discovery* (see also Schmookler, 1966; Freeman, 1991). On this basis and by virtue of the ability innovation has to completely overturn the competitive structure of a whole industry he had attributed it with the characteristic of “creative destruction”, leading to a lively debate on the relationship between innovation and the *entrepreneurial spirit* (Drucker, 1985 and 2002).

At the level of conceptual connections, other themes put alongside entrepreneurial endeavour in relation to innovation have included its *diffusion* to potential users (Rogers, 1962 e 2003; Christensen, 1997) and more recently that of *creativity* (Baccarani, 2004; Pilotti, 2010) and of *knowledge/learning* (Winter, 1987; Nonaka, 1994), its fundamental resources.

In this last regard particular emphasis has been placed on the osmosis of knowledge from and towards external contexts, giving way to so-called *open innovation* (Chesbrough, 2003) or “collective innovation” (Malerba, 2000), where innovation is conceived of as a *spatial* and *social system* (Lundvall, 1992; Van de Ven et al., 1999; Cooke *et al.*, 2004) where innovation is a “collective achievement” (Van de Ven et al., 1999, p. 149) resulting from continuing interaction between different agents and organizations.

As well as as a system, innovation has also been represented as a *process* through which it is generated, diffused and implemented (Freeman, 1991; Edwards *et al.*, 2005), a *continuous* or *iterative process* between invention and innovation where a single innovation is often the result of many interrelated innovations with different degree of innovativeness (Utterback and Abernathy, 1975; Kline and Rosenberg, 1986).

The concept of innovation has also been long examined according to the size of the company and in its relationship to R&D, giving rise to a breakdown in the forms of innovation (“*science based innovation*” and “*innovation without research*”) (see for this point Giaretta, 2013).

From the point of view of a definition, the scientific debate seems to have mainly favoured taxonomic approaches, classifying innovation by contrasting categories according, for example to its contents and to its intensity (the degree of novelty introduced by the innovation).

Regarding the contents, Schumpeter distinguished between five different types: *new products*, *new methods of production*, *new sources of supply*, *exploitation of new markets* and *new ways to organize business*. In the literature, however, most of the focus has been on the distinction between *administrative* and *technological* and still more between *product* and *process* (Schmookler, 1966; Damanpour, 1991; Edquist et al., 2001). A somewhat similar distinction has been suggested by Henderson and Clark (1990) who distinguished between the components of a product (*modular innovation*) and the way these components are combined (*architectural innovation*).

As regards the intensity of the innovation, a distinction is made between *radical* and *incremental* (Ettlie et al., 1984; Dewar and Dutton, 1986; Koberg et al., 2003), between *continuous* and *discontinuous* (Bower and Christensen, 1985; Anderson and Tushman, 1990; Lyn et al., 1996), between *revolutionary* and *evolutionary* (Utterback, 1996), between *minor* and *major* (Downs and Mohr, 1976) and so on.

Other classifications have been made according to the effect exerted by the innovation on the competences of the company, giving rise to a distinction between *competence enhancing* and *competence destroying* (Anderson and Tushman, 1990), as well as according to the sources from which the innovation springs (*science push/demand pull*) (Schmookler, 1966; Nelson and Winter, 1977) or also according to the final customer’s perception of the value added by the innovation (*sustaining/disruptive*) (Christensen, 1997).

These and other classifications abound in the literature and are often, at least partially, overlapping. The differences they are based on are not in reality clear, a factor that has led to a certain amount of terminological confusion that has also affected the empirical investigations that have been carried out with these as their starting point (Garcia and Calantone, 2002).

The socio-cultural dimension of Innovation concept

To better understand the meaning of innovation some scholars have recently therefore proposed going beyond the traditional classifications with the emphasis on the various different individuals or social groups involved in the innovative process. (Danneels and Kleinschmidt, 2001; Kahn et al., 2003)

Emphasising the social and cultural aspect of innovation, an approach was taken by Weick (1995) that involved his treatment of “sense making” for interpreting data: “what the situation means is defined by who I become while dealing with it or what and who I represent” (Weick, 1995).

For some time the social dimension of innovation has been specifically brought to the attention of the literature, in the sense that “it is the perception of a social unit that decides its newness” (Zaltman et al. 1973). In this vein can for example be seen the notion that the radicalness is a perception of organizational members according to the amount of experience they have with the innovation they are developing (Green *et al.*, 1995).

Among articles along these lines can be included that of Woolgar (1998) according to whom “some problems in our understanding of innovation can be addressed by thinking of innovation as a social process” (p. 441) and “whether or not (an) idea counts as new, necessarily depends on the social network involved” (p. 442). This essentially sees technology as “congealed social relations” (p. 444) identified in “sets of identities, expectations, beliefs, value and language”, innovation is thus about changes in a network of social relations.

Among the admittedly small number of studies rooted in the social construction of innovation perspective the empirical investigations of Massa and Testa (2008) should be recalled. These aimed at investigating the different perspectives on innovation (starting from its definition) held by three main innovation stakeholders, identified as entrepreneurs, academics and policy makers. A quote from the investigation, “delving into details of the different perspectives on innovation is not a mere academic game” (Massa and Testa, 2008, p. 394), speaks for itself while the fact it is the perspectives that deeply influences behaviour, in terms for example of innovation policy making and innovation practices inside companies and universities.

Another research adopting a social constructionist approach is that of Harrisson and Laberge (2002) who explored the process of diffusion of a socio-technical innovation among a firm’s workers. The article revealed “how innovation is constituted and the form it takes by following the chain of arguments and responses of the actors involved”. It was hypothesized that “innovation does not impose itself but is constructed through the interactions between members of an organization and the intermediaries that they introduce in order to legitimize the decision made” (p. 498). In this sense it can be included also Papadopulos (2012), whose study focuses on the dynamics of actor associations as they are manifested in the efficiency innovations in specimen turnaround times in a pathology unit of an English NHS hospital.

Other studies seem to confirm that the interpretations of the meanings of the term “innovation” are influenced by one’s perspective. Linton (2009), for example, examined the language of innovation in the academic literature and offered a framework to capture the complexity of the meaning of innovation that recognizes the important role of differences in perspective, often a source of confusion. Perren and Sapsed (2013), in turn, analysed the use of the term “innovation” in policy discourse over an extended

period of modern British history in order to understand its changing meanings, where we can find evidence of a broadening of its definition.

That innovation may be variously perceived is also indicated by those contributions to the literature that have gathered the most diverse definitions of innovation in order to pinpoint the factors that have been focussed upon most. Those indicated include, in order of frequency, the following words (Denicolai, 2010): novelty, process, success, different typologies, entrepreneurial spirit, implementation, market, change, combination, knowledge, discipline, discontinuity, ideas, means, improvement, organisation and pre-existing routines.

To sum up, the multidisciplinary literature on the subject of innovation has addressed many aspects of innovation (Fagerberg, 2004; Garcia and Calantone, 2002; Fagerberg and Verspagen, 2009; Martin, 2012). At the semantic level however, the contributions seem to have tended towards the terminological distinctions, conceptual connections, the classifications and way the concept of innovation is actually represented (for example, as a process or as a system). We have found that rather less attention has been paid to the very meaning of it, starting from an analysis of its etimological significance (Varanini, 2006) and then on to a consideration of the evocative power of the term that reveals the archipelago of concepts around that form the roots of this formidable logical and practical construct.

Methodology

We set out with this study to better understand which concepts are linked to the term “Innovation” in the minds of a sample of experts. The sample was chosen at random from Italian academics and managers presenting a paper at the annual Conference of the journal “Sinergie” on the theme: “Innovation for the competitiveness of the enterprise” held in Ancona (Italy) in October of 2013.

The papers submitted to the Conference numbered 52. This study took 50% of these on a random basis, asking the authors to indicate the 5 words that in their way of thinking best typified the concept of innovation. Words used in this way were taken as being central to the way that they felt about the process of innovation. To avoid rationalisation of their thoughts the interviewees were asked to indicate the words independently of the theme of their particular papers but rather on an instinctive basis, to thus reveal their immediate perceptions and not acquired knowledge and ideas.

There were two underlying hypotheses:

- a) the enunciations could concentrate responses around certain generally shared associations, leaving only limited space for other less frequently expressed associations that could however amount to the “prime words” in relation to innovation;
- b) the literature on the subject has focussed on certain threads over time that have only in part succeeded in grasping the variegated nature of the concept of innovation.

The response rate was decidedly high because 23 authors from 17 Italian universities working in the field of management studies formulated their replies in the time requested, being a percentage of around 88% of the number randomly selected.

From a List of Words to a Conceptual Construct of Innovation

The words gathered in the preliminary process gave rise to a list as the first form of organisation of the data (Eco, 2009). There were 69 words, 19 of which expressed at least twice and 50 just once, for a total occurrence number of 112 (Table 1).

1) Creativity (11)	15) Intelligence (2)	29) Consciousness
2) Change (9)	16) Invention (2)	30) Context
3) Future (4)	17) Knowledge (2)	31) Courage
4) Ideas (4)	18) Openness (2)	32) Create
5) Development (3)	19) Passion (2)	33) Customer satisfaction
6) Evolution (3)	20) Air	34) Divergence
7) Progress (3)	21) Anticipation	35) Dream
8) Research (3)	22) Attractiveness	36) Experimentation
9) Competition (2)	23) Audacity	37) Exploration
10) Competitiveness (2)	24) Balance	38) Fear
11) Culture (2)	25) Breaking-away	39) Feeling
12) Curiosity (2)	26) Challenge	40) Heart
13) Freedom (2)	27) Commitment	41) Identity
14) Growth (2)	28) Communication	42) Imagination
43) Improvement	68) Wonder	
44) Inevitability	69) Word	
45) Integration		
46) Labyrinth		
47) Listening		
48) Method		
49) Milestone		
50) Necessity		
51) Nostalgia		
51) Opportunity		
53) Optimisation		
54) Perspective		
55) Rigor		
56) Risk		
57) Science		
58) Sharing		
59) Skill		
60) Success		
61) Surprise		
62) Talent		
63) Technology		
64) Trial		
65) Utility		
66) Value		
67) Vision		

Table 1 *Words related to innovation by frequency (1)*

- (1) Our processing of the direct investigation. The words are shown in alphabetic order and in decreasing order of frequency with which they were cited. Where there are no brackets the word was cited only once. The sum of the values in brackets and single cases gives a total of 112 quotes. The words shown are 112 and not 115 as expressed by the sample because in 3 cases the concepts were so broad as not suitable for summary with one word or unequivocally.

The first two words mentioned, "Creativity" and "Change", provide together around 18% of all occurrences. Summing "Future" and "Ideas" with the already cited, the first 4 words express 25% of the total of the returned words. Grouping the first 8 the percentage rises to around 36%. The sum of the words cited at least twice gives a percentage of around 55%, while the terms mentioned once alone express 45% of the cases that emerged.

Given that the interviewees had access to a very wide vocabulary since the choice was left entirely to them, the concentration as high as 18% around just two concepts, that is "Creativity" and "Change" cannot be a matter of chance and in a way confirms the hypothesis of a broad sharing of certain concepts.

It is also however the case that the words expressed just once, 45% of the cases, go well beyond what was hypothesised when the study was started, where the space expected for these was more restricted than proved in the actual findings. In this sense, since the perceptions gathered were from experts in the field, it can be inferred that a fertile area for study and analysis opens up that have not usually been considered in the area of innovation processes.

No longer looking at the cited words, whatever the number of references, but rather at those which are "missing", that is those which logic might have led to an expectation of their use insofar as central to the literature on the subject, it is interesting to note that none of the twenty-three interviewed mentioned "Enterprise", "Entrepreneur" or "Entrepreneurial spirit". One explanation could be that all of them had taken for granted the link between Innovation and these terms, but it is very curious that of the 115 possibilities made available (23x5) no one called on the agent par excellence of the processes of innovation.

Another curiosity is the fact that the term "Technology" occurs *only once*. This could be indicative of the fact that the scope of innovation, contrary to what could be imagined, goes well beyond its merely technological aspect.

Essentially it can be said that, leaving aside a certain convergence for the two absolutely central terms in relation to innovative processes, i.e. “Creativity” and “Change”, there is in the totality of words mentioned a large and interesting space open to analysis that has to date been little explored.

The results of the occurrences recorded are well highlighted in the innovation cloud reported in Table 2.



Table 2 *The Innovation cloud*

Going beyond illustrating the total results of the survey, an examination of the files returned by each participant (left out here for reasons of space) shows us which of the words have been placed first in the individual list, i.e. which words came most immediately top of mind of the interviewees by virtue of the force exerted by them in relation to the subject in hand. It is interesting in this regard to notice that only two of the first four, that is “Creativity” and “Ideas”, present at position one in the individual lists, the former in 4 cases and the latter twice. If we consider the closeness that exists between these two concepts, what emerges is reinforcement of the centrality of “Creativity” in the perception of the key aspects of innovation. Such a result was quite expected in view of the broadness with which the subject of the relations between creativity and innovation has been treated in the literature. This strong source of attraction, however, makes it significant that “Creativity” is only cited in *first* place by 4 researchers out of the 11 that had noted it down, with as many as 12 of the interviewees failing to include it in their lists. It would seem that the significant scientific coverage of the subject does not preclude a substantial group of academics from holding that the discussions on creativity do not represent the key aspect of innovation.

It should not be underestimated in this regard that in at least one case the first place is occupied by the term "Change" which strengthens the second position of this concept in the field of innovative processes and this despite the attention found in the literature to the study of connections between "Innovation" and "Change".

If we move on from the first word cited by the interviewed academics to that in last place of the five words provided by each of the participants in the study, it can be seen that unlike what happened with the first word there are no cases of multiple references. This could be regarded as somewhat predictable given that the further we stray from the words deemed most "important" the more likely it is that the paths of the list diverge. From the third word onwards the process of elicitation becomes all the more difficult.

Considering the individual groups of words cited by each of the authors, it can be observed how in two cases completely different combinations are revealed from the others, with no word in common for the remaining 21 researchers.

This comment is introduced in order to emphasise how in a large part of the cases (21) there is some shared point, while only in two cases there remains complete detachment between the perceptions.

With the words at our disposal it was then possible to proceed with a final processing of the results, not this time of a quantitative nature, that is to say regarding the words as more or less cited or not cited at all, but qualitative processing. The numerous words referred by the sample of experts were thus framed within a scheme consisting of five conceptual categories.

The scheme in question aims to arrange the innovation phenomenon according to its essential components. The framework does not derive from the list of words but is laid over them. The conceptual categories that make up the scheme are the following "What it consists of", "Intrinsic requisites", "Conditions for innovation", "Effects" and "Context".

"What it consists of" gathers together those words that in some way go towards a definition of Innovation; "Intrinsic requisites" comprises those elements deemed indispensable for Innovation to be able to take place; "Conditions for innovation" regards those factors within the enterprise itself that make Innovation possible; the category "Effects" takes aboard those words that relate to the consequences of innovative phenomena and finally, "Context", contains the heterogeneous elements that make up the backdrop to the innovative processes.

Assigning each word to a category in the scheme is of its nature a subjective process even if the a priori and external definition of the categories leads only to an evaluation of the congruity between the individual word and the categories and does not seek semantic affinity between each word and all the others in the category. The result of this process can be seen in Table 3.

<i>Category 1</i> WHAT IT CONSISTS OF	<i>Category 2</i> INTRINSIC REQUISITES	<i>Category 3</i> CONDITIONS FOR INNOVATION	<i>Category 4</i> EFFECTS	<i>Category 5</i> CONTEXT
Change (9) Anticipation Future (4) Exploration Trial Experimentation Ideas (4) Invention (2) Optimisation Improvement	Intelligence Smartness Customer satisfaction Usefulness Value	Create Creativity (11) Openness (2) Curiosity (2) Breaking-away Divergence Imagination Freedom (2) Air Wonder Attractiveness Surprise Dream Perspective Vision Ability Talent Knowledge (2) Science Research (3) Method Rigor Technology Heart Feeling Passion (2) Commitment Nostalgia Communication Sharing Word Integration	Competitiveness (2) Evolution (3) Progress (3) Development (3) Growth (2)	Competition (2) Opportunity Necessity Inevitability Labyrinth Challenge Risk Fear Audacity Courage Milestone Success Listening Context Awareness Equilibrium Identity Culture (2)

Table 3 *Conceptual scheme for Innovation*

The above 5 categories display a non-linear word distribution (frequencies), which can be tested through a statistic test (omnibus test) (Table 4).

	Frequency expected	Frequency observed	Observed value of the statistic test Chi-square	Critical value chi_0,05	Degree of freedom	Gap
Category 1	22,4	25	0,302	6,239	1	non significant
Category 2	22,4	6	12,007	6,239	1	significant
Category 3	22,4	48	29,257	6,239	1	significant
Category 4	22,4	13	3,945	6,239	1	non significant
Category 5	22,4	20	0,257	6,239	1	non significant
Total (omnibus)	112	112	45,768	9,488	4	significant

Table 4 *Omnibus and post-hoc test*

Since the observed value of the statistic test Chi-square (45,768) is greater than the critical one (9,488), we can maintain a statistically-significant non-linearity of frequencies. Through a “post-hoc test”, then, we can go into further detail considering the categories where a gap from uniformity is significant and hence non random.

From this standpoint, relevant gaps can be detected for Category 2 (12,007>6,239) and 3 (29,257>6,239). This means that word distribution in such Categories is not coincidental; in particular, Category 2 displays a number of words smaller than the expected one, while on the contrary Category 3 shows a word frequency decidedly higher.

So, while “Intrinsic requisites” (Category 2) are less interesting, the greatest number of words is gathered together under “Conditions for innovation” (Category 3), which is testament to the strong attraction exerted by the processes capable of leading to innovation when considering it. What most intensely stimulates thought are therefore those factors that generate Innovation, within which a number of different “techniques” are distinguished (Knowledge, Science, Research, Method and Rigor) and then the “softer-edged” factors of an emotional kind (Wonder, Surprise, Dream, Heart, Feeling, Passion and Nostalgia).

The phenomenon of innovation thus appears in an unusual light, that of the particularity of the variegated associations that spontaneously enter the thought of the academics approached.

This is to say that if particular attention is paid to the less cited terms, if free rein is given to thought to allow it to flow with curiosity along paths led by the imagination, and it is then subject to rigorous appraisal on the basis of available knowledge and technologies, the conditions are created for the spread of creativity and the activation of change.

CONCLUSION

The somewhat strange path taken through the wordlist produced by a group of experts in relation to the concept of Innovation has led to the possibility of coming to some interesting conclusions both in terms of academic theory and in terms of the implications for management.

As regards the first of these, the non-confirmation of one of the hypotheses reveals how the concept of Innovation is much more uneven in nature than it seems to be at first sight. It is fascinating to consider that only one person referred to the term "Technology", as is the fact that no one used the word "Enterprise" as well as the further fact that no less than 50 words were cited only once.

The high level of fragmentation of the perceived concept of innovation – recorded, it must be remembered, within a group of persons that were in relation to this both competent and quite homogenous – shows how the roads to a full understanding of the concept are still long and winding.

Certainly the request to associate not one, two or three words with "Innovation" but five, does go some way to explain this result. The greater the number of words asked for will increase the probability that persons, as is likely in this case, will diverge from what could be regarded as the most "normal" and immediate associations.

This point notwithstanding, the study not only underlines the plurality of meanings and perceptions that exists in relation to the concept of Innovation but also suggests, through the analysis of the words cited only once, innovative points of view from which to observe the phenomenon of Innovation itself.

Similarly, in relation to the managerial implications, the path followed by the study of the words deemed by the experts most central to innovative phenomena, and the discovery of the limited convergence of meanings, indeed the multiplicity of interpretations, offers those who manage the companies a large number of ideas and stimuli for their approach to the process of innovation.

The variety of the words present in the list, and in particular those "unique words" apparently most distant from the concepts traditionally associated with Innovation, may in fact suggest innovative approaches that may indeed be more profitably employed.

There is no doubt that the study has its limitations, due also to the stage it is currently at. All things considered the sample is restricted in number and not statistically entirely representative even though the selection was wholly random. This still initial phase of the study has meant we have not yet been able to draw up a full conceptual map on the basis of the word list; the identified words have been interpreted without recourse to content analysis software.

In future the research could be extended to more representative samples of experts as well also to diverse groupings of people, such as to entrepreneurs or to consumers, not to mention to young management students. The work itself can be broadened in terms both of the conceptual maps as

management research tool and in terms of the interpretation of the specific maps generated in relation to the subject of Innovation.

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PPP LAW AND BUSINESS DEONTOLOGY IN THE UK AND FRANCE

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ABSTRACT

Public-Private Partnership (PPP) is the most recent variation of concession and a significant tool for provision of public services and assets, through a long-term contract with a private entity.

PPP is now considered as a key tool within the School of Thought of New Public Management (NPM). In the case of the UK, Private Finance Initiative (PFI), introduced in 1992, became the innovative government's tool, while France has recently introduced a legal framework on PPP.

This paper aims to present the origins of the UK and French PPP model, in accordance to NPM and in correlation to the cultural sponsorship contracting. Governments' decisions, from both countries, are critically reviewed and compared, referring to their legal framework, under which public administration is implemented. An approach coming from the Business Administration Deontology is taken to the PPP methodology, mainly in the ambivalent case of imprisonment scopes, let alone the fact that the UK has not only institutionalized contracting out for the management of jails for 22 years but also it has abolished the imprisonment for debts for 145 years!

Not only in the UK, where *"Engineer is an Engineer"*, but in general new rules should be adopted, to promote registered architects to the rank of certified *"Architects Sponsors"* for cultural sponsorship of high quality. This pioneer development, summarized in the emblematic motto *"Architect is a Sponsor"* could be beneficial for technical scopes, such as PPP projects.

Keywords: *Architects, Business Administration Deontology, Concession, Contracted-out prisons, Cultural sponsorship, "Engineer is an Engineer", Private Finance Initiative (PFI), Public - Private Partnership (PPP), New Public Management (NPM), Thatcherism, School Buildings Architecture*

INTRODUCTION: PPP, A THATCHERISM INNOVATION WITH DEONTOLOGICAL QUESTIONS

Public-Private Partnership (PPP) is not a term for a single, unique model of partnership between public and private sector, but instead represents a group of models, which all are characterised by cooperation and risk sharing between the public and private sector, while this cooperation is based on more flexible methods of financing and operating facilities and/or services. The term can include simple outsourcing partnerships – where services are provided on short or medium-term contracts – or longer-term concessions and private finance partnerships such as the UK model of Private Finance Initiative (PFI) (HM Treasury, 2012).

In its current and known content, PPP comes from the homeland of Industrial Revolution, namely the UK. The Government of Prime Minister John Major introduced Private Finance Initiative (PFI) in November 1992 as a way to cope with the difficult economic situation its country had been found in. 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. The idea was not new; his predecessor, the “Iron Lady”, Margaret Hilda Thatcher, a few years ago, had started to shrink the State. In that way, the country was expected to extricate itself from the political and economic quagmire. The term “Thatcherism” describes the leadership style of Thatcher herself and also the influence of her policies under subsequent Conservative governments.

It is to point out that PPP constitutes a product of the School of Thought of New Public Management (NPM), rather than an institutional framework of a State, like UK and France.

NPM AND GOVERNMENTAL POLICY IN THE UK

During 1970s and early 1980s, the concept of New Public Management (NPM) appeared, as a result of public choice theory and managerialism (Aucoin, 1990). NPM is a group of special management approaches and techniques, which are used in public sector management, but their origins can be located in the private sector (Mongkol, 2011). The first phase of public management transformation began during '80s and stated the state's interference in the economy by promoting the concept of free market, deregulating labour markets and fracturing trade unions. The second phase began in early '90s with increased emphasis on competition, commercialization and quasi-markets in public services. The third phase of neoliberal transformation began in early 2000s with an emphasis on creating markets in public services.

NPM was first used in the UK, under Thatcher, and in the U.S. municipal governments (e.g., Sunnyvale, California) that had suffered most heavily from economic recession and tax revolts. Their

successes put NPM administrative reforms on the agendas of most OECD countries and other nations as well (OECD, 1995). So, Thatcher became the “mother” of NPM, following the Chicago School, one of the most important ideological supporters of neo-conservative economics and capitalism. NPM basic thoughts are that: (a) markets manage resources more efficiently than governments, (b) monopolies are born by government’s attempt to control economy, (c) governments should avoid to manage aggregate demand and, (d) they should focus on maintaining a steady and low rate of growth of money supply.

It is to underline that Thatcher is not merely the “mother” of NPM, exemplified by the PPP contract model, but also the pioneer of the PPP itself, at least in the form of the so-called “institutional PPP”. This term, which is typical for the British case but not in official use in other legal orders, refers to the companies of mixed economy, in contrast to “contractual PPP”, where the private entity is responsible for the construction, operation and maintenance of the public asset, charging users for the service, and the partnership between the public and private sector is based only on contractual links. According to the European Union, it is about public enterprises that have been partially privatized while this phenomenon consists also of enterprises belonging from scratch to both public and private carriers.

It is not clear whether the new neo-liberal approach was the result of Thatcherism or of globalization. Labour modernizers claim that these partnerships are not privatization because the public services themselves remain available on the same universal and free terms (Driver & Martell, 2002, cited by Oakley, 2011/2012). In order to make the difference from the policy of the Conservative government, new Labour attempted to present it as a 'third way' (Giddens, 2013), part of the third phase of public management transformation. From this third way perspective, the PPP “offered an alternative to the (new right) private provision of public services and the (old left) public sector monopoly” (Driver & Martell, 2002 cited by Oakley, 2011/2012). However, it could be claimed that the PPPs were models created by previous Conservative administrations, from which the third way was to be distinguished.

THE ORIGINS OF PFI IN THE UK

Partnerships between public and private sector are not new in the UK. More than half a century ago, during 1950s and 60s, UK’s local authorities were of the first to agree with construction companies in building of high rise flats and removing of the slums, while the Conservative government was promising special housing subsidies for high rise prefabricated housing. After the oil crisis in 1973 and the intervention of International Monetary Fund in the Great Britain three years later, investments in infrastructure suffered an extensive decline. Consequently, further cuts in public sector capital expenditure programmes were imposed by both Conservative and Labour governments.

After entering the office in 1979, the Thatcher government, based on the economic deterioration, which had been created during the governance of the Labour party, rejected the Labour's Keynesian approach and started to follow a more monetarist approach (Hudson & Lowe, 2009). During the 1980s and 1990s, Thatcher's Conservative government tried thoroughly to reduce public expenditures using institutional PPPs, privatization of public assets and contracting-out of public functions. As a result, a variety of service providers, including autonomous public bodies, independent regulators, executive agencies, charities and private firms, started to take part in the design and delivery of public services, pushing aside the constitutional model of ministerial departments (Flinders, 2005). The state was no longer responsible for the delivery of every service to its citizens.

By 1990, the majority of the basic transport and utility infrastructure in the UK was either privatized or planned for privatization. Since this model seemed to be successful, government decided to use it in other sectors, such as health, education, prisons and local governance. The distinction between public and private sector became increasingly opaque (Flinders, 2005).

The introduction of PFI in 1992 was made so the government can increase efficiency of financing in public infrastructures without affecting short-time public expenditures. Government's intention was to create off-balance sheet financing for public infrastructures and services, despite the fact that, in many cases, the payments to the contractor (private entity) are not considered off-balance sheet, since they last over the lifetime of the contract. Private financing for major public infrastructure projects had provided governments with a new tool, used to promote infrastructure deals (Hodge & Greve, 2007).

THE QUESTION OF BUSINESS DEONTOLOGY MAINLY FOR CONTRACTED-OUT PRISONS

When new Labour took governance in 1997, they continued a "Thatcherite" approach to public management and they agreed to continue the PFI programme that had been introduced by the Conservative party, despite the fact that they had initially criticized it for being another way of privatization. Labour's new macroeconomics point of view seems to follow the assumptions that "there is simply no alternative" to the new neo-liberal concept (Taylor, Gerald (ed.), 1999). However, this development raises severe criticism in deontological terms, as politicians adopt the opposite points of view and private companies are supposed to enact the traditional role of state power in an extremely sensitive domain, like the penitential one. How commercial private organizations can cope with imprisonment policy of the state in compliance with public interest, including the human rights of detainees?

Before the 1997 general election, Labour party stated that all contracted-out prisons would be returned to the state. More specifically, Jack Straw, who later became home secretary, stated that, "*I should like*

to stress my fundamental objection to prisons run by the private sector". Despite that declaration, a few months after becoming home secretary and having monitored the use of prisons under private management in the USA, he announced that contracts had been signed for two more privately run prisons, and a contract for an existing privately managed prison had been extended. Then he noted *"in a better world the incarceration of prisoners should be handled by the state"*, but he explained himself outlining the structural and financial limits placed upon him by HM Treasury (Flinders, 2005). The privatization of prison services was used by governments trying to solve the problems of overcrowding in the UK's prisons and to spread the costs of interning offenders.

It is to pay special attention to the fact that in 1850, the majority of detainees in the jails of London were debtors being unable to accomplish their obligations. Imprisonment for debts was abolished in 1869, by recognizing that the security of deals was more important than the reformation of debtors. Since then, the weak debtor, either a private individual or an entrepreneur, is not submitted to imprisonment but to protection! In the USA, debtor is protected against his creditors and he is enabled to make a new start. Why this status has not yet been extended to the external debts of the states, against their creditors, for instance in the case of the so-called "bankruptcy" of Argentina in 2014? (Vergopoulos, 2014). In any way, this story is indicative of an important liberalization and flexibility of the UK legal order, to which is relevant the PFI development. Furthermore, the existence of contracted-out prisons reinforces the doctrine of Architecture, according to which there is no discipline, within this science, for public buildings architecture. Business community of architects is supposed to focus on the programmed used, fixed for the buildings, not on their legal status.

Nevertheless, many other countries, particularly in mainland Europe, as it is the case of France and Greece, are rather apprehensive for ethical reasons, incorporated to their constitutional rules and principles. The recent datum on the matter comes from the jurisprudence of the Supreme Court of Israel, which prevented the government from activating a PPP program for jails as the program was judged as unconstitutional.

So, the question of public jails is clearly ambivalent and, as a result, inappropriate for absolute approaches, in both deontological and architectural terms...

APPLICATIONS OF UK PFI MODEL IN THE DOMAIN OF EDUCATION AND DEONTOLOGICAL IMPLICATIONS

It is obvious that PFI, since its introduction, has been used in many sectors, while, it has been discussed and argued even more. It has been considered in various concepts, namely as an administrative, managerial, financial or technical tool. These concepts can be recognized in published statements and reports of the UK government, as well (HM Treasury publications in the last 15 years).

The government uses three broad categories to place PPPs: ownership, delivery of services or infrastructure to the public sector and the selling of public sector services to others (such as through the exploitation of patents) (McQuaid & Scherrer, 2008).

It could be said that, through PPP/PFI, a legal and administrative framework was developed in order to create opportunities for new investments in delivering of public services. Considering that PFI is basically the next step of the Conservative's privatization and economic policies in 1980s, this framework not only was based on innovative political and governance forms, but it also contributed to the creation of the appropriate conditions for investments in innovative spheres.

Since its introduction, PFI has been mainly used for the delivery of non-reciprocal public services, in sectors of health, education, justice and environment, but also for construction of software systems – the UK's national insurance system is being redesigned under a PFI contract. As the numbers demonstrate, by 31 March 2013, 168 projects, out of the total 725, had been signed by the Department of Education and 66 of them were under the program "Building Schools for the Future (BSF)". At the same time, 121 projects were signed by the Department of Health, 44 by the Department of Defense, 23 by the Department of Justice and 30 by the Department of Environment, Food and Rural Affairs. Even if we look at other sectors, like transport that is mainly considered as reciprocal, we will see that most of the projects that were signed by the Department of Transport are non-reciprocal and they are related to street lighting (32 projects) and road maintenance (24 projects).

In cases of health and education domains, the contracts, usually, include the construction of hospital and school buildings, along with the delivery of 'building services' such as cleaning, maintenance, catering etc., while the medical and nursing services remain within the public sector. PFI projects are generally procured by local authorities, but the Priority Schools Building Programme (PSBP) will be procured by a central unit in the Department for Education (formerly Department for Education and Skills), the Education Funding Agency (EFA). According to HM Treasury (HM Treasury, 2012), EFA is working with the schools in the programme during the pre-procurement phase to develop the project's design brief, but will allow schools to concentrate on the business of running themselves. Under this program, 261 of England's schools being in the worst condition will be rebuilt and refurbished and new Information Technology will be provided for all 3,500 secondary schools in England.

Under the previous programme, namely the mentioned "Building Schools for the Future (BSF)", that stopped, a special book of 120 pages was published by the DfES that introduced design ideas of eleven design teams. Mr David Miliband, Minister of State for School Standards, in his foreword for the book, characterised this collection of ideas as "a compendium of designs", that their purpose is not be

templates, but to *“act as springboards for developing imaginative and sustainable school buildings, tailored to local needs and aspirations”* (Department for Education and Skills, 2003).

The book presented general, innovative design ideas for each single place and part of the primary and secondary schools and it acted as a trigger for wonderful designs, but also very expensive. HM Treasury claimed, in its report for the presentation of PF2, that *‘the Government is aware that one of the major drivers of increasing private sector bid costs is the design process. Experience from the BSF programme particularly demonstrated that bidders were encouraged to carry out excessive design work in competition in order to win a bid. This contributed to unnecessarily high bid costs due to the volume of wasted design work’* (HM Treasury, 2012). In addition to this, National Audit Office (NAO) characterised the BSF program as *‘a very optimistic, expensive and wasteful programme that did not prioritise the most dilapidated schools. Under BSF it took 3 years for building work to begin. Under the PSBP we have cut this to 1 year and anticipated project costs are up to 40% lower’*.

Under the current PSBP program, special documents were published, as well, containing baseline designs and strategies ideas for schools. However, in this case they focused in quite different sectors. Expensive architectural designs were put aside and attention was paid on structural design strategy, natural ventilation, fire safety, environmental services, daylight and acoustic strategy. It can be said that in cases of funding constraints, the first thing to be abandoned is the less necessary, in terms of safety and operation (*‘safety first’*). Requirements concerning building beauty are not taken into consideration when cuts in budgets are a necessity. It is not by chance that architects are considered (in the UK, not also in Greece) as artists and not engineers, according to the doctrine *“Engineer is an Engineer”*.

Similar documents have been published, by the Greek Organization of School Buildings, for the construction of schools, also through PPP. These documents are specialized texts, which mainly contain technical details. They are not considered as springboards like those in the UK, but they present directives, guidelines and national standards on the construction of buildings, which have to be followed. This does not mean that Greek governments are less interested in architectural designs and achievements, but that their first concern is to protect the citizens against natural phenomena, like earthquakes. Of course, these thoughts and priorities do not implicate exclusion of building designs that are based on artistic values. It is a matter of deontology to respect for the architecture contribution to constructions. Besides, history has demonstrated that buildings endowed with a high artistic value and still standing are the ones for which we speak for. In conclusion, combination is the key.

NPM AND THE FRENCH PPP MODEL

The state of France has a long history in public contracts, concession arrangements and leases, used for a variety of public services. The generic term that is used for this kind of contracts is “delegated management” (*gestion déléguée*), and it represents the delivery of public service contracts, where the payment of the reward of the delegate is based on the use of the service and where management of the service is entrusted to a legal entity that can be a private company, a semi-public company, an association, a local authority or a public corporation not controlled by the delegating local authority. The French PPP model can be considered in two main categories (EPEC, 2012), in concession arrangements (*délégations de service public*), and in partnership contracts (*contrat de partenariat*).

In 2003, during Jacques René Chirac’s presidency, the Parliament created a general law (Law 2003-591 of 2 July 2003 - the “Enabling Law”), by which the Government created a general legal framework for future PPPs. On June 2004, the Government Order No. 2004-559 on partnership contracts was published (amended and complemented in 2008 and 2009), creating a modern PPP model, based on the UK PFI model, where the structure of the contract is more flexible in many aspects. The basic purpose of this new model is to become a solution between the traditional concession regime (by allowing payments from the State) and the public contract regime (by permitting deferred payment and global tenders of works and services) (Andriani, et al., 2006). On the other hand, a significant legal risk was created, due to the fact that the Order requires from the public authority to conduct a formal evaluation (similar to the “public-sector comparator” under the UK PFI).

The PPP *Ordonnance* established a right *in rem* in favor of the private entity. This right creates some privileges that are typically connected with legal ownership, such as the right to dispose of, and create security interests over public assets. However, this right is subject to significant limitations (Porcher-Marquis, et al., 2004/2005).

In 2009, during the financial crisis, the Government of France adopted a large stimulus package (*Plan de relance*) in order to assist state’s economy and to minimize crisis effects. The Plan was created to support investments in public infrastructure and comprise a State guarantee for public private partnerships (the “Project guarantee”). The guarantee is awarded by the French Ministry of Economy, under certain conditions, following Article 6 of the Law Amending the French Finance Law (*Loi de finances rectificative*) of 4 February 2009.

Almost each ministry in France that uses the PPP model for delivery of public services, had created a taskforce of experts, which purpose is to aim the relevant public authority (both in central and local governance) in every aspect of the PPP contract. More specific, taskforce’s purpose is to provide its legal and technical advice on the preparation and negotiation of “partnership contracts”, evaluating, as well, the finances of the transaction.

The Ministry of economy and finance is supported by a well-known taskforce, named MAPPP' ('Mission d'appui à la réalisation des contrats de partenariat publics privés'). MAPPP started to operate in 2005 and it has already issued a practical guide ('Les Contrats de Partenariat - principes et méthodes'), but it has not created a standardised documentation as the UK Treasury has done. In 2011, MAPPP became a 'service with national competence' and was placed at the Treasury department of the Ministry of Economy, Finance and Industry. It is now responsible for gathering the data of partnership contracts; as far as for the concession arrangements are concerned, there is no central entity responsible for their data collection.

Concessions

There are three main variants of concession (EPEC, 2012):

- "Concession", in the strict sense, in which the private sector entity undertakes the full responsibility and risk for operating and financing the public service/ infrastructure.
- "Affermage", where the private company is responsible for the operation and maintenance of the public service/ infrastructure, earning money from charging the users, but it is not responsible for significant capital investments. The public sector, which is the owner of the infrastructure, is responsible for further investments in the system.
- "Gérance", in which the public sector pays to the private company a standard fee to manage the system, without undertaking any responsibility or risk for future investments.

While in the UK the term "*concession*" has a broader and generic concept, in France it has to follow the strict frameworks of the administrative law, concerning the concepts of "*service public*" and "*délégation de service public (DSP)*", as well as the jurisdiction of the French administrative courts, regardless of any provision to the contrary in the agreement (Porcher-Marquis, et al., 2004/2005). This implies that a public authority has a unilateral right to terminate an administrative agreement or amend its provisions, provided it is required. Concession, is based on the concept that the concessionaire is not to be paid off by the conceding public entity, but the revenues will be mainly obtained by the users of the conceded service. So, reciprocal projects (e.g. toll roads) can be implemented through concessions. Until 2004, the only PPP alternative to the concession was the public procurement under the public procurement code. Public procurement, however, was considered ill-fitted concerning to the private financing of public services due to the prohibition on deferred payment mechanics, related to the METP scandal (Winch, 2010), as well as the dysfunctional obligation for separate contractors for construction works and operation/maintenance services ("*Code des Marchés Publics*" for deferred payment and separate tenders, and the law of 12 July 1985 on "*maîtrise d'ouvrage public*" which provides for distinct roles between the general contractor and sub-contractor). As a result from these

restrictions, the French State was lagging from using some of the benefits of New Public Management, like transferring a large portion of risks to the private sector.

Partnerships contracts

Within a partnership contract, a public entity can authorize a private partner to pursue a variety of schemes, including design (fully or partly), build, maintain, operate and finance public assets and public services over a long time period, giving a long-term payment to the private partner, as well as renovation and outsourcing transactions. Using this kind of contracts, the State can be benefitted from (EPEC, 2012):

- broader use in a variety of scopes; *contrat de partenariat* can be used to any project
- an integrated approach to the project; (i) construction or refurbishment of assets, (ii) maintenance, exploitation or operation of assets and (iii) financing total or part of the asset
- flexible financing management of the project
- a long-term agreement on payment
- transfer of the risk to the private partner, including construction and service performance
- better use of time frames in cases of urgent projects
- value for money ("*efficience économique*" criteria).

APPLICATIONS OF FRENCH PPP MODEL IN THE DOMAINS OF JUSTICE AND NATIONAL DEFENCE

Any public entity (e.g. the State, local authorities, the public establishments or public bodies of private law) may make use of the type of partnership contract. France PPP model has been applied to many public service domains, like the healthcare system, transports, telecommunications, and sports stadiums. Besides these industrial and commercial services, which have traditionally been delivered using private involvement, social services and activities, as well as culture-based functions (typically belonged to the state's authority) are now operated through the PPP model. Public authorities prefer to use private partnerships for the delivery of water and energy, for rubbish collection or household waste disposal, as well as for museums operation. In cases of cultural context, the recourse of the French Administration to PPP contracts remains restricted (Maniatis, 2011).

Private partnerships are used even in the sensitive domains of national defence and prisons. Even more spectacular is the initiative of the Ministry of Defence, taking its lead from its British counterpart's use of PFI, to outsource operations like helicopter pilot training or logistical services for external military operations in a highly integrated framework of PPPs (Sadran, 2004). The responsibility for both prisons and military procurement projects belongs to the jurisdiction of central government (Ministry of Justice and Ministry of Defence).

While in many domains, the application of PPP can be quite straightforward, in the cases of defence and justice significant issues have emerged. The laws “LOPSI” (*“Loi d’orientation et de programmation pour la sécurité intérieure”*) and “LOPJ” (*“Loi d’orientation et de programmation pour la justice”*) were created in 2002 for the Ministry for Interior Affairs and the Ministry for Justice, respectively, in order to be used for the construction and management of prisons and facilities used by the judiciary, police and gendarmerie. The projects are based on lease-type contracts (*“Autorisation d’occupation temporaire” – “AOT”/ Location avec option d’achat – “LOA”*) allowing public real estate to be temporarily held by the private sector, subject to the right of return/purchase in favour of the State. However, publicly-owned property can raise significant and controversial issues when they are delivered to the private sector. In addition to the Defence Decree, a law (Law 2003-73 of 27 January 2003 on 2003-2008 military programming) applicable to real estate, effectively extends the AOT/LOA regime to land held by the Ministry of Defence.

A specific decree relating to defence procurement was passed on 7 January 2004 (the “Defence Decree” - Decree n° 2004-16 "in application of article 4 of the Public Procurement Code and relating to certain procurements for defence needs"). The Defence Decree derogates from the Public Procurement Code with respect to the procurement of supplies and services relating to weaponry, ammunition and military equipment and procurement of services directly linked to military strategy or the employment of armed force. The rules for procurement under the Defence Decree are designed to be particularly flexible, in line with the general trend towards simplification of process which began in January 2004 (Decree n°2004-15) with a significant reform of the Public Procurement Code. The new rules allow the Ministry to define its requirements and the means to meet them throughout the procedure.

It is to mention that the use of PPP in national defence or prisons is highly controversial. Accommodation-type PPPs in France, like prisons, are similar to UK PFI model, and their payment streams include availability and service deduction mechanisms, although it is not always on a unitary basis as it is under the PFI. The scopes of services remain narrow in comparison to UK counterparts. While the UK government has decided to use PFI scheme in prison management and operation, meaning that some prisons in UK are operated by private companies, in France (and in other mainland European countries, as already signalized), prison management or custodial services may not be outsourced (as a part of a scheme described above). These services are still considered as a part of the *“pouvoirs régaliens”* of the State, in the French constitutional order, even there is no explicit consecration of this state monopoly in the Constitution.

NPM AND CULTURAL SPONSORSHIP HISTORY

Definitions of sponsorship, like the ones of PPP, vary and the practice has been described as “*an investment in cash or in kind activity, in return for access to the exploitable commercial potential associated with that activity*”. Cultural sponsorship in its current form appeared initially in 50’s in the USA. Companies, mainly the big enterprises in the tobacco market, started to accomplish the mission of sponsors because they faced serious problems of media exclusion in the crucial domain of advertisement, due to the antismoking legislation. They decided to enhance their image, *inter alia* by sponsoring the arts production. This initiative was regarded as very suitable for the achievement of their commercial target. Therefore, in 1968, the Business Committee For the Arts was created, to contribute to the renaissance of culture of the U.S.A. through the financial back of companies.

Cultural sponsorship, coming from legal – type obstacles comparable to the prior phenomenon of “prohibitionism” (namely for the manufacture or sale of alcoholic beverages) in the same country, had a wider impact, on international scale. Indeed, in Europe sponsorship contracting appeared in early 70’s, as the entrepreneurial and artistic world of the UK adopted this mechanism. In 1976, Association for Business Sponsorship of the Arts (ABSA) was created, by companies with the help of the British government.

However, the great development of sponsorship took place in 80’s, as a part of the established ‘Conservative Revolution’, through the leadership of Thatcher. The NPM concept consisted, in cultural affairs, in the limitation of the state interventionism while the reduction of subvention had already begun some years ago, let alone the fact that it was one of the reasons of success of the introduction of sponsorship.

The model of sponsorship, adopted in the UK, was regarded as the golden section between the European traditions and the American ones and had a wide impact on the entire continent of Europe, particularly in countries under neoliberal governance, as the concept of business sponsorship is connected with the market economy. Nevertheless, many countries keep taking a rather suspicious approach to this concept, as a means of advertisement for companies.

CONCLUSION: “ENGINEER IS AN ENGINEER” AND “ARCHITECT IS A SPONSOR”!

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. UK government used institutional PPPs as a legal and managerial tool, based on the School of Thought of NPM, with which the cultural sponsorship contract model fits in. 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 programme, Government decided to follow a more

centralised 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*").

Last but not least, cultural sponsorship contracting, successfully imported from the USA and to the UK and recently to France, should inspire for the upgrade of architects' status, worldwide. In the UK, "*Engineer is an Engineer*" and registered architects are professionals that are not called "architects engineers" and are legally entitled to supervise the construction of technical works operated by engineers and not by architects. The great challenge is to adopt a new paradigm on international scale for their unique function, technical and artistic in the same time: to promote architects to the intrinsic rank of cultural sponsor!

Therefore, laws should define that Architects are artists of the fine art of Architecture and that Registered Architects should have the right to be promoted to "Architects Sponsors" for cultural sponsorship contracts. This suggested new certification is subject to the successful participation of the interested professionals in Ph. D. degree or master degree or other educational programmes. "Architects Sponsors" may offer their architecture expertise within cultural sponsorship contracts either to the public sector or to the private one in order to provide the receivers with adapted architectural services of high quality. It is to pay special attention to the fact that this proposal has a counterbalance effect, given that architects constitute a rather marginal category of professionals in mankind's history, even in the modern era in which human rights, such as the freedom of art, have been institutionalized in national constitutions. It is to clarify that this original, proposed framework is fully compatible with the existent national concepts of architects as engineers or not.

Furthermore, PPP contract methodology is expected to gain from its suggested osmosis with the inner dynamic of the certified "Architects Sponsors"!

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HOW DO BRAND IDENTITY AND BRAND COMMUNITIES REINFORCING BRANDS AND THEIR INFLUENCE ON CO-CREATION? A TRANSNATIONAL STUDY OF THE BRAND AXE: IN FRANCE AND TUNISIA

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ABSTRACT

In order to build long term relationships with customers, companies try to get customers more involved in the activities of the brand. They are now “prosumers” through a co-creation process and social media. The primary objective of this study is to identify, by means of a transnational empirical study, if brand communities influence brands by co-creation. What kind of influence can the virtual brand community have on co-creation? The study will begin by a conceptual framework of Kapferer’s brand identity Prism (1992), brand community and co-creation concepts. After this clarification, methodology will be developed and results as well as conclusions and managerial implications will be exposed. Finally the limits of the study and the possibilities for future researches will be presented. Theoretical contribution of the study is as follows: Firstly, the use of Kapferer’s brand identity Prism (1992) in order to create a strong brand seems to be helpful for building brand community. Secondly, it proposes a new classification of co-creation. Thirdly, a new method, the netnography, is applied to “Axe” brand in France and Tunisia.

Keywords: *co-creation; brand community; brand identity Prism; netnography; Axe, Tunisia; France.*

INTRODUCTION

The status of the consumer has shifted from a passive status to one described as “prosumer” i.e. a proactive role. This role takes on full significance in the creation of new products and services. Indeed, brands are increasingly drawing on consumers’ insights and associating them in the conception of the offer, fully aware of their value and creation potential. This article argues that the customer will inevitably prefer the product or the service in which he has been participating. Indeed, isn’t putting the consumer at the centre of the value of the product or service - creation process the very foundation of marketing?

Web 2.0 has enabled companies to develop initiatives to strengthen and reinforce their interaction with consumers. Consumers give their opinions, bring in new ideas, discuss, vote for a product or an advertising poster etc: What is referred to as co-creation. Such actions take advantage of the success of social media and community websites. They promote the formation of communities whose members are no longer subjected to advertisements or other marketing strategies but, on the contrary, are entirely participating in the marketing process. These members are individuals sharing the same passion for a product or a brand and often bringing in new ideas and trends. Firms have moved from a traditional marketing logic focused on consumption towards a participative model based on interaction between brands and customers. Indeed, brands are now creating online platforms and social networks pages devoted to the conception of new offers and ideas and are open to feedbacks (for instance Starbucks with 'My Starbucks Idea' and Nokia with 'Share Your Ideas'). The community share values, norms and representations emerging from similar consumption practices, from collective reception of ad as well as from the visit of similar stores (Sitz and Amine, 2004).

Nowadays, consumers and companies interact and develop personalised experiences inside virtual brand communities. "Brand aficionados" perceive social identities with small friendship groups with the brand and with the company in a system of interconnected relationships (Bagozzi et al., 2012). They create a good condition for co-creation. And few studies investigate brand community within social networks (Zaglia, 2013). Consequently, this study aims to explore how co-creation can occur in this brand community. Moreover, a brand can reinforce the link with consumers by using brand identity Prism (Kapferer 1992). It creates its identity with values and norms that can be shared and adopted by consumers. First of all, a literature review sheds light on brand identity Prism, brand community and co-creation concepts. Definitions are provided and these concepts are refined by differentiating them from other similar concepts. The brand's role in the relation between the brand community and co-creation is established. The second part highlights the method. Qualitative interviews, on AXE brand, as an example and comments from consumers on social networks are gathered together in order to carry out to a netnography approach (Kozinets, 2002). Then, conclusion, discussion, as well as managerial implications and future researches lay down.

CONCEPTUAL FRAMEWORK

A theoretical approach of brand community

Tribal approach applied to brand community

The tribal approach refers to the concept of the value of links in the interaction between members of a tribe (Cova, 2006). The value of links implies that the firm contributes, through its products or brands, in addition to the mere delivery of products or the provision of services, to the construction,

development and maintenance of tribal links between consumer groups or communities. The tribe can thus be interpreted as an “emotional grouping around the brand” or a brand community. Consumer community undertakes collective actions toward brand rather than individual action on traditional consumer segment. This community differs from traditional community (tribe) due to their commercial nature (Brogi, 2014).

Specificities of brand community

In a brand community, members have strong feelings of belonging and a cult of the brand. It generates myths, rites and symbolism qualified as sub-culture. It is a passion that subsumes an “emotional and stable tendency” (Cova, 2011). It is a “living memory” of the firm and consumers (Cova, 2006). Consumer members express admiration, sympathy even love for a brand (Albert, Merunka & Valette-florence, 2008). It can be a bidirectional (consumer- brand) brand attachment (Raies & Gavrard-Perret, 2011). It is a commitment (Gupta & Kim, 2007) for the community leading to brand loyalty (Algesheimer, Dholakia & Herrmann, 2005). Brand community share identity transcending geographical boundaries (Brogi, 2014).

Interactions versus paradox of personal branding

The brand community has two objectives (Cova, 2011): First, It contributes to social interactions between members (for example BMW or Mercedes) for brand loyalty. Secondly, it encourages consumer commitment to the community: it can be “self-expure” or a “personal branding”. For example, the Ferrero brand with « My Nutella the community » which creates a sub-culture and reinforces the cult of the brand. Consumer marketing replaces brand marketing through online platforms, blogs or the production of content. Social media are useful for personal branding and for all the communication strategies of communities. Generalist networks like Facebook can enrich interactions between community members. They can be useful for recruiting fans and community members who share their passion on line and off line (For example Aubade lingerie brand, with its “seduction lessons” ad).

Brand community: transition from target to partner

Customers can be events, ideas or brand accessory producers. This can help firms if they recognize and accept that consumers have competences to transform and enhance companies’ offers. Cova (2006) names it “consumer made”. It is a strategy of outsourcing, a process of co-creation of value between brand communities and firms. Firms can use brand identity in order to reinforce brand attachment and creativity.

Brand Identity Prism and brand community

The brand’s identity prism (Kapferer, 1992) is on the one hand, the brand’s external characteristics (physique, relationship, reflection); and, on the other hand, internal characteristics (personality,

culture and self- image). Aims are to make a comparison between the ideal brand's identity and the image perceived by the community. The objective is a correspondence between brand identity and the identity of the community. In this case, consumers become brand advocates against attacks from other consumers.

Physique: the tangible qualities of the brand, what is externally perceived? For instance: product features, packaging
Relationship: the relationship between the brand and the consumer: exchange or transaction
Reflection: The brand or the product's target
Personality: the brand's personality traits, what it conveys through its brand image. The personality consists on 5 factors based on the OCEAN model: Openness, Consciousness, Extraversion, Agreeableness, and Neuroticism
Culture: the brand's values developed over time.
Self-image: This is what the consumer is looking for and finds in the brand

Table 1: KAPFERER'S BRAND IDENTITY PRISM (1992)

The technology web 2.0 can reinforce the social interaction in the Online Brand Communities (OBCs). Video sharing, blogging, social bookmarking, social networking amplifies interactions in order to develop brand identity in OBCs. Multiple virtual connections among consumers contribute to build relationships, share content and interests in brand consumption (Fournier & Avery, 2011).

A theoretical approach to the co-creation concept

Consumers exchange information and enter into bilateral dialogues with firms for co-creation.

From the Product- Dominant Logic (P-D logic) to the Service- Dominant Logic (S-D logic): A normative framework separates production from consumption without making consumers participate in the process: customers are thus exogenous. A new collaborative logic emerges where the consumer partners up with the company: the S- D Logic (Vargo & Lusch, 2004). The consumer becomes a co-producer and products are personalized. Service refers to doing something with and to someone. ("Marketing with" / "marketing to") (Ezan & Cova, 2008).

The main difference between the SDL and the PDL lies on the fact that customers, employees and organizations operate as resources in the value-creation process (Vargo & Lusch, 2008).

From a new brand Logic in the Service- Dominant Logic (S-D logic)

Brands have to mobilize the right resources to build strong brands. Consumers and brand communities have to be involved in the brand's value-creation process (Vargo & Lusch, 2008). In this new logic, brand-value emerges from the interaction between customers and/or all stakeholders and firms. It is a "transcending view of relationships" (Vargo, 2009). Interactive experiences take place in complex co-creative environments. Experiences co-created with other actors are acts of engagement

toward a brand. Consumers consider that brands are collective, cultural goods and not an intellectual property of the firm (Cova & Dalli, 2009). Co-creation process is continuous, social, dynamic and interactive between the firms and the brand and between consumers (C2C) thanks to chats, blogs, and social networks. It is a consumer engagement in virtual brand community (Brodie & al., 2013).

Participation and participative marketing

In this context, the terms collaboration, cooperation and contribution are all synonyms and can interchangeably be used with participation. The participative or collaborative marketing's goal is to motivate consumers to actively take part to the development of products, communication, new services or promotion of the brand. Moreover, participation can be behavioral or physical participation with, for instance the involvement in an activity; and intellectual participation such as knowledge sharing (Harris, Harris & Baron, 2001).

Participative marketing can take different forms: voting for movies proposed by Air France on long-distance flights, for a TV advertising script (Nespresso) or for the next catalog cover (Linvosges) ... In these examples, the product, the TV script or the catalog have been designed by the company. The consumer's task is to guide the company's choice between different ranges of products or ads. This participative approach is used in "My Starbucks Idea". This box generates more than 75000 ideas but only a dozen have some practical application. The consumer doesn't know if his opinion will be taken into account and if his involvement toward the brand will be useful. His input could be minor.

Real co-creation involves the upstream consumers in the creation process as well as those more actively involved. Often, co-creation deals with product design (Nivea, Lay's in Belgium ...) or with communication campaigns (Crédit Agricole, Dim). Customers are considered as a partner of a firm's production process (Mills & Morris 1986). Customers' participation can be found during the "co-conception" product design phase. The "lead users", bringing in their expertise, can assist brands with the design of products. Their perceptions and preferences help to identify future needs and contribute to find new products, processes or services (Von Hippel, 1986). This collaborative approach consists, in defining the characteristics of lead users, selecting individuals on the basis of these characteristics and appealing them so that new products' concepts can emerge (Ezan and Cova, 2008).

The web 2.0 environment creates connectivity and participation. In online communities, lead users and consumers become a powerful source of innovation (new products, services, original ideas, experiences...) (Wu & Fang, 2010). Buttons "share this" or "like" on Facebook amplify the spread of information and innovation thanks to one billion users (Facebook.com, 2013). This social media creates "a new world of screen-based communication on computers, and increasingly mobile phones" (Patterson, 2012) and a new embedded brand community at high speed and low cost (Zaglia, 2013).

The power is shifting from marketers to consumers who can innovate and allows critical consumers to emerge to call a brand into question (Fournier & Avery, 2011).

METHOD

The netnography approach and data collection

This study has undertaken a netnographic approach. It is “a new qualitative research methodology that adapts ethnographic research techniques to the study of cultures and communities emerging through computer-mediated communications...”(Kozinets, 2002). Brand communities on social networks such as Facebook are focused on. The Axe brand community has been selected (the Facebook community pages “the Axe Effect”) in France and “Axe Dark Temptation” in Tunisia). Moreover, during a qualitative exploratory analysis performed in the two-country study, the example of the Axe brand was highlighted, Axe being perceived as a youthful and empowering brand attracting young seducers and seductresses. Indeed, young people clearly identify themselves with this brand. For all these reasons, gathering of rich and detailed information has been possible.

Description of the events

The objective was twofold: first to understand, the Axe’s brand identity prism and its impact on brand community and, second, how co-creation could influence the perception of a brand within communities located in two distinct geographic areas.

“Axe Dark Temptation”: a seduction competition in Tunisia

The idea was to establish an Axe studio in the Tunisian university halls in order to take pictures (from the 1st of August 2012 till the 30th). The principle: every boy had to seduce as many girls as possible and convince them to take an ‘Axe’ picture, thereby displaying a sense of creativity and imagination. Pictures posted on Facebook were submitted to a vote. The best picture was awarded a price of 5,000 Dinars (€2,500). The winning picture is shown below.



The “Axe Boat in France” displayed on the “Axe Effect” Facebook page, is much anticipated by all the Axe brand community members. In 2012, from the 30th July till the 7th August, the Axe boat celebrated its 10th year. It invited clubbers, club members as well as the brand community to get aboard a prestigious yacht. Once on board, the guests discovered a glamorous, VIP, and fun atmosphere. The

Tour ended with a “Full Moon Party” which gathered French and International celebrities around an exceptional concert.

Members have to play the “Anarchy Run” Facebook game and beat the scores of other participants. It is an “advergame”, an online game with the brand as signature. The game’s trick is that an alarm is triggered; the player needs to disarm the guard tracking him. The player has to use, the latest Axe deodorants, “For Him” and “For Her” as weapons. The player having the best score wins a VIP pass; the highest score wins the ultra VIP pass that allows him or her to party on the Boat.



Interpretation and data analysis

The setting in a universe of seduction through the brand’s identity prism

Thanks to TV ads, to pictures and videos shared by members as well as analyzing comments on various pages visited on the social networks, Axe brand’s identity prism is elaborated.

Personality: Community members identify themselves with the Axe brand personality :1) the openness , meaning the sensitivity to the esthetical aspects 2) the extraversion, meaning the social characteristic and seeking people’s company (perceived through the collective participation of members in different events of the brand, through the pictures of young people during the “ Axe Dark Temptation” campaign ,“ the Axe boat “ tour and the “Anarchy Run” game to have fun) 3) the agreeableness, meaning the “bon-vivant” characteristic (members like to party), good mood and seduction. It is the intrinsic characteristics of a brand qualified as “sexy”, “fun” and “cool”. They become members’ characteristics.

Culture: The Axe brand fits into a culture of seduction in a world of fragrances. The brand develops fragrances with different flavors that reveal and strengthen men’s seductive power. The community members strongly identify themselves with this culture and share the same values and norms.

Self-image: The community members glorify the brand and take brand’s characteristics, beauty and seduction, as the brand’s slogan states: “Spray more, get more”. Thanks to Axe, men become more handsome, attractive and seductive.

Physique consists in a whole range of deodorant products, a packaging with a round shape. The logo is either black or white.

Relationship: Members communicate directly with the brand. The relationship can be described as close and friendly. The brand helps men to be more attractive and self-confident.

Reflection: the brand represents young and dynamic seducers or seductresses.

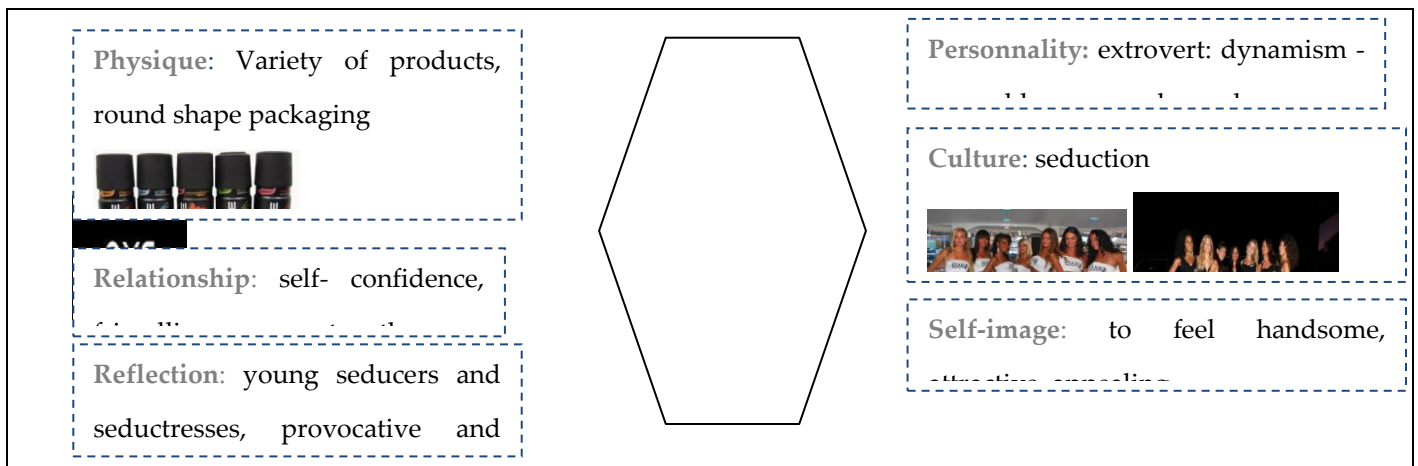


Figure 1: *BRAND'S IDENTITY PRISM OF AXE*

This analysis concludes that there is no gap between the positioning wanted by the brand and the positioning perceived by the community. Thus, there is very strong brand identification; the brand's identity becomes the community's identity. Brand community members become the brand's ambassadors, promoting an "Axe way of life". The brand's values, norms and culture become theirs and members will take its defense despite any opposition. The events, games organized by Axe create solidarity between members and help to recruit other members. The community is able to influence members' perceptions and actions (Algesheimer, Dholakia & Herrmann, 2005) and their capacity to co-create.

Interpretation of events and co-creation

"Axe Dark Temptation" event in Tunisia is a co-creation, "a new technique of management, in which consumers and producers join in to create products and experiences" (Prahalad & Ramaswamy, 2004). The event brings in passive members for the communication strategy (participate through voting) and active members (creating content: showcase creativity when posting a picture). There is the creation of both an ad and experiences shared by participants.

"Axe boat" event co-creation is still occurring. Axe brand calls on its Facebook community members not to create an offer or a product, but to participate to an "Advergame" and to the Axe boat tour. First, there is a co-creation of experiences by the game involving an active participation and identification with the brand. Secondly, the Axe boat tour offers a unique experience to the community members.

Classification of co-creation: Inspired by Cova's model (2008), this classification integrates two criteria for co-creation: interaction (strong and weak) and duration (on a short-term: punctual and limited to the event; and on a long-term: takes effect after the event):

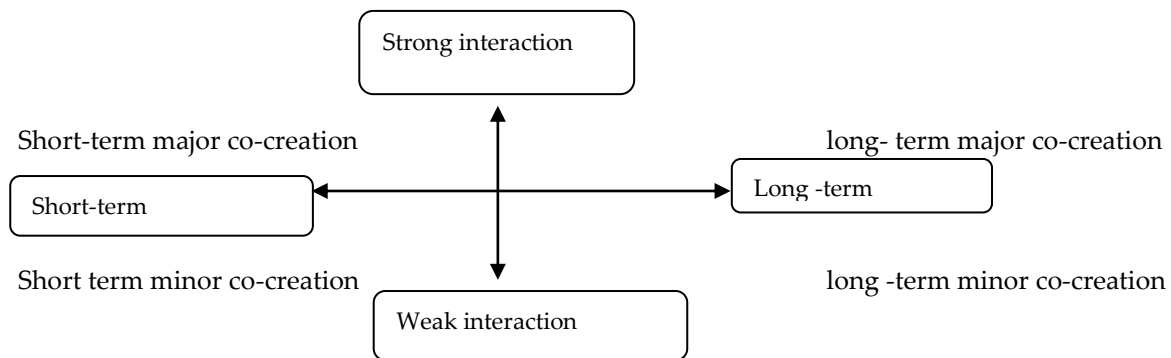


Figure 2: CLASSIFICATION OF CO-CREATION

The level of interaction defines the type of co-creation. Strong interaction, defined a “major” co-creation. Weak interaction, qualified as “minor” co-creation. Four types of co-creation are identified: major co-creation on a long-term basis, major co-creation on a short-term basis, minor co-creation on a long-term basis and minor co-creation on a short-term basis.

Major long-term co-creation refers to the strong interaction existing between the members of a same community and between the community and the brand itself. This interaction is maintained over time and continues outside the participative event. The “Axe Effect” Facebook page shows that, beyond the co-creation of shared experiences, co-creation occurs outside the Axe boat event itself. Interaction starts and continues before and after the event. The brand community is not only interested in sharing the Axe Boat tour pictures or to post comments regarding an event. Members also give their feedback either on a product or the brand and provide new ideas. The community’s influence over brands is even more important than members’ interaction. “The creative contribution can happen when the participant is best suited to work on it, with maximum flexibility, and not only during creative sessions at a predetermined time” (Divard, 2010). Members share the same values, namely seduction and flirt, and are very active: they take part in the “Anarchy Run” game and in the “Axe boat” events, and they don’t miss any occasion to express themselves, give their opinions and participate in events organized by Axe. The incentives for participating are mostly intrinsic: entertainment (enjoy themselves) and idealism (accordance with their own values).

Short-term minor co-creation refers to the “Axe Dark Temptation” event in Tunisia where participants generally belonging to online communities (Facebook or Twitter, forums, websites...), but share little or no common values with the brand. Participation occurs on a short-term or temporary basis, corresponding to the duration of the participative event. Interaction between community members is limited to the event (comments of pictures and videos). Members’ feedback and reactions stop at the end of the competition. Individuals lose interest for the Facebook page; they don’t react

anymore and expect a new event to be launched. The participation in the “Axe Dark Temptation “ is mainly motivated by the financial profit and by the experience of conviviality and sharing nice moments (Cova, 2011). *“I participated in this competition mostly to have fun, I saw my friends participate and I wanted to do the same!! I also thought that the idea and atmosphere were very nice and, after all, why not earning money by doing something fun?”* (Amine, 22 ans)

Short-term major co-creation: Danone has designed an advertising campaign to celebrate the launching of one its new product. Internet users have participated in the elaboration of new advertising concepts and videos designed for the competition (Pearse, 2011). The competition is temporary, on a short-term basis and limited to the participative event. Interaction is strong since winners have been invited by the brand and advertising agencies to discuss the advertising concept created.

Long-term minor co-creation: It means that interaction is weak between the community members and between the brand and the community; and it takes place on a long-term basis with, for instance, “My Starbucks Idea” or Carrefour’s ideas boxes. In these two examples, consumer-inputs often are a simple improvement of the existing offer. Members submit their ideas on the company’s platform and to the other members without interacting with the brand. The ideas box remains permanently open; it is reusable on the long run.

The negative and positive effects of brand community on brand

The netnography approach led to draw effects of the community on brand.

The positive influence of the Axe community over the brand

1) *Brand stretching: the co-innovation:* Community members can indirectly express latent needs and bring new ideas. The brand can take advantage of their comments and inputs to launch new offers and products into the market and to improve old products (co-innovation) (Cova, 2008). The innovative propositions are made before the production process. For example, Julien, one member, asked: *“Oh I just clicked! Why Axe would not roll out a shaving cream? ;) Axe’s reply: “Thanks for the idea Julien, we’ll keep it under our hat!”*

2) *Improvement of the brand image:* The brand image refers to “perceptions of a brand as reflected by the brand associations held in the consumer’s memory”. The brand image creates value by helping consumers to process information, differentiating the brand, creating reasons for buying it, provoking favorable feelings, and promoting brand-stretching. The brand image is *“everything that a consumer can associate to a brand”* (Korchia, 2000).

Calling on brand communities to make the brand more attractive: this is where the appeal of co-creation lies. In order for co-creation to succeed, it is necessary to find means to make internet users

more involved. The “Axe boat” and “Axe Dark temptation” succeeded in attracting young people and achieved their mission: the brand image is now strengthened. The Axe brand seeks to achieve young adults’ dreams and to fulfill its promise: “*spray more, get more*”. Youc, one member, said: “*Today I used the Axe brand and I was hit on eight girls*”.

3) *An intensive communication: a co-promotion in favor of the brand:* A networking effect: the community uses its own network to broadcast the brand advertisements through word-of-mouth. The brand takes advantage of the network to communicate multilaterally. The members create events and are responsible for spreading updates and information about the brand. Indeed, through communities, social networks provide new ways of reaching out and engaging with their members and/or with a brand. The community can act as a co-promotion tool (Cova, 2008). Etienne, a member asked: “*Hello, I am studying at the Ecole des Ponts et Chaussées, a French engineering School. At the beginning of the academic year, in September, a new students’ orientation weekend (WEI in French) will be organized. To do so, we, the second- year students, are going to create groups composed of 5 to 6 students who will welcome the future first-year students. With some friends, we wanted to create a group called “the Muchas MarWEIcas, referring to one of your advertising campaigns that we found particularly funny. Consequently, I would like to know if you had any promotional tools that would help us organize a nice party weekend and we would promote your brand at the same time. Thank you in advance*”.

4) *A willingness to participate in advertisements:* ideas and conception of ads are initiated by consumers. The community is involved in the strategy of co-promotion thanks to strong identification. David, defining himself as “an Axe boy”, states: “*if you are looking for a scenarist for your TV ads, contact me by pm. PS: I have already written a scenario*”.

5) *Strong relationship with the brand:* Loyalty, attachment or commitment: the Axe community members don’t miss an opportunity to constitute their own collection of the whole range of Axe’s deodorants and to showcase it. This shows a commitment, even a passion toward the brand that can lead to loyalty.

Sharing of memories: Members share the same passion for the brand and common memories. Frederic, an Axe community member, states: “*And to think that this idea was born in a small office based in Nation – in Paris- while eating two pizzas and drinking coke. Ten years already. A hug to all that participated in this adventure*”. Jerome adds: “*the Axe Boat was an amazing experience; I was there 4 years ago, such a good time*”.

The positive effects of the brand community through co-creation are thus numerous. These effects go all the way from the simple communication through word-of-mouth to the improvement of the brand

image and the development of both inter-members relationships and between brand community members and the brand.

The negative influence of communities: a communication to the detriment of the brand

1) *False*

advertising: When the brand doesn't respect the commitments made, messages posted by members on social networks can inflict injury to the brand by denouncing false ads. (Zeroo states: *"why is it that no woman is hitting on me, it should be working since I'm using Axe, you liars...false ads. They are stealing my money..."*) or by expressing discontent toward a product. Sevap asked: *"this is supposed to be antiperspirant and anti-odor! this doesn't have any effect on me ! .. After an hour, I smell bad and I sweat"*).

2) *Hindrance to events participation and solidarity with disqualified friends*: Some people decide to unsubscribe from the "Axe Effect" Facebook page to show solidarity towards their friends. This constitutes a drawback for such a brand which counts a lot on the creativity of its community in order to grow. The co-creation of experiences as seen in the "Axe Boat" example is limited to the members who succeed in beating the best scores of the "Anarchy Run" game. Consequently, other members find themselves marginalized, being left over as they can't participate in the event, in spite of the attachment they feel toward the brand. This preliminary selection may result in dissatisfaction and can affect the brand image. Jennifer says: *"hello, honestly it is not cool to have disqualified Frederic Vermotte who did his best to ask for all his friends' votes, so just so you know, I'll unsubscribe from Axe"*.

CONCLUSION, DISCUSSION AND MANAGERIAL IMPLICATIONS

This study answered several questions: how the co-creation concept emerged; how the status of the client has shifted from being a customer to a producer and actor; and how the "client experience" contributes to value-creation. A brand having a strong identity such as Axe becomes involved in the creation process through the participation of its community in the brand's events. This participation leads to interaction between members and between the brand and members (communication "one to many") in order to generate brand value. Members have a direct impact on the brand: innovation and/or innovation failures, communication in favor and/or in disfavor of the brand, the improvement and/or deterioration of the brand image, the resistance of community to change, the repositioning of the brand ...

The analysis shows a more active, participative, resistant, activist, playful, social and communitarian consumers (Cova and White, 2010). A new typology of co-creation (minor or major) is proposed on two criteria: the interaction and duration (on a short /long period).

Communities require their favorite brands to be more actively involved in their activities. Ads co-created with brands are an indication of consumers' dreams (seduction, money, happiness). Hence,

firms need to resort more to co-promotion. But they have to be careful: opponents to brands are likely to create messages denouncing what they consider as the brands' bad deeds. On the US market, a four-wheel drive brand offered internet users to create their own TV ads. It saw pop up on social networks ads showing the polluting nature of their cars.

In this study several contributions are then withdraw: how brand communities can influence brands through co-creation, how the brand identity prism will reinforce a strong brand community and a new classification of co-creation is proposed.

LIMITS AND FURTHER RESEARCH

The main limit of the empirical study is the generalization of results.

The study focused on one example of the Axe brand community. For external validity, and in order to validate the classification of co-creation, other brands and products are needed.

In addition, it would be essential to generalize the use of the Brand Identity Prism (Kapferer, 1992) to create a strong identity brand. This would be a prerequisite for a strong link between the community's members and the brand. The brand community transcends frontiers and has to adhere to its values, norms, culture and would then be a real incubator of co-creation. Through the study of other examples, we have noticed two key success factors of co-creation: It is efficient when it concerns a small number of consumers: the ones who want to participate or the ones who have a real expertise.

Firms have to be involved in a lasting manner by establishing a constant dialogue between clients and company employees (for instance Oxyane had to relocate its R&D to certain consumption areas in order to develop the Decathlon brand (seaside and mountains areas).

Finally, managers have to find ways to reduce the risk of consumers taking control over brands. They have to know when co-creation is appropriate and they have to balance consumers' power and counter-power and to initiate a co-power approach. Further investigation of the effects of co-creation through brand communities should be looked into, especially questions such as: what is the level of control over a brand? How to fix clear limits for brand community members?

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TOWARDS A CONCEPTUAL MODEL FOR E-BUSINESS DEPLOYMENT IN LIBYAN UNIVERSITIES (A CASE STUDY OF MISURATA UNIVERSITY)

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ABSTRACT

There is a lack of literature on technology utilization in Libyan universities and this paper attempts to make a worthwhile contribution to this literature. The paper explores e-business deployment in Libyan universities, with an initial focus on the university of Misurata, situated in the north of the country between the country's two main cities of Tripoli and Benghazi. It examines the current and potential uses of e-business, and assesses the barriers to wider use of e-business systems and technologies. Existing models to measure e-business deployment are applied and assessed, and a new model is developed to better gauge the current situation at process level in these universities. The model will be further applied at other Libyan universities and will act as a yardstick for comparing and progressing the operational implementation of e-business in these organisations.

Keywords: *E-business, E-business models, Libyan universities, technology strategy, SCALE model, process change, case study*

INTRODUCTION

With the rapid advancement of information and communications technologies (ICT) in the new millennium, electronic business (e-business) has become a significant element of organisational strategy to achieve competitive advantage (Yang and Lee, 2012). Previous studies have viewed e-business in different ways. Wu et al. (2009), for example, see e-business as an entity, an organization which conducts its day-to-day business functions using the internet, websites, enterprise information portals and/or other electronic network technologies. Anitesh et al. (2005), on the other hand, view e-business as a process that involves the total digitization of value chains within an organisation. This research assumes the wider definition of e-business as a process, as defined by Chaffey (2002, p. 13) as "all electronically mediated information exchanges, both within an organisation and with external stakeholders, supporting the range of business processes". The term therefore is taken to include the

use of all information systems and related technologies, irrespective of whether they use the internet or are accessed via web technologies.

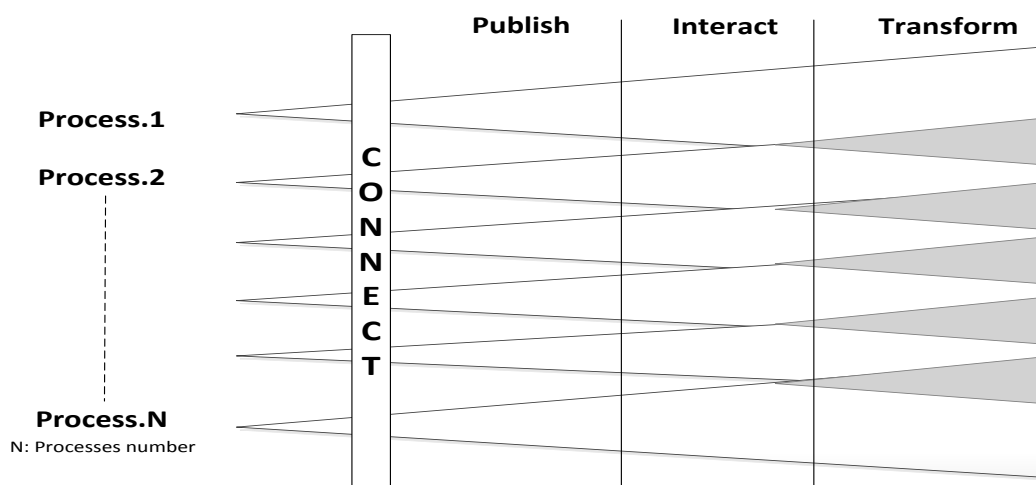
Previous studies have researched e-business deployment in large organisations, including some universities. Espinoza and Gonzalez (2012), for example, concluded that universities in Chile have become dependent on ICTs for managing their operations and providing services. In a recent study, ITU (2012) reported that Libya has recently undertaken administrative reform, especially in universities, supported by a strategic plan for developing e-business infrastructure, thus making e-business applications in the higher education sector a key component of its overall development plans. The Libyan Ministry of Higher Education (LMOHE) fund and manage eleven public universities, with a common management, financing and regulation system which aims to improve the universities' management and services (LMOHE, 2012). Kumar and Arteimi (2009) have observed that Libyan institutions still face significant challenges in bringing about a more effective use of e-business in their daily administration processes; these include a lack of e-business infrastructure, a lack of qualified personnel and an institutional resistance to change. Similarly, Al-Mobaideen's (2009) study of technology adoption in Jordanian universities found a number of factors were inhibiting technology deployment, including strategy, infrastructure and networks, funding and sustainability, and organisational culture.

The research discussed in this paper attempt to support the universities in developing more efficient ways of managing core organisational processes and associated information flows, and explores the cultural and operational implications of using e-business technologies and related processes. It is designed to contribute to knowledge in the context of university operations and management, investigating how e-business deployment can contribute to universities' overall performance. It also suggests a new model for assessing the effectiveness of e-business within Libyan universities.

THEORETICAL FRAMEWORK

Over the past decade a number of e-business models have been developed and designed in Western countries, where the technological and organisational environment is still significantly different to that in a developing country such as Libya. This study will examine if and how a number of these models may be used or adapted in the Libyan university context. The UK Department of Trade and Industry (DTI) e-business adoption model identifies five simple stages in developing e-business capability, providing an evolutionary viewpoint on how organisations might develop their online strategies (DTI, 2003). Another model, the Connect-Publish-Interact-Transform (CPIT) model, analyses e-business adoption at individual process level, allowing a more in-depth assessment of the impact of e-business on organisational operations (Wynn, Turner and Lau, 2013). In this model, 'Connect' indicates the basic

use of ICT applications such as e-mails for messaging, and internet tools for information gathering. 'Publish' refers to the publishing of electronic information, generally via an organisation's website. 'Interact' indicates some interaction between customers, employees or business partners with the host organization via their website, which could be, for example, the placement of an order by a customer or end consumer. In a university context, this could be a dynamic website that provides accessibility and flexibility for submitting application forms and orders online, or an integrated system agreed with partners and stakeholders to interact with the organization via the website. Note here, that in the context of the original CPIT model, a narrow definition of e-business is assumed, centering on the use of the internet and websites. Finally, 'Transform' refers to the deployment of advanced e-business systems that allow the organisation's processes to be automated, coalesced and transformed.



Zuboff's concepts of automate-informate-transformate are another means of evaluating e-business capabilities at the individual process level. In this context, e-business is viewed in line with its wider definition, almost akin to ICT deployment. 'Automate' implies the simple use of technology such as computer systems to support a process; 'informate' requires that information systems are being used to create management and operational information to advance process improvement; and 'transformate' means that the deployment of e-business has had a significant impact leading to a degree of transformation in the organisational process. This framework has been used to assess information systems in Libyan banks (Sharkasi and Wynn, 2011), and in Libyan oil companies (Akeel, Wynn and Zhang, 2013).

The Design - Actuality Gap model developed by Heeks (2002) identifies four main elements of change that are key to transitioning an organisation from local actuality - where the organisation is now - to its future state or design (Figure 2). While Heeks' model can be applied to any business transformation, in this paper it is used to provide a perspective on the deployment of e-business. The model provides a view of the possible transition from the current level of e-business deployment to the targeted 'design' stage. The transition is based on meeting certain criteria and standards in four interrelated elements of

change – people, information, technology and processes. Regarding process change, which is a central focus of this research, Harmon (2009) has argued that process redesign should not only look at the top level process functions, but should also examine how the lower level activities are managed day-to-day, looking at how activities are planned, communicated, organised, monitored and controlled. Another body of literature looks at how processes gain in maturity and sophistication as an organisation grows. The Capability Maturity Model (CMM) defines five levels of process maturity that an organisation goes through as it grows, initially starting without process disciplines, to a developed organisation where all processes are measured, managed and reliably performed (Harmon, 2009). This concept has been adapted for use in major systems projects that can be aligned with the adoption and progression, within an organisation, of Business Process Management (BPM) maturity models (Van Looy, De Backer and Poels, 2014).

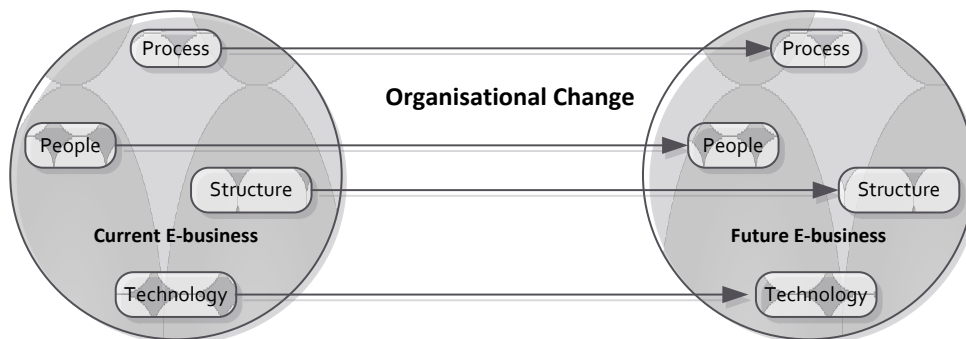


Figure 4. *Design - Actuality Gap Model*

Source: Adapted from Heeks, 2002

Within this theoretical framework, this paper addresses the following research questions:

RQ1. What is the level of e-business deployment in Libyan universities (using Misurata university as an initial case study)?

RQ2. What are the key issues that impede the wider deployment of e-business applications and related information systems?

RQ3. What is the most appropriate model or framework for assessing and comparing e-business deployment in the universities of Libya?

RESEARCH METHODOLOGY

Saunders et al. (2009) defined research strategy as the general plan of how the researcher will go about answering the research questions and they also noted that a case study strategy can incorporate multiple cases, thereby increasing confidence in the resulting data and research findings. This research project adopts a multiple case study approach - if two or more universities exhibit the same concept or model, replication could be applied and analytic generalisations could be informative to other similar

institutions; however, this paper reports on findings from the first case study researched as part of this wider project. Other relevant studies have adopted similar approaches. For example, Prananto et al. (2003) studied eight case study companies to see how the companies treated their e-business initiatives at different stages of maturity, while Al-Mobaideen (2009) examined ICT deployment in Jordanian universities using a qualitative multiple-case study approach (four Jordanian universities were investigated). Sharkasi and Wynn (2011) used a multiple case study approach in their research into the deployment and evaluation of accounting information systems in Libyan commercial banks. Given the nature of the research questions, the research adopts a qualitative methodology which will use multiple cases (Yin, 2009), and an inductive approach, allowing generalisations to be made from the case study findings. The time horizon is cross-sectional as data are collected only once. For data collection, the study uses multiple-sources of evidence; these include a structured questionnaire, open qualitative semi-structured interviews with many different organisational actors, document analysis, workshops, and observation.

The researchers are centrally involved in the phenomena being studied, and in the process of data collection and analysis in order to answer the research questions. The philosophical perspective is thus based on the ontology of subjectivism, and the epistemological position is interpretivism. The study population is the eleven Libyan public universities. In the completed study, up to six Libyan universities will be the subject of detailed case study investigation. At each university a range of investigative activities are being undertaken to gather and analyse the data and information. These activities include ascertaining overall strategy, mapping of organisational processes and sub-processes, assessing information requirements, systems architecture assessment, and overall review of e-business functions and capabilities at process level. This research also explores the cultural and operational implications of using e-business systems and technologies to support and manage core processes and provide better services.

FINDINGS

E-business deployment at Misurata University

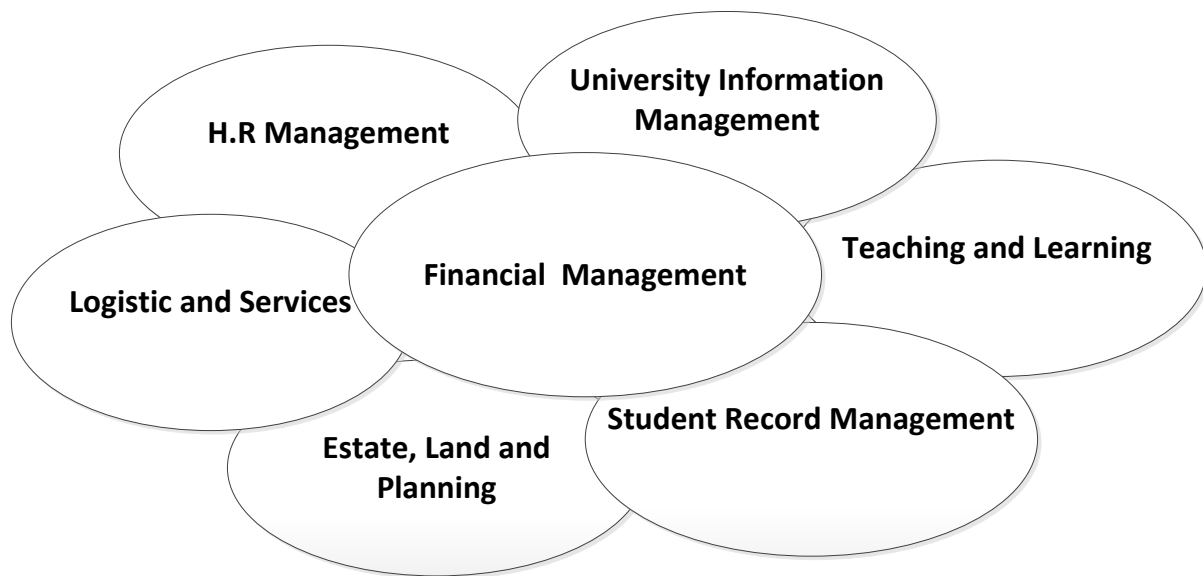


Figure 5. *Main Processes at Misurata University*

Initial process mapping suggests there are seven main processes operating at the Libyan universities (Figure 3). Process definitions are based on the explanation of the people involved in performing the process and outcomes were agreed with them. Each process contains a number of sub-processes which reflect the activities and information flows within that process. This acts as a framework for allocating current e-business applications and assessing their capabilities in supporting processes and sub-processes.

At Misurata University, the human resource management process was the first to use e-business technology. An in-house designed system - built by third party locally based programmers in Visual Basic and Delphi, with an SQL Database - was introduced in 2006 to record, store and report personnel data on university employees and staff. Reports are provided monthly, quarterly, bi-annually, and annually. The system is used by five employees to administer vacations, staff changes, and retain the classified details of Libyan and foreign university staff. However, it is a stand-alone system which is digitally isolated from the university's networks and other systems. Data is gathered manually and prepared by using software packages (e.g. MS Word or Excel spreadsheets) before entry into the in-house system. There remains a high degree of manual and semi-manual processes and a lack of information sharing.

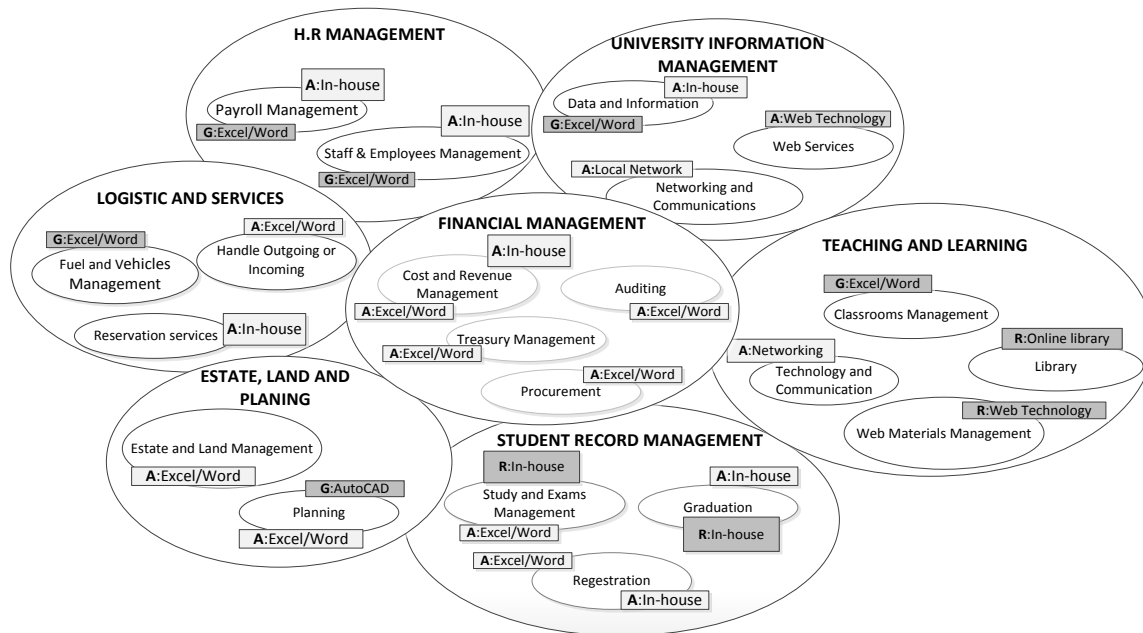


Figure 6. *Systems Profiling by Process and Sub-process at Misurata University*

G (Green): indicates a system that is sound and does not need replacing.

A (Amber): indicates a system that may need replacement.

R (Red): indicates a system is defective and needs replacing

Similarly, within the student records management process, the university has developed and used an in-house system for the management of basic student records for the last twelve years. This system was again developed locally by third party programmers using Visual Basic and Delphi. There are three main systems functions or modules: student registration, study and exam recording, and graduation records. Students' data are still manually gathered before entry into these systems. There is a basic local network connectivity which supports data entry, editing and records update from several internal interface portals (Figure 5). In the engineering college there is now an elementary web portal which supports web-based applications, providing student access to read and update certain designated details related to their academic modules. However, even with these e-business systems, there still no electronic ID student card to identify students as members of the university community. Many of the staff, employees and managers still do not have sufficient knowledge of the practicalities of using of e-business systems in the university's daily work; so there are still real difficulties in the use of e-business in the student record management process. For example, in Misurata University, eight colleges follow an academic year system and three other colleges still follow a semester system. As a result, it is problematic for staff in student records to consolidate the processes required to complete their work, which leads to a complexity of design and implementation of these systems.

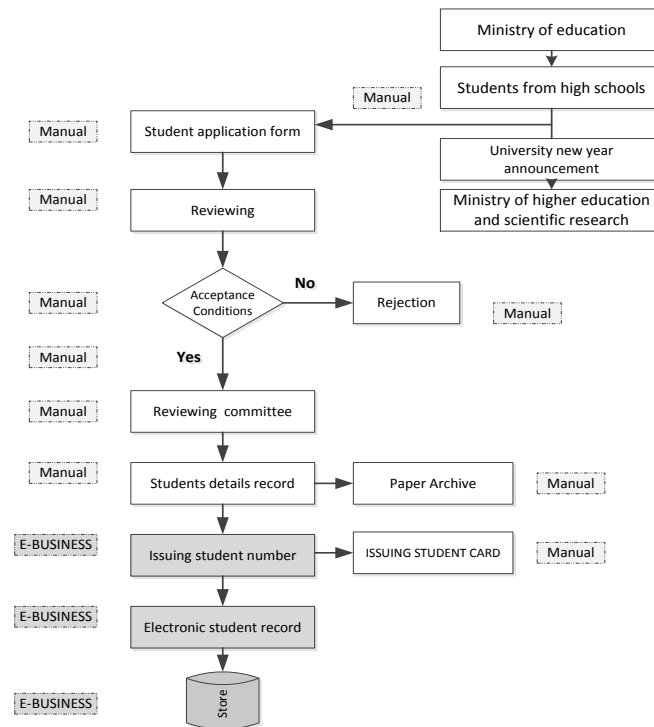


Figure 7. *New student registration flowchart*

The financial management process exhibits the most advanced use of e-business technologies in the university. Again, bespoke in-house systems are used in conjunction with MS WORD and Excel. Four in-house systems have been developed locally using Visual Basic and Delphi programming languages, covering a range of functions - employees and staff salaries, student scholarship and grants, the national ID records, and budget reconciliation for financial year end reporting. However, with the exception of the salary system, the use of paper based forms remains for recording data prior to entry into these systems; and these systems are isolated from other university systems and there is no access remotely via a web-portal nor are they linked through a local internal network. Nevertheless, in the financial management process, more than any other, the University relies heavily on current e-business systems, and some of these systems could be acceptable in the mid-term, especially if they could be accessed more widely through the upgrade of the supporting technology.

The university's estate, land and planning management process encompasses the management and supervision of the university campuses, buildings, lands and investments. As illustrated in Figure 4, there are two sub-processes. There are some e-business applications available such as MS WORD, Excel, and AutoCAD, which are used for printing or the preparation of quantity tables and simple map design. According to the manager of this process, only 10% of users have the ability to use information technology applications and devices. The university's estate inventory is still performed manually.

University buildings and land distribution are in dispersed geographical locations which makes it difficult to collect accurate data.

With regard to the information management process, it is currently limited to gathering and aggregating the university's data and information by and large manually from the university's printers and other hard copy sources. There is some evidence of the use of e-business applications such as MS WORD, Excel and PowerPoint, which are used for electronic data preparation and saved onto hard drives, and there is also some use of the web development software CMS, available as an open source product. There is now a team of five staff working on these tasks and supporting the university networks and hardware. However, these employees' qualifications and capability levels are relatively low, which restricts their ability to deal with complex problems in information systems. The university's current systems were all developed outside the university, except the employee and staff records system, which was developed in-house by the IT department. The university website is rudimentary and does not have accurate data or provide reliable communication, and there is no integration with (or between) the university's internal systems.

Within the teaching and learning process, which includes both undergraduate and postgraduate study, the Engineering College and Information Technology College both provide teaching and research in computing and IT. In these colleges, there is some evidence of e-business deployment in the classroom, with computers being used for projection of lecture material (in MS WORD or PowerPoint) via data projectors. However, the teaching and learning processes and activities in the rest of the university exhibit very little use of e-business technologies, with no use of the internet in the classroom. There are no online course materials or lectures that can be accessed 24 hours a day, 7 days a week. An e-business strategy needs to be developed for teaching and learning to usher in computer-based and on-line learning services and the sharing of resources. There is a basic library website, but access to learning resources is still mainly reliant on printed books and other materials in local university libraries.

ANALYSIS

Towards a new conceptual model for e-business deployment in Libyan universities

We will now assess if and how some of the existing models and concepts can be used in the context of e-business in Libyan universities. Zuboff's model of automate-informate-transformate can be applied at the individual process level, and this shows Misurata University to arguably have most of its processes at the 'informate' stage, based in the main on the use of in-house systems allied to spreadsheets and word-processing packages (Figure 6). The estates planning and logistics management processes lag behind with some automation but still a significant dependence on manual processes. Only the

financial management process could be said to be at the 'transformate' stage, but this is questionable and relative to a very low level of computerization a decade ago.

Process	Automate	Informate	Transformate
<i>Teaching and learning</i>	MS. Access database and MS. Word, Excel spreadsheets are used for timetabling of lectures.	Basic information sharing use web-sites, and low level use of email communications ★	
<i>Human resources management</i>	In-house system developed in Delphi and VB/SQL from a third party vendor is used to support payroll & personnel management.	Electronic information available, and reports on staff absence, sickness, holidays, leave, etc. and pay/salary details. ★	
<i>Financial management</i>	Third party systems using VB/SQL, Delphi coding, MS. Access databases & Excel spreadsheets are used to manage both financial and management accounting activities.	System generated summary reports for payroll and salaries; it's available for managers and operators.	In 2014 Visa cards have become available to use for payment and purchase within the University. Possibilities of networking in-house systems with other relative systems inside the university. ★
<i>Student records management</i>	Use of three in-house systems designed by VB/Delphi. Basic level of a network link, and use of MS. Word and Excel for electronic data management.	Basic reports from in-house systems are available. Elementary website with a general information catalogue available to current and prospective students. ★	
<i>University information management</i>	In-house system locally designed in MS. Access. Use of MS. Excel and MS Word for electronic data management. Server available, but not in use.	Basic level of electronic information available. ★	
<i>Estate/ land and planning management</i>	Basic use of MS. Office applications, and AutoCAD. ★		
<i>Logistics & services management</i>	Basic use of MS. Office applications		

Figure 8. *e-business deployment at process level in Misurata University (based on Zuboff's automate-informate-transformate)*

The DTI's CPIT model was designed in the years when e-business was closely linked to internet use, but it can still be of value by adapting it to accommodate the wider definition of e-business assumed in this research. It means that some of the stages need re-defining, notably 'publish' which now includes display of information via standard information systems as well as on websites or via a web front-end

or portal. The application of the CPIT model to Misurata university is shown in Figure 7, indicating that all processes, with the exception of estates planning and management, are at the publish stage at least, with financial management, student records management and human resources management being further advanced.

Process	Connect	Publish	Interact	Transform
<i>Teaching and learning</i>	Some computers available, existence of basic LAN. Use of MS. Word, Excel, and Access applications	Use of some Data-Show and smart boards for teaching purposes. ★		
<i>Financial management</i>	Existence of some computers and other hardware accessories uses for the preparation of certain electronic information. Use of MS. Word, Excel, and Access. Existence of reliable electricity network.	Computer generated hard copy reports available for key aspects of financial management from bespoke systems and office productivity tools.	Existence of basic LAN and four in-house systems (National number system, payroll system, a student's salary system, final account closure system). Level of user interaction is limited based on user authority and confidentiality of information. ★	<i>There has been significant change in technology deployment over the past decade and further significant change is feasible in the short to mid-term.</i>
<i>Students record management</i>	Office productivity tools are used, mainly in standalone mode.	Elementary information on university courses is published on university website. and there is a basic LAN but bespoke systems remain standalone.	In-house systems (registration, study& exams, and graduation systems) provide access to database information (read/write), and use of MS Excel and Access.. ★	
<i>University information management</i>	MS Access, Excel, Word are used for information collection and storage.	Reports are made available electronically via email. Servers available but no multi-user systems at present. ★		
<i>State/ land and planning management</i>	Use of AutoCAD software, MS. Word and Excel ★			
<i>Logistics & services management</i>	MS Word, Excel available for basic applications.	Some data is published electronically via Excel spreadsheets. ★		
<i>Human resources management</i>	Office productivity tools are available on a range of computers.	Personnel information is available electronically within the HR function.	In-house systems. (e.g. Personnel records system) are used interactively, but no LAN available. ★	

Figure 9. *e-business deployment at process level in Misurata University (using the CPIT model)*

Nevertheless e-business deployment remains basic by western standards, with the university still struggling to install the required technology infrastructure, such as networks and internet connection. As a result, the in-house systems are isolated and online access to key information is limited to a few users.

The assessment at process level afforded by the application of the Zuboff and CPIT models is useful, but requires modification of the underlying concepts in both cases. Zuboff's original conception of automate-informate-transformate dates from the 1980s, when information technology was of a different era and the impact of technology on people was emphasised. Similarly, the concepts underlying the CPIT model reflect an understanding of e-business that is different to the broader definitions generally accepted today. A model better geared to the broader definition of e-business that also reflects the slower take-up of information technology in developing world countries like Libya is more appropriate.

The SCALE model has five stages. **Start** indicates a clear organizational structure, with clearly defined roles and procedures, and a general awareness of the availability of ICTs for day to day running of an organization, with possibly one or two individuals using standalone technologies (e.g. a laptop or mobile phone/iPad). At the **Connect** stage, there is an electricity network widely available and some internet connectivity allowing access to websites and inter-organization email exchange, a partial in-house data communications network facilitating multi-point access, and a few standalone users of basic office systems (e.g. a word processor or spreadsheet). At the **Access** stage, there is a wider take-up of office systems and use of some information systems for recording, processing and reporting information in key process functions. These systems are often built in-house by end-users or via third party programmers. The first servers appear allowing access to systems and applications from the organisation's network. Once most processes are at this stage, a central IT/IS department normally is put in place to manage the infrastructure and systems. The organization will normally have a website at this stage, which includes information on products and services, although there is probably no ability to take transactions via the website. **Leverage** indicates an established level of e-business systems deployment in most process areas, with some basic cross-organisational standards being introduced for IT/IS products and services, and procedures for things like backup and upgrades are defined. There is a degree of process change at this stage, as new systems require and allow process improvements. Website content becomes more advanced, being used by internal staff as an intranet and transactions are taken via the website where appropriate to the type of organization. **Enterprise** level is attained when systems are in place in all main process areas, either using a range of integrated packages or in-house developments, or possibly an ERP integrated package. At this stage the end-user community

includes information specialists. Processes are improved and streamlined and are reliant on a range of multi-user systems or modules accessing centrally held databases. The majority of corporate systems are accessible via the intranet or web portal, for both internal and external users, customers and business partners.

Learning & Teaching					
Student Records Management					
Financial Management					
HR Management					
Logistics Management					
Information Management					
Estates Planning and Management					
	Start	Connect	Access	Leverage	Enterprise

Figure 10. *E-business deployment assessment at the process level in Misurata University using SCALE model*

The application of the SCALE model at Misurata university is shown in Figure 8, with only the financial management process being at Leverage stage. The model allows greater differentiation of the other processes, with human resource management and student records management at the Access stage, and all others at the Start or Connect stages. This model can be used to help identify the hurdles that have to be jumped in each process area to facilitate advancement up the SCALE model. While there is evidence of awareness at senior management level of the importance of e-business systems, Misurata University faces a range of barriers to e-business deployment, which affect most process areas to some degree: (1) the lack of a clear business plan for the university that encompasses technology strategy, objectives and investment; (2) lack of consistent and standard administrative processes and procedures; (3) lack of basic network and internet connectivity; (4) lack of e-business skills and knowledge; (5) lack of training and development programs regarding e-business systems and technologies; (6) cultural resistance to change and a laissez-faire management attitude. In line with Heeks' model, these barriers are strongly linked to all four of his key elements, but particularly, process, technology and people issues.

CONCLUDING REMARKS

There are some encouraging signs of change at Misurata University. Development of web-portal services is in progress in the student records management and teaching and learning processes, which

will widen access to existing systems as the basic network infrastructure is upgraded and extended. It is increasingly recognized by staff that new e-business systems are needed and that this affords the university an opportunity to move forward. What is now needed is a clear e-business strategy, aligned with the overall university business plan, with parallel programmes to upgrade skills and knowledge in the key process areas of the university. This must encompass the small IT department which needs to play a key role in the planning and delivery of new systems and technologies. This group already have some skills in web-site development and this is likely to be an important capability as attempts are made to provide a user friendly front-end to the range of systems currently in place, as a short to mid-term solution.

The use of the SCALE model has helped identify where progress has been made and where opportunities exist at individual process level, and this will now be further developed and applied in Misurata and a number of other Libyan universities. The results of this research will be fed into the future business planning and operational delivery of new e-business systems in the universities of Libya, linked to the Libyan government initiative to develop e-business infrastructure across its university campuses.

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ON THE DEVELOPMENT OF THEORETICAL MODEL OF ANTECEDENTS AND OUTCOMES OF ORGANIZATIONAL E-HRM ADOPTION

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ABSTRACT

With the advent of web based technology, HR service delivery has dramatically been changed and growing interest on the phenomenon of e-HRM emerged among academics and practitioners. Despite several theoretical and empirical studies have been conducted, we still know little about predictors and outcomes of organizational e-HRM adoption. Furthermore, extant literature is limited with the rigorous application of the theory in addressing e-HRM research questions. Thus, to address these gaps in the e-HRM literature, in this paper, we propose a theoretical model using three mainstream management theories namely diffusion of innovation theory, resource based theory and theory of planned behavior. Ten hypotheses were developed and the hypotheses need to be empirically tested. Finally, paper briefly discusses suggested research design for the empirical study with a discussion of limitations and potentials for future researches.

Key words: e-HRM adoption, Innovation characteristics, Resources and capabilities, Technical HRM effectiveness, Strategic HRM effectiveness

INTRODUCTION

Since 1980s, organizations moved towards information technology (IT) based business process applications in order to reduce operational cost and to enhance effectiveness of the business process and practices(Heikkilä, 2013). However, compared to other business functions such as production and operation, marketing, accounting and finance, only human resource management (HRM) function taken relatively significant time to apply IT components (Ball, 2001). However, since the mid-1990s, organizations have increasingly introduced electronic human resource management (e-HRM) system(Bondarouk et al., 2009), which is generally referred to utilizing IT to provide HR services(Heikkilä and Smale, 2011).

More precisely, e-HRM is defined as “the planning, implementation and application of information technology for both networking and supporting at least two individuals or collective actors in their shared performing of HR activities”(Strohmeier, 2007 p.20).The adoption of e-HRM among US and European organizations has significantly increased over last decade (Florkowski and Olivás-Luján,

2006) and growth will continue in future (Bondarouk et al., 2009). Such growth and motivation towards e-HRM adoption is accelerated across organizations due to continuous pressure entrusted on the HR department to convince its contributions to the organization through maintaining efficiency and effectiveness of HRM service delivery.

In recent years, e-HRM phenomenon has been received a greater attention among academics due to its multidisciplinary nature that combine both HRM and IT (Heikkilä, 2013). However, theoretical and empirical research in the field of e-HRM is still at an early stage compared to general IT and strategy literature (Marler and Fisher, 2013). Consequently, there exist several areas that should be further extended on one hand, and several unexplored areas which have not yet been addressed on the other hand.

First, antecedents of organizational e-HRM adoption are not well studied and findings of these studies are inconsistent (Strohmeier and Kabst, 2009). Previous studies on antecedents of organizational e-HRM adoption can be categorized in to two based on the types of e-HRM system considered and types of antecedents/factors included. With respect to types of e-HRM system, several empirical studies have been examined organizational adoption of specific functional subset of e-HRM, for instance e-recruiting (Keim and Weitzel, 2009), e-learning (Martin and Jennings, 2002) while few studies investigate the organizational adoption of general e-HRM (Lau and Hooper, 2008, Strohmeier and Kabst, 2009). However, the findings of these studies are rather scattered and inconsistent and organization size only provides consistent result in terms of organizational adoption (Ball, 2001, Florkowski and Olivas-Luján, 2006, Hausdorf, 2004, Teo et al., 2007). With respect to types of antecedents of e-HRM adoption, Strohmeier and Kabst (2009) empirically investigate the effect of general factors (organizational size, industry, and demography of an organization, employment structure and configuration of HRM) and contextual factors (national business system) of e-HRM adoption. However, no studies in the literature are applied characteristics of e-HRM system for instance innovation characteristics (relative advantage, complexity, compatibility, observability and trialability) suggested by Diffusion of Innovation theory (Rogers, 2003) as antecedents of predicting organizational e-HRM adoption decision.

Second, outcomes of the e-HRM adoption are understudied and findings are rather inconclusive (Marler and Fisher, 2013). Organizations mainly expect to achieve three outcomes in e-HRM adoption: (1) cost reduction/efficiency gains, (2) client service improvement/effectiveness of HRM service delivery and (3) improving strategic orientation of HRM (Marler, 2009, Ruël et al., 2004). As far as the previous studies of outcomes of the organizational e-HRM adoption are concerned, it can mainly be classified in to three types: (1) individual level outcomes, (2) HR department level outcomes

and (3) overall organizational level outcomes. Equal number of attention in the literature has been paid for these three types of outcomes. Most widely addressed individual level outcomes consist of organizational commitment, perceived procedural and distributive justice, intention to quit, job satisfaction (Imperatori and Bissola, 2010), professional competence in HRM (Bell et al., 2006), internal customer satisfaction (Alleyne et al., 2007). It is apparent that due to e-HRM adoption HRM department is subjected to change and in turn benefited in a certain ways. Thus, previous studies addressed several HR departmental level outcomes such as HRM value creation (Ruël and van der Kaap, 2012), HRM effectiveness (Haines and Lafleur, 2008, Ruel et al., 2007), value of HR function (Parry, 2011), transformation of in the role of HR function (Panayotopoulou et al., 2007). Finally, at the organizational level following outcome variables have been widely considered: organizational image, improving efficiency, standardization (Parry and Tyson, 2011), strategic decision making, talent management (Bondarouk and Ruël, 2013), cost reduction, new structure, quality improvement, strategic contribution (Farnale et al., 2009), reduction in administrative costs (Marler, 2009). Despite growing interest in outcomes of e-HRM adoption exist, previous studies failed to find consistent results with respect to outcomes of e-HRM adoption. For instance Haines and Lafleur (2008) found positive association among degree of IT enabled HR practices and perceived HR strategic effectiveness and quality of strategic and change agent HR roles. However, (Tansley et al., 2001) failed to find such relationship between implementation of IT supported HR practices and HR specialists value addition to the business. Consequently, as previous studies have been provided mix results in the relationship between e-HRM adoption and its outcome, further research are warranted.

Third, extant literature is limited with the rigorous application of the theory in addressing e-HRM research questions (Bondarouk and Ruël, 2013, Strohmeier, 2007). Further, most of the previous studies are exploratory in nature where specific theoretical foundations are lacking to guide the research (Marler and Fisher, 2013). Reviewing previous research in e-HRM and emphasizing non-theoretical character of existing literature, (Strohmeier, 2007) suggest resource based view, transaction cost theory and institutional theory as the three potential theories that can be applied in addressing e-HRM research question. However, e-HRM research is silent in this issue and only one study (Parry, 2011) applied resource based view to examine the potential use of e-HRM as a means to increase the value of the human resources function. Thus, "we need a stronger theoretical foundation for e-HRM research in general to help make sense of the literature, strengthen the research conducted, and facilitate effective accumulation of knowledge" (Marler and Fisher, 2013 p.34)

Positioning with the research gap in the literature discussed above, the prime objective of this paper is to make a contribution to extant literature of this multidisciplinary field, by developing a theoretical

model on antecedents and outcomes of organizational e-HRM adoption. In response to the existing gap in the literature, this paper aims to propose a theoretical model to address following research questions.

1. To which extent innovation characteristics influence on organizational intention to e-HRM adoption?
2. To which extent organizational intention to e-HRM adoption influence to e-HRM adoption?
3. To which extent organizational resource and capabilities moderate the organizational e-HRM adoption?
4. To which extent e-HRM adoption influence on HRM effectiveness?

The remainder of the paper is organized as follows. First, key concepts of e-HRM and e-HRM adoption are discussed. Second, core elements of the three theories applied in the study (diffusion of innovation theory, theory of planned behavior and resource based theory) are discussed. Third, theoretical model is explained along with hypothesis. Fourth, suggested research design is discussed with a discussion of potential of future research and limitations.

LITERATURE REVIEW

Defining e-HRM

Utilizing IT to provide employees with HR services is generally treated as e-HRM (Heikkilä and Smale, 2011)). Before conceptualizing term “e-HRM”, it is important to review the similar terminology that has been used interchangeably with e-HRM in previous studies. These terms include; virtual HRM (Lepak and Snell, 1998)), web-based HRM (Ruël et al., 2004), Intranet-based HRM (Bondarouk et al., 2009), Business to employee (B2E) systems(Huang et al., 2004). Definition of e-HRM has been evolved over decades. Table 1 summarizes the available definition of the e-HRM literature along with the criticisms against for each definition.

Definition	Author	Weakness
“Conducting HR transactions using the internet or intranet”	(Lengnick-Hall and Moritz, 2003 p.365)	This definition considers only value created by e-HRM with respect to improvement of the administrative HR process. Thus, the definition ignores the transformational outcomes of e-HRM. ((Bondarouk and Ruël, 2009)
“A way of implementing HRM strategies, policies, and practices in organizations through the conscious and direct support of and/or with the full use of channels based on web-technology”	(Ruël et al., 2004 p.16)	This definition does not consider about the consequences of e-HRM. Thus, researchers who applied this definition may confront with challenges of measuring consequences of e-HRM. (Bondarouk and Ruël, 2009)

“(Planning, implementation and) application of information technology for both networking and supporting at least two individual or collective actors in their shared performing of HR activities”	(Strohmeier, 2007 p.20)	In a context, where e-HRM applications offer only administrative facility and do not support for the networking people, applying this definition is difficult. (Bondarouk and Ruël, 2009) This definition does not include international dimension (Heikkilä, 2013)
“An umbrella term covering all possible integration mechanisms and contents between HRM and information technologies aiming at creating value within and across organizations for targeted employees and management”	(Bondarouk and Ruël, 2009 p.507)	The terms used in the definition “umbrella” and “across organizations” indicate e-HRM as a too broad phenomenon lacking a clear explanation of the any particular process such as planning or implementation (Heikkilä, 2013).

Table 1: *Evolution of e-HRM definitions*

As per the Table 1, it can be concluded that the definition of e-HRM is subjected to several changes over time and there is no universally accepted definition of e-HRM. However, the definitions that are recently suggested by (Strohmeier, 2007) and (Bondarouk and Ruël, 2009) provide clear conceptualization of the terminology and most widely used in the e-HRM literature. For this study, we position with (Strohmeier, 2007) definition as it covers mostly the essential components of the e-HRM listed below.

1. e-HRM utilizes information technology (IT) for both “networking and supporting”. Networking refers to connect individuals (HR personal, line managers and employees etc) who have been spread virtually within and across organizations. Supporting involves with helping individuals to accomplish HR activities.
2. Incorporating the term “planning”, definition considers the systematic means of utilizing IT to execute HR activities
3. “Shared performing of HR activities” emphasize that interaction and networking among individuals
4. “Collective actors” indicate that e-HRM is a multilevel phenomenon. In addition to, HR personal, line managers and individual employee, there are collective actors like organizational units, whole organization that interact with accomplishing HR activities (Heikkilä, 2013).

e-HRM Adoption

Since e-HRM studies exist at early stage (Marler and Fisher, 2013), and e-HRM is closely linked with information communication technology and innovation (Ruël et al., 2004), most of the e-HRM studies

depend on IT and innovation adoption literature. Thus, according to information technology and innovation literature, technology adoption is considered as multilevel phenomenon and basically it classifies in to two pillars: *individual and organizational level* (Jeyaraj et al., 2006). Individual level adoption refers to the adoption of IT based innovations by individuals while organizational adoption denotes the adoption of IT based innovations by organization or organizational units such as particular department/section (Jeyaraj et al., 2006). Since e-HRM encompasses with IT components to deliver HR services (Ruël et al., 2004, Strohmeier, 2007), e-HRM adoption resemblance to the technology adoption. Thus, (Strohmeier and Kabst, 2009) contend that *organizational adoption of e-HRM* involve with the process of initiating and implementing IT for the purpose of facilitating various actors (HR professional, line managers and employees) in their shared performing of HR tasks. Given these factors, this study considers on organizational adoption of e-HRM that lead to facilitate efficient and effective delivery of HR service.

Goals of e-HRM Adoption:

In responding to the pressures directed towards HR department, organizations tend to introduce e-HRM system mainly to accomplish three goals: (1) cost reduction/efficiency gains, (2) effective HRM servicedelivery and (3) improving strategic orientation of HRM (Marler, 2009, Ruël et al., 2004). Consistent with these goals, extant literature in e-HRM suggest that e-HRM provides HR managers with opportunities to collect, store and analyze workforce data to make strategic decisions (Gupta and Saxena, 2013), cost reduction (Ruël et al., 2004), delegate routine administrative roles to line managers and employees (Bondarouk and Ruël, 2013) and spend more time with strategic HR activities such as talent management, strategic compensation management, organizational change and development (Parry and Tyson, 2011). However, Marler and Fisher (2013) reviewing 40 studies of e-HRM suggest that no consistent empirical evidence available to support the relationship between e-HRM adoption and such strategic outcomes that organizational performance, competitive advantage, HRM outcomes. Therefore, since organizations invest significant amount of money on e-HRM adoption there is a growing need to provide empirical evidence on outcomes of the e-HRM usage.

THEORY

With the background information about e-HRM phenomenon, provided in the previous section, preceding section discuss the theoretical background of the research along with the theoretical model and hypothesis.

Diffusion of Innovation Theory

An Innovation defines in the innovation literatures in different ways. Zaltman et al. (1973) define an innovation as being any idea, practice or material artifact perceived to be new by the relevant unit of

adoption. Further, (Kanter, 1985) define an innovation as “the generation, acceptance and implementation of new ideas, processes, products or services”. Several authors (Florkowski and Olivas-Luján, 2006, Shrivastava and Shaw, 2003) view that installation of HR technology as a form of innovation. More specifically, Ruël et al. (2004) and Panayotopoulou et al. (2010) argue that e-HRM can be treated as an innovation in terms of HRM due to two main reasons. First, e-HRM creates opportunity to position employee-management relations in the hands of employees and line managers and second, e-HRM offer opportunities to design HRM tools and instruments that would not be possible without IT. Thus, positioning with this argument, for this study we view e-HRM as an innovation.

Diffusion of innovation theory explains how, why and at what rate new ideas, products or practices spread (Rogers, 2003). However, for the present study researcher considers only why innovation is adopted by organizations. With innovation diffusion theory, (Rogers, 2003), suggest five generic characteristics of the innovation that influences on individual or organizational adoption decision. These five factors include: (1) relative advantage, (2) compatibility, (3) complexity, (4) trialability, (5) observability. The explanations of these five innovation characteristics are illustrated in Table 2.

Innovation attributes	Definition	Reference
Relative advantage	“The degree to which an innovation is perceived as being better than the idea it supersedes”	(Rogers, 2003 p.229)
Complexity	“The degree to which an innovation is perceived as relatively difficult to understand and use”	(Rogers, 2003 p.257)
Compatibility	“The degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters”	(Rogers, 2003 p.240)
Trailbilty	“The degree to which an innovation may be experimented with on a limited basis”	(Rogers, 2003 p.258)
Observability	“The degree to which the results of an innovation are visible to others”	(Rogers, 2003 p.258)

Table 2: *Characteristics of Innovation*

Diffusion of innovation theory has been applied in several other field of study such as information systems (Grover et al., 1997), marketing (Mahajan et al., 1990), and e-commerce (Eastin, 2002), and has been validated the foresaid innovation attributes (Sonnenwald et al., 2001). However, since technology related innovation adoption in HRM such as e-HRM commence relatively late to the other functional areas of the organizations (Ball, 2001, Parry, 2011, Ruël et al., 2004), no research have been applied diffusion of innovation theory in predictingorganizational e-HRM adoption. Several studies in HRM disciplinehave been applied innovation diffusion theory particularly to explore online recruitment adoption, (Parry and Wilson, 2009), Human resource information system (HRIS) adoption (Teo et al., 2007). However no studies up to date apply diffusion of innovation theory in explaining the variance

of organizational e-HRM adoption. Thus, this study assuming e-HRM as an innovation, aims to explore to which extent innovation attributes determine organizational intention to e-HRM adoption using diffusion of innovation theory.

Theory of Planned Behavior

This study also applies the well-known theoretical framework of theory of planned behavior (TPB) that is introduced by Ajzen (1991). TPB has been applied in several disciplines including marketing (Wang et al., 2006), Information systems (Venkatesh et al., 2003). Particularly, TPB has also been applied to investigate the technology adoption intention and behavior (Taylor and Todd, 1995). TPB describes the relationship between attitudes, norms and controls as the determinants of intentions and behavior. TPB suggest that intention leads to perform a particular behavior of interest. Positioning with this arguments, this study apply TPB to test the relationship between organizational intention to e-HRM adoption (intention) and actual e-HRM adoption (behavior).

Resource Based Theory (RBT)

RBT of the firm build on two assumptions. First, organizations are heterogeneous in terms of the resources they controlled and second, these resources might not be perfectly mobile (Barney, 1991). Further RBT acknowledge that organizational resources play key role in attaining competitive edge over rivalry. However, in accordance with the RBT, all the resource is not leading to sustainable competitive advantage and only valuable, rare, inimitable and non-substitutable resources enable to attain sustainable competitive advantage (Barney, 1991).

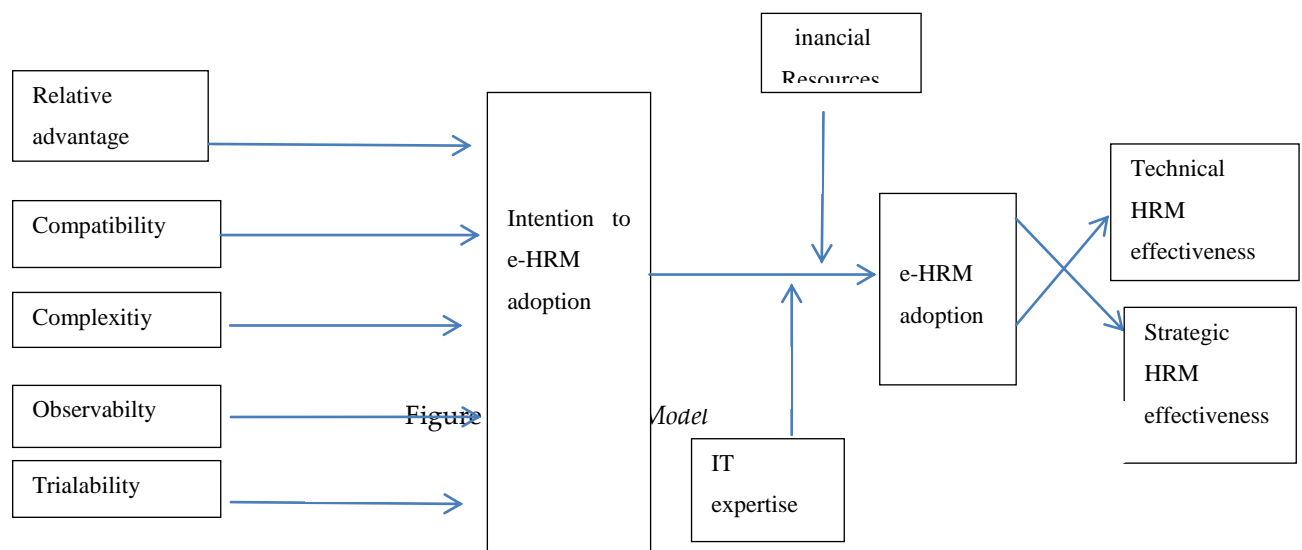
As the main focus of the resource based theory is on organizational resources and capabilities it is first essential to clearly define resources and capabilities of the firm and its boundaries. Firm resources refer to strengths that firm can use to conceive of and implement their strategies (Porter, 1981). Further (Barney, 1991)define resource as all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness. Different authors classify resources differently and Barney (1991) categorizes resources as *physical capital resources*, *human capital resources* and *organizational capital resources*. Technology used, plant and equipment, firms' geographic location, access to raw materials is considered as the physical capital resources. Human capital resource consist of the training, experience, judgment, intelligence, relationships and insight of individual managers and workers in a firm where as organizational capital resources include formal reporting structure, formal and informal planning, controlling, and coordinating systems and informal relationships among groups within a firm and its environment (Barney, 1991). In contrast, Chatterjee and Wernerfelt (1991) classify resources in to three pillars: (1) physical, (2) intangible and (3) financial. Further, Grant (1991) provide six types of organizational resources: (1) financial (2) physical, (3)

human resources, (4) technological, (5) reputation and (6) organizational assets. These classifications confirm that concept of resource and capabilities and its boundaries are not vibrant. Unclear typology of the concepts of resource and capabilities is due to the wide range of application of the resource based theory (Andersen and Kheam, 1998).

RBT is applied to explain and predict the differences in strategic choices and performance. Several studies (Andersen and Kheam, 1998, Chatterjee and Wernerfelt, 1991) have been applied RBT in predicting strategic choice decision in organization. This study, assuming e-HRM adoption as strategic choice of organization, investigates the moderating role of resources and capabilities in the relationship between intention and actual e-HRM adoption.

THEORETICAL MODEL AND HYPOTHESIS

A brief review of the literature and theoretical background provides the necessary foundation for the research model. Figure 1 depicts the theoretical model followed by hypothesis.



INNOVATION CHARACTERISTICS AND ORGANIZATIONAL E-HRM ADOPTION:

Relative advantage

Relative advantage refers to the degree to which an innovation is perceived as being better than the idea or artifact it supersedes (Rogers, 2003). In accordance with Diffusion of innovation theory, when innovation's relative advantage is higher, individuals are more likely to adopt it (Rogers, 2003). Organizations generally intend to adopt innovations mainly to overcome performance gaps and deficiencies or to exploit new opportunities (Premkumar and Potter, 1995). Applying this to the e-HRM, previous study suggest that organization move towards e-HRM instead of conventional HRM

service delivery, in order to improve the strategic orientation of HRM (Ruël et al., 2004), increase efficiency/cost reduction (Lepak and Snell, 1998), improve client service (Ruël et al., 2004). Thus, due to e-HRM adoption organizations enable to enhance effectiveness of the HRM department through automating administrative tasks (Ensher et al., 2002), reducing paper work (Ruël et al., 2004), simplifying work process (Teo et al., 2007). Moreover, supporting to strategic decision making with updated information (Bondarouk and Ruël, 2009, Parry and Tyson, 2011), freeing HR staff from administrative burdens (Martin et al., 2008) are some of other relative advantage associated with e-HRM. Thus, this leads to following hypotheses.

H1: relative advantage of e-HRM system is positively related to the organizational intention to e-HRM adoption

COMPATIBILITY

Compatibility of innovation refers to the degree to which innovation is perceived as being consistent with the existing values, past experience and needs of the potential adopter (Rogers, 2003). Innovation diffusion theory suggest that higher the perceived compatibility of innovation, more likely to adopt into innovation (Rogers, 2003). Previous studies in innovation adoption (Toranatzky and Klein, 1982) IT adoption (Cooper and Zmud, 1990) and HRIS adoption (Teo et al., 2007) found compatibility as the important variable to explain the variance of intention to use or adoption. Two types of compatibility/validity that is organizational and technical are required to be met in case of technology adoption (Schultz and Slevin, 1975). Organizational compatibility is generally assessed through the congruence between innovation and existing attitudes, beliefs and value systems. Subsequently, technical compatibility is evaluated by means of assessing match between innovations with existing systems (Premkumar and Potter, 1995). Due to e-HRM adoption work practices, culture, communication system and organizational structure are subjected to change as it is related to the information technology components (Marler, 2009, Strohmeier, 2007). Thus, these changes may leads to resistance to change where alternative coping strategies are required to implement to make aware individuals (Wickramasinghe, 2010). This confirms the notion that it is difficult to meet perfect degree of compatibility in any kind of innovation adoption. However, when e-HRM is organizationally and technically highly compatible, organizations are more likely to adopt e-HRM. Given these factors it is reasonable to claim following.

H2: Compatibility of e-HRM system is positively related to the organizational intention to e-HRM adoption

Complexity

Complexity refers to the degree to which an innovation is perceived as relatively difficult to understand and use (Rogers, 2003). Innovation diffusion theory acknowledges that when complexity

of innovation is higher, individual or organization are less likely to adopt into innovation. Premkumar and Potter (1995) argue that, though innovation itself may appear to be worthwhile, in contrast organization may find several complexities of using it. Since difficulty of some non-technical professionals to understand and use the IT related HR innovations many organizations take relatively considerable time to adopt such innovative system (Dunivan, 1991). Thus, when it comes to e-HRM, due to e-HRM adoption role of the HR professionals, line managers and other employees are subjected to change as additional task, duties and responsibilities may add while existing ones are removed (Ensher et al., 2002). However, when the perceived complexities of e-HRM system remain lower, organizations are more likely to adopt e-HRM systems. Thus, this leads to following hypotheses.

H3: Complexity of e-HRM system is negatively related to the organizational intention to e-HRM adoption

Observability

Observability is the degree to which the results of the innovation are easily seen and understood (Rogers, 2003). Innovation diffusion theory suggests that higher the visibility of the results of adopting innovation, individuals and organizations are more likely adopt. Organization enable to achieve number of positive results such as cost reduction, increased effectiveness (Ruël et al., 2004), automating administrative tasks (Ensher et al., 2002, Parry, 2011), simplifying work process (Teo et al., 2007). When organizations enable to observe the results of the e-HRM system either internal or external to the organization, it may encourage them to adoption in to e-HRM system. Thus, this leads to following hypotheses.

H4: Observability of e-HRM system is positively related to the organizational intention to e-HRM adoption

Trialability

Trialability refers to the degree to which an innovation may be experimented with on a limited basis (Rogers, 2003). Individuals are willing to experiment innovative products, services or ideas before actually adapt in to them (Agarwal and Prasad, 1997). With these experiments they enable to gain initial idea about the products or service along with its advantage and disadvantages. Consistent with this argument we believe that organizations are more likely to implement e-HRM systems when they have adequate opportunity to experiment the e-HRM system. It helps them to get initial understanding of the e-HRM system and to make initial evaluation of its positive and negative features. Thus, we hypothesize that,

H5: Trialability of e-HRM system is positively related to the organizational intention to e-HRM adoption

Intention to e-HRM adoption and e-HRM adoption

Theory of planned behavior (Ajzen, 1991) suggests that intention leads to actual behavior. When organization perceives that (1) e-HRM adoption would enable to gain favorable results over traditional labor intensive HRM system, (2) e-HRM system is organizationally and technically compatible with existing values, (3) e-HRM system is not difficult to use and understand (4) organization have opportunity to experiment e-HRM system and (5) organizations could easily be seen and understand the results of the e-HRM system, firms are more likely to decide to actual implementation of the e-HRM system in organization. Thus, applying the theory of planned behavior to the research model, it can be argued that organizational intention to e-HRM adoption leads to actual e-HRM adoption decision. This leads to following hypothesis.

H6: organizational intention to e-HRM adoption is positively related to e-HRM adoption

Financial resources

Resources vary in terms of their flexibility. Financial resources are the most flexible organizational resources over others as ability to buy all other productive resources depend on financial resources (Chatterjee and Wernerfelt, 1991). Financial resources generally classifies into two classes: internal funds and external funds (Chatterjee and Wernerfelt, 1991). Internal funds comprise with liquidity at hand and unused debt capacity to borrow at normal rates whereas external funds encompass new equity and possibly high risk debts. As discussed earlier in the theoretical background section, RBT have been applied in predicting organizational strategic choice decision particularly in the context of diversification strategy (Chatterjee and Wernerfelt, 1991) and international growth strategies (Andersen and Kheam, 1998). With these studies, more specifically, (Chatterjee and Wernerfelt, 1991) found that financial resources are significantly associated with the intended and implemented strategy.

Intention to e-HRM adoption is a key strategic consideration of an organization as e-HRM usage is positively related to HRM value creation (Ruël and van der Kaap, 2012). Even though e-HRM enables to generate value over the traditional HRM system, intention to e-HRM adoption is hindered by the availability of internal or external financial resources. This is due to the fact that organizations are required to incur significant amount of financial resources in IT related (e-HRM) investment or adoption (Molla and Licker, 2005). This means that even though organizations perceive that e-HRM system generate positive outcomes, their decision to e-HRM adoption is moderated by the availability of financial resources. This leads to following hypotheses.

H7: The relationship between intention to e-HRM adoption and e-HRM adoption is positively moderated by availability of financial resources

IT expertise

In line with RBT, (Barney, 1991) suggests that human capital resource is one of vital organizational resources that consist of training, experience, judgment, intelligence and insight of individual managers and workers in a firm. In accordance with this classification, organizational members' (Managers and employees) IT expertise can be considered as the human capital resources of an organization. IT expertise is one of key determinants of the IT related innovation adoption (Kwon and Zmud, 1987, Teo et al., 2007). This means that when organizational members are well equipped with appropriate IT related knowledge and experience, organizations are more likely to adapt in to IT applications. Confirming this notion, (Premkumar and Potter, 1995) observed that firms with higher IT expertise are more likely to adopt IT related applications. Since, e-HRM is considered as IT related innovation in terms of HRM (Ruël et al., 2004), we expect that organizational members' IT expertise influence on e-HRM adoption decision.

H8: The relationship between intention to e-HRM adoption and e-HRM adoption is positively moderated by organizational members' IT expertise

Technical and strategic HRM effectiveness

Huselid et al. (1997) introduced the concepts of HRM effectiveness with the view that organizations seek approval for their HRM activities in a socially constructed environment. HRM effectiveness refers to the delivery of high quality technical and strategic HRM activities (Huselid et al., 1997). With this definition it can be concluded that HRM effectiveness is twofold: technical and strategic. Technical HRM effectiveness refers to the perceptions of how well the HRM function performed activities traditionally associated with personnel management including recruitment, selection, training, performance appraisal and compensation and administration (Huselid et al., 1997). On the other hand strategic HRM effectiveness refers to perceptions of how well the HRM function developed a firm's employees to support its business needs (Huselid et al., 1997).

According to RBT (Barney, 1991) resources categorize as physical capital resources, human capital resources and organizational capital resources and organizational capital resources include formal reporting structure, formal and informal planning, controlling, and coordinating systems and informal relationships among groups within a firm and its environment. In accordance with this e-HRM system can be treated as one of innovative organizational capital resource as e-HRM system is treated as formal planning, controlling and coordinating system in organization. RBT suggest that valuable, rare, inimitable and organizational resources and capabilities lead to gain sustainable competitive advantage (Barney, 1991). With e-HRM adoption, firms' HRM functions tend to move from labor intensive to technology intensive service delivery (Marler and Fisher, 2013, Strohmeier,

2007). With this transition firms mainly expect to enhance the effectiveness of the HRM service delivery (Ruël et al., 2004). Due to e-HRM adoption firms enable to achieve improvements in the speed and quality of HR services (Olivas-Lujan et al., 2007) manage vast amount of information with great speed and accuracy (Haines and Lafleur, 2008), improve decision making speed, quality and accuracy (Parry, 2011). However, relationship between e-HRM system adoption and HRM effectiveness is not well established in the literature. Positioning in the RBT, we assume that execution of technical HRM activities such as recruiting, selection, performance measurement and training would be strengthened and organization enable to achieve higher degree of technical HRM effectiveness. Moreover, we hypothesize that implementation of strategic HRM activities such as flexible workforces, quality improvement practices, and employee empowerment would be relatively easy with e-HRM adoption and in turn organization would achieve greater degree of strategic HRM effectiveness. This leads to following hypothesis.

H9: Organizational e-HRM adoption is positively related to technical HRM effectiveness

H10: Organizational le-HRM adoption is positively related to strategic HRM effectiveness

RESEARCH SETTING AND DATA COLLECTION

The focus of this research is to explore the antecedents and outcomes (more specifically HRM effectiveness) of organizational e-HRM adoption. This research is to be conducted in the developing country context as many organizations in developed country have been already implemented e-HRM system, it is also important to investigate this phenomenon in developing country context. It is apparent that when adopting IT related applications (eg: e-HRM), firms in developing countries confront with challenges relatively different from those in developed countries. First, firms in developed countries enjoyed with a well-developed, accessible and affordable infrastructure, whereas in most of the developing countries' IT related adoption has been constrained by the quality, availability, and cost of accessing such infrastructure (Humphrey et al., 2003). Second, low level of information and communication technological awareness of individuals impedes the IT related adoption among firms in developing countries (Molla and Licker, 2005). Third, many of the developing countries have a low level of trust on IT related adoptions (Oxley and Yeung, 2001). Fourth, since most of the firms in developing countries are small, IT related adoption has been constrained by the lack of adequate resource (Goode and Stevens, 2000). Fifth, implantation of IT related practices particularly e-HRM, requires major reorganization of HR activities and related responsibilities (Strohmeier, 2007). However, most of the firms in developing countries have a highly centralized structure (De Vreede et al., 1998). Thus, perception of managers towards IT related

adoption plays a crucial role in the developing countries. Thus, it is an important to explore more precisely, the phenomenon of e-HRM adoption in developing countries.

Sri Lanka is selected as the research setting where Gross Domestic Product is US\$59 billion and per capita income US\$2,877 (IMF, 2012). Moreover, researcher expects to take in to account only private sector firms that use e-HRM to deliver HR services as majority of public sector firms have not yet adopted e-HRM application. Data will be collected through large scale survey using self-administered questionnaire. Variables of the research model are operationalized using previously tested scale with slight modifications so as to fit with the e-HRM adoption context. Table 3 illustrates the operationalization of variables with sample items.

Variable	Items	References
Relative advantage	<ol style="list-style-type: none"> 1. Using e-HRM system enable our organization to accomplish tasks more quickly 2. e-HRM system will provide timely information for decision making 	(Moore and Benbasat, 1991)
Compatibility	<ol style="list-style-type: none"> 1. using e-HRM system is compatible with all aspects of our business transactions 2. adoption of e-HRM system is consistent with our organization's values and beliefs 	(Moore and Benbasat, 1991) (Teo et al., 2007)
Complexity	<ol style="list-style-type: none"> 1. Using e-HRM system requires a lot of mental effort 2. Using e-HRM system is often frustrating 3. Learning to operate e-HRM system is easy 	(Moore and Benbasat, 1991)
Observability	<ol style="list-style-type: none"> 1. I have seen what others do using e-HRM system 2. I have seen e-HRM system in use outside my organization 	(Moore and Benbasat, 1991)
Trialability	<ol style="list-style-type: none"> 1. Our organization have had great deal of opportunity to try various e-HRM application 2. Before deciding whether to use e-HRM system, our organization was able to properly try them out 	(Moore and Benbasat, 1991)
Intention to adopt	<ol style="list-style-type: none"> 1. I will be interested in continuing to use e-HRM system in our organization 2. I will arrange to permanently adopt e-HRM system as soon as possible 	(Plouffe et al., 2001)
e-HRM adoption	<p>Indicate that extent to which your organization adopted/implemented following e-HRM system for delivering HR services:</p> <ol style="list-style-type: none"> 1. Teleworking 2. Online conferences 3. Intranet with generic HR information 	(Bissola and Imperatori, 2013)

	4. Online information about health	
IT expertise	<ol style="list-style-type: none"> 1. All employees are computer literate 2. There is at least one computer expert in the each sections of the organization 	(Thong, 1999)
Financial resources availability	<ol style="list-style-type: none"> 1. Our organization has adequate cash flow to invest in e-HRM implementation 2. Our organization has financial resources to buy required hard ware and software with respect to e-HRM adoption 	Self-created
Technical HRM effectiveness	<p>How satisfied with the results currently being achieved:</p> <ol style="list-style-type: none"> 1. Benefits and services 2. Compensation 3. Recruiting & training 	(Huselid et al., 1997)
Strategic HRM effectiveness	<p>How satisfied with the results currently being achieved:</p> <ol style="list-style-type: none"> 1. Teamwork 2. Employee participation and empowerment 3. Workforce planning-flexibility and deployment 	(Huselid et al., 1997)

Table 3: *Operationalization of Variables*

CONCLUSION

Though many firms worldwide adopt into e-HRM during past decade, relatively very little we know about the antecedents and outcomes of e-HRM adoption. Moreover, extant literature is limited with the rigorous application of theory. Thus, with this paper, we expect to make theoretical contribution by proposing a theoretical model to explore the antecedents (innovation characteristics and organizational resources) and outcomes of organizational e-HRM adoption (HRM effectiveness) using three main stream management theories: Diffusion of innovation theory, Resource based theory and Theory of planned behavior. However, the theoretical model needs to be empirically tested to prove the hypothesis.

Our model is not without limitations. We consider only innovation characteristics suggested by diffusion of innovation theory as the antecedents of organizational e-HRM adoption. However, there might be other important factors that drive organization towards implementation of e-HRM system. Moreover, positioning with resource based theory we take in to account only two types of organizational resources that is availability of financial resources and IT expertise as the moderating variables. However, there might have some other organizational resource that moderate organizational e-HRM adoption decision. Further, we include only HRM effectiveness as the outcome of the organizational e-HRM adoption. As suggested by the extant literature organizations expect to

achieve three main goals with e-HRM adoption. Thus future studies can consider other two main goals that are not considered in this study.

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COMPLEXITY, ENTROPY AND MARKETING

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ABSTRACT

This present work will take into account two interconnected levels of observation of systemic phenomena, applied by analogy to businesses. The first observation level represents the enterprise as a viable system, where management must develop different approaches in order to achieve survival through the creation and/or maintenance of relationships with those stakeholders considered to be relevant, influenced above all by the structural elements of the contexts.

The other, macro, level represents the market as a system, relatively isolated in a similar way to the company. As an expression of the relational dynamics between the direct and indirect systems of which it is composed, this system exchanges energy and information with the reference contexts in order to survive. As part of these exchanges and adaptations both the micro enterprise system and the macro marketing system disperse energy, causing a dissipative phenomenon defined, by analogy with the second law of thermodynamics, as entropy.

Therefore, the objectives of this work are to ask: can the theory of complexity help marketers to understand the markets in which they have linked and contingent exchanges with others, and in this way improve/adapt the economic-environmental-social behaviour of companies/brands, increasing the chances of survival in these markets?

Does learning about organizations and networks as adaptive systems help researchers and managers in their processes as decision-makers?

1. LITERATURE REVIEW AND METHODOLOGICAL APPROACH

The systemic approach to marketing, economy and management, together with the concept of entropy, have been discussed since the mid-70s by many scholars such as Kangun (1981), Monieson (1981), Bass (1974), Hermiter (1974), Georgescu-Roegen (1971), Boulding (1966), Reidenbach, & Oliva, 1983, Layton 1989)

These approaches contextualize and convalidate well-established principles in the field of market dynamics that define the enterprise as a partially open system in constant change and/or adaptation, induced by the influences of context, by endogenous organizational dynamics and by the effect of exchanges of energy, information, materials, symbols, ideologies, etc., with relevant stakeholders (Beer, 1966; Emry, 1973; Dowling, 1983; Dixon, 1984; Yolles, 1999; Golinelli, 2000; Dolan, 2002; Barile, 2009).

The continuous exchange of energy with the contexts and relevant stakeholders marks a state of entropy, an informative chaos, which requires a continuous effort from the company and the market to which it belongs, in terms of cognitive and adaptive dynamics, in order to survive.

In this regard, the first law of thermodynamics, later borne out by the second, claimed that the entropy of a closed system, that is, one that does not interact with other contexts, is destined to increase due to the lack of conversion of the energy possessed (Prigogine, 1955).

Indeed all such systems, if isolated and therefore incapable of self-sufficiency, undergo a reduction of transformational activity. This tendency for exhaustion and/or dissipation of energy causes a state of disorder, entropy in fact, culminating in implosion of the closed system.

Interaction with other systems, where there is a lack of energy/information exchange process, is the cause of the dissolution of the system over time due to a growing disorganization. Therefore, any isolated system naturally evolves towards the state of maximum disorder.

From this we could deduce that entropy in open systems is due to the disorder caused by the combination of so many inputs, some coming from the contexts, and some from the natural business organizational processes in which there is loss of energy (see fig. 1).

<p>Total Entropy=</p> <p>Se? (entropy from environmental changes) +</p> <p>Si? (entropy caused by irreversible changes)</p>
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Fig.1: Total Entropy

'Opening' the system, therefore, contributes to delaying the effects of the second law of thermodynamics, known as entropy.

At this point it can be argued that a system survives if it is open or partially open, and thus able to transform the energy possessed in interactions with other contexts.

So, in the same way, the business survives if it is able to establish, develop and/or modify appropriate informative, cognitive and adaptive behaviours and skills that would allow it to receive and provide answers in the area of systemic exchange. These adaptive conditions represent the state of systemic

balance on which survival is based and which, given continuous adaptation, we could define as the condition of "dynamic order" of dissipative systems.

For years, scholars of thermodynamics held that a system reaches a point of equilibrium in the absence of external input. Prigogine (1955), applying this principle to open systems, argued that they could reach a state of dynamic equilibrium in the event of minimal production of entropy.

Prigogine's work is necessary to argue it is not that the lack of informative exchange allows the achievement of a steady state or order condition, but rather that this lack contributes to the increase of entropy. Indeed, the absence of informative exchanges represents the isolation of a system that, to achieve the condition of order, should become self-sufficient or autopoietic, generating the conditions of survival independently (Ashby, 1956; Emery and Trist, 1969:pp.241-257)

Therefore the company, in a similar way to the market, is a partially open system (*relatively isolated*) that must be able to respond to environmental changes to survive, exchanging information and/or energies with an appropriate language-behaviour.

This language develops based on partners' needs and on common *coenetic variables* (variables, input, stimuli, influences, interference, standards and rules), inasmuch as they belong both to the cognitive schemata of the system under analysis and to those stakeholders/partners considered relevant by decision makers. The connotation of importance is expressed by stakeholders' possession of resources essential for the survival of the system (Beer, 1966).

The system's ability to survive, therefore, thanks also to facilitators in reading and dialogue (partner-consultants, managers), arises from the moment in which it is able to:

- use their resources to understand the inputs (opening phase of the system),
- achieve output-behaviour-language (closing phase, self-organizational system),
- propose answers to changes in the contexts (opening phase of the system)
- acquire and adapt behaviour in response to the contexts.

In fact, this response is intended to re-create a previous condition of equilibrium, with respect to the context, which is altered due to unexpected interference or disruption caused by the contexts. This dynamic adaptation represents the phenomenon of *homeostasis* (Beer, 1966).

Control of company dynamics, in any form, is the typical process supporting the homeostatic phenomenon (control of management, cost, finance, production etc.), together with processes to adapt to changes in standards (laws, rules of conduct) that govern the dynamics of the system-market. These forms of control act as regulators committed to correct disruption in the context of systemic relations.

Control, therefore, is a process directed towards achieving *dynamic order*, namely the reduction of entropy caused by informative chaos, resulting in the reintegration of order

Therefore, entropy represents a way of measuring both the state of equilibrium of a system and the degree of disorder and, possibly, dissipation of the system itself (see fig.2).

Fantappiè (2011) argued, in this regard, that these syntropic processes were characterized by the principles of finality, namely based on future results and not on past conditions, differentiation, order or organization.

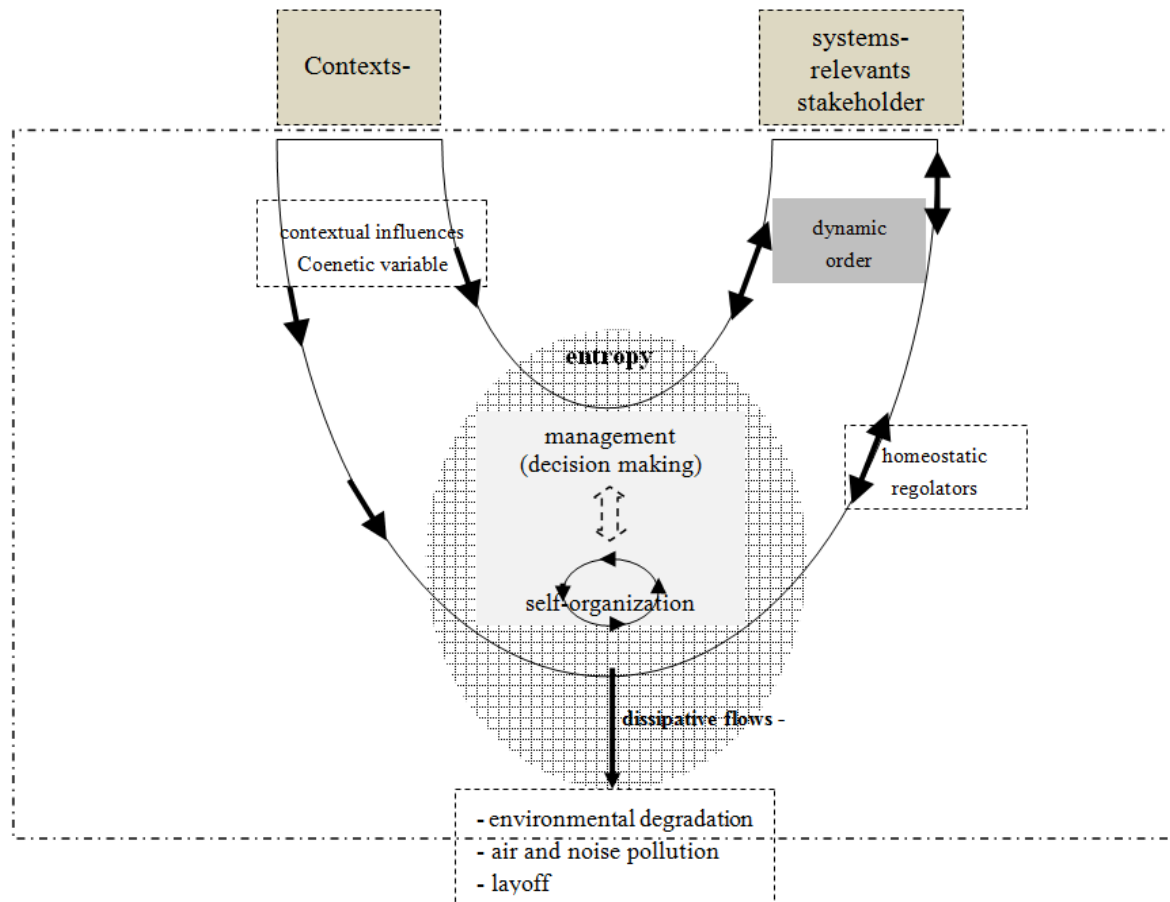


Fig.2: adaptive systems

Systemic survival is, therefore, supported by the ability to create syntropy, i.e. coincidence between the variety of information that allows sharing of interpretive information/influences coming from the contexts, and the needs of relevant stakeholders.

Clearly the ability to create syntropy (ordered area) must be greater than that of producing entropy in order to ensure survival conditions (dissipative area) (Kadirov and Varey, 2011, p.161).

2. MARKETING AND SYSTEMS APPROACH

At this point in the work, taking the traditional definition by Kotler (1980: p.19) which described direct marketing as a facilitator to meet human wishes and needs through the purchase of products-services or, even better, through brands, it could be argued that *marketing is designed to meet the social needs of*

the individual, for himself and for social identity, and the economic needs of the enterprise, for competitiveness and creation of value.

This objective is reached by means of ever more dynamic strategic and operational planning, that takes into account the many coenetic variables that make the context chaotic and dynamic.

In fact planning, in the field of marketing studies, tends more and more to take the capacity of stochastic analysis into consideration due to the variability of rules and norms, and thus the behaviour, of the components of the market/contexts.

As a result of this planning the social actor, company and/or individual-consumer and/or stakeholders all tend to decrease their informative asymmetries in the dynamics of creation and/or maintenance of relationships with partners. This effort is clearly intended to limit the dissipation of energy (entropy), due to the lack of correspondence both in variety of information (in the input phase) and in the semantics between the meanings of language and behaviour in the context of creation and maintenance of relationships between social partners (in the phase of creation of relationships with stakeholders).

In this regard Wiener (1954:p.84) argues that "*... learning is a form of feedback in which the behaviour of the model is modified by past experience*" Thus feedback, as a form of behaviour, represents the learning process in which comparison is made between conduct and the result to be achieved, so that success or failure changes future behaviour.

These studies reveal the consideration that any planning process, in particular that of marketing and communications, is the result of the creative-abductive, inductive and deductive cognitive ability used by the governing body/management/decision makers, based on the amount and level of knowledge and learning (informative and cognitive variety) gained from impulses originating from the contexts (Barile, 2009).

In fact the aim of planning and control, applied according to a systematic methodology, is to detect possible gaps between what is expected from an applied model and what actually happens (a loop which represents the first homeostatic phenomenon) with the purpose of both observing inability on the part of the model and supporting variety in the contexts, and, finally, to reformulate the model for next time. Citing Ashby who claimed that *only variety can destroy variety*, it can be said that the variety of contexts can be addressed by the manager/marketer, by equally informative varieties which act as an attenuating factor on complexity (Ashby, 1956; Emery, 1973:p.110).

3. MARKETING AND COMPLEXITY

At this stage of the work, the following questions naturally arise: does corporate management, at the decision stage, act in accordance with a deterministic or a complex model? By effect of the complex dynamics, do different types of marketing models exist?

Firm, as a systems, has always needed to consider the development of various kinds of relationships with a number of stakeholders: investors, institutions, employees, customers, partners, competitors, etc.. Market globalization has produced exponential growth in the number and heterogeneity of the subjects with which every company develops its relations.

This proliferation of relationships, made possible by new tools and new ways to communicate, is also accompanied by their increase in speed or, to put it better, a different way of exploiting the time taken in business processes.

This scenario represents both the market and the firm as transient systems that increasingly express a kind of probabilistic nature.

Added to this is the time variable that, as an exogenous element compared to the life of the enterprise and thanks to the globalization of relationships and dissemination of modern digital communication technology, has become a critical variable in competition. Each firm chooses whether and how to speed up their processes, when to activate them and how to define their relative duration, from a competitive perspective (*time-based competition*).

In a global context, businesses must therefore adopt a competitive approach to the market (*Market-Driven Management*) or, indeed, their relationship with components of the market (*Relation/Complexity-Driven Management*). This orientation includes not only the ability to know the market, the operators who work there, their key characteristics, their products, etc but also to constantly seek the opportunity to create and/or maintain "lasting" relationships with relevant actors.

The focus of the relationship differs, therefore, from traditional approaches because it brings out a form of company management in which, as a continuous process, the acquisition of cognitive input from the actors, and the relationships between them is placed before understanding the needs of demand. The market is made up of these variables, and understanding them supports planning in order to determine both the present and the future of the enterprise system.

From the perspective of Relationship/Complexity-Driven Management however, if marketing management states that knowledge of demand is the prerequisite from which to derive all competitive developments in the market, with the proposal of a product that meets defined expectations and appropriate to ensure the company a competitive advantage, the orientation of the relationship is "cooperative and competitive."

In global markets, therefore, extremely heterogeneous realities coexist inside relationship systems composed of numerous different actors both near and far away in terms of physical and competitive distance.

The diversity of competitive conditions, in contrast to what happens in classical and neoclassical economic models, is not based on the number of bidding businesses, but on the cooperative and competitive intensity that develops between businesses, namely the system of relations (competitive and partnership) established between the firms in a competitive market-space.

In all markets characterized by scarcity of supply compared to the request for demand, the bidding business not only governs demand by determining the quantities produced and then sold, but also has all the necessary knowledge (variety of information) to set up future activities (thinking of Coca-Cola, Nutella and all those companies/brands that operate as leaders in mature markets).

All production is positioned on the market, in this case, at a price defined by the manufacturer who does not normally accumulate stocks of finished product. In these competitive conditions, the company information system tends to coincide with the system of internal records management, according to the *inside-in* type of information management model, characterized by the collection and processing of predominantly internal information and an internal projection of the results of these calculations.

Under these conditions, business phenomena are especially significant and are closely monitored and governed in order to continue to foster a firm system that focuses on itself, searching for continuous improvement in internal performance parameters. (For us these situations characterize a static system, predictable and implosive).

Certainly, sectors of the economy that are experiencing conditions of cooperative and competitive intensity are much more numerous in global markets. This situation of *excess supply* is characterized by the presence of a saturated demand, with no possibility of increasing purchases and consumption, and encouraging diversification policies, research and innovation and respect for market participants. In these markets the only truly predictable phenomenon is the continuity of change operated by the actors (think of the information technology market or social networking companies such as Facebook and Google+).

Therefore, the collection of information is hence aimed at producing tenders or, better, offer profiles, able to intercept and aggregate the preferences of a variety of buyers (conditions that characterize highly dynamic situations).

This scenario represents an irreversible and unstable condition in which the result of planning is not certainty but possibility that an event or condition may occur.

Planning for system behaviour, therefore, is designed to produce a dynamic result that by analogy to the laws of thermodynamics we have defined above as dynamic order or consonance and then resonance. These conditions express the momentary ability to meet the needs of the stakeholders, who had formerly communicated impulses and created disorder, through behaviours (products-services, social impact, environmental, etc.).

4. DETERMINISM VS COMPLEXITY

Of course, the Input-Output/Input approach just represented is the essence of this work. In fact, the circularity represented in the previous process expresses the condition in which business and its management must seek survival.

This condition is no longer the expression of a purely deterministic approach, which corresponds to cause and effect, but rather it is a complex scenario in which the cause of a given future effect is absolutely "indeterminable".

At this point it is relevant to consider that, in contrast to numerous studies that tend to blame the deterministic approach as being exceeded or inadequate in relation to the evolution of the discipline, enterprise, and therefore management/decision makers, find themselves working in market conditions that could require a deterministic or a complexity approach.

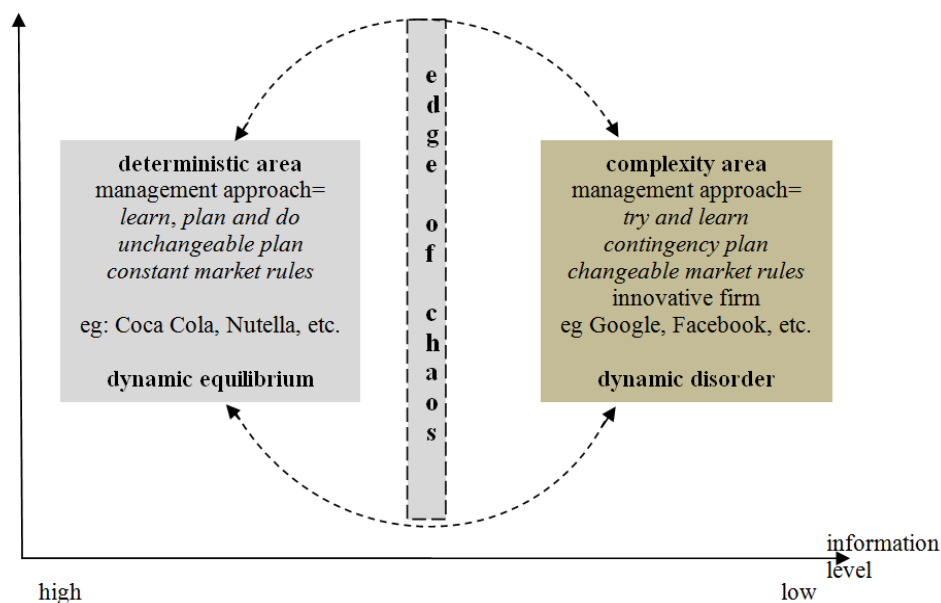


Fig.3: deterministic vs complevity

Such a scenario also emerges, by analogy, from studies of dissipative structures by Prigogine (1955), who argued that relatively isolated systems could evolve into qualitatively different states, thanks to the continuous exchange of energy/information with stakeholders.

This consideration, therefore, leads us to represent the company as a system that, based on the information possessed with respect to markets, consumers, stakeholders and competitors, can find itself in temporary conditions of balance, order and reversibility, and/or experiencing conditions of non-equilibrium, chaos and disorder (see fig.3).

The point that separates deterministic and complexity conditions is defined as discontinuity or edge of chaos (see Langton, 1992, Waldrop, 1992; Hibbert and Wilkinson, 1994; Capra, 1997; Holland, 1999).

This area is characterized by a limited condition between the government of a static, predictable and implosive system and one in which order may be upset by minor changes and which, therefore, requires the capacity for stochastic analysis to support the creation of new features (Winsor, 1995).

5. ENTROPY, SUSTAINABILITY AND CURATIVE MARKETING

If the reduction of entropy in terms of the relationship between the enterprise system and the stakeholders is not properly taken into consideration, there is a tendency for environmental entropy (social, economic and natural) to be created. In this regard, the concepts of systemic entropy and dissipation are often associated with unethical, illegal and immoral behaviours.

Behaviour of the business system in the planning phase is aimed at competitive survival and the reduction of entropy. In order to be permanently sustainable, the consequences of such behaviour not only on the consumer or market performance, but also on the environment suprasystem must be taken into consideration (Reidenbach and Oliva, 1983).

In this regard, in addition to the traditional line of studies based on creating the best conditions for the achievement of a competitive advantage for the company, marketing has developed in its own sphere in the last twenty years, and the trend of studies into consumer behaviour seeking to support the individual in search of self-fulfillment and social identification through the creation of opportunities for the creation and relationship with the most appropriate brand has been modulated by other disciplines.

In fact, marketing was considered as the science aimed at creating satisfaction of demand by means of a set of products, and environmental and/or social impact were the remit of consumer choice (Crane and Desmond, 2002). According to this branch of research therefore, environmental and social entropy is the sacrifice and the price to be paid by the company, because the individual consumer achieves social progress by expressing greater economic well-being.

In Reidenbach and Oliva's (1983), words "*. . . the marketing function, while extending our human existence is reducing the ability of our environment to support our continued existence*"

In recent years, these branches of study have opposed other major studies marking the evolution of marketing. Marketing has evolved, in fact, addressing behaviours aimed at reducing environmental

and social entropy, and supporting the achievement of business system or macro market system survival, from an environmental, economic and social perspective.

On the basis of these scientific developments, both the laws of thermodynamics, interpreted as irrefutable laws of nature to which all activities of social actors are subject, and the application of these laws have been brought into economic and marketing studies. The latter case refers mainly to branches of sustainability marketing, medicinal marketing and the bio-economy (Martin and Schouten, 2012; Czinkota and Skuba, 2001; Czinkota et al, 2014)

In this regard, Nicholas Georgescu-Roegen (1971), founder of the bio-economy field of studies, has developed an economic theory that calls into question the "fundamentals" of decline in each production process by applying the second law of thermodynamics to economics, particularly the economics of production.

In fact, the author argues that this phenomenon does not decrease entropy on the planet but increases it irreversibly or at least leaves it equal, that's to say, the more energy is transformed into an "unavailable" state, the more energy will be subtracted for future generations, and therefore much more entropy (proportional disorder) is returned to the environment that surrounds us. The author, therefore, argues that it is not the quantity of production that adversely affects the environment, but the planning of this production in terms of compliance and use of materials, in a very long-term view.

Relative to the condition of entropy and the role of marketer/managers, Czinkota outlined Curative International Marketing, in the sense that restoring and developing international economic health may be the next marketing direction. *'Restoring'* indicates something lost which once was there. *'Developing'* refers to new issues to be addressed with new tools and frames of reference. *'Health'* in turn positions the issue as important to overall welfare, which marketing needs to address, resolve and improve. Marketers must deliver joy, pleasure, fulfillment, safety, personal growth, and achieve advancement towards a better society, and do so across borders (Czinkota and Skuba, 2011).

So, we can say that marketing, micro and macro, is starting to overcome widespread convictions where it is regarded as a facilitator of individual economic well-being at the expense of the survival of future generations (Kadirov, 2011).

6. CONCLUSION AND FUTURE RESEARCH

This work is presented as a scientific and methodological basis on which to enrich the literature, to stimulate empirical research, and to demonstrate the validity of the approach presented to other researchers and marketers

The paper presents numerous ideas to enhance the literature, but from an operational point of view it reflects a factor of weakness in that the level of abstraction seen in the theory of complexity makes it far removed from the needs of marketers/practitioners.

Managers and marketers could compensate for this weakness by considering complexity theory as a new way of reading dynamics and planning behaviours. Empirically, this condition would be met by developing the propensity to identify potential entropic performance represented by a number of contextual variables.

These variables, treated stochastically (eg average income, consumption capacity, changes in turnover of distribution channels, etc.), allow managers to identify possible entropic phenomena. This ability would allow marketers to identify the marketing and communications behaviours and/or conduct by the company necessary to contribute to the adaptation of the market system and, therefore, reduce the total entropy that would otherwise be generated.

In fact, the paper does not aim to provide marketers with a contribution in terms of models and new planning practices, but rather aims to raise their awareness to a new concept of marketing, understood as a process conducted in chaotic environments that no longer requires a rational approach from businesses/managers, designed to maximize results, but uses greater analytical capabilities in an environment governed primarily by stochastic influences.

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ONLINE PAYMENT SECURITY IN E-COMMERCE: A NEW APPROACH TO E-PAYMENT THROUGH NFC TECHNOLOGY

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ABSTRACT

In response to the increase in the number of ecommerce security incidents and frauds firms and governments are seeking alternative forms to financial transactions. Unlike traditional payment which can be authenticated by account information the lack of physical presence and information based authentication leads to information theft and frauds in the online environment. In this study, the online payment methods including NFC secure element technology and excluding the exchange of sensitive accounts between customers and e-merchants is discussed and a system is proposed to enhance online payment security without creating significant impact on customer's online shopping experience.

Keywords: *Internet, E-payments, NFC, Internet Security, Online Payments*

INTRODUCTION

Although e-commerce has continued to grow in terms of the number of transactions and revenue, important issues such as customer security and privacy limit the volume of e-commerce worldwide a significant number of consumers hesitate to buy online due security concerns. This often happens even though the same products are available online at lower prices. One area limiting international expansion is that a significant number of online merchants don't accept orders from other countries because of the fear of fraud.

Trading activities including e-commerce require safe and reliable ways to transfer money. Payment for traditional trading can be made with cash, credit cards or other physical instruments whereas electronic payment usually relies on only account information such as credit card numbers and dates. Consumers' perceptions of the security of e-payment systems have a great influence on the evolution of electronic commerce because consumers are very sensitive to the information security risks. In this regard, electronic payment methods become one of the major components of business operation in online trading. Since the Internet was not initially designed for commercial activities and banking transactions, existing mainstream online payment methods are still considered unsecure.

In recent years, even though some of emerging payment methods offer the solutions to alleviate the inherited security flaws, indeed most of them don't offer complete solutions that diminish two critical problems: the lack of authentication problem and sharing all account information with online traders. In almost all online payment options, customer's authentications are dependent on customer account information. Besides, in most of the mainstream online payment methods, customers are required to share their information with e-merchants.

This paper explores security incidents and their impact on e-commerce and emerging and mainstream e-payment methods are reviewed. In order to enhance online shopping transaction security, the online payment method including NFC secure element based authentication is proposed. The model brings new approach which excludes sensitive information flow between consumers and online traders. The proposed model does not involve radical technological change and avoids impacting the online customer's experience.

SECURITY INCIDENT, FRAUD IN INTERNET: PHISHING AND SCAMS

Usage of Internet for commercial transactions has given birth to many different types of problems. One of the most important problems which Internet users face is fraud. The method of perpetration of fraudulent activities has quickly evolved since widespread usage of the Internet. Many criminals have also adopted new mediums (Koong et al, 2012) as criminals are develop new techniques to defraud merchants and customers. It is important to note that businesses that store customer's personal data including payment card information are entirely responsible for the security of these data. In order to enhance cyber security against a wide range of fraud the role of stakeholders including merchants, customers, all relevant service providers, and other standardization and regulations bodies needs to be well defined with the individual responsibilities outlined in e-commerce ecosystems.

According to FBI's Internet Crime Complaint Center 2010 data, fraud is the most common type of crime. 70% of these victims were defrauded online. The majority of fraud was committed through spamming, phishing and scams (Frank et al, 2011). This may be attributed to the fact that the Internet provides anonymity to criminals. In review of at the FBI data, the most common type of Internet frauds is as follows (FBI, 2012): Internet Auction Fraud; Non-Delivery of Merchandise; Credit Card Fraud; Investment Fraud; and Business Fraud.

According to CyberSource 2012 report, merchants reported that 1.0% of total online revenue lost in 2011 occurred due to fraud. In addition to this loss, merchants rejected 2.8% of orders due to suspicion of payment fraud. It was also reported that merchants rejected much more international orders due to the fact that international orders have three-fold greater risk of fraud compared to domestic orders. In CyberSource 2013 report, estimated total revenue loss due to fraud in North America alone reached to

\$3.5 billion and the fraud rate increased from 0.6% in 2011 to 0.8% in 2012. Apart from direct losses due to frauds, many companies lose customers due to a lack of faith in the ability of the company to protect sensitive client information. The companies that are viewed as vulnerable to cybercrime eventually lose their market values. This results in loss of existing customers as well as potential new entrants into the ecommerce sphere. Therefore all online merchants have to worry not only about their own security but also public perception.

INHERENT SECURITY FLAWS IN ONLINE PAYMENT METHODS

Internet was initially not designed for financial transactions and if there is no additional security layer or protocol, TCP/IP protocols carry all data packages over unreliable wire or wireless infrastructure without performing encryption. In order to ensure data security, SSL/ TLS (Secure Socket Layer/ Transport Layer Security) is widely used to protect sensitive information against tapping. However, SSL is not capable of providing security against a range of attacks such as malware infections which can be used to collect sensitive information including credit or debit card information. Today, most online merchants emphasize their SSL enabled payment method while ignoring other aspects of e-payment security instilling a false sense of security in consumers. But SSL is actually used to remove inbuilt vulnerability of TCP/IP rather than enhancing transaction security.

Inherited security flaws in online payments basically result from the fact that sensitive payment account information is transferred through public Internet and end user can only be authenticated based on the information typed in by customers. The second reason is that customers' account information is mostly stored in the e-merchant database.

Most online payments today are made through credit and debit cards. The main problem regarding online payment by credit or debit cards is that these methods were originally designed as offline payment instruments (Vincent, Folorunso, & Akinde, 2010). Therefore, the structure of these cards inherently never met online security requirements. In order to enhance online payment security, SET (Secure Electronic Transfer) scheme has been endorsed by major credit card companies. However, this method has never been adopted on a wide scale (Basu, & Muylle, 2003). SET currently requires cardholders to install software and certify themselves as online merchants requiring heavy implementation and configurations (Girard, , Lanet & Plateaux, 2010) Although SET was designed to remove inherent weaknesses of credit cards, it increases complexity. As another protocol, 3D Secure was developed to reduce frauds by strengthening authentications (Girard, , Lanet & Plateaux, 2010).

PCI-DDS compliance has become important part of e-Commerce operations in terms of protecting stored data from being compromised. However; PCI-DDS compliance does not provide protection for data that has already been compromised (FirstData, 2010). In other words, cyber thieves continue to

defraud merchants and customers once they capture personal data from any source. It should be noted that PCI-DSS can be considered as only one important step to help merchants keep their customer data secure.

SECURITY DIMENSION CONCERNING ONLINE PAYMENTS

There are a variety of payment methods available which also allow online payment. In addition to credit cards, debit cards, and bank account numbers, a wide range of payment options have emerged such as PayPal and Google Checkout in the last decade. Although credit and debit cards dominate online payment markets, a wide range of payment systems have emerged in last few years. Apart from marketing models, different kinds of payment methods may include: password, symmetric or asymmetric cryptography, smart card, 2D bar code and biometric methods (Isaac, & Zeadally, 2012). Despite the fact that new e-payment methods offer various security measures and mechanisms, many problems still remain (Kim, W., Shin & Kim, 2010).

EMERGING E-PAYMENT METHODS

The percentage of total number of online payments which are done by the means of credit or debit cards account for 90% (Kim, W., Shin & Kim, 2010). Today mainstream e-payment market is still dominated by credit card companies. There is an increasing number of customers and e-merchants using alternative online transactions methods such as PayPal, Google Checkout, Amazon Payments, and even Apple iTunes due to lack of confidence in e-merchants.

As a main player in payment market banks are being negatively affected by new payments methods and the development in information technology is resulting banks to face new challenges. Banks and credit card companies have competitive advantages over new players, however, regulation systems make banks less innovative (Deutsche Bank, 2012) . As a result of resistance to change, limited competition and security concerns nonbank payments have experienced an increase. According to the Survey of Consumer Payment Choice (SCPC) by the Consumer Payments Research Center at the Federal Reserve Bank of Boston (Foster et al, 2011) as of 2009 one in three consumers in USA had nonbank payment account to make online transactions. In the Europe, 6% of transactions in 2010 were handled though nonbank payment services and nonbank payment share is expected to 8% in 2013 (Deutsche Bank, 2012). The increase in market share of alternative payments players shows that new entrants will continue to be a threat to banks and credit card companies and examples of new nonbank payment service providers entrants include: E-Bay with PayPal and Amazon with Amazon Payments;

Google with Google Checkout and Google Wallet; Verizon, AT&T and T-Mobile joint-venture NFC based mobile payments called ISIS.

It could be said that there are basically three factors; security, accessibility and convenience which play a role in adoption of security. In addition to these factors, transaction costs could have an impact on consumer preferences. Since consumers have e-payment options it is likely that they will switch their payment methods when faced with negative experiences resulting from insufficiency of security, sensitive about information security and privacy as well as accessibility and convenience. It should be noted that consumers will become more than ever in conjunction to the growing number of electronic transactions.

RECENT TRENDS IN E-PAYMENT: SPOTLIGHT ON NFC

In recent years, NFC has become a significant alternative technology to all traditional and legacy electronic payment systems including tickets, card pass system and most importantly plastic credit and debit cards. Near Field Communication (NFC) basically allows consumers to pay for products or services through NFC enabled devices. This type of technology is being adopted in Asian environments but its introduction is fought by banks and credit card companies in the United States using the “straw dog” argument of lack of security when it could be considered that it is a loss of cash cow revenue which actually is fueling the switch in technologies. Such behavior was observed by phone companies resistance to move toward wireless and cable firms hesitancy to install fiber optic cables.

Even though NFC has not important shares in electronic payment market, it will not be surprise that NFC will dominate the market in following 5 or 10 years. According to MacLeod, 30 million NFC enabled mobile phone were sold in 2011 and an 87% annual growth rate make it possible to predict that 300 million NFC handsets will be sold in 2016 (MacLeod, 2012). Juniper Research predicts that the number of NFC phones will be 700 million while one out of six mobile phone user across the world will own NFC ready handset (Ceipidor, 2012; Frost&Sullivan, 2011). According to Frost & Sullivan, NFC will be expected to be the most widely used technology as a mobile payments instrument, with about \$120 billion in global payment market (Ceipidor, 2012; Frost&Sullivan, 2011).

In practice, customers have NFC enabled mobile phone while seller or service providers have standalone device which have necessary connection to complete transactions. Since NFC technology can be easily adapted to mobile phones and network technology, NFC brings remarkable convenience to customers while it creates enormous business opportunities for mobile network operators, phone makers and software and systems developers.

The technology also encourages different types of companies such as mobile network operators, mobile phone and software developers to create their own electronic payment solutions. Different mobile operators with their partner including mobile handset manufacturer and software/ operating system developer tend to develop their own payment systems (Shifeng, & Rong, 2010). In order to offer complete, convenient and secure payment solutions, NFC also forces different solution provider having different business background to work together. For example, MasterCard PayPass, ISIS and Google Wallet applications involve chip makers, software developer, financial institutions, network operators etc.

NFC can be used in a variety of applications and it allows application developers to implement different methods of payment. It should be also noted that there is no commonly agreed standard NFC application in the market space. For example, it can be possible to see NFC elements in embedded element in the mobile handset, a SIM Card or removable memory. Depending on the type of NFC used in an e-payment application, one of the stakeholders in NFC ecosystems becomes dominant. It can be argued that mobile handset producers support 'embedded element in the mobile handset' while mobile network operators try to endorse NFC enabled SIM Card technology.

NFC technology seems to be capable of giving direction to not only mobile but also online payment. However NFC is well-known for contactless mobile payment, it can be also used for online transaction (MacLeod, 2012). As discussed above, the major problem in e-commerce is that frauds in e-commerce associated with theft of customer's sensitive information such as payment and bank accounts. Unlike traditional shopping, payment procedures in e-commerce require only information that consumers type without any physical cards or chip. Therefore current transaction methods never present strong authentication against the fraud or theft of sensitive information due to the absence of physical authentication. Even though NFC was initially designed for near field mobile payment, physical chip based NFC payment methods can be adapted to online payment transactions via mobile network operators.

It is possible to create new online transaction procedures with NFC technology to make online payment more secure as well as innovative. One of the possible methods that was currently tested by MasterCard and ING Bank give a chance to simulate near field payment through QR code on e-merchants websites. In that scenario, online payment is completed by mobile phone applications (NFC World, 2012). ISIS is another important example that shows how mobile network operators involves payment process secure element in SIM card; however it offers only mobile payment options.

NFC ADAPTATION TO E-COMMERCE TO ENHANCE ONLINE SECURITY

In this study, how SIM based NFC applications can be used in online payment transactions is discussed. In order to enhance online payment transactions, the model that does not involve sensitive account information exchange between merchant and buyer is proposed. Instead, the proposed model includes hardware based encrypted token exchange. In this model, the payment process is initiated by buyers rather than merchants. The embedded secure element in SIM is used only for authentication of payment account holder and there is no sensitive account information exchange.

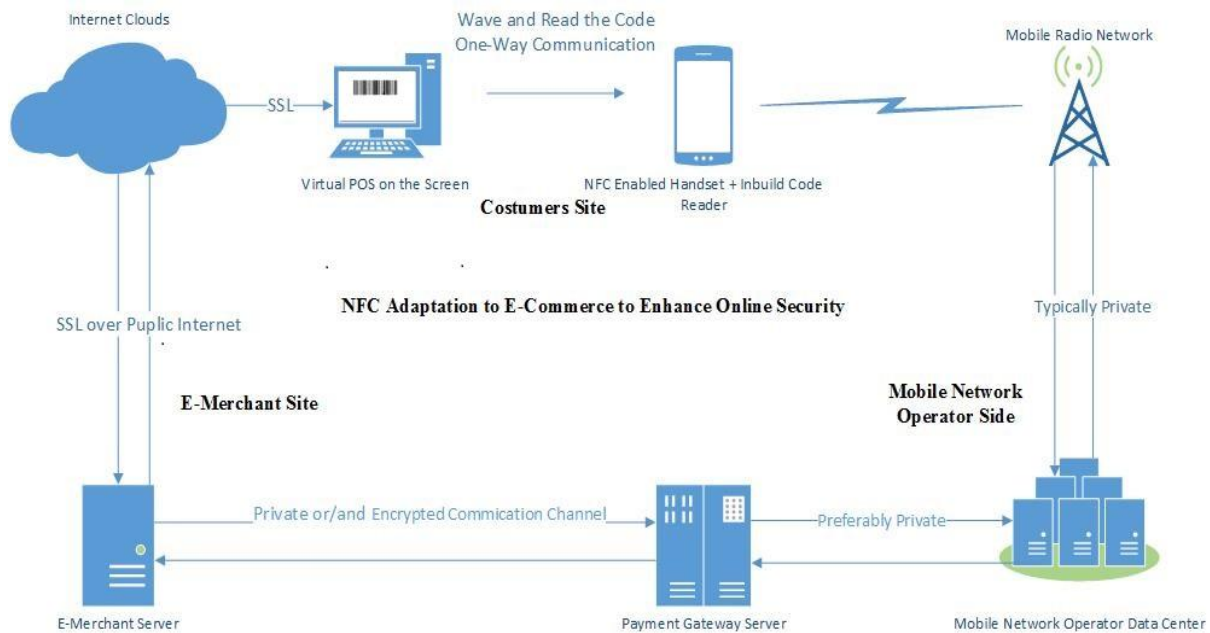


Figure 1. Transaction flow through NFC enabled mobile phone and mobile

Online Payment Process:

1. Customers shops online
2. Customers complete shopping and place orders
3. E-Merchant generates unique QR includes e-merchant ID, date, and unique order number and QR appears on the customers computer
4. Customer reads QR by handset, type PIN, and sent it to the Payment Gateway with unique token that generated by secure element
5. Customer is authenticated by Trusted Service Manager(TSM)
6. Payment Gateway (PG) receives the QR via TSM.
7. PG knows e-merchant by e-merchant ID in unique QR. PG asks the e-merchant whether it is waiting for this order.
8. If e-merchant confirms the order, it reply to PM with the amount of payment

9. PM return to the customer with the total amount of payment. And it waits for getting customer's final confirmations with typing PIN code.
10. Once the customer confirm the payment, the transaction is completed

In that payment scenario, QR has transaction ID. At the end of the each online shopping, e-merchant creates a new and unique QR. This QR represents transactions rather than any of products. Basic function of QR is to allow customers to take information without typing a typical QR usage. The sample QR structure for the proposed online payment procedure is given in Table 1. This structure mainly includes Unique Company ID, Date and Time, Order ID as well as reserved space for future application.


	<pre> 32Bit Reserved For Future Application:2^32 =4,294,967,296 ## 32Bit UniqueCompanyID:2^32 =4,294,967,296 ## DateTime:MM/DD/YY ## 32Bit OrderID:2^32 =4,294,967,296 </pre>
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Table 1. The Example of Plain Text QR Code for Online Transaction

The strengths of the proposed model can be listed as follows:

- This model does not require any changes in customers' online shopping experience other than the check out.
- There is no sensitive credit or bank account information exchange. Instead authentication codes are exchanged between customer's handset and mobile network operators. Customers don't have to share financial accounts information with e-merchants accordingly
- Even if e-merchant's website is replaced by a fake website, customers cannot be victimized because of the fact that there is no information flow from customer's site to the website. In addition, e-merchants can be verified through Payment Control Gateways.
- Authentication is performed by hardware based token generators. Since other applications are not allowed to reach the secure element, possible viruses or malware in the phone cannot involves or interfere authentication process.

On the other hand, this model requires connections and databases in order for Payment Control Gateways to check and reach each of e-merchants. In addition mobile network operators become more important to complete each transaction.

CONCLUSION

Although the number of innovative online payment have been emerged recently, their market share are still limited compared to mainstream payment methods such as credit card or debit cards. In order for emerging online payment methods to be mainstream, consumers' security concern should be diminished. Most emerging online payment methods rely on SSL technology; however, SSL technology does not provide security mechanism such as Trojan horses and other malwares at the customer site. In most of the e-payment methods, customers are forced to types or share their payment account information with e-merchant in the most payment cases.

Fraud and information theft in Internet creates significant impact on e-commerce. Every security incidence also causes consumers to shop less online. It can be said that e-commerce activities across the words can keep growing more rapidly once consumers are given more reliable / safer payment options. Existing online payment transactions are based on the exchange of sensitive account information through Internet connection. Due to the absence of physical presence, e-merchant or payment account providers authenticate consumers with only account and some kind of personal information.

Online transaction securities in e-commerce can be strengthened in case the risks in customers, e-merchant, payment account providers are minimized. Even if e-merchant and payment account providers enhance and protects their systems against possible attacks, customer's site security cannot be guaranteed.

In order to enhance online security, sensitive account information exchange must be minimized or eliminated. In addition, customer authentication mechanisms must be relied on physical presence rather than only information which are typed by customers. Therefore, most of the fraud types and information theft can be prevented.

Although NFC technology was not initially designed for online payment, it can be adapted to online payment to make transactions more secure and NFC should be integrated into online payment methods to simulate card-present transactions methods with hardware based and single use token capabilities. The different forms of secure element structure in NFC can be used to authenticate consumers. However, hardware based strong authentication requires a wide range of stakeholder including mobile phone manufacturer, mobile operating system developers, financial institution and even big e-merchant to work together.

Due to the severe competition in e-payment market and technical availability for different scenarios, e-payment market goes to diversified payments options. Even though diversification brings new business opportunities, inherited security vulnerabilities in online payment can be only improved by

only standardization efforts. In addition, competitive manner that exclude financial institution and want to have full control over payments is limited to the market potential.

In this study, security flaws and frauds in e-commerce are discussed. Emerging e-markets and its players are reviewed. To provide strong authentication mechanism, payment account information exchange necessity should be eliminated between e-merchant and customers. In that payment scenario, real transaction takes places e-merchants and payment gateways. The secure element in customer handset is used as physical authentication device. At the end of the transaction customer confirmation are required. The proposed model does not create any significant impact on customers' shopping experience or does not require any change in e-merchant website; the only change happens during check out process. In addition, the proposed model does not offer technological changes. Essentially, it aims to minimize customer sensitive information's involvement during check out process.

Security concerns in online payment is still significant barrier to keep e-commerce the across the words under the market potentials. Besides, relatively small e-merchant has disadvantages to well-known e-merchants due to the fact that customers don't want to share their banking or credit card information with not famous e-merchants. Once customers have secured online payment options which don't require sharing credit and banking account with e-merchants, the size of e-commerce in terms of the amount of money and the number of transactions will be significantly increased. In addition, most of the small and middle size e-merchants will have more customers if provision of account information is not involved in online shopping.

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THE USE OF SOCIAL MARKETING IN SMOKING PREVENTION: A STUDY OF GENERATION Y'S SMOKERS' SUGGESTIONS

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ABSTRACT

The aim of this study was to explore Generation Y smokers' perspectives on youth smoking prevention in the social marketing framework in Greece. A qualitative study was adopted using 10 mini focus groups with smokers of Generation Y to enable an in-depth exploration of the research issue to be undertaken. The findings provide social marketers and policy makers with a better understanding of what the targeted audience value about smoking prevention practices. The participants proposed that prevention campaigns could include practices such as an anti-smoking education for parents, anti-smoking education in elementary schools, the creation of more public sports fields in order to enable young people to have more access to sports activities, celebrity visits and speeches in schools, intense anti-smoking advertising campaigns, and a few suggested the prohibition of smoking in public places with the simultaneous imposition of huge fines for smoking. For social marketers and social policy makers, these are important and effective suggestions since they come from younger and older generation Y smokers from a nation with a very high rate of tobacco consumption and offer a more wide-ranging strategic approach to youth anti-smoking campaigns.

Keywords: *social marketing, smoking prevention, generation Y, focus groups, Greece*

INTRODUCTION

One of the main issues in social marketing is smoking and how to reduce and prevent it (Brenkert, 2002). The harmful effects of smoking on human health are documented in a considerable number of longitudinal research studies, though it seems that the results of such surveys do not tend to persuade smokers (Slovic, 2000) and use of tobacco products continues to be a major public health concern in the 21st century.

In Greece, the smoking population is considered to be amongst the highest in the world. According to the OECD (2011) for the year 2009, 40% of Greek adults smoked, smoking more than 3,000 cigarettes per person in 2007 (The Economist, 2008) rising to 4,313 for the year 2012 (Nation Master.com). According to the European Commission (2012), Greece is a country where smoking increased rather

than decreased from 2009 and even though the taxes on each cigarette package make up more than 75% of its retail price (WHO, 2011, p.68), Greeks are the heaviest smokers in the world. This situation has sparked warnings from health experts since the country is facing a smoking epidemic which could have significant effects on the economy and on the cost of running health services (Vardavas and Kafatos, 2007).

In this context, this paper presents the findings from a qualitative study on generation Y smokers' suggestions about adolescent smoking prevention in the context of social marketing. It is very important to underline that generation Y (people who were born roughly between 1977 and 1994) are an essential target for marketing since little academic research into this generation has been done especially in the social marketing context. The research was carried out in Greece, where very limited research has been conducted in the field of social marketing (Polyzoidis, 2013) and where the marketing culture needs more development (Rivero and Theodore, 2013). These findings could serve as reference for future studies on the topic and this research could contribute to reducing and preventing smoking in Greece and countries with similar problems through research-led social marketing programs.

SOCIAL MARKETING AND ANTI-SMOKING CAMPAIGNS

Social marketing campaigns are used to foster change and encourage behaviors that will improve the health or well-being of the target audience or of society as a whole (Wharf-Higgins, 2011; Quin *et al.*, 2010). Although social marketing tends to focus on behavioral change there are two different approaches to this. The main approach (downstream social marketing) focuses on the individual and on creating personal incentives to encourage them to change their behavior. The other approach (upstream social marketing) focuses on systems change and focuses on changing policy and environments to promote behavioral change. Upstream approaches are similar to those usually undertaken by public health researchers which suggest the potential for beneficial inter-disciplinary work (Hoek and Jones, 2011).

The effectiveness of social marketing campaigns has been questioned. Wolburg (2006) stated that social marketing campaigns are not always as effective as expected. The problem faced by some social marketing campaigns is that they set out to persuade large numbers of people to change their behavior even though people are already fully aware of the potential consequences of this behavior (Rotfeld, 2001). Some social campaigns have even had unintended negative (boomerang) effects (Ringold, 2002), where people reacted against the prescriptiveness of a campaign (Brehm and Brehm, 1981). For example, there have been cases of increased cigarette smoking among college student smokers in response to antismoking messages (Wolburg, 2006). These kinds of reactions are most

common among younger people, especially adolescents because of their desire for independence, individuality, and their rejection of authority (i.e., Miller *et al.*, 2006).

In order for a person to make the rational choice to not smoke, they must have complete information and be able to process it efficiently. However, the addictive qualities of nicotine and the effectiveness of tobacco marketing also leads consumers away from making rational choices (Wayne *et al.*, 2004).

It is clear that the main difficulty for social marketing campaigns, compared to traditional campaigns, lies in the fact that the marketers are attempting to influence an audience to change their behavior from something that is familiar and accepted to something that is new and sometimes more difficult than their normal habits. Nevertheless, social marketing has been criticized for not treating people like autonomous beings. Social marketing campaigns have claimed that marketing's focus on the individual largely ignores the social, economic and environmental factors that influence individual health behaviors (Donovan, 2011).

METHODOLOGY

Given the exploratory nature of the study and the scarcity of studies in the field focusing on the Generation Y perspective, qualitative research was considered ideal since it provides insights and understanding of the problem setting. Focus group interviews were used, to get participants opinions about a particular issue (Andronikidis and Lambrianidou, 2010; Kapoulas *et al.*, 2004) and because they allow researchers to understand consumers' everyday behavior and experiences and how they interpret reality in their own terms (Threlfall, 1999).

In this study the researchers adopted the concept of the "mini-focus group" (Keegan, 2009; Edmunds 1999; Krueger, 1994). Their group sizes ranged from five to six participants with a total of 56 participants in 10 focus groups. Each session lasted about 100 minutes on average, ranging from 90 minutes to 2 hours (Edmunds, 1999) in order to avoid any possible fatigue or loss of interest (Packer-Muti, 2010). In all circumstances the time was sufficient to allow discussion on all areas of interest that arose. The groups were formed so as to be fairly homogeneous, mainly in terms of age. The sessions were conducted in the facilities of a consulting firm in Thessaloniki, with which one researcher was associated with. One of the researchers took on the role of the moderator (Hartman, 2004) and ensured that all group discussions were constructive and went smoothly without problems (Churchill and Iacobucci, 2002). The sessions ended with participants final thoughts and remarks and then the moderator-researcher provided a brief summary of what had been discussed to ensure that their interpretation of the discussion was correct.

Generally a convenience sampling was adopted, however, participants were selected based on their relevance to the study and their ability to discuss the research issue; participants had to be smokers

and in the age range of 18-35 (Generation Y). The focus groups followed a semi-structured format with participants discussing the open-ended predetermined questions introduced by the moderator. The questions were developed to guide discussion and in order to elicit specific details. The main research question was "What actions in the social marketing context should be taken by policy makers, non-profit organisations and the community in order to prevent adolescents' smoking". A discussion guide was prepared to help ensure that the focus groups covered the topic of interest and were all conducted in a similar manner. The discussions were videotaped for data analysis to limit the bias and full transcripts were produced as soon as possible after the sessions. The focus groups were then transcribed and a content analysis procedure was then undertaken. This paper will focus only on suggestions for smoking prevention, especially for young people.

Demographic profile of the participants

A total of 56 adult smokers participated in the ten focus groups. The ages of the sample varied between 18 and 34 years old, while the largest proportion, 35 (62.5%) were between 18 and 25 years old and the rest 21 (37.5%) were between 26 and 34 years old. Referring to gender, 30 (54%) were males. The majority, 41 (73%) were single while the rest 15 (27%) were married and 13 of them had one or two children. Half of the respondents were University students, while the rest of the participants reported to be salaried employees (14, 25%), public employees (8, 14%) and professionals (6, 11%). In terms of the educational level of the non-university students, 13 (23%) indicated that they had a bachelors degree; 12 (22%) had a high school diploma-vocational degree; and 3 (5%) had a masters degree.

FINDINGS AND DISCUSSION

The vast majority of respondents, 50 (89%) smoked a particular brand of cigarettes. Regarding the number of cigarettes smoked daily; 12% smoked up to 9; 30% smoked 10-15, 23% smoked 16 to 20 and 35% smoked 21+ cigarettes. Additionally, 45 participants (80%) stated that they started smoking before the age of 18 and the main reason for this was peer pressure (50%) and curiosity (40%). All respondents knew the harmful consequences of smoking, while 27 (48%) of them had tried to quit smoking. In addition, when they were asked what they would do if their children started smoking the vast majority answered that they would try to discourage them from smoking (52; 93%).

Prevention campaigns

Social marketing campaigns by providing knowledge on an individual and community level can be an effective tool for health education and behavioral change strategies. This requires the targeting of

influential people in communities who have the authority to make institutional policy and legislative change (Andreasen, 2006; Hastings *et al.*, 2000). Traditionally, public policies to limit smoking have predominantly relied on tools such as increasing cigarette price through taxation, restrictions on smoking in public places, school programmes, advertising regulations, information campaigns and regulations on youth access to tobacco products, and large graphic warning labels on packages (Pierce *et al.*, 2012).

The participants (younger and older Gen Y-ers) proposed that the prevention campaign should include six main initiatives which expressed similar opinions. These should be focused on parents (family), schools, and the state (municipal authorities and government). They were:

1. Anti-smoking education starting with parents, especially smokers
2. Anti-smoking education in elementary schools
3. Celebrity spokespersons in schools
4. Intense anti-smoking advertising campaigns
5. The creation of more sports fields so that children can take part in physical activities
6. Prohibition of smoking in public places and the simultaneous imposition of huge fines on smokers

Parents anti smoking education

Various studies show that parental smoking increases the likelihood of smoking by their children (Otten *et al.*, 2007; Vardavas *et al.*, 2007). The majority of respondents asserted that smoking prevention starts with parents, especially if they are smokers, pointing out that children accept parental influence on their behaviour, considering it as "normal" and "right". They characteristically stated:

"...it is crucial that parents are "trained" not to smoke in the home or near their children. If they attend some anti-smoking seminars, it would be very helpful in getting them to move in the right direction..... Both of my parents smoke in front of me and my brother, in the house,..... everywhere, anywhere. Why should I consider smoking bad for my health? Why would I understand at 12, 13, 14 years old that my parents which loved each other and us would do something so harmful like committing long-term suicide? They were grownups and our paradigm in life - the same goes for all kids - we follow the example of our parents. We consider their behavior right, acceptable and that we should replicate it in the future" (Male, 21, FG3)

As prior research indicates, family plays a vital role in youth smoking behavior. McNeal, (1987) emphasizes that children model their parent behaviors and attitudes. Sancho *et al.* (2011) state that children are spending less time talking and interacting with parents and more time exposed to media and interacting with friends which is in accordance with the study of Kristjansson *et al.* (2008) who

suggested that the amount of time parents spend with their children could be a factor in protecting their children from taking up smoking.

Anti-smoking education in the elementary school

Schools are places where social behaviours are modelled and reinforced (Lovato *et al.*, 2010). For most participants, anti-smoking education in elementary school was considered to be the most effective way to prevent smoking. Heavy smokers particularly insisted that anti-smoking education must start at elementary school, but shouldn't stop there and should be continued to gymnasium and lyceum. For example, one of the participants stated:

".....I believe that smoking prevention education programs must start with the 4th to 6th graders at elementary school at the latest, innovative ideas should be used. For example, there could be a glass box with an electronic mouth inside that is attached to lungs. In this box the teacher could put some clothes inside. This mouth could smoke 2-3 cigarettes in the box and after an hour or two, the teacher could take out the clothes and give it to the children to smell. This awful smell is a way to encourage children to dislike smoking, especially if the teacher emphasizes that their skin, mouth and hair also smell this way. Additionally, the lung could change color or texture by smoking day by day and at the end of the year it would be obviously altered. I do understand that this is costly, but the cost in the long run is very small compared to the benefits" (Male, 26, FG4).

Researchers have found that if tobacco use begins in elementary school it increases greatly in middle school and therefore prevention should begin in early elementary school (e.g. Wilson *et al.*, 2002), while Ellickson *et al.* (1993) state that the younger one starts smoking, the more resistant they are to change. Kolbe *et al.* (2001) state that anti-smoking educational plans and strategies which are school-based are very important in order to discourage students from smoking, because school takes up many hours of the day for children and adolescents (Watts *et al.*, 2010).

Celebrities as anti-smoking spokespersons

Many participants focused on the role that celebrities could play in smoking prevention, especially if they were invited to schools or the schools could go e.g. to the theatre and actors could talk about smoking and its consequences. One of them stated that it all adds up to self confidence and "loving" yourself, and that's the point that celebrities should focus on. They typically asserted:

"We should use celebrities that young people admire and want to be like, to deliver speeches in schools and highlight the negative effects of smoking...Some of them used to smoke and gave up. Let them tell their story. Adolescents do not listen to their parents about giving up smoking or to never trying it, because if a parent smokes, then their advice to not smoke will fall into a gap, and because at their age they want to be rebels - starting in their own home!" (Male, 30, FG9).

“ ...there are certain celebrities (musicians, athletes, actors) that are role models for many teenagers and they could deliver a series of speeches in schools all over Greece about smoking and its harmful consequences. Also there could be a day where the teacher takes the class to a play, where actors give anti-smoking messages” (Female, 26, FG4).

Studies on celebrity endorsements of anti-tobacco messages have been shown to be effective in improving the understanding of the dangers of smoking and encouraging people to quit smoking (Chapman and Leask, 2001; Seghers and Foland, 1998). In these campaigns celebrities can discuss the consequences of smoking for their careers, particularly in how it can affect their talents, for example, the band Boyz II Men argued that smoking had negatively affected their singing (Farrelly *et al.*, 2003).

Anti smoking advertising campaigns

Many participants stated that there is a need for an anti-smoking campaign. Older participants stated that these campaigns should be mainly televised, focusing on the consequences by using images of smokers' vital organs as a main theme. On the other hand, younger Gen Yers focused on the internet and social media for antismoking campaigns. The following extracts outline this view:

“...there is a need for very intense anti-smoking TV advertising campaigns focusing on pictures of smokers' vital organs.....maybe this way the adolescents will be shocked and avoid smoking” (Male, 33, FG8).

Anti-smoking TV campaigns tend to focus more heavily on the severity of harm than on self-efficacy and subjective norms (Cohen *et al.*, 2007). The successful use of threat is largely determined by how an individual copes with the threat being communicated, and their level of health resistance (Dickinson-Delaporte and Holmes, 2011). Fear appeals are considered to be highly persuasive and thus they are very often used by health marketers to influence an audience. However, they should be exercised with caution since they can generate guilt, envy, anger, sadness (Dillard and Anderson, 2004), or even chronic anxiety (Gallopel-Morvan *et al.*, 2011).

Additionally, some younger participants emphasize the usefulness of the Internet in social advertising campaigns.

“..... I believe a good and very effective way of targeting adolescents is to use the Internet for anti-smoking advertising campaigns, since we spend long hours “surfing” and do not watch TV. There are so many pop up ads, even in YouTube when we are watching a music video.why not have anti-smoking messages especially from the bands or the singers?, this would certainly be more effective than other images such as smokers' lungs and teeth....” (Male, 18, FG9).

Lately, the use of the internet and web technologies in health promotion has become an increasingly widespread and popular practice (Waters *et al.*, 2011), even as a potentially essential resource in health behavior change intervention and programs (Marcus *et al.*, 2007). Additionally, internet and social

media usage by children and adolescents is among their most common activities these days (Kaiser Family Foundation, 2010).

Public sports fields-physical activities

Many respondents believe that there is a positive association between smoking prevention and sports activities. For example, a father with a small kid stated:

"...I wish we had had a sports field in my neighborhood when I started smoking..... Now nearby our house there is a small field,..... and when my son reaches the age of 5 or 6 I will go there to play with him and maybe he will like the sports and join a sports team and this way he can avoid this bad habit" (Male, 33, FG7).

Taras (2005) asserts that physical activities programs can "help children develop social skills, improve mental health, and reduce risk-taking behaviors". Several studies found that individuals involved in all forms of physical activity tend to smoke less (i.e., Kristjansson *et al.*, 2008).

Prohibition of smoking in public places and tax increases

The initiatives which received the least support were the prohibition of smoking in public places (i.e., restaurants, cafes, bars), the imposition of huge fines on smokers and tax increases on cigarettes. Mainly light smokers and older participants suggested these initiatives, while other thought this would just motivate them to purchase cigarettes from the "black market".

More specifically a light smoker stated:

"...although, I am a smoker I believe that we have to respect the rights of nonsmokers, especially in places like cafes, and restaurants where a lot of people gather and many of them are non-smokers and adolescentsA solution could be a general prohibition on smoking in all public places with imposition of huge fines on smokers and owners. Many countries have a very strict anti-smoking law...so do we.... But it is just for existing and not for being applied" (Male, 25, FG5).

Social marketing literature (e.g. Hoek and Jones, 2011) indicates that legislation is often a necessary antecedent for individual behavior change where the sought change is immensely difficult for individuals to accomplish. In Greece, anti-smoking policy does exist, and has been in place for many years. However, factors such as the spirit of tolerance towards individual life styles that runs through Greek society and the fact that Greece is a tobacco producing country have contributed to their failure. Additionally the existence of a pro-tobacco culture and a growing number of teenage smokers is making the problem worse (Vardavas and Kafatos, 2007).

CONCLUSIONS

The meaning of social marketing contains a justification for involvement in social issues, such as

antismoking campaigns (Kotler *et al.*, 2002). Thus, social marketing could be applied to behavioural change and attitudinal change towards smoking mainly through prevention and by approaching young people before they start smoking.

In Greece, the smoking population is considered to be the largest one in the world and has a high initiation percentage of teenagers to smoking. Thus, it is imperative for non-profit organizations and central and local governmental authorities to discourage young people from starting smoking with the assistance of social marketing initiatives. To our knowledge, this paper is the first attempt to present the suggestions of generation Y, younger and older adult smokers' on smoking prevention for children and adolescents in the social marketing context. The main proposals of the study's participants incorporate practices such as parents' anti-smoking education, more engagement by local communities by providing more public sports facilities so that children can take part in physical activities, celebrities speeches in schools, anti-smoking education in elementary school, intense anti-smoking advertising campaigns, and the prohibition of smoking in public places with simultaneous impositions of huge fines on smokers. Although, these findings are partly similar to indications in the literature, they offer a more holistic and modern view especially from an underexplored population (Generation Y smokers) in a heavy smoking country.

Limitations and suggestions for future research

It is important that some restrictions of the research, which offer opportunities for further research, are recognized. This article presented the results of qualitative research, which was exploratory in its nature. The examination of a small number of generation Y participants, although adequate for this study's purposes, restricts our ability to make generalizable claims related to anti smoking initiatives in the context of a social marketing campaign.

Despite the limitations, this study contributes to current knowledge about what kind of anti-smoking campaigns Generation Y smokers ask for in order to act proactively towards smoking. Further research can pursue and validate the current findings of this research with new facts and a larger nationwide sample. Despite the increase in public health consciousness of the direct and indirect effects of smoking, adolescents still try tobacco products. Recognizing the different prototypes of smoke initiation is essential since these differences have important implications for prevention and research. Understanding the micro and macro social context (e.g., family, friends, school) of adolescent smoking is the first step towards designing and implementing smoking prevention programs (Kristjansson *et al.*, 2008).

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THE ADOPTION OF ACADEMIC TECHNOLOGY TRANSFER PRACTICES: AN INDIVIDUAL LEVEL PERSPECTIVE

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ABSTRACT

The study aims to explore what are the determinants and the intensity of the adoption of academic technology transfer practices. Starting from the analysis of the literature we propose a conceptual model to explain which are the determinants of university-industry relations and how they influence such relations. The model is tested on the faculty of the University of Siena active in the area of Life Sciences with specific reference to consulting and patenting activities. The results show how the University can no longer be regarded as a “monolithic” actor, but as an organization in which the adoption and diffusion of an organizational practice are influenced significantly by the individual characteristics of each subject of the organization. It highlights in particular how a certain scientific reputation is associated positively with the number of registered patents and negatively, over a certain threshold, to the number of consultancies carried out. It finally highlights an “imperfect complementarity” between patenting and consultancies. The latter increased in the presence of a patent, but not vice versa. It therefore seems to exist a trade-off between scientific reputation and university-industry relationships. The achievement of a certain level of scientific quality initially favors the provision of consultancy work, but over a certain threshold, the scientist begins to focus on the scientific productivity. Conversely, with regard to patent, the relationship is positive and the scientific excellence in some way facilitates the transfer of the scientific results in an exploitable asset (the patent).

Keywords: *organizational behaviour, technology transfer, academic entrepreneurs, life sciences, university-industry linkages*

1. INTRODUCTION

The studies on the technology transfer practices, and in particular on the patenting activity, explode since the 80s also on the wave of some significant public policies adopted by the United States. If we focus on academic technology transfer the theme begins to find ample space in scientific journals since the mid- 90s. More recently, many studies in the literature have explored the ways in which individual academics choose and manage their engagement activities with industry (e.g., D’Este and

Patel, 2007; Landry *et al.*, 2010; Giuliani *et al.*, 2010; Colyvas and Haeussler, 2011; Perkmann *et al.*, 2011). The University has in fact begun to support its two historic and traditional missions of education and advancement of knowledge through basic research also with a third mission: to contribute to the economic development of a country or region (Etzkowitz *et al.*, 2000, p. 313). Academic Institutions may in fact contribute to the potential for innovation and R&D (Lazzeroni and Piccaluga, 2003) as suppliers of human capital at different levels and degrees of specialization, such as technology transfer centers promoting the economic exploitation of scientific results, as producers par excellence of new knowledge or as centers of regional development through the management of innovation projects in the area. The way in which this occurs covers a broad spectrum of activity that goes beyond the simple management of intellectual property rights (Cohen *et al.*, 2002; D'Este and Patel, 2007). Surely the activities mostly explored in the literature were (Landry *et al.*, 2007): *Patenting* (Henderson *et al.*, 1998; Mowery *et al.*, 2002), *Licensing* (Thursby and Thursby, 2002) and *Spin-off* (Link and Scott, 2005; Shane and Stuart, 2002). However, it is now generally recognized that, alongside these, other types of university-industry relations should be considered: consultancy works, joint research programs, and also informal activities such as meetings, seminars, etc (Giuliani *et al.*, 2010; Landry *et al.*, 2010).

We aim to answer to the following research questions: 1) What are the determinants that explain the propensity of an academic to engage in consulting and patenting activities? 2) What are the determinants that have a significant influence on the number of consultancies and the number of patent registrations? 3) Is there a complementary relationship between the two types of activities, and between these and the performance of collateral domains (e.g. scientific productivity)?

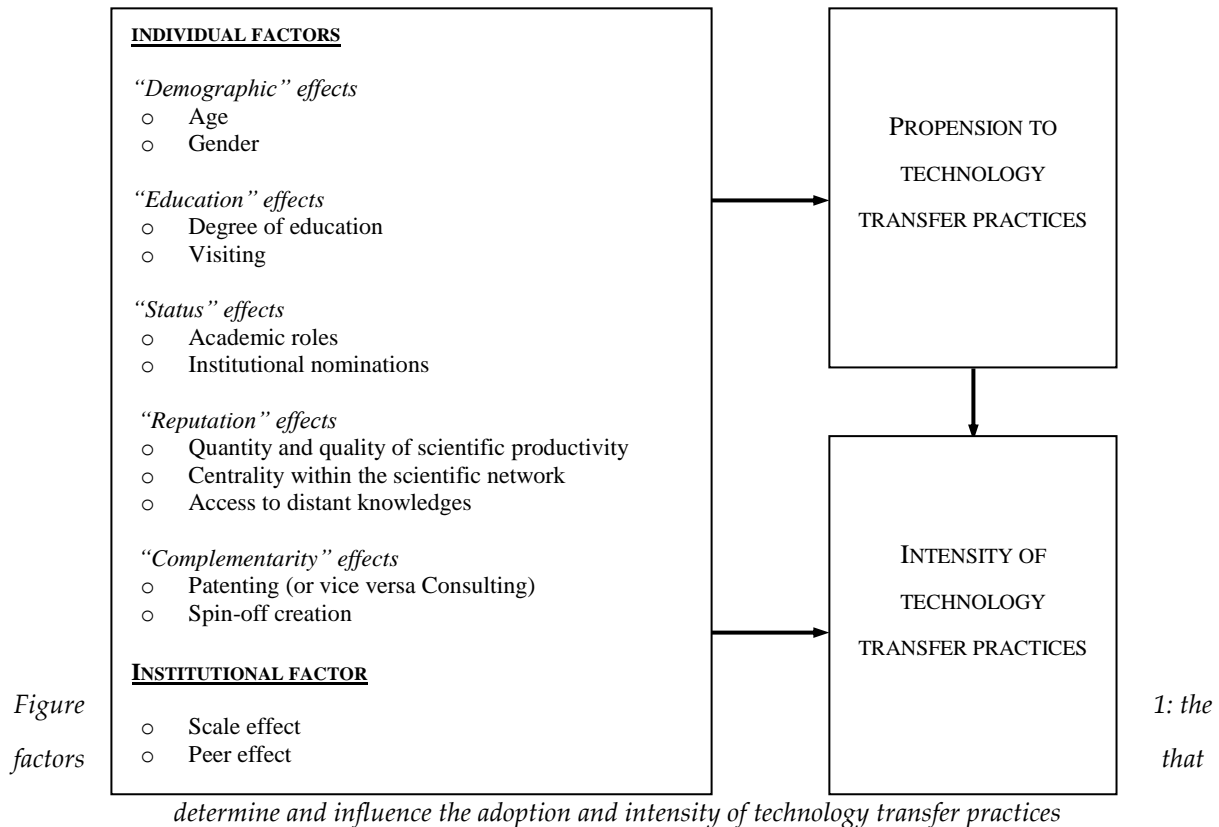
2. THEORETICAL BACKGROUND

In the first half of the 2000s many studies on technology transfer have focused in particular on the role of institutions, first of all the universities and the Offices of Technology Transfer (Lambooy, 2004; Bercovitz *et al.*, 2001; Siegel *et al.*, 2003). Despite the increasing attention paid to the institutional role within the process of technology transfer, there is still no consensus in the literature about the determinants of the links between universities and industry (Giuliani *et al.*, 2010). Giuliani *et al.*, (2010) identify two predominant theoretical approaches (Giuliani *et al.*, 2010, p. 749): 1) "*evolutionary*" and "*resource-based view*" approaches: in this case the formation of links depends on the capabilities and skills of the actors (single researcher or organizations) who take part, 2) "*institutional*" approach: the formation of links instead depends on the context in which the actors are established (type of organization, culture, the environment in which the research takes place, etc.). As we have already mentioned, in particular, there is a recent literature on the characteristics of individual researchers and

their role in determining university-industry relationships (e.g. Bercovitz and Feldman, 2008; Boardman and Ponomariov, 2009) and some studies have also tried to combine the two approaches in a complementary manner (e.g. Giuliani *et al.*, 2010; Landry *et al.*, 2010; Perkman *et al.*, 2011). Nevertheless conclusive results in the literature on the determinants of the linkages between universities and industry do not seem to be present yet. (Giuliani *et al.*, 2010, p. 749). First of all, at the theoretical level the two approaches that have prevailed until a few years ago, seem, by themselves, unable to explain the real determinants of U-I interactions due to the presence of different actors (individual vs. organization), stakeholders, logics, etc. This limitation seems now overtaken by a complementary vision of the two theories (e.g., D'Este and Fontana, 2007; Landry *et al.*, 2007b; Boardman, 2009; Landry *et al.*, 2010; Giuliani *et al.*, 2010). In rare cases it has also been sought to understand how participation in activities of technology transfer and the diffusion of the same organizational practice is influenced by the work context in which the individual researcher is operating (e.g. Bercovitz and Feldman, 2008). In particular, the distance that at different levels (cultural, political and technological: cfr Ansari *et al.*, 2010; Fiss and Zajac, 2004) separates the behavior of a researcher from another one of the same organization (department or research group) was not taken into account or only partially considered (e.g. Bercovitz and Feldman, 2008; Giuliani *et al.*, 2010). Finally, in rare cases, it has been investigated the possible effects of complementarity, substitution or independence between the different modes and channels of interaction U-I (e.g. Bercovitz and Feldman, 2008; Landry *et al.*, 2010 Crespi *et al.*, 2011). At the empirical level instead very few longitudinal studies have examined the heterogeneity in the behavior of the individuals involved in technology transfer activities (e.g., Crespi *et al.*, 2011), however sometimes limiting the analysis to few channels of interaction (e.g. Bercovitz and Feldman, 2008). Finally, with respect to many individual and institutional determinants included in the models of engagement conflicting results have been found.

3. CONCEPTUAL FRAMEWORK

Starting in particular from the work of Bercovitz and Feldman (2008), Giuliani *et al.*, (2010), Landry *et al.* (2010), Landry *et al.* (2007b), Stephan *et al.* (2007) and trying to develop, integrating them where possible, the models proposed in these contributions, we propose a framework of analysis that will help to clarify the determinants that, on the one hand, explain the propensity of an academic to undertake consulting or patenting activities and, secondly, explain the extent of these specific relationships between universities and industry. The framework of analysis is shown in figure 1.



Compared to the contributions mentioned above institutional nominations have been included among the “status” effects. Among the “reputation” effects we have considered the “access to distant knowledge”. We will verify in fact if the collaboration with foreign colleagues have influence on the extent of university-industry relations or on the propensity to engage in such activities. Compared to the model of Giuliani *et al.* (2010) we finally have included the effects of what we here call “complementarity”. We wonder if the patenting activity can influence the consulting activity and vice versa (as suggested by Landry *et al.*, 2010, or Bercovitz and Feldman, 2008). Finally, we emphasize that at the level of theoretical premise not all factors that influence the amount of university-industry relations can also determine the propensity of an academic to entertain such relationships as suggested in Stephan *et al.*, 2007.

4. METHODOLOGY

4.1 Empirical setting and measures

The study is based on a dataset containing the curricular data, the scientific productivity, the number of registered patent and the consulting activities of 301 academics of the University of Siena, active in the field of Life Sciences. The population was selected basing on the following criteria: 1) be still

serving at the Università of Siena at 31 December 2010, 2) be at least the author of an article in the Life Sciences area published in peer-reviewed journals.

In particular, the data sources for each section of the dataset are:

- Scientific productivity: search engines and bibliographic databases available at the University of Siena (in particular ISI Web of Science);
- Curricular variables: curriculum vitae available on line on the website of the Departments;
- Patents: free access patent databases available on line;
- Consulting activities: the data were made available by the Liaison Office of the University of Siena.

The variables included in the model are:

A) Dependent variables:

a.1) *CT*: measures the number of research agreements or consultancy works during the period 1991-2010;

a.2) *Patents*: measures the number of patents (patent families) registered in period 1991-2010.

B) Independent variables:

B.1) "Demographic" variables:

b.1.1) *Age*: measure the age (in years) of each academic researchers;

b.1.2) *Gender*: measured as a dichotomous variable that takes the value "1" if the subject is male and "0" if female.

B.2) "Educational" variables:

b.2.1) *SpecPhD*: measures the level of education attained by the individual academic through a dichotomous variable that takes the value "1" if the person holds a PhD degree or specialization (the latter in the medical field), "0" otherwise;

b.2.2) *Visiting*: dummy variable that takes the value "1" if the academic has carried periods of visiting at universities or research centers abroad during their postgraduate training period or already acting as a visiting professor.

B.3) "Status" variables:

b.3.1) *Role*: dummy variable that takes the value "1" if the academic is full Professor or associate Professor, "0" otherwise;

b.3.2) *InstNom*: dummy variable that takes the value "1" if the subject had institutional nominations within its Department or University, "0" otherwise.

B.4) "Reputational" variables:

- Quantity and quality of scientific productivity:

b.4.1) *NPubl*: total number of publications;

b.4.2) *IFcum*: cumulative impact factor of the researcher.

- The position within the international scientific network and access to distant knowledge:

b.4.3) *NetCentr*: indicates the centrality of the researcher within the scientific network measured as: $[d(n_i) / (g-1)] \times 100$, where $d(n_i)$ is the index of degree within a network and g is the total number of nodes in the network;

b.4.4) *CoautFor*: indicates the proportion of foreign co-authors (affiliated to foreign universities) with which the academic has published.

B.5) "Complementarity" variables:

b.5.1) *DummyCT*: dummy variable that takes the value "1" if the researcher carried out consultancy works, "0" otherwise;

b.5.2) *DummyPat*: dummy variable that takes the value "1" if the academic has registered a patent, "0" otherwise.

B.6) "Institutional" variables:

b.6.1) *SizeDept*: For each researcher measures the number of researchers affiliated to their Department;

b.6.2) *PeerEffCT*: For each subject is measured as the difference between the total numbers of consultancies carried out by the researchers affiliated to the Department and their own;

b.6.3) *PeerEffPat*: For each subject is measured as the difference between the total number of patents registered by the researchers affiliated to the Department and their own;

Finally, we have included in the model the dichotomous control variable MED that takes the value "1" if the researcher belongs to the medical field, "0" otherwise. It is not possible at present to use the variable spin-off for the small number of academics who have participated in the creation of entrepreneurial activity.

5. RESULTS

In order to investigate the university-industry relationships and a series of relevant factors We have chosen to use a count data model based on the likelihood approach: the zero-inflated negative binomial (ZINB) model. The choice is motivated both by the discrete nature of the response variables (consultancies and patents) and by the high proportion of zeros within these (cfr Stephan *et al.*, 2007 or Landry *et al.*, 2007b). In particular, the excess of zeros may arise from two distinct processes: in the first case the value "0" is recorded for those academics who have never done consultancy work or registered patents, respectively, in the second case, the "0" can originate from the fact that the academics of the sample did not do some of the two activities investigated in the time window considered.

Tables 1 and 2 show the descriptive statistics of the response variables (number of consultancy works and the number of patents) with reference to the dichotomous independent variables used.

	<i>Gender</i>		<i>SpecPhD</i>		<i>Visiting</i>		<i>InstNom</i>		<i>DummyPat</i>	
	M	F	Yes	No	Yes	No	Yes	No	Yes	No
Mean	3,98	1,00	3,07	2,57	4,05	2,37	9,73	1,99	5,41	2,19
St. Dev.	8,58	2,86	7,59	6,53	7,92	6,74	12,77	5,54	8,04	6,72
n.	186	115	163	138	84	217	33	268	61	240
<i>t-test*</i>	Sig.		Not sig.		Not sig.		Sig.		Sig.	

* Confidence level 95%; N = 301

Table 1: Descriptive statistics of the number of consultancy works by the dichotomous variables

	<i>Gender</i>		<i>SpecPhD</i>		<i>Visiting</i>		<i>InstNom</i>		<i>DummyCT</i>	
	M	F	Yes	No	Yes	No	Yes	No	Yes	No
Mean	0,93	0,66	0,75	0,91	1,01	0,76	2,36	0,64	1,60	0,41
St. Dev.	2,76	1,82	2,46	2,44	2,67	2,36	4,45	2,01	3,56	1,39
n.	186	115	163	138	84	217	33	268	106	195
<i>t-test*</i>	Not sig.		Not sig.		Not sig.		Sig.		Sig.	

* Confidence level 95%; N = 301

Table 2: Descriptive statistics of the number registered patents by the dichotomous variables

Table 3 shows the descriptive statistics of all variables and their correlation coefficient.

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1. CT	1.000																		
2. Patents	0.208**	1.000																	
3. Age	0.186**	0.006	1.000																
4. Gender	0.204**	0.054	0.249**	1.000															
5. SpcePhD	0.035	-0.032	-0.019	0.059	1.000														
6. Visiting	0.106^	0.047	-0.003	-0.029	0.350**	1.000													
7. Role	0.288**	0.155**	0.600**	0.300**	0.061	0.110^	1.000												
8. InstNom	0.340**	0.221**	0.259**	0.188**	0.067	0.114*	0.293**	1.000											
9. IFcum	0.241**	0.368**	0.069	0.104	0.070	0.222**	0.287**	0.254**	1.000										
10. Npubl	0.283**	0.268**	0.140*	0.151**	0.109^	0.213**	0.329**	0.326**	0.910**	1.000									
11. NetCentr	0.247**	0.320**	0.097^	0.126*	0.077	0.201**	0.331**	0.243**	0.868**	0.859**	1.000								
12. CountFor	0.543**	0.234**	0.246**	0.179**	0.050	0.208**	0.395**	0.342**	0.305**	0.295**	0.312**	1.000							
13. DummyCT	0.182**	0.671**	0.003	0.039	-0.027	0.111*	0.07	0.136*	0.326**	0.218**	0.223**	0.125*	1.000						
14. DummyPat	0.182**	0.671**	0.003	0.039	-0.084	0.147*	0.186**	0.114*	0.264**	0.206**	0.242**	0.147*	0.217**	1.000					
15. SizeDept	0.050	0.285**	-0.147*	-0.047	-0.073	-0.053	-0.006	0.020	0.056	0.010	0.132*	-0.019	0.130*	0.243**	1.000				
16. PeerEffCT	0.013	0.283**	-0.211**	-0.135*	-0.071	-0.077	-0.085	-0.050	0.016	-0.053	0.026	0.018	0.083	0.293**	0.635**	1.000			
17. PeerEffPat	0.037	0.424**	-0.214**	-0.113^	-0.191**	-0.090	-0.034	0.018	-0.001	-0.060	0.046	0.014	0.044	0.445**	0.601**	0.675**	1.000		
18. MED	0.053	-0.173**	0.125^	0.206**	0.219**	-0.163**	0.026	-0.047	0.084	0.178**	0.212**	-0.087	-0.023	-0.259**	0.001	-0.096^	-0.364**	1.000	
Mean	2.841	0.827	53.977	0.618	0.542	0.279	0.555	0.110	133.157	41.043	0.335	0.052	0.352	0.203	25.100	54.339	21.585	0.581	
St. Dev	7.114	2.449	8.840	0.487	0.499	0.449	0.498	0.313	172.741	45.825	0.307	0.093	0.478	0.403	6.901	37.084	35.512	0.494	

^ p < .10; * p < .05; ** p < .01; N = 301.

Table 3: Descriptive statistics and correlations

The analysis of the correlation matrix shows some problems of collinearity between variables. In particular, the significant correlations between *Age* and academic *Role* ($q = 0.600$), between *SizeDept* and *PeerEffCT* ($q=0.635$), between *SizeDept* and *PeerEffPat* ($q=0.601$), between *NPubl* and *NetCentr* ($q=0.859$) and between *NPubl* and *IFcum* ($q=0.910$), leave doubt about their collinearity. To overcome these problems we have decided to exclude from the analysis the variable *NPubl*.

We show now the results of the econometric model before processing with reference to consultancies and then to patents. As already mentioned the ZINB model used in the econometric analysis that follows begins with the estimation of the probability that the response variable takes the value zero. To check and initially limit the number of variables to be inserted in the *inflate section* (the one that estimates the probability of zeros) of the ZINB model we have proceeded to initially and separately estimate a classical logit model. In both case, pre and post removal of six outliers, the

results show that the probability of activating a consultancy work positively depends on the variables *Visiting*, *InstNom*, *IFcum*, *SizeDept* and *Role*. The results of the final model are shown in table 4.

	Mod. 1	Mod. 2	Mod. 3	Mod. 4	Mod. 5
CT					
<i>Gender</i>	0,609* (2,24)	0,583* (2,03)	0,566^ (1,93)	0,530* (2,20)	0,516* (2,12)
<i>Age</i>	0,046* (2,17)	0,050* (2,25)	0,048* (2,11)	0,051** (2,65)	0,052** (2,70)
<i>SpecPhD</i>		-0,494^ (-1,73)	-0,504^ (-1,83)	-0,459^ (-1,85)	-0,477^ (-1,89)
<i>Visiting</i>		0,649* (2,39)	0,636* (2,32)	0,782** (2,87)	0,772** (2,88)
<i>InstNom</i>			0,154 (0,50)	0,239 (0,83)	0,217 (0,76)
<i>IFcum</i>				-0,001* (-2,14)	-0,001* (-2,15)
<i>DummyPat</i>				1,004** (4,00)	1,046** (3,93)
<i>SizeDept</i>					-0,009 (-0,52)
<i>MED</i>	-0,080 (-0,31)	-0,0203 (-0,07)	0,0155 (0,05)	0,340 (1,27)	0,324 (1,20)
<i>Constant</i>	-1,541 (-1,31)	-1,809 (-1,38)	-1,735 (-1,30)	-2,226* (-2,01)	-2,012^ (-1,79)
Inflate					
<i>InstNom</i>	-2,174^ (-1,82)	-2,686 (-1,34)	-2,468 (-1,38)	-1,783^ (-1,79)	-1,801^ (-1,78)
<i>Role</i>	-1,306** (-2,88)	-1,283** (-2,72)	-1,298** (-2,72)	-1,246** (-2,66)	-1,234** (-2,59)
<i>IFcum</i>	-0,008* (-2,03)	-0,008^ (-1,78)	-0,008^ (-1,74)	-0,009* (-1,99)	-0,009* (-2,02)
<i>SizeDept</i>	-0,086** (-2,80)	-0,091** (-2,75)	-0,091** (-2,72)	-0,087** (-2,60)	-0,091** (-2,61)
<i>Constant</i>	4,096** (4,55)	4,159** (4,33)	4,172** (4,29)	4,160** (4,27)	4,270** (4,26)
<i>Wald Chi2</i>	19,75**	21,14**	24,16**	48,54**	48,06**
<i>LOG pseudo-L</i>	-417,077	-414,027	-413,907	-406,813	-406,712
α^a	1,473**	1,477**	1,489**	1,216**	1,214**

^ p < .10; * p < .05; ** p < .01; N = 295; z in parenthesis. ^a Sign. for LR test of $\alpha = 0$

Table 4: Results of the zero-inflated negative binomial regression for number of consultancies

Not significant collinear variables were excluded from the analysis.

For the consultancy activity (*CT*), the probability of being zero increases with the decreasing of the cumulative IF (*IFcum*) and with the size of Department (*SizeDept*), as well as it decreases in the presence of institutional nominations (*InstNom*) and with the academic role (*Role*).

Gender, *Age*, *Visiting* and *DummyPat* are positive predictors of the number of consultancies. *SpecPhD* is negatively associated. It is interesting to note that the scientific reputation (*IFcum*) is a determinant of the propensity to engage in consulting activities but is negatively associated with the number of the latters. This gives a U-shaped inverted relationship. If the *IFcum* grows, the number of predicted

events (consultancy works) increase up to a certain threshold and then it decrease. The same survey methodology was then carried out with reference to the number of patents (Table 5).

	Mod. 1	Mod. 2	Mod. 3	Mod. 4	Mod. 5
Patents					
<i>Gender</i>	0,440 (1,33)	0,406 (1,24)	0,299 (0,98)	0,179 (0,61)	0,234 (0,82)
<i>Age</i>	0,002 (0,08)	-0,001 (-0,04)	-0,013 (-0,67)	-0,016 (-0,78)	0,004 (0,21)
<i>SpecPhD</i>		0,176 (0,49)	-0,277 (-0,69)	-0,278 (-0,77)	-0,093 (-0,28)
<i>Visiting</i>		-0,440 (-0,95)	-0,003 (-0,01)	-0,467 (-1,17)	-0,425 (-1,17)
<i>InstNom</i>			1,152** (2,82)	0,733^ (1,71)	0,497 (1,30)
<i>IFcum</i>				0,003** (3,03)	0,002** (2,59)
<i>DummyCT</i>				0,458 (1,45)	0,143 (0,44)
<i>SizeDept</i>					0,066* (2,13)
<i>MED</i>	-0,311 (-0,80)	-0,207 (-0,53)	0,0571 (0,14)	-0,454 (-0,97)	-0,298 (-0,65)
<i>Constant</i>	0,688 (0,72)	0,911 (0,85)	1,385 (1,34)	1,138 (0,98)	-1,726 (-1,25)
Inflate					
<i>Visiting</i>	-1,635** (-2,97)	-1,788** (-2,88)	-1,587** (-2,65)	-1,711* (-2,54)	-1,710* (-2,48)
<i>Role</i>	-1,537** (-2,80)	-1,562** (-2,96)	-1,496** (-2,81)	-1,378* (-2,53)	-1,340** (-2,70)
<i>PeerEffPat</i>	-0,053** (-4,08)	-0,050** (-4,09)	-0,050** (-4,29)	-0,050** (-3,14)	-0,040** (-3,15)
<i>Constant</i>	3,481** (6,56)	3,590** (6,70)	3,524** (6,47)	3,323** (6,35)	3,234** (6,21)
Wald Chi2	2,08	2,76	14,64*	41,77**	49,80**
LOG pseudo-L	-245,338	-244,750	-241,984	-232,223	-229,947
α^a	1,866**	1,743**	1,443**	1,013**	0,693**

^ p < .10; * p < .05; ** p < .01; N = 300; z in parenthesis. ^a Sign. for LR test of $\alpha = 0$

Table 5: Results of the zero-inflated negative binomial regression for number patents

With regard to the patenting activity, the probability that this takes the value "0" increases when *PeerEffPat* decreases, in correspondence of the *Role* and finally in the case of a *Visiting*. Regarding instead to the predictors of the number of patents, only the *IFcum* and the size of the Department (it is possible to obtain the same result by replacing the collinear variable *PeerEffPat*) are positively associated with the number of registered patents.

6. DISCUSSION

First, the comparison between the two types of technology transfer activities shows that the reputation acquired by researchers thanks to the quality of their scientific productivity is a positive predictor of the number of registered patents (complementary effect) but a negative one (beyond a certain threshold) of the number of consultancy works (substitution effect). This result is in line with that part of the literature arguing that a trade-off between scientific publication and university-industry relations exists (e.g. Landry *et al.*, 2007a). Achieving a certain level of scientific quality takes time and dedication subtracted to consultancy activity and vice versa. In the case of patents the relationship is positive. A part of the literature in this regard has shown that the number and quality of publications brings to excel in other activities such as patenting (e.g. Breschi *et al.*, 2008). Figure 2 highlights the two relationships.

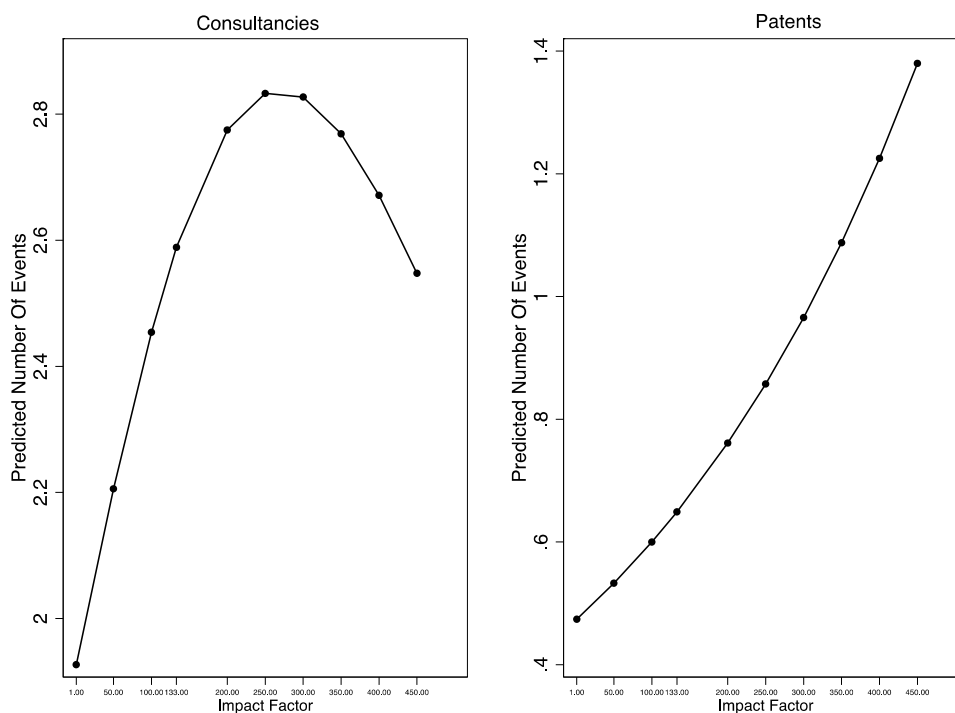


Figure 2: Predict number of events (Consultancies and Patents) as a function of the scientific quality

The patent is a factor whose presence ensures a positive margin in terms of the number of consultancies. This can be attributed to the fact that having a patent can motivate companies to apply for academic collaboration in order to use or to incorporate scientific discoveries into their activities (see Landry *et al.*, 2010). As regards to the other individual variables, age and gender are positive predictors for the number of consultancies as already part of the literature supports (e.g. Boardman and Ponomariov, 2009). Also a visiting period in a foreign university or research centre increases the number of consultancy works while it decreases in the case of specialization or PhD. In both cases

(visiting and degree of education) Giuliani *et al.* (2010) do not reach significant results. Our result is supported, however, by what the same authors argue: a high specialization level may lead to the academic focus on the scientific productivity (Giuliani *et al.*, 2010, p. 750). Coming to the institutional factors the size of the Department is a positive predictor of the number of patents (see Landry *et al.*, 2010) but also a positive factor in explaining the propensity of the researcher to engage in consulting activity. Compared to the patenting activity, the distance (in terms of patents) from the colleagues of the Department (*PeerEffPat*) is a key factor to explain the propension and a positive predictor of the number of patents (cf. Bercovitz and Feldman, 2008). Finally, the role and the institutional nominations are significant in explaining the propensity of the academic to undertake consulting activities. The reputation of the subject due to his academic status increases the probability of seeing him involved with the industrial world (cfr D'Este and Patel, 2007; D'Este and Fontana, 2007; Boardman and Ponomariov, 2009).

7. IMPLICATIONS, LIMITS AND FUTURE RESEARCH DEVELOPMENT

The study confirms that the University can no longer be regarded as a “monolithic” actor as claimed, until the end of 80s, by the most of the literature that has dealt with the relationships between university and industry (Link and Tassej, 1989, p. 49). The universities today present themselves as “organized anarchy” (Cohen *et al.*, 1972; March *et al.*, 1976) where the individual characteristics can influence significantly the propensity of the single academic to maintain links with industry (Landry *et al.*, 2010; Giuliani *et al.*, 2010). This raises new problems for the governance of the academy (Kraatz and Ikenberry, 2005; March *et al.*, 1976). New analytical frameworks are necessary to understand and evaluate the technology transfer processes (Landry *et al.*, 2010; Haeussler and Colyvas, 2011; Perkmann *et al.*, 2011) and their diffusion within the organization. The study suggests that policy makers and university administrators have to formulate their knowledge transfer strategies based on portfolios of activities (cfr Landry *et al.*, 2010) rather than on a single technology transfer practice.

In line with the obtained results it is possible to differentiate the activities of the academics to maximize their performance, in particular by identifying the threshold levels among scientific productivity and other technology transfer activities. On this basis it is possible to provide incentives and/or different career development allocating resources to maximize the outcomes of the portfolio of activities rather than a single practice. For example to anchoring the career advancement of single scholar to the only scientific productivity, as happens in many countries (e.g. Italy), may not be the most effective and efficient way to promote the development of the University limiting, *de facto*, the capability to raise external funding sources.

The proposed research highlights some limitations. In particular, the analysis was conducted only on one medium size university. A subsequent analysis of most universities (of different sizes) and, possibly belonging to different national systems, would help to further validate the results achieved. Secondly a longitudinal analysis of the phenomenon could allow to strengthen the results. Finally the analysis was carried on a single scientific field, albeit large, the Life Sciences.

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THE VALUE OF THE BRAND AS PERCEIVED BY THE CONSUMER: THE EATALY CASE

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ABSTRACT

This study centres on an analysis of the brand in all its forms. The main purpose is to verify the importance of having a strong and consistent brand with a corporate image and, consequently, the consumer's recognition of the brand.

These assessments are then considered in relation to a specific sector, namely the food sector, in which the brand holds particular connotations both from an economic point of view and in relation to the consumer's perception.

These questions are examined through the concrete analysis of a highly successful Italian company, Eataly.

Eataly is the subject of a case study that is based firstly on the knowledge gained in the first part of this study, but which adds to the question as a whole. It focuses mainly on the consumers and their purchasing behaviour to determine whether or not, and to what extent, the brand actually is capable of manipulating market choices.

Keywords: *brand, recognition of the brand, corporate image, food sector, consumer's perception, case study, Eataly*

INTRODUCTION

As a result of the recent developments in the competitive market, the brand, which is considered from an increasingly innovative and original perspective, has come to constitute a central topic of modern literature. While companies have in fact been investing heavily in strengthening their brands over the past forty years, never before has there been such a strong focus on the image, value and importance of the brand.

The main objective of this research is therefore to illustrate the importance of possessing a strong brand that is coherent with the product offered to the public, and which is capable, in the most successful cases, of providing the firm with a consistent competitive advantage. In particular, we intend to verify whether or not a firm in the food sector should invest more heavily in the message and protection of its brand than in other sectors, in that it carries a more consistent message involving

not only the characteristics of the product, but also its place of origin, quality, healthiness, and above all the consistency of all these elements.

While companies have in fact been investing heavily in strengthening their brands over the past forty years, never before has there been such a strong focus on the image, value and importance of the brand.

As suggested, this phenomenon is the result of the increasing difficulty modern firms are experiencing in satisfying the complex demands of an increasingly mature consumer who, when making a purchase, is driven more by a search for new sensations and experiences than by an instrumental and determined analysis of his or her needs. In the age of consumerism, in order to feel satisfied, people go looking for sensations, emotions, experiences, a sense of belonging and relationships. It is in this context that the brand establishes itself as a reference point, the focal centre of a steady, stable relationship which, for the consumer, reduces the risks involved in the act of purchasing and, for the firm, offers a possible source of support in their fight against competing firms. These questions are considered within the context of the specific case selected, i.e. the food sector, which is considered to be among the most significant fields in this light.

LITERATURE REVIEW

The origins of the concept of the brand can be traced back to the creation of the trademark, in the second half of the nineteenth-century. It was at that time, in fact, that the first form of legal protection was developed in this field, which quickly spread first across Europe and, some years later, America (Ghidini, 2008). Towards the end of the twentieth-century, a new trend then began to develop within most of European industry, which was more closely connected to customer satisfaction and consumption, rather than the intrinsic qualities of the product (Low & Fullerton, 1994).

Providing a linear definition for the concept of the “brand” is an arduous, complex task since a univocal vision, which brings together the myriad meanings associated with this term, is yet to be identified. However, according to the definition provided by the American Marketing Association (1960), “*the brand is a name, a term, a sign, a symbol or any other characteristic that is intended to identify a seller’s goods or services, and to distinguish them from those provided by other sellers*”. This definition is now be seen as reductive (Brondoni, 2004) and other scholars have offered a definition of the brand which focuses more closely on the end consumer’s perception of the product or service, and which is therefore characterised by subjective connotations and elements of an incorporeal nature (Bernstein D., 1988; Semprini A., 1992; De Chernatony & McDonald, 2000; Fabris G., Minestrone L., 2004; Colin B., 2005). A brand generally holds positive connotations. However, if badly managed, it can hold a

negative meaning, and can be associated with a passive, rather than active, approach to the business's balance sheet (Aaker D., 2002).

In concrete terms, this strategic brand management process can be analysed through three stages: the definition of the values and positioning of the brand; the planning and implementation of marketing programmes; and the development and support of brand equity (Cote J.A. & Henderson P., 1998; Kapferer J.N., 2000; Keller K. L., Busacca B. & Ostillio M., 2006).

While it is an important factor in all spheres of its application, the brand assumes particular importance and significance, particularly in the agro-food sector, in relation to different product categories such as food products.

To be precise, according to a now standard definition (ISMEA, 2006), food products boast certain unique, experiential characteristics which increase the significance of the brand. In fact, food products can be described as "experiential" goods in that their quality standards and intrinsic characteristics can only be evaluated through a direct experience or, to be precise, after such an experience has occurred. In this context, the brand assumes particular importance inasmuch as it can improve or increase the information made available to the consumer regarding the food selected, before they consume it. This is only true, however, if a consistent media communication strategy is employed to establish, over time, sufficient awareness of the correspondence between the product characteristics and the information provided on the label.

What is more, as well as this experiential factor, the question of loyalty is also becoming increasingly important in relation to food products, in the sense that they contain certain hidden characteristics that cannot be identified ever after they are consumed: consider, for instance, the additives, preservatives and health substances, the leftover content, and the compliance with set production methods, etc. As stated above, it is easy to see how, much more than just a simple distinctive sign, the brand is above all a social and economic phenomenon (UNICAL, 2011).

In relation to the agro-food sector, specifically, one should note that the function of the brand can be immediately understood: it provides additional information about the product, which could have a decisive effect on the consumer at the point of purchase. The type of brand, together with the information presented on the product label, constitute the modern proof of a guarantee, replacing the guarantee associated with personal relationships in the past, and with simple non-compulsory advertising messages more recently.

The phenomena that have already been analysed, in relation to the depersonalisation, internationalisation and globalisation of trade, have all led to a different perception of the associated economic risks and to the increased difficulty and complexity of formal and/or institutional controls. This illustrates the importance of integrated control, guarantee and communication systems, including

brand control, which serves to establish a relationship and reputation of trust that is central to ensuring that the quality is appreciated and stressed. At times, this is also more economically consistent than legislative certifications.

The first step towards achieving specific recognition for the protection of brands in the agro-food sector came with the first International Convention in Lisbon, in 1958, which is currently in force in the version adopted in Stockholm in 1958.

RESEARCH METHODOLOGY

After analysing the concept of the brand from various theoretical perspectives, we opted to conclude by examining the practical implications that this factor might have, in reality.

In order to meet this objective, we set out a process of empirical analysis, which was structured as follows: literature review and definition of the sector in question; identification and analysis of a case study (Eataly).

The case study methodology is examined below. The research methodology used was of a qualitative nature. When selecting the research method, preference was given to the qualitative method over the quantitative method (Thompson 1965; Hancock & Algozzine 2006; Chiucchi 2012) because it allows for a more scrupulous delineation of the observation context, considered from multiple perspectives. Furthermore, the analysis of a single case study is ideal when exploring present-day phenomena and their contexts, in any situation in which the boundaries between a specific phenomenon and its context are blurred. Moreover, the strategy of using a single case study is suitable when that case study presents a number of variables, the observation of which requires diverse though interrelated data sources to be taken into account. Last but not least, the single case study method of analysis has been contemplated in previous theories, in which it plays a crucial role in relation to the collection and analysis of data functional to understanding the case itself (Yin, 2003). In conducting the case study, we choose to adopt a dual tool, which generated several information sources (Eisenhardt, 1989). Firstly, we used the information sources made available by the company, both through the website and other information materials. We also consulted various databanks from financial newspapers and marketing magazines, which brought to light a series of information about the case study.

Secondly, we used the following tools for the data collection process:

- An *interview*: we held an interview with Eataly's press office contact, in order to analyse the producer's perspective. The interview was of a qualitative, semi-structured nature (Potter e Wetherell, 1987; Alvesson e Deetz, 2000; Corbetta, 2003) and was prepared by all the authors.
- A *questionnaire*: this method was selected in order to grasp the consumer's thoughts directly.

We chose to use self-completed questionnaires based on an individual survey, with a fixed

return (Corbetta, 1999; Gobo, 2004). Specifically, the aim of the questionnaire was to check whether or not the consumer perceives the brand to be more significant in the agro-food sector, in relation to the information message concerning the product characteristics that it incorporates.

ANALYSIS OF THE RESULTS: EATALY CASE STUDY

Empirical evidence for the importance of adopting a strong, communicative brand, especially in the food sector, could only come from one of the most successful wine and food companies in Italy, namely Eataly, which was created through a project by Oscar Farinetti in the early 2000s.

In order to select the case study, we set out to identify a brand in the food sector equipped with a highly unique, innovative message that was capable of going beyond the simple function of company recognition and that could also, in some ways, modify and develop consumers' attitudes to consumption and their relationship with food. In this sense, the Eataly brand is unique in its genre: not only does it offer guaranteed quality and certified origin for its products, but it also encapsulates a new, healthier and more natural lifestyle approach, in accordance with nature and seasonality. In fact, as affirmed in a message presented on a huge blow-up at the exit to the Turin store: "life is too short to eat and drink badly".

We decided to subdivide the Eataly case study into two sections: the first is descriptive, and the second presents an analysis of the interview held with Eataly's press office contact and the questionnaires completed by Eataly customers.

Descriptive Analysis of the Eataly Case Study

The idea of Italy was created first of all through the great passion of its founder, Oscar Farinetti, for Italian gastronomy, good food and wine, and his passion for always seeking out restaurants and inns suited to his taste for good quality. His idea was clear from the start: he wanted to create a supermarket offering excellent, fresh, authentic foods at sustainable prices. To achieve this objective, he needed to streamline the chain by cutting out the intermediaries, and offer up high-quality foods through the use of typical consumer product techniques, such as variety, informality, reasonable prices and special offers.

His asset is illustrated by a table by ISTAT (Italian national statistical institute), which showed that only 10% of the population consistently ate high-quality foods. Convinced that he would be able to capture the target market making up the remaining 90% of the population, he was therefore confident of his future success. The project was also supported by Farinetti's collaboration with a close friend and colleague, Carlo Petrini, the founder of the Slow Food movement.

Slow Food is an international non-profit association that was established in the city of Bra (in the province of Cuneo). Its objective is to promote the enjoyment of meals, and food and wine in general, as an experience of pleasure.

ANALYSIS OF THE INTERVIEW AND QUESTIONNAIRE RESULTS

The producer's point of view: analysis of the interview

The results of the interview illustrated that, in the food sector, the brand is fundamental both for guaranteeing a relationship of trust with the customer, and for attaining a competitive advantage over competing companies. The main message transmitted by the Eataly brand is to make informed, quality dietary choices, and Eataly's objective is to accompany its customers along a journey through experience.

Moreover, through the adoption of good legal protection the company is able to offer the public guaranteed, consistent quality and to build up loyalty: the Eataly brand is registered and protected under legal rules established by the Italian State and the company is supported by a legal firm that deals specifically with brand protection.

Lastly, the interview illustrates that the message incorporated by brands in the food sector is more important than in other sectors, because it directly involves people's health: the message must communicate concepts such as "clean, fair, good". And indeed, as well as respecting all the regulations relating to product quality guarantees, Eataly also adopts internal procedures that apply to all its suppliers, in order to constantly monitor product quality.

Consumer's point of view: analysis of the questionnaires

The data collected through the questionnaires were inserted into a single database and analysed in relation to the specific research requirements through an electronic programme.

For the practical analysis, each response was matched to a numerical index that was duly weighted in relation to the number of users that gave that response, using the following simple indexing table: 1) Very little; 2) Little; 3) Average; 4) A lot; 5) A great deal.

The first analysis to be carried out involves establishing who actually took the questionnaire. There were a total of 202 interviewees, who were distinguished on the basis of sex, age and income. There were 83 male interviewees (41% of the total), slightly less than the number of female interviewees, which came to 119 (59%). As regards age, we tried to create groupings that included people who would, as a general rule, have a similar lifestyle. The first group of people, probably students, do not yet have an income of their own and still live with their parents, corresponding to an age range of less than 29 years. The second grouping consisted of people with a family and a more stable lifestyle,

which corresponded to the age range 30/59. And lastly, the final group comprises individuals, mostly retirees, who no longer have children in their charge, corresponding to an age range of over 60 years. The questionnaire was taken by 138 individuals under 29 years of age (68%), 46 aged between 30 and 59 (23%), and 18 individuals aged over 60 (9%).

Lastly, we drew a distinction on the basis of income, an approximate indication of which was offered by the interviewees: 74 people defined their income as low (37%), 113 as average (56%), and the remaining 15 as high (only 7%).

The interviewees and their relationship with the brand

The first thing the interviewees were asked to do in the questionnaire was to rate, on a scale of 0 to 3, the importance that they attribute to the brand when choosing which product to buy, without referring to any sector in particular. Over the course of the questionnaire, the same question was then repeated, but specifically in relation to the food sector. Through this comparative method, we therefore set out to analyse the consumer's relationship with the brand, especially in relation to different types of sectors, in order to establish whether different products have different consequences from a behavioural perspective.

The results of the grade weighting hovered around a value of 1.7, a result which is very close to the response "I often pay attention to the brand". It is therefore clear that consumers are increasingly aware of being in some way guided in their purchasing decisions (directly or indirectly) by the affixing of one particular brand as opposed to another.

As regards the comparison between sectors, however, it should be noted that there is no significant difference between the influence perceived by consumers in another non-specified sector and that of the food sector.

A slightly higher brand importance was however identified in a generic sector.

In the second stage, consumers were specifically asked to identify in which the sector the brand has a greater impact on their consumption choices. With this question, we therefore set out to identify the sphere in which greatest importance is accorded to the brand by consumers, in order to assess the influence it actually has in its various contexts.

In order to verify the results, we first of all took a general, comprehensive look at the responses. The sector in which consumers attributed greatest importance to the brand was without doubt the technological sphere, which reached a value of 4.01, corresponding to the response "Very". The next sector was that of motor vehicles. The food sector came in third, with a value of 3.5, followed, in order of magnitude, by the pharmaceutical/cosmetics sector, the clothing sector, and the sport/free time sector.

This therefore supports the previous response: there are sectors in which the brand assumes greater significance.

However, in order to conduct a more in-depth analysis, it was necessary to subdivide the responses, by comparing them in relation to the different consumer categories identified at the beginning of the study. This subdivision was specifically geared at understanding certain trends related to both economic factors, such as income, and demographic factors, such as age and sex.

By carrying out a more specific analysis, it is therefore interesting to note that some of the aforementioned values are staggered in relation to the target in question. For example, it is interesting to note that the food sector is more significant in the over-60s age segment than it is for other ages: this phenomenon is probably due to the increased attention that people of a certain age need to pay to which products they eat and the diet they follow. In the same age bracket, one can also note that the value relating to the clothing sector drops considerably, and this too can be attributed to the fact that adolescents are more interested in this product category than adults.

Another differentiation factor connected with age is technology, which has a higher value in the under-29s age range. This is testimony to the highly current trend among young people of always acquiring the best products on the market in this sphere.

A second important differentiation relates to the distinction between the sexes, wherein it is clearly visible that the pharmaceutical/cosmetics sector holds a decidedly more dominant position than other sectors in question, and in which the difference reaches almost one point in five.

Lastly, as regards income, it should be noted that the values are generally higher than for the lower income bracket, which is symptomatic of the fact that the brand is often combined with a higher price tag. In line with the above, it can be noted that low income earners do not recognise the importance of the brand where this can easily be set aside, namely in relation to sectors which are considered to be non-essential, such as clothing and sport/free-time.

The consumer and Eataly

The final part of the questionnaire related specifically to the brand of the case study in question: Eataly. Firstly, we asked how many of the interviewees actually knew the brand, or whether, on the contrary, they had never heard of it, in order to establish its level of recognition. There were 188 affirmative responses, making up 93% of the total interviewees, while there were only 14 negative responses, amounting to 7% of the total. It is therefore clear that the brand is extremely well-known, especially in the city of Turin, which is a reference point for the company and home to its very first store.

The last analysis that needs to be conducted in this sphere is a study of the segment of interviewees that gave a negative response to the question, stating that they did not know the firm. Who is represented by this 7% that has not heard of Eataly? Is this a segment characterised by certain characteristics or comprising different types of people? From the data analysis, by weighting the number of negative responses with the number of interviewees it became clear that more women than men knew of the brand (8.43% of the negative responses were given by men compared with 5.88% by women), and, above all, there were more positive responses from those in the high income bracket (only 6.67% of such individuals had not heard of Eataly) than from the low income bracket (almost one in every ten people that defined their income as low gave a negative response). The most substantial result, however, related to the distinction by age: of the over-60s, not one person responded that they knew the brand; of the middle age bracket only one person did, while all the remaining negative responses were given by under-29s, 9.42% of whom had not heard of Eataly. One might therefore conclude that the brand has not reached certain specific categories of people, and that it therefore needs to develop in that direction, by endeavouring to also persuade and earn the trust of target markets such as the very young and individuals with lower financial resources.

In the following section, the respondents who had heard of the brand were asked if they had purchased one of its products on at least one occasion. In this case, too, the responses leaned heavily towards one response: 76% of the interviewees (188 people) responded that they had purchased a product/service from this company at least once.

The most interesting factor in relation to this question regards, without doubt, the breakdown of the negative responses in terms of income: in particular, it came to light that a large percentage of the individuals that claimed never to have purchased anything from Eataly consider their income to be low.

Specifically, it became clear that while for the medium and high income brackets the percentage of non-purchasers was around 15-20%, this percentage was almost doubled among low income earners, reaching a total of 32.43%.

The question specified that the distinction between the various services offered by Italy did not matter, or rather than it was not important for the purposes of the survey whether the purchase related to catering, retail, or any of the other services offered.

However, the result was not so significant as to allow us to ascribe the lost sales to overly high prices: in fact, in the subsequent parts of the questionnaire, we endeavoured to investigate the reasons why consumers chose not to buy at Eataly; interviewees could respond either by choosing from a selection of multiple choice answers, or by adding a reason not included in the previous ones.

53% of the respondents that had never made a purchase (more than half), claimed this was due to the store being difficult to reach for them, while the price factor was only secondary, affecting 33% of the interviewees. Another interesting fact relates to the response "I don't recognise its higher quality": in fact, only 7% of respondents chose this option.

On the strength of these results, we can affirm that the main reason for people not approaching the brand falls outside of its qualitative character and that the message incorporated into the brand itself nonetheless carries a clear message which is almost univocally picked up on by the consumer.

Eataly's services

Through the inclusion of a further survey area about the Eataly brand, moreover, we were able to expand the analysis of the responses: in particular, consumers were asked to indicate which of the services offered by Eataly they knew about, and which they had used at least once.

The most well-known services, with a considerable difference, were catering and retail, which boast widespread recognition rates of 70% and 62% of the interviewees, respectively (out of a total of 188 people). In this case, almost everyone that had heard of the brand had also made use of it, in that the percentages differences varied by only 6-7%.

In this case, on the other hand it can be observed that the services which Farinetti considered to be fundamental have not yet reached maximum diffusion, since although they are fairly well-known (31% and 14% of people responded that they knew about them), they are still not being exploited sufficiently, given that only 10% and 4% of the respondents claimed to have used them.

Specifically, it is interesting to note that the most well-known services related to catering and retail, especially if one takes into account only the results of those who have made at least one purchase at Eataly: if only those results (143 individuals) are counted, the percentages relating to catering and retail are as high as 88% and 73%; which proves that, of the people who have made at least one purchase at Eataly, almost three out of four have made use of the themed restaurants and the supermarkets at the store.

The characteristics of Eataly according to the interviewees

In this part, the consumer was asked to indicate, on a scale of 1 to 5, which of these characteristics was, in their opinion, the most predominant of the company's offering.

The characteristics most noted by the consumers were firstly the high quality of the products and secondly the guarantees provided in relation to their quality and place of origin.

In order to carry out a complete critical analysis of these data, it is necessary to call upon the indications given by consumers in relation to the elements that are indispensable when making a

purchasing decision in relation to food products. From the above examination, it became clear that these characteristics were, namely, quality and the guarantees offered in this regard. In this sense, Eataly is a brand of undisputed excellence, which clearly responds to the demands of the modern market and the need for reassurance as to the quality of the products on offer. It is therefore clear that the consumer is able to pick up on this higher quality standard, and feels encouraged by the company's choice of suppliers.

The positioning of Eataly

In the final parts of the questionnaire, the consumer was asked to respond to some generic questions about certain brands that could be seen as direct competitors of Eataly, in order to trace out a map positioning the firm in relation to the global market.

It should nonetheless be specified that there is currently no other firm in Italy with the same offering as Eataly, and it is therefore difficult to make comparisons which might be considered to be completely exhaustive. On the one hand, in fact, the brand could be set alongside distributors, including supermarkets and large hypermarkets. However, as it also offers a catering service, the brand could also be compared with an innumerable series of firms and well-known multinationals that play a highly prominent role in the agro-food sector.

To deal with this issue, we tried to focus the comparison more on how well-known the various brands were, and how they were perceived by customers, trying to avoid focusing on the differences between each of the firm's various offerings.

The combination of these two variables brought to light a specific situation: the brands that most resembled Eataly's offering in terms of attention to quality and seasonality are also the least well-known, as is the case, for example, for brands such as Exki and Lentini's. However, the brands which were extremely well-known (i.e. almost all the interviewees knew of them) did not achieve optimal levels in terms of their quality/price ratio, as is the case, for example, for McDonald's or Lidl. However, the brands that did come close to Eataly's offering were Ipercoop, for distribution, and M**Bun, for catering.

It is clear, nonetheless, that the predominance of the Eataly brand is currently unmatched in Italy, and its offering is clearly identified by consumers as being optimal in terms of quality and, especially, in terms of the quality/price ratio and the guarantees it provides.

CONCLUSIONS

The brand is an important factor of success for all types of companies. No product on the market can disregard the fundamental need to mark itself apart by adopting a distinguishing name. However, in

order to create a brand it is not enough to simply assume a name, a logo, a colour or a shape. The creation of a brand requires the company to go one step further; a company identity must be assumed. It must assume adequate legal protection in order to defend the value acquired by its brand. The brand not only represents a solid basis on which a valid company image can be built, but also constitutes a critical competitive factor for success within a competitive market. The context described illustrates the importance of adopting a highly distinctive brand which captures the customer's attention, can be memorised and is irrefutably associated with the meaning borne by the brand itself. For these reasons, companies are increasingly inclined to test out the powers of appeal offered by new types of distinctive signs, such as colours, smells, sounds, brief sequences of images, or by seeking increasingly original and attractive forms.

The brand assumes particular significance in the agro-food sector, specifically, as a result of the greater implications of its products for people's health. The agro-food sector presents certain brand features that, in other sectors, remain largely unknown or are at least considered to be less important. The agro-food industry market is developing in precisely that direction, and consumer demands are being increasingly met by firms who are making concerted efforts to maintain the high standards required for a healthy diet.

The empirical analysis illustrated that, in relation to the brand, greater significance is accorded to aspects such as quality and the guarantees provided by the brand itself. The research showed that the consumer is aware of the specific features of the brand within the potentially risky context of the agro-food sector. It is therefore clear that, following recent developments in food market-related trends, consumers are increasingly intent on seeking high safety levels, an intangible element that firms need to support through the creation of a brand which is at once highly distinctive and communicative, expressing the values promoted by the firm, and which must be supported, defended and constantly updated.

The strategic implication therefore concerns the need to have a perfect knowledge of one's own brand, which is of course intended not only as a mere graphic symbol, but as an idea lodged in the consumer's mind. One cannot expect to achieve excellent branding strategies without an excellent knowledge of the set of perceptions that constitute the brand. Studies have consistently shown that coherence is a key factor, both in relation to the strategy itself and to the characteristics of the product offered on the market, and it is therefore clear that it is crucial to be fully aware of the associations drawn by the consumer in relation to the firm in question. Otherwise, one runs the risk of managing a simple brand, the significance of the concept of which would be either diminished, or completely effaced.

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**FACTORS INFLUENCING THE EXTENT OF DISCLOSURES IN
FINANCIAL STATEMENTS PREPARED IN ACCORDANCE WITH
INTERNATIONAL FINANCIAL REPORTING STANDARDS**

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ABSTRACT

This paper is an attempt to identify the factors determining the extent of information disclosure in financial reports of selected Polish listed companies. Understanding the determinants that influence the extent of disclosure in financial statements is particularly important in the context of reporting standards harmonisation and the related process of IFRS coming into common use. The problem has been presenting itself in the form of a requirement for public companies in the European Union, including Poland, to use IFRS in consolidated accounts since 2005. Based on a panel study of factors determining the scope of information disclosed by 36 Polish public companies in the years 2005-2007, with the Polish Corporate Disclosure Index being used as a disclosure measure, a negative correlation between the extent of disclosure and the companies' financial performance was demonstrated. The outcomes are consistent with Huang *et al.* (2011), which showed an adverse effect of ROE on the transparency of companies from Taiwan. Both Taiwanese investors and their Polish counterparts, when analysing financial statements, focus mainly on a companies' bottom line, paying less attention to any other information. Hence, managers are less motivated to present the company standing in a more detailed manner if a satisfactory profit is generated. The study proved that companies covered by the analysis decided to disclose more when their profitability was lower, especially if the earnings were insufficient for any dividend payment. It may result from their disposition to justify the lack of dividend by explaining the financial standing in more detail.

Keywords: *International Financial Reporting Standards, IFRS, disclosure index, Annual Report Disclosures*

INTRODUCTION

This paper is an attempt to identify the factors determining the extent of information disclosure in financial reports of selected Polish listed companies, the issue being particularly important in the context of reporting standards harmonisation, the process of IFRS coming into common use and the resultant requirement of companies in the European Union, including Poland, to use IFRS in their consolidated accounts since 2005. Quantification of the quality of listed companies' messages conveyed in their financial statements enables the examination of the company disclosure decisions. Analyses of the extent of disclosure in financial statements are impeded by the input of time and labour needed to measure the scope of disclosure, as well as the availability of data and the strong position of the problem in economic theory.

OVERVIEW OF THE LITERATURE DISCUSSING THE PROBLEMS OF DISCLOSURE IN FINANCIAL REPORTS

Although – as it has been pointed out above – the studies on factors determining the extent of financial information disclosure are subject to a variety of limitations, attempts at approaching the subject can be found in literature, i.e. Meek, Roberts and Gray (1995), Raffournier (1995), Michadlesco (1999), Huang *et al.* (2011), and also – in a slightly different context – Larran and Giner (2002), as well as Marston and Polei (2004). Table 1 presents potential factors influencing the extent of disclosure examined in the papers referred to above.

Meek, Roberts and Gray (1995) analysed determinants of voluntary disclosures, based on a list of 85 items of strategic, non-financial and financial information published by 226 selected public companies from USA, Great Britain and Continental Europe (France, Germany, Netherlands) in their financial reports of 1989. The resultant disclosure index represented a ratio of information disclosed to the total number of items listed. In order to examine how various factors affect the extent of disclosure, four regressions were estimated depending on the category of information: strategic, financial and non-financial information, and the general level of information disclosed which comprised the three previous groups. As a result of the analysis, the significance of dependent variables was found to vary depending on the type of information. The most significant variables explaining the extent of voluntary disclosure included the company size, the region of its origin and whether the company is solely listed on its domestic stock exchange, or on foreign stock exchanges, as well. Major companies clearly tend to disclose more information. Firms from Continental Europe seem to provide more information than companies in Great Britain or USA, and those listed on international markets disclose more than those whose stocks are only available on their domestic stock of exchanges (Meek *et al.*, 1995).

Based on annual financial statements of 135 Swiss listed companies for the year 1991, Raffournier (1995) developed a disclosure index for items specified in the Fourth and Seventh European Union's Directives and used it as a basis for examining disclosure determinants. The author obtained a considerably positive correlation between the disclosure index and the company size and scale of its international operations.

Michadlesco (1999) examined disclosure determinants based on the data of 100 French companies in the years 1991-1995. The extent of disclosure was measured by means of an index based on scoring sheets containing a list of disclosures with an adequate quality of information. In order to verify the effect of variables listed in Table 1 on the disclosure index, the author used linear regression - for each year of the analysis separately however, this approach gave rise to certain interpretation problems. The model proved that the domestic status and the fact of being additionally listed on foreign markets are the only variables having any statistically valid, positive effect on the disclosure index. The positive correlation seems obvious, considering the need to meet additional information requirements in order to obtain a positive reputation on the Paris stock exchange or to be able to be listed on a foreign market. The analysis covers major public companies, mainly due to the availability of reports needed for developing the disclosure index. As a result, the outcomes of such empirical verification can be interpreted in the context of the research sample only and any generalisation would be flawed.

Huang *et al.* (2011) examined companies listed on the Taiwan Stock Exchange in a breakdown of two groups: "the more transparent companies" and "the less transparent companies". The empirical analysis of disclosure measured by the Securities and Futures Institute ranking was conducted on a sample of 1028 observations from the years 2003 and 2004. A logit model was adopted to accommodate the binary rating. The extent of control over companies was measured by binary variables reflecting the ownership structure in terms of supervisory board members, managers, government institutions and foreign investors participation and the proportion of independent members in the company management, as well as in its supervisory board. The authors took note of the electronics & IT industry with regard to its high share of venture capital financing as a factor potentially enhancing the extent of disclosure. The results suggest that the strict control of company activities reflected by the independence of members of its supervisory bodies and by the audit body size, has a positive impact on the information transparency measured by the ranking. Factors such as the financial leverage or the share of government institutions and foreign investors in the ownership structure had little significant effect on the level of transparency. Furthermore, the company scale was re-confirmed to influence the extent of disclosure and information transparency positively.

Modern technologies, with new Internet-based communication methods in particular, have turned scientists' attention to this context of corporate disclosures. Today, companies are increasingly willing

to use the Internet to convey information being the most cost effective and rapid means of publication today. Consequently, the factors determining their disclosure decisions have become the subject of studies. On-line reports are the main source of information for analysts and investors. Larran and Giner (2002) gave an empirical analysis of the nature of corporate approach to the Web-based business reporting, having examined a sample of 108 companies listed on the Madrid Stock Exchange, all of them maintaining websites in the period October-December 2000. Based on data published on corporate pages, the authors developed a disclosure index covering such aspects as the existence of a special page dedicated to investor relations, financial statements and analysts' reports, publication of stock exchange information, the number of reporting periods, the availability of a foreign language (e.g. English) option, and any encouragement to make direct contact via an e-mail address. The resultant index was used as a tool for comparing the Spanish companies' use of the Internet as an information channel with the results of other studies covering previous periods. Furthermore, the index was used to analyse the factors affecting companies' disclosure decisions. The company size was found to be the only aspect determining the level of disclosure on the Internet in Spain. Additional functionalities, such as video-conferencing or chats as means of contacting information officers were offered by major firms having sufficient resources and finding it necessary to add these attributes to their corporate websites.

Marston and Polei (2004) provided an empirical verification of how company characteristics determine the use of the Internet for the disclosure of information among the 25 largest and 25 smallest DAX 100 firms with regard to market capitalisation in 2000 and 2003. For the purpose of examination of the contents presented by the companies on their websites, a special checklist was prepared, with two sections of criteria: content and presentation, with the former playing a more prominent role in the final evaluation. The list for the year 2000 comprised 53 items, while in 2003 a further 18 were added in order to capture the new website content and features.

Potential determinants	Meek, Roberts, Gray (1995)	Raffournier (1995)	Michad'lesco (1999)	Marston, Polei (2004)	Huang, Huang, Chang, Fu (2011)	Larran, Giner (2002)
Profitability	return on sales	profit / (assets - liabilities)	operating margin	ROE	ROE	ROE
Financial leverage (extent of internal financing)	long-term debt / equity capital	debt to assets ratio			liabilities / assets	debt/ equity capital
Company size	revenue from sales	logarithm of sales		market capitalisation as at 30.06.2000 and 30.04.2003	logarithm of assets	logarithm of company market capitalization
Ownership structure		percentage of company shares owned by unknown shareholders			proportion of managers, supervisory board members and governmental institutions in the ownership structure	
Quality of control – size of firm auditing analysed company		binary variable 1 for an auditor from the “Big Six” (now “Big Four”)			binary variable 1 for an auditor from the “Big Four”	
Discrete variable indicating the industry sector	construction, engineering, consumer goods and services, chemical				electronics & IT	one of the three industry sectors
Scale of international operations	revenue from export sales to total sales ratio	revenue from export sales to total sales ratio				
Presence on foreign stock markets	dummy variable		dummy variable			
Country of origin	discrete variable (USA, UK, Continental Europe)					
Status on domestic stock exchange (meeting special information requirements)			binary variable		binary variable indicating whether company has issued shares	
Credit risk					Taiwan Corporate Credit Risk Index	
Tangibility of assets		(fixed assets - depreciation) / assets			fixed assets / assets	book value / market value
Systematic risk				beta computed for 250 days as at 30.06.2000 and 31.05.2003		

Table 1. *Potential determinants of the level of information disclosure*

A zero-one system was used as an evaluation tool ("1" was given when an item was present and "0" when missing). The scope of information disclosed online was measured by the proportion between the total score obtained in the analysis and the maximum score available. The resultant ratio was used as a response variable in the study of the impact of various factors on the extent of information disclosure by German public listed companies on their corporate sites. The level of market capitalisation reflecting the company size was the only variable affecting the extent of Internet disclosure both in 2000 and in 2003. Furthermore, the percentage of shares traded on the stock exchange was found to be a statistically significant variable solely in 2000, while the fact of being listed on a foreign market was significant in 2003 (Marston and Polei, 2004).

THE INFLUENCE OF POLISH COMPANIES' ATTRIBUTES ON THE EXTENT OF INFORMATION DISCLOSURE - HYPOTHESES

Understanding the factors that determine company disclosure decisions are extremely important in the context of financial reporting standards harmonisation. It may be very beneficial for the bodies designing the reporting standards and controlling the observance thereof (audit firms) to explore disclosure determinants for guidance, focussing their activities intended to support businesses in reporting their financial standing in a trustworthy manner. Furthermore, this will enable them to identify the types of companies whose financial statements may potentially contain many frequent untruths or omissions.

Since 2005, EU publicly traded companies have been required to prepare their consolidated financial statements in accordance with IFRS. The implementation of this requirement was a very important step towards the harmonisation of reporting standards, resulting in significant changes in reporting practices in Poland and Europe. Therefore, the paper analyses the factors affecting the extent of Polish public company information disclosure in the first years following the introduction of compulsory reporting under IFRS. As such, factors affecting the extent of disclosed information in this paper were analysed in the initial years in which consolidated financial statements of Polish listed companies were supposedly obligatorily to be drafted according to IFRS. Hence, a set of variables has been selected and research hypotheses advanced with this context as well as the literature overview, presented earlier in this paper, taken into consideration.

The main focus here is on how ROI influences the extent of information disclosure. It seems that information asymmetry which characterises financial markets would strongly motivate well-managed companies to distinguish themselves from less profitable businesses and thereby raise capital on the best possible terms. According to the negative selection model described by Akerlof (1970), if more and less profitable companies (lemons) are treated by investors in exactly the same way, i.e. their

shares are priced at a similar, averaged level, a situation may occur whereby more profitable companies will not be able to obtain satisfactory financing from the issue of shares and they will fall from the market. Increasing the extent of a company's financial information disclosure and presenting the financial standing in a more specific manner is one way to raise its profile.

Furthermore, from the perspective of compulsory implementation of IFRS in Poland, these problems seem even more complex to analyse. The Polish Accounting Act provides a relatively restrictive specification of the information companies are required to disclose, whereas in case of IFRS a certain freedom is given in this respect, and, consequently, the extent of disclosure will be much dependent on company management. The requirement of preparing consolidated reports, according to IFRS, has therefore been a significant change for Polish corporations and, in a way, they have been given a choice as to what information they wish to publish. The higher level of disclosure which accompanies higher profitability seems to facilitate building an image of a proficient manager, thereby strengthening their position within the company, often reflected in their remuneration. Therefore, the following hypothesis can be advanced:

H1: In the period immediately following the introduction of compulsory application of IFRS, the extent of information disclosure by Polish companies increases with ROE.

Despite the strong substantiation behind the positive impact of profitability on the extent of information disclosure in the theory of economics, empirical verifications do not provide any unambiguous results. Profitability proved to be a significant determinant for Taiwanese companies in a single study only (Huang *et al.*; 2011), but this correlation was negative.

External financing appears in most studies examining determinants of the disclosure level referred to above, except in the analysis of German corporations. The quality of financial statements transparency may help solve the problem of information asymmetry between shareholders, managers and creditors. Companies using external financing should feel motivated to reveal more in order to meet their creditors' information needs and to enhance trust. An approach like this reduces the cost of monitoring, which often affects the expenditure a company has to make to obtain financing. A creditor, when forced to bear a higher cost of monitoring the debtor's financial standing, will charge a higher interest rate on the loan or – in the best scenario – will expect the debtor to pay the extra cost of drawing up a complex contract, for example. It is therefore expected that: H2: The extent of information disclosure by Polish companies increases with external financing.

Similarly, as in analyses carried out by Raffournier (1995) and Michad'lesco (1999), external financing was measured by a leverage factor equalling the debt to assets ratio. In this case, the debt item comprised financial liabilities to creditors, as well as debt securities issued.

Company size is another important determinant of information disclosure. It is relatively less costly to publish detailed data for major firms, as they usually prepare such reports for their internal purposes. Annual reports are a source of information for the competition, therefore smaller businesses will be reluctant to reveal all of their activities, fearing that this might compromise their competitive position. It is expected that: H3: The bigger the company, the more information it will disclose in its financial statements.

Similarly Raffournier's (1995) study of Swiss companies, the sales logarithm was used for the Polish market analysis as a variable approximating the company size.

Based on the literature overview (Raffournier, 1995; Michadlesco, 1999; Huang *et al.*, 2011; Marston and Polei, 2004) it can be stated that ownership structure is also an important factor influencing the extent of corporate information disclosure. The approach presented in the analysis of the information practice of Polish companies is closer to studies of the situation in the European countries where special attention is paid to the degree of dispersion in the ownership structure. The frequent conflict of interests between management and shareholder (e.g. when management seeks to maximise profit, resulting in overly risky decisions) leads to a temptation of malpractice, thereby necessitating additional cost of monitoring the management action. The tendency to make decisions contrary to shareholder interest is stronger when the company is not controlled by a small group of major owners. Managers in companies with a dispersed ownership structure will be more motivated to disclose more information, as this will add transparency to their behaviour, thereby giving the shareholders a sense of control over the board's actions. Therefore, it is expected that H4: The more dispersed the shareholding structure within the Polish companies (measured by the share of unknown shareholders), the greater the extent of information disclosure in reporting.

The quality of control exercised over companies – mainly over that of management – is the last determinant to be analysed in terms of its impact on the situation in Polish corporations. This issue was discussed in studies of Swiss and Taiwanese businesses, where the audit firm size was used as a measure of control quality. Auditors play a particularly important role in the development of corporate disclosure policy. Major, renowned audit firms will be capable of persuading the auditee to increase the extent of disclosure, since they have stricter requirements concerning the quality of reporting. If the report does not meet these criteria, the auditor will be unable to issue a positive assessment to be used as an indicator of the quality of the report data, thereby building investor trust. The "Big Four" audit firms – Ernst&Young, KPMG, PricewaterhouseCoopers, and Deloitte – are regarded as the largest and frequently the most revered, therefore ensuring the highest quality of information. Furthermore, the role of auditors is especially important in the context of compulsory reporting under IFRS, which was introduced in 2005. In case of any doubt concerning the extent of

information disclosure under IFRS, a chartered auditor might suggest modification of the final report. Hence, the following hypothesis has been advanced:

H5: The extent of corporate disclosure by companies audited by the “Big Four” will be greater than that by companies examined by smaller audit firms.

DATA SET AND METHODOLOGY

The sample comprised 36 companies listed on the Warsaw Stock Exchange, for which consolidated financial reports following the IFRS were available for the years 2005-2007 (i.e. the first three years since the Polish public companies have been required to use IFRS in their consolidated accounts) and the Polish Corporate Disclosure Index (PCDI) was developed by the team of researchers led by Świdarska (2010). The companies in the research sample represented the chemical industry (13 firms), media (7), food & beverage (12) and telecommunications (4), i.e. the sectors which are relevant in terms of the interests of households and are characterised by a relatively high share of intangible assets. It should be noted that this is a non-random sample and is therefore non-representative. Consequently, if any valid statistical conclusions are to be drawn, the results should be interpreted in the context of the analysed companies only (Świdarska, 2010).

In the initial years following the implementation of IFSR, the mean value of PCDI for the analysed companies did not exceed 37.06 – the average level of disclosure (determined with an assumption that all questions used in the disclosure extent survey were scored 2 on a scale of 0 to 4). In 2005, the lowest level of disclosure was 14.63, i.e. well below the threshold (meaning a poor quality of disclosure), in 2006 the lowest PCDI – 18.53 – was close to the threshold level, but did not exceed it, this only happening as late as 2007.

In the period 2005-2007, the highest PCDI values exceeded 37.06, which implies an average degree of disclosure in the analysed sample, but the value representing a respectable degree of disclosure was achieved in 2007 (55.60, with all questions scoring 3 on a scale of 0 to 4). In all years covered by the analysis, PKN Orlen (oil sector) achieved the highest value of PCDI. The company has been using IFRS since 2002. The basic statistics of the sample companies show that the level of disclosure grew during the first years following the compulsory implementation of IFRS.

The Polish Corporate Disclosure Index was used as a dependent variable in the analysis of disclosure determinants. To make the results of the analysis more legible, the PCDI values were rescaled by the maximum level of disclosure (74.13). The values of exogenous variables (ROE, the financial leverage equal to the debt to assets ratio, the company size measured by the logarithm of sales, the percentage of unknown shareholders in the ownership structure, the discrete variable indicating the auditor being a member of the “Big Four”) were obtained for the sample companies based on their

consolidated annual accounts, management reports and chartered auditor's opinions for the years 2005-2007. The following panel model was used for analysing the impact of various company characteristics on the scope of information disclosure:

$$Y_{it} = \beta_0 + \beta_1 X_{1,it} + \beta_2 X_{2,it} + \beta_3 X_{3,it} + \beta_4 X_{4,it} + \beta_5 D_{1,it} + u_i + \varepsilon_{it}$$

where: Y- PCDI expressed in percent,

β_i – constant or coefficients of variables,

u_i – units' individual characteristics, non-observable, but constant over time,

ε_{it} – purely random error, X_1 – ROE, X_2 – logarithm of sales (company size),

X_3 – debt/assets (financial leverage), X_4 – shareholding dispersion,

D_1 – 0-1 variable indicating the auditor category (takes value 1 if a "Big Four" auditor and 0 in any other case).

MODEL ESTIMATION FINDINGS AND VERIFICATION OF HYPOTHESES

Estimators of random effects and fixed effects are the most frequently used estimator types in panel analysis. In the case of the former, the individual effect is assumed not to be correlated with independent variables. On the other hand, when estimating the model by means of the fixed effect estimator, a correlation between individual effects and independent variables is admitted. Table 2 presents the findings of model estimation by means of the random effects estimator (RE) and the fixed effects estimator (FE).

The results of model estimation by means of the random effects estimator confirm the expected direction of correlations in the case of the logarithm of sales, the share of unknown shareholders in the ownership structure, and the audit firms size. On the other hand, negative estimations of ROE and debt to assets ratio coefficients indicate a correlation contrary to what was expected. It should be noted however, that while independent variables are significant in total, only three of the independent variables are showing a statistically significant impact on the dependent variable in this case.

The results obtained using the fixed effect estimator allow for confirmation of the expected direction of correlations in case of the logarithm of sales, the financial leverage ratio and the auditor category. ROE and the share of unknown shareholders in the ownership structure seem to show a correlation which is opposite to the expected one. It should be noted that ROE and the logarithm of sales indicate a statistically significant impact on the disclosure index, the constant being of some significance too. In order to determine which of the estimators referred to above is superior at estimating the values of parameters in this exercise, the test of overidentifying restrictions (Sargan-Hansen test) was applied. The Hausman test often used for evaluating estimators for panel models, could not be applied in this case, as the assumptions for the method test are not satisfied here. Similarly as in the Hausman test,

the possibility of a correct estimation of the model by means of the random effects estimator is assumed as a null hypothesis for the Sargan-Hansen test. The test showed that the null hypothesis should be rejected and, in consequence, the fixed effects estimator should be used for model estimation. Consequently, this estimator was chosen for further analysis.

For the sake of correct statistical reasoning, the assumptions regarding the random component's autocorrelation and homoscedacity were verified. Based on the Wooldridge test for autocorrelation, the no-correlation thesis should be rejected at 1% significance level. Therefore, the presence of the first-order autocorrelation of random errors in the model can be confirmed. Furthermore, the modified Wald test shows that the homoscedacity assumption appears not to be satisfied, either. At 1% significance level, the null hypothesis assuming homoscedacity of the random component should be rejected. In case of a non-spherical random component, the estimator is inefficient in the model with fixed effects. Thus, in order to immunise the estimations of the model parameters against its heteroscedacity and autocorrelation, the Applicable Method of Generalised Least Squares (GLS) was used, where the variance-covariance matrix is assumed to be unknown, therefore an estimated matrix is used. Table 2 presents the outcomes of regression analysis obtained using the Applicable Method of Generalised Least Squares (GLS1) and the final estimates obtained using AGMLS after elimination of insignificant variables (GLS2), with the first order autocorrelation and heteroscedacity.

Variable	Coefficients			
	RE	FE	SUMNK1	SUMNK2
Profitability – return on equity ROE	-0.0220** (0.0119)	-0.0548* (0.0146)	-0.0245* (0.00913)	-0.0239* (0.00920)
Logarithm of sales	4.276* (0.617)	8.254* (1.437)	4.805* (0.469)	4.767* (0.461)
Financial leverage	-0.0425 (0.0503)	0.0949 (0.0690)	0.00716 (0.0231)	-
Ownership structure	0.0140 (0.0423)	-0.0447 (0.0550)	0.00350 (0.0242)	-
Category of a firm auditing the analysed company	5.071* (2.138)	2.790 (2.810)	2.082** (1.251)	2.403** (1.243)
Constant	-12.07 (7.915)	-63.07* (18.17)	-18.02* (5.854)	-17.29* (5.747)
Test to the total insignificance of variables in the model	$\chi^2=121.32$ p-value=0.000	F=8.43 p-value=0.000	$\chi^2=139.46$ p-value=0.000	$\chi^2=150.29$ p-value=0.000

Wald Test for significance of individual effects in FE	-	F=4.39 p-value=0.000	-	-
Sargan-Hansen Test	$\chi^2=19.347$ p-value=0.0017	-	-	-
Wooldridge Test for autocorrelation	-	F=26.708 p-value=0.000	-	-
Modified Wald heteroscedacity test	-	$\chi^2=460000$ p-value=0.000	-	-

Note: Significance levels: * $p < 0.05$, ** $p < 0.1$. In brackets standard deviations of coefficients were given.

Table 2. *Model estimation results*

The exercise shows that except ROE, all variables affect the disclosure index as expected. At 10% significance level, ROE, the logarithm of sales and the auditor category have a statistically significant impact, the constant being of some significance too.

CONCLUDING REMARKS

Considering the estimation findings presented in table 2, two of the hypotheses presented earlier should be rejected. The financial leverage and the shareholding dispersion do not have any statistically significant effect on the extent of corporate information disclosure within the research sample. Hence, the intention to satisfy creditors' information needs and to increase the dispersed shareholders' sense of control seem not to influence information disclosure decisions in non-financial companies. The findings are consistent with the studies published by Raffournier (1995) and Michadlesco (1999). Similarly, as in our exercise, neither the Swiss nor the French analyses confirmed the impact of the shareholding dispersion or the financial leverage on the extent of information disclosure.

The exercise results supported the hypothesis regarding the impact of company size or the audit firm category on the extent of information disclosure. The logarithm of sales approximating company size has a positive, statistically significant effect on the disclosure index. Attention should be given to the fact that major companies have larger financial and accounting departments as a rule, as well as better qualified staff and these factors may have a positive impact on the extent of information disclosure. Furthermore, preparing detailed reports is less costly for major companies, as they typically collect such data for their internal purposes, regardless. It should also be noted that smaller companies are less motivated to reveal their activities, fearing that the competition might take advantage of such information. These findings are consistent with the conclusions drawn by other researchers. The

statistically significant, positive correlation between company size and the scope of disclosure was confirmed by Meek *et al.* (1995), Huang *et al.* (2011), Larran and Giner (2002), Marston and Polei (2004), as well as Raffournier (1995), who approximated this determinant by the logarithm of revenue from sales, similarly as we ourselves.

Furthermore, the analysis of the estimation findings shows that the average disclosure index was by 2.4 percentage points higher among companies audited by the "Big Four" firms as compared with companies audited by other providers of such services. This supports the thesis presented earlier. With the strict quality requirements imposed by the "Big Four" firms on financial reporting, the scope of information disclosed there is greater. Besides, it should be noted that the analysed period covered the first three years following the introduction of compulsory reporting under IFRS for public companies. Therefore, the role of an audit firm might be even more significant. The renowned "Big Four", with their better trained staff and experience in the application of IFRS could provide more effective support to their customers, as far as disclosure required by the standards was concerned.

The results of the estimation show that the company profitability measured by ROE has a statistically significant impact on the extent of corporate information disclosure. It should be noted, however, that the correlation failed to occur in the direction expected. These findings correspond with the conclusions drawn by Huang *et al.* (2011) – the authors demonstrated a negative impact of ROE on the transparency of Taiwanese companies. Both Taiwanese and Polish investors, when analysing financial statements focus largely on company bottom lines, paying less attention to any other information. Hence, companies generating more profit will not find it necessary to disclose much information, since they are attractive to investors due to their financial performance. Managers, therefore, are less motivated to present a company's standing in a more detailed manner when a satisfactory profit is being generated. The study has proved that the companies covered by the analysis decided to disclose more when their profitability was lower. It is common practice among Polish firms to increase the extent of disclosure upon a decline in financial performance to assuage shareholders, particularly if earnings are insufficient to justify the payment of a dividend.

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BIOTECH SPIN-OFFS IN POLAND: ESTABLISHMENT STRATEGIES AND THE IMPACT OF TECHNOLOGY AND SCIENCE PARKS ON GROWTH OPPORTUNITIES

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ABSTRACT

The article presents the analysis of establishment, financing strategies and determinants of growth opportunities of biotech spin-offs in Poland. The research sample comprises of all biotech spin-offs listed on the stock exchange in Poland (12 companies), 5 of them being headquartered in Science and Technology Parks (STP's). The analysis included spin-offs area of activity in bioscience, critical assets (patents) (Levin et al., 1987; Pénin, 2005), skills and abilities of management board (Colombo and Grilli, 2005; Bureth et al., 2010), form of leaning used at the stage of the seed stage of the company's life cycle (university / industry cooperation, research institute / industry cooperation, intellectual human capital) (Jaffe et al., 1993; Powell et al., 1996), sources of financing, including seed capital and venture capital (Niosi, 2003; Lee and Dibner, 2005). The analysis includes computation of the financial leverage, the time of inability to generate positive ROE, EVA and the growth opportunity for the examined spin-offs. In order to examine the role of STPs in development of biotech spin-offs, the growth potential of spin-offs set in STP's was compared with that of companies operating outside STP's, using ANOVA test. The paper diagnoses the facilitating role of Science and Technology Parks in the biotech spin-offs growth and commercialisation of their research findings (Audretsch and Feldman, 1996; Löfsten and Lindelöf , 2002; Colombo and Delmastro, 2002; Pelle et al., 2008; Albahari et al., 2013). The analysis shows that the biotech spin-offs based in STP's are insufficiently prepared to maintain the sales volume over a long period of time, although they enjoy better growth opportunities than those being set up outside STPs. A mismatch between the STP's offer and the needs of spin-offs was observed, the latter being concentrated on R&D, instead of following the "born global" strategy in the process of innovation commercialisation.

Keywords: *biotechnology, spin-offs, technology and science park, commercialisation, entrepreneurship, life cycle, business model*

INTRODUCTION

Europe needs more new enterprises and more innovation. Sustainable growth based on innovation and excellence requires an increasing number of start-ups as well as spin-offs, which are likely to provide more and better jobs. The flagship initiative 'Innovation Union' aims to form better links between research and development (R&D), innovation and job creation, which is crucial if Europe is to recover from the current economic crisis. Each euro invested in EU research leads to an increase in industry added value of between €7 and €14, while spending 3% of the EU's GDP on R&D by 2020 could create 3.7 million jobs and increase annual GDP by close to €800 billion by 2025 (European Commission, 2013).

Innovation centres are playing significant role in the expansion of innovations spin-offs, including Science and Technology Parks, stimulating and managing the flow of knowledge and technology between universities and companies. Aspects considered in the study include establishment strategies of biotech spin-offs listed on the stock exchange in Poland (main and alternative markets), sources of financing spin-offs activity and their profitability, financial leverage, and growth opportunities. We shall examine the facilitating role of Science and Technology Parks in biotech spin-offs growth, and the commercialisation of their research findings. The analysis will include verification of a hypothesis that biotech spin-offs based in STP's are better prepared to break into the market and maintain their sales volumes, while enjoying better growth opportunities than spin-offs set up outside STP's.

BARRIERS TO DEVELOPMENT OF THE BIOTECHNOLOGY SECTOR IN POLAND

Currently, the development of biotechnology is in its infancy in Poland and the biotechnology market is growing slowly. While the scientific potential is huge, a system for transferring new solutions to the market is lacking. The innovative nature of the biotechnology sector translates into a high demand for funding and high risk levels, both factors impeding the sector's growth. In 2011, groups of entities active in the field of biotechnology represented comparable shares, with governmental institutions and private non-commercial institutions together as one category, and companies as another one, each accounting for 33.8%, with the academic sector taking 32.4%, although intramural expenditures of governmental and private non-profit institutions prevailed (50.5%) against companies (15.5%). In 2011, pure research work prevailed in biotechnology R&D and was carried out in 86% of entities in the government sector (together with private non-commercial institutions) and the academic sector, while industrial research activities took place in 68% of them, and development work in 59%. There is more focus on basic research in the academic sector than in the sector of governmental and private non-commercial institutions, with a markedly low level of applied research funding, while the latter is a

basis for co-operation with the industry (GUS, 2012). This may be connected with the low efficiency of technology transfer institutions, including 5 Science and Technology Parks focusing on biotechnology. In 2013, there were 54 STPs at various levels of development in Poland, 5 of them incorporating biotechnology companies.

Research and development activities in the field of biotechnology are mainly financed by the government sector (57-62%, far above the EU average). Funds from foreign sources supported 31.5% of biotechnology R&D, almost 2.5 times higher than their overall share in R&D expenses in Poland. The corporate sector contributed only 10.8% of R&D financing in the field of biotechnology. Only 35% of analysed entities sought patent protection in 2011, being eventually granted to 23% of applicants (GUS, 2012). A severe limitation to the expansion and maturation of the biotechnology industry is the availability of seasoned entrepreneurs and team members who understand what it takes to establish and grow successful life science companies (Shimasaki, 2009).

SURVIVAL AND GROWTH FACTORS IN THE FIELD OF BIOTECHNOLOGY – A LITERATURE OVERVIEW

The sector of biotechnology is characterized by its tight links to science and innovation, being necessarily capital-intensive and challenged by the risk to successful commercialisation of the research outcomes, and to the newly-established biotechnology firm's survival on the market. Studies on biotechnology start-ups in France, as well as analyses of 60 specialised biotechnology firms in Canada, have shown that business success in this field depends mainly on three key factors: human, social and physical capital (Niosi, 2003; Bureth et al., 2010). A biotechnology firm's human capital which determines its chances of maintaining operations belongs to the company founders. The "quality", size and motivation of the founding team and the management board are important (Bureth et al., 2010). Board members' academic qualifications in the field of biotechnology and their managerial experience are found to translate into the highest rate of company growth (Colombo and Grilli, 2005). This is when both scientific and economic interests are represented in sufficient proportions in the company and both aspects are developed equally. Often in the biotech sector the company founding team consists solely of scientists who start a business in order to commercialise their invention for the benefit of society at large, or to gain better access to sources of research finance other than public funds (Bureth et al., 2010). Regrettably, such companies are unlikely to succeed on the market. Founders' age, education and professional experience are positively correlated with the company's chance to survive and grow, since experienced founders have a better perception of information value and the ability to translate information into the commercial context. On the other hand, older and more knowledgeable employees are less interested in setting up their own business since the

alternative cost of self-employment may be prohibitive for them (Evans and Leighton, 1989). There seems to lay a paradox - young people, while more willing to take the risk involved in such an initiative, do not have the skills necessary to succeed on the market (Niosi, 2003). Company credibility has been found to increase if there is a so-called "star-scientist" in the team of its founders (supervisory board) (Zucker et al., 1998), - the "star-scientist" concept referring to leading personalities of the science world, reputable authors of numerous publications who leave their academic work to start a company (or are involved in both activity pathways concurrently). An individual like this, apart from their contacts with the academic world, offer up themselves as a "brand" attracting business partners to collaborate with the company. In summary, the founding team's composition and aspirations are key to biotech start-up development.

Furthermore, physical capital and intangible assets, including patents (considered to be the most valuable assets of any biotechnology start-up), are crucial to a company's survival and growth (Federal Trade Commission, 2003). Patents are a biotech start-up's guarantee of credibility (Levin et al., 1987), a symbol of company competence (Pénin, 2005), which, along with the reputation of the business founders, is a demonstration of company potential. Furthermore, patents facilitate funding for example venture capital finance (Niosi, 2003). The biotechnology company social capital is the third element determining its survival on the market, enabling it to build a network of relations and collaborate with potential partners, in both scientific and financial circles (Powell et al., 1996).

PHASES IN DEVELOPMENT OF BIOTECHNOLOGY SPIN-OFFS. SOURCES OF FINANCING

The bioscience industry is changing rapidly. Companies active in the bioscience industry are facing new challenges and need to discover new business models. Old established structures are likely to be replaced with more innovative and network-based models spanning between the public and private sector. This change creates a demand for people capable of bridging the gap between bioscience research and business creation, and for individuals capable of identifying new business models. Below we shall look into the life cycle of biotechnology spin-offs (or "starbursts" as sometimes referred), as well as the sources of financing various phases of their development and stages of research findings commercialisation (from invention to innovation). Research spin-offs are a tool for combining knowledge with business. In the instance of biotechnology, academic spin-offs prevail, as a demonstration of academic entrepreneurship. Businesses of this type are set up by scientists working at universities or other scientific institutions, or by students or graduates. The purpose of setting up a spin-off is to commercialize scientific solutions. As a rule, spin-offs are dependent on the parent

company, through a licence to use certain knowledge and/or through company shares acquired by the parent company in exchange for intellectual property rights.

On the basis of literature (Lipman, 1998; European Investment Fund, 2011) four major phases of company development have been highlighted: the seed stage, the start-up stage, the expansion stage and the replacement. According to the innovation life cycle, the pre-seed phase has been distinguished, additionally, to include the embryonic stage of research usually carried out at universities or research institutes and financed under these institutions' statutory activities, or based on Government and/or EU research grants. In the case of biotechnology, the seed stage requires an intensification of research work and continual collaboration with universities, but, conversely, this is when an idea of a product or service emerges and a spin-off company starts as a commercialisation tool. This is often the pre-clinical testing phase in biotechnology. Both the seed stage and the early stage are start-up phases, when product launch takes place, along with the commencement of manufacturing and sales operations.

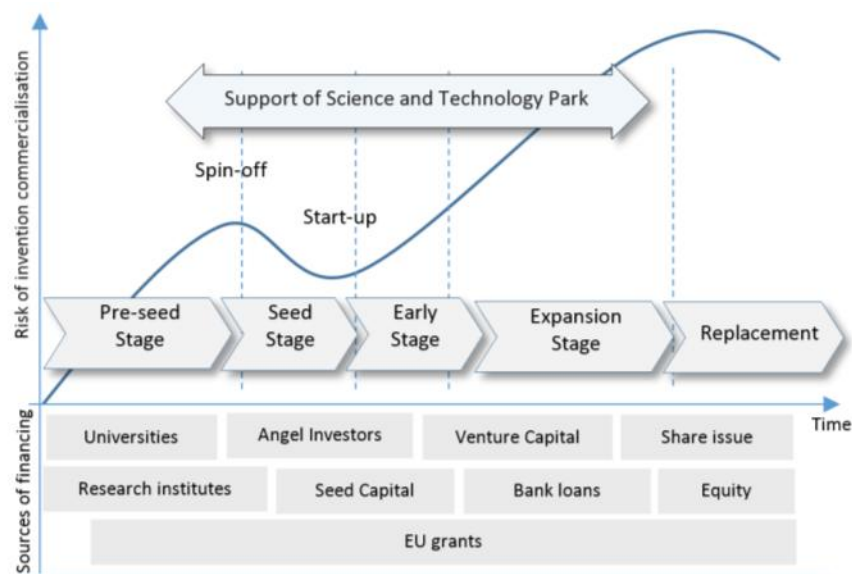


Figure 1. *Spin-off's life cycle and sources of financing*

Seed Capital, a.k.a. Proof-of-Concept Capital, is the first significant round of capital raised. This money allows the company to move the business forward, initiate or advance product development, expand market research, hire consultants, and, in some cases, hire the first employee. A Venture Capital investment comes with much more than just cash. Good VCs come with valuable expertise, contacts, and help in guiding a business through growth, development, and market challenges (Shimasaki, 2009).

Venture capital financing substantiates the company credibility, while strengthening its position on the market, enabling it to establish co-operation with bigger entities, such as major corporations, and

to attract other investors (Niosi, 2003), including institutional investors, when shares are issued. Out of our sample of biotech spin-offs, 3 used venture capital financing: Genomed, Bioton and Braster (Tab. 3).

Alliances of biotechnology businesses with pharmaceutical corporations may be mutually beneficial if set up at the right time. Businesses may obtain financial support, make use of the corporations' experience and competence in manufacturing, trading and clinical testing, while corporations may gain access to state-of-the-art technologies. (Bureth et al., 2010). In Poland, Mabion can be referred to as an example of a spin-off set up by a consortium of pharmaceutical companies (Tab. 3). Informal contacts play a significant role in attracting both investors and research support as they enable the redress of the information asymmetry between businesses and potential investors or partners (Shane and Cable, 2002).

The example of spin-offs established by academic scientists or physicians among the analysed companies are: Selvita, Stem Cells Spin, Biomax, Blirt, Ecotech Polska and Read-Gene (Tab. 2). Start-ups that begin by spinning off from larger companies can instantaneously raise money because of the credibility that comes with the existing staff and advanced products in development. These spin-off groups can self-form from within the larger company and voluntarily leave, or, they may be motivated to leave by an impending layoff.

At the expansion stage, production is intensified and marketing expansion occurs. Having stabilised its financial standing, a biotech company is able to raise funds for its R&D work through a public issue of shares, as well as equity earned, or bank loans resulting from financial credibility and credit capacity.

Besides financial support, a variety of organisational solutions has been developed for the biotechnology sector with the intention of improving the transfer between science and business, including technology transfer centres, science and technology parks, biotechnology clusters and public & private partnership.

IN SEARCH OF BIOTECH SPIN-OFFS' BUSINESS MODELS IN POLAND

Below, we shall look into the business models of Polish biotech spin-offs, the so-called starburst companies, listed on the stock exchange mainly within the alternative trading system, in order to confront their resources with the success factors identified in the literature of the subject, e.g. Niosi (2003) and Bureth, et al. (2010). The research sample is composed of all (12) listed biotech spin-offs out of 26 biotechnology companies listed on the Warsaw Stock Exchange and traded on the main and alternative market in the years 2005-2012. Most of their products or services are applied in medicine (75% together with medications). 25% of the companies are located in the capital city of Warsaw,

although there are no biotech-focussed science parks there. This indicates that the proximity of key universities and research institutes plays a more important role in this area. 75% of biotech spin-offs have patents approved or pending. In 58% of these companies, the management staff have managerial skills and, usually, a track record of managerial experience gained in pharmaceutical companies (Tab. 1). The biotech research work carried out by the university sector in Poland is mainly based on nanobiotechnology (54% of entities), bioinformatics (47.5%) and biotechnological processes (45%). In the corporate sector, the lowest shares of nanobiotechnology, bioinformatics, as well as genes and RNA vectors are recorded: 16%, 17% and 19.4% respectively (GUS, 2012). Yet, it is largely due to niche technologies that the spin-offs composing our research sample, and listed in Table 1, gained a competitive advantage and raised funds for R&D through a public issue of shares on the stock exchange.

Area of activity in bioscience	Medicalg o rithmics	Pharmen a	Genome d	Bioton	Braster	Mabion	Selvita	Stem Cells Spin	BioMax	Blirt	Ecotech Polska	Read- Gene
services							R&D				x	x
medicaments		x		x		x						
medicine	bioinfo r matics		genes		x			stem cells		genes		chemo preven tion
skin cosmetics		x		x				x	x			
supplements		x		x					x			x
P- patents, AP - patent applications	P	P	-	P	AP	-	P	P	-	P	AP	P
Skills and abilities of management board	M	M	R	M, CG	M	R	M	M	No	M	R	R

Note: M – managers, R - only researchers, CG - capital group, No - non-specialist

Table 1. *Characteristics of biotech spin-offs listed on stock exchanges in Warsaw – main and alternative markets*

Considering how fast research developments are progressing in knowledge-based biotech companies, a close contact with external centres of knowledge, understood as active collaboration, is crucial. However, geographic location is an equally important aspect of this proximity (Gambardella, 1995). Company location near the source of knowledge – universities, institutions of science, research and development - as well as collaboration with them, has a positive impact on the company (Jaffe et al., 1993). 75% of Poland's biotech spin-offs co-operate with universities or research institutes (Tab. 2). Geographically, biotechnology companies concentrate around knowledge centres. Technology parks are set up in areas with a high density of high-tech start-ups with businesses often merged into clusters, this process being conducive to their development (Audretsch and Feldman, 1996). In Poland, 42% of biotech spin-offs operate in Science and Technology Parks (Tab. 2). The Life Science cluster in

Krakow is home to Selvita, a company specializing in R&D in the field of chemistry, biotechnology and pharmacology. The transfer of knowledge from the points where it is collected to the those of commercialisation play a vital role in biotechnology – explicitly, this division of the sector is the least developed in Poland, impeding the growth of university biotech spin-offs (Tab. 2). According to Niosi (2003), the network (social capital) should incorporate such entities as: science and research institutions, investors (mainly venture capitals) and major corporations. Networks of co-operation with such characteristics have been developed by fast growing biotech spin-offs, such as Medicalgorithmics, Pharmena, Genomed, Bioton and Braster (Tab. 2 and 3).

Form of used leaning on the seed stage of the company's life cycle	Medicalgorithmics	Pharmena	Genomed	Bioton	Braster	Mabion	Selvita	Stem Cells Spin	BIOMAX	BLIRT	ECOTECH Polska	Read-Gene
Establishment date	09.2005	11.2002	09.2007	08.1989	2008	03.2007	2007	2009	03.2010	12.2008	09.2007	08.2005
University-industry cooperation		X			X		X	X	X	X	X	X
Research institute-industry cooperation				X								X
Intellectual human capital - Star-scientist	X		X	X	X	X	X					
Science and Technology Park						X	X	X	X	X		

Table 2. Profile and establishment strategies of biotech spin-offs

The biotech industry is in great need in several areas: seasoned biotechnology leaders who have the knowledge, wisdom, and desire to lead others to accomplish something greater than they themselves alone can achieve; patents or licences for the determined technology; and the ability to form a net of contacts with those preeminent in the world of science (including star-scientists), investors and other partners. This industry needs strong, value-based leaders and teams of individuals who have vision for the future of medicine, and will help usher in changes that genomics, proteomics, molecular biology, and personalized medicine can bring to human health (Shimasaki, 2009, p. ix).

	Medicalgorithmics	Pharmena	Genomed	Bioton	Braster	Mabion	Selvita	Stem Cells Spin	BioMax	Blirt	Ecotech Polska	Read-Gene
Seed capital	X											
Venture capital	X		X	X	X							
Consortium						X						
Foreign relations	X	X		M&A								
Entry on NC stock exchange	11.2011	08.2008	05.2011		2012	08.2010	07.2011	08.2011	05.2011	03.2011	11.2011	02.2009
Entry on GPW stock exchange	02.2014	-	-	03.2005	-	04.2013	-	-	-	-	-	-

capital ties	0,25	0,71 4	0	0	0,33	1	1	1	0,67	0	0,5	0,33
grants	1	1	1	1	1	0,6	1	0,5	0,33	0,75	0,25	0,83
<i>loans & credits</i>	1	0,43	0,5	0,875	0,67	0,4	0,75	0	0	1	0,25	0,67
borrowed	1	0,14	0	0,625	0,67	0,4	0,75	0	0	0,75	0	0,67
repayed	0,75	0,14	0,5	1	0,33	0,2	0,25	0	0	0,5	0,25	0,17
financial leverage	11%	11%	20%	25%	43%	7%	26%	12%	2%	42%	2%	34%
negative ROE	0,25	0	0,5	0,5	0,33	0,4	1	0,75	0,67	0,25	0,25	0,33
negative EVA	0,25	0,43	0,5	0,5	1	1	1	1	1	1	1	1
average growth opportunity**	482% sale> 2.5mln €	25%	53%	19%	0%	1103% sale> 0.75mln €	98%	200%	11%	960% sale< 0.5mln €	-50%	518% sale< 0.25mln €
ANOVA of growth opportunities	Spin-offs out of Science and Technology Parks	average	variance	Spin-offs set in Science and Technology Parks		average	variance	MS _B	MS _w	test F	p-value	
		1,32	20,09	5,07	127,23	133,1	54,06	2,46	0,12*			

Note:* difference of means is significant ($p < 0.15$); MS_B - Mean Square Between groups; MS_w - Mean Square Within groups

** The average growth opportunity presented in Table no. 3 was measured as a mean in relation to the change in sale between years t and $t-1$ divided by the amount of sales in the previous year ($t-1$). The results calculated on the basis of annual financial statements.

Table 3. Sources of financing spin-offs activity and their profitability, financial leverage and growth opportunities

Venture capital finance is an important step in developing most biotechnology companies in the world, especially in the USA. Typically, businesses use this type of funding from their inception through to their initial public offering (Lee and Dibner, 2005). In the case of European companies, this period is around 5.5 years (5 years for American firms) (Bains, 2006). Out of our sample of biotech spin-offs, 3 used venture capital financing, one obtained seed capital and one was set up by a consortium of four pharmaceutical companies. Since 2011, interest in early stock exchange debuts of biotech companies has been observed to grow. Yet, analyses have revealed (Bains, 2006) that biotech companies that were provided less financial support before their stock exchange debut were priced lower at their initial public offering than those who received more funding. There are two ways to attracting investors through a public issue of shares. Since 2007, small and medium enterprises may use NewConnect (NC), the alternative stock exchange market, while major companies are traded on the main market of Warsaw Stock Exchange. NewConnect was set up for young companies with a high potential for growth, innovation being the most characteristic of their common features. Bioton was the only company from the research sample which did not seek financing at NC, but issued its shares after reaching the maturity phase (16 years after company establishment) in March 2005, before the alternative trading market was set up. On average, biotech spin-offs go public on the alternative

market 4 years after their founding, but companies residing in Science and Technology Parks issue their shares sooner, typically after 3 years. Two of the fastest growing biotech companies (high potential of growth with sales exceeding PLN 3 million, i.e. EUR 0.75 million), Mabion and Medicalgorithmics, managed to satisfy the main stock market's requirements just 2.5 years after their debut on NC.

Government and EU grants are of key importance to financing pre-clinical tests and commercialisation of innovative solutions developed on the basis of spin-offs' inventions. Half of the companies composing the research sample obtained research grants in the whole period covered by the analysis, while others used such subsidies on an average level. Non-repayable assistance funding enables spin-offs to cover the high cost of analyses, examinations and clinical tests, as well as to prepare a strategy for patenting and commercialisation. The significant share of grants in financing results in reduced financial leverage ratios (long+short debt / total assets), accounting for 20%, on average. Grants are a non-repayable, virtually cost-free source of financing, as opposed to loans and credit. Using grants in R&D, financing reduces the weighed average cost of capital (WACC).

Moreover, considerable financial support was provided by affiliated companies, in the form of trade credits (trade liabilities) or loans throughout an average 48% of the analysed period (measured in years). Accounts payable to affiliated companies represented a regular source of financing for 33% of the analysed companies (a regular item of the financial engineering reflected in the balance sheet liabilities). Despite the low financial leverage, biotech spin-offs were financing their businesses with bank loans – mainly short-term – throughout 42% of the analysed period, on average. This might be attributable to the need to credit R&D activities prior to the grant payment, or in the period of delays in payment of grant tranches. Table 3 presents the share of years with negative ROE and EVA ratios throughout the period of the analysis. All spin-offs in the research sample, except Selvita which operates in the Science and Technology Park, managed to achieve a positive value of ROE after more than half of the analysed period, whereas only 4 of the companies generated some shareholder value throughout the first half of the analysed period, measured by the Economic Value Added ratio (EVA) (Sarapriya Ray, 2012). From the point of view of this paper's conducted analysis, importance is the ability to gain positive EVA by more mature biotech spin-offs (only 4 from 12 analysed). In order to examine the role of Science and Technology Parks in the development of biotech spin-offs, the growth potential of spin-offs set in STPs was compared with that of companies operating outside STPs using ANOVA test. At the significance level ($p < 0.15$), growth opportunities differ more between biotech spin-offs located in STPs and those set out of STPs than within these groups of spin-offs, $MS_B > MS_W$ (Tab. 3). While spin-offs residing in STPs show higher potential of growth on average, owing to higher sales growth rates, this effect is not lasting – it is observed in the first year following successful

commercialisation of an innovative solution, with a significant drop of sales in the following year. This may result from an incorrect market assessment or the inability to maintain sales volume by making use of adequate distribution channels and providing after-sales service, or finding an alternative application for the patented solution.

The innovation of biotechnology requires considerable expense on research and development work which can be burdened with the risk of failure and implementation of production and sales strategies. To this end, active, relatively young entities in the early stages of establishing their credit history and dealing with research-developmental activity in the area of biotechnology, seek sources for funding research on the alternative floor of the stock exchange, e.g. NewConnect. Often, these fledgling biotechnological companies still don't possess a credit rating as they are at this point generating losses, ruling out the use of credit. Moreover, what subsidies are granted are earmarked for specific projects and with the company receiving the funds in tranches, provided a previous stage of the project schedule has been carried out. This does not give companies the freedom to manage these funds at their own discretion unlike those generated from the issuing of shares on the stock exchange.

Thus, the means of financing R&D activity with the help of a share premium seems preferable for young companies whose potential has yet to be reflected in financial results, but is nonetheless noticeable to investors. Issuing shares of innovative companies is facilitated by the alternative market of the NewConnect aimed at young innovative enterprises with limited sources of finance. Poor financial results of young biotechnological companies could be explained by their intense R&D activity. However, stock exchange investors believe in the potential of these companies giving rise to their high share premium.

THE ROLE OF SCIENCE AND TECHNOLOGY PARKS IN FACILITATING SPIN-OFFS ENTREPRENEURSHIP

As provided for in the united Europe development strategies, Poland is developing specialised entities that provide active support to innovation and entrepreneurship. The largest group (62%) (Bąkowski and Mażewska, 2012) comprises single-function initiatives: training and consultancy centres, financial institutions, academic incubators, technology transfer centres, i.e. entities that do not have the infrastructure and competences required for supporting all phases of the innovation process, from pure research, through development and implementation activities involved in commercialisation. As far as biotechnology is concerned, business incubators are useful mainly in the phase of basic research, which does not require any specialist equipment needed for pre-clinical testing and preliminary production. On the other hand, Science and Technology Parks are multifunctional by their nature as initiatives supporting innovation and are therefore best predisposed

to facilitate commercialisation of biotechnology research findings. According to the International Association of Science Parks (IASP, 2002), the main tasks of STPs include: facilitating the processes of incubation and development of innovative, knowledge-based spin-off and spin-out mechanisms, facilitating and managing the flow of knowledge and technology between universities, research and development institutions, companies and other market players, as well as supporting the process of building companies' value through offering them facilities, research infrastructure and specialist, high quality services. Empirical studies of STP's performance worldwide focus mostly on analyses of the demand side, i.e. residents, and on attempts at evaluating the impact of support provided by the park on companies' collaboration with research institutions, market entrance, sales growth, profitability and employment (Löfsten and Lindelöf, 2002; Colombo and Delmastro, 2002; Albahari et al., 2013; European Commission, 2007). These studies often resulted in contrasting findings as regards the support provided to the commercialisation of research findings. Empirical studies of Science and Technology Park's influence on development and innovation of their resident companies in Poland (Pelle et al., 2008) show that decisions to locate businesses within a park are made largely due to low rent, hope for the park's assistance in obtaining funding, as well as access to the park's technical infrastructure. A little less than half of companies find the impact of parks on their growth significant. An analysis of the criteria companies use when choosing a location in a technology park reveals that they are unaware of what type of support they should expect from parks and that they do not follow the "born global" thinking strategy. At the stage of starting a spin-off, it is not sales, but research and development that the core business is comprised of. Inventors lack business skills and managerial competence and do not consider the expansion stage. The inspection conducted by the Supreme Audit Office to examine the implementation of innovative solutions at selected Science and Technology Parks in Poland (NIK, 2012) revealed that the effectiveness of assistance provided to tenants is measured by the mix of tenants, the number of solutions implemented and patents obtained, the assistance in gaining access to new technologies, and the collaboration with financing institutions and institutions of science.

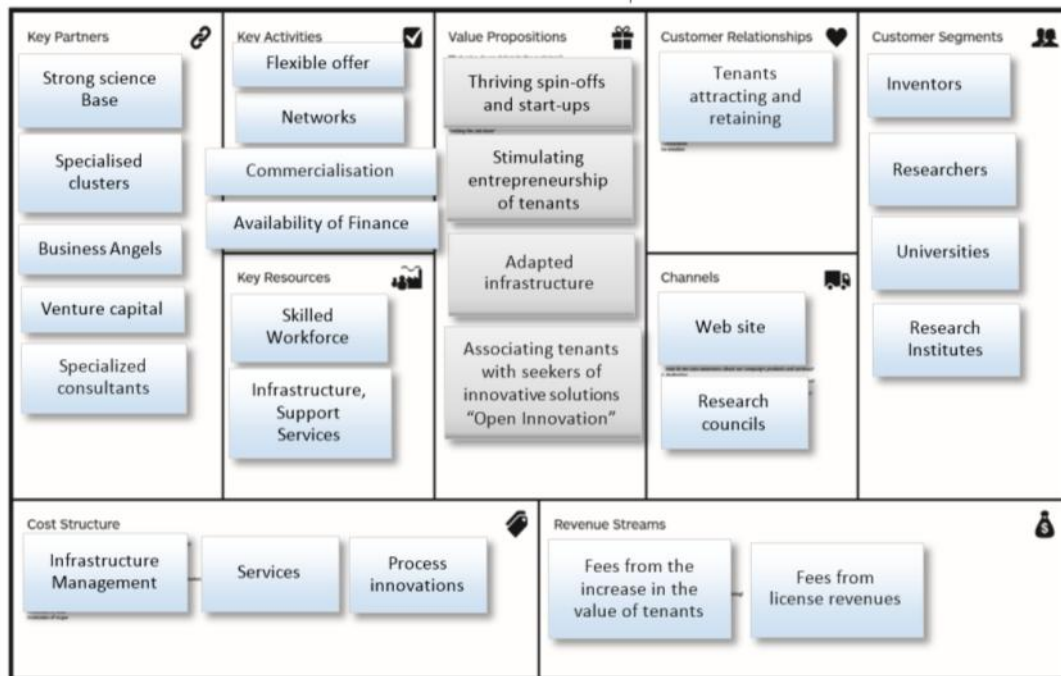


Figure 2. Business model for successful Science and Technology Park

Such a structure of the system used for the evaluation of parks' performance and tenants' expectations seems to demonstrate that there is a mismatch between the demand and supply aspects of the support initiatives and a gap which impedes the parks' pursuit of their mission on the one hand, and the creation of tenants' long-term business value, on the other. Based on the biotech spin-offs analysis, a conclusion can be drawn that this gap should be closed by tailoring the strategies and processes offered by the STPs and customising their activities and services to their tenants' needs not only in the start-up stage, but at the expansion stage as well. Figure 2 illustrates a business model proposed (Osterwalder and Pigneur, 2010) for a Science and Technology Park, with customer value propositions over an extended period, with some basic assumptions of how the STP should create, capture and deliver value. The analyses of biotech spin-offs headquartered in STPs show that businesses are not given the support that would help them break into global markets. The STP's offering available in Poland does not include any business-related education for the biotechnology sector, in particular Brand Management, Organisational Behaviour (communication, creativity, quality improvement, individual effectiveness and development, leadership, and inter-group behaviour) or advanced courses of Patent and Innovation Engineering. The development of STP's supporting innovation-based companies in the biotechnology sector may become key to the biotech industry's growth in Poland and should be based on a win-win strategy. Building this type of relationship requires a modification of the evaluation system and the criteria used for measuring the performance of both parks and their tenants alike.

CONCLUSION AND DISCUSSION. FUTURE RESEARCH

Analyses of biotech start-ups have shown that business success in the field of biotechnology depends mainly on their human, social and physical capital (Niosi, 2003; Bureth et al., 2010). Board members' academic qualifications in the field of biotechnology and their managerial experience are found to translate into the highest rate of company growth (Colombo and Grilli, 2005). The analysis of biotech spin-offs listed on the stock exchange in Poland (5) located in STP's versus 7 spin-offs out of STP's indicated an important role of STPs in facilitating growth opportunities through the commercialisation of research findings, but only over a short time and at the early stage. Polish biotech spin-offs based in STPs are insufficiently prepared to maintain sales volume over a sustained period of time, although they enjoy better growth opportunities (measured by sales growth) than those set up outside STP's. The performance may depend on various factors determining the development of spin-offs, including access to sources of financing, managerial competence, the area of activity, competition and market analysis, etc. However, STPs should facilitate preparation for market entry and the development of a lasting competitive advantage – as specified in their mission. The situation seems to suggest a mismatch between the STPs' offering and their tenants' needs at the latter stages of their development and throughout the entire process of commercialisation.

Further studies are intended to identify the factors closing the gap and the mismatch between the services offered by Science and Technology Parks specialised in the field of biotechnology and their tenants' needs. The purpose will be to develop a measurement system which will take into account the impact of STP's tenants development at the expansion stage and will enable the evaluation of commercialisation processes in terms of their long-term effectiveness and efficiency based on quantifiable categories. An approach as this is critical from the perspective of spin-offs development and the entire biotechnology industry in Poland, while also contributing to a revision of the Science and Technology Parks strategy in Poland, as, while the inflow of funding from EU grants decreases, the share of innovation-based companies is similarly declining, too (33% in 2011).

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ENERGY TRADE AND TAX EVASION IN THE OIL SECTOR IN GREECE

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ABSTRACT

In Greece, many are those who assert that tax revenues of hundreds millions of euro a year are lost by the Greek government from illegal activity such as in fuel trading, arguing that tax evasion and fraud affect both public revenues and healthy companies. Experts say that specifically fraud, piracy, incomplete deliveries to consumers, lack of transparency, the limited fraud inspections, delays in sentencing, fictitious exports, the lack of controls for maintaining buffer stocks substantially all arise from the lack of proper control mechanisms set by public authorities (Georgakopoulou, 2012).

The paper aims to assess the structure, size and impact of tax evasion and fraud, and measure and analyze the reasons responsible for the high rate of shadow/black economy in the trading of fuels in Greece. The methodology to be used will be based on questionnaire survey research on a random sample / structured interviews of market participants. Accordingly, preliminary results from the questionnaire survey are presented. The shortage of academic research renders additional value to the topic, particularly in a period characterized by the prospect of drilling substantial offshore oil and gas reserves in the Eastern Mediterranean and Greece.

Keywords: *Energy trading, shadow economy, corruption, energy sector, business ethics, Greece*

INTRODUCTION

The shadow economy is a multifunctional economic and social phenomenon with various and serious consequences in many aspects of the everyday life (economic, political, social, etc.).

José Manuel Barroso, the President of the European Commission, on May 23rd, 2013, welcomed the commitment at European Council to make progress on energy policy and tax evasion and fraud. On energy policy, the President Barroso welcomed the fact that there was support for the Commission's approach for what he called a no regrets scenario, with action in five areas: completing the internal energy market; investing in innovation and infrastructure; committing to greater energy efficiency; exploiting renewable sources more cheaply and diversifying supplies." Tackling on tax evasion and fraud, he stressed that "it is also about fairness because we estimate €1 trillion lost each year to tax evasion and avoidance, the equivalent of a year's health spending across all member states" (European Commission, 2013).

Further, indicatively, in academic literature, the subjects of energy prices, size of shadow economy, energy policy and corruption and their interactions, have also been studied extensively, e.g. Suslov and Ageeva (2009); Fredriksson *et al.*(2004); Balmaceda (2008).

The current working paper consists of the major part of research project which, among other also objectives, aims exactly to assess the structure, size and impact of tax evasion and fraud by covering different aspects of the energy sector in Greece, such as the trading of fuels, or the impact of tax evasion in attracting foreign direct investments in the sector. The objectives of the wider research study are briefly presented in the next section. Respectively, various proposals to the Greek Government are expected to be addressed at the finalization of the research, to curb undeclared and illegal practices and to ensure and foster a more healthy competition within the sector.

The main focus of the current paper is toward introducing, assessing and analyzing the reasons responsible for the high rate of shadow / black economy in the trading of fuels in Greece. Accordingly, the size of tax evasion in the energy sector and the impact of tax evasion in Greece are discussed in the second and third sections. The methodology used is based on questionnaire survey research on a random sample / structured interviews of market participants in the energy trading sector, and is discussed in the fourth section, followed by the expected contribution and uniqueness of the research in the case of Greece. Preliminary results from the questionnaire survey are presented in the last section. The shortage of academic research renders additional value to the topic, particularly in a period characterized by the prospect of drilling substantial offshore oil and gas reserves in the Eastern Mediterranean and Greece.

OBJECTIVES OF THE RESEARCH PROJECT

As aforementioned, the paper consists part of a wider research project which aims to:

- Introduce in a theoretical level the reasons of black / shadow economy in Greece, with emphasis on the wider energy sector.
- Investigate and assess via special statistical research (qualitative), the black economy and the tax evasion in the Greek energy sector. Also, an econometric analysis will take place.
- Assess the size of black economy and tax evasion at a sector-based level in the case of energy trading in Greece, and perform a comparative analysis with other sectors.
- Perform a cross-country analysis of the levels and reasons of tax-evasion in energy sector, particularly at a regional level, in South-Eastern Europe and Mediterranean, where many of Greek energy trading partners are located.
- Locate the precise reasons for the appearance of the phenomenon in Greece through the analysis of particular financial, social and institutional frames.
- Assess the impact of tax evasion as a barrier in attracting foreign direct investments in the Greek energy sector.
- Propose structural policies for the effective confrontation of the phenomenon.

FRAUD AND TAX EVASION IN THE TRADING OF FUELS IN GREECE

In Greece, many are those who argue that tax revenues of hundreds millions of euro a year are lost by the Greek government from illegal activity such as in fuel trading, arguing that tax evasion and fraud affect both public revenues and healthy companies. Respectively, the administration of Hellenic Petroleum Company, in its estimates for the price of heating oil, was in favour of equalizing the tax on diesel fuel and heating, aimed precisely to combat fraud (Hellenic Petroleum, 2008). Experts say that specifically fraud, piracy, incomplete deliveries to consumers, lack of transparency, the limited fraud inspections, delays in sentencing, fictitious exports, the lack of controls for maintaining buffer stocks substantially all arise from the lack of proper control mechanisms set by public authorities. Further, it is noted that the existing institutional framework is inadequate to eliminate the barriers in competition and healthy functioning of the market and achieve consumer protection (Georgakopoulou, 2012).

The adulteration of fuel can be divided into two categories: in the case of fraud for profit of the operator and in the case which it happens because of inconsistent management and storage of fuel (e.g. when water or garbage is mistakenly allowed to mix with the fuels). In the first case we refer to the addition of impurities of cheaper fuel with more expensive by the operator with the purpose of gaining from the price difference. Such cases are as follows: a. Unleaded in LRP Super gasoline (with lead replacement of 96 Octane; it is the most common form of adulteration by adding unleaded gasoline with octane substitute (toluene). Also selling unleaded gasoline at the price of super); b.

Unleaded in Super unleaded (100 Octane); c. Heating oil in diesel; d. Shipping oil in diesel; e. Shipping oil in heating oil; f. Petroleum in Gasoline (it was the case in the past, due to cost / taxation differences). The most common fraud cases are the first and the second cases with similar frequencies (ICAP, 2009).

The fraud, according to research usually takes place in the following two ways: a. Mixing two different types of fuel (expensive and cheap), so that the mixture to be sold on the market as expensive; b. Adulterating fuels with other cheaper substances of solvents and waste oils or water. The fraud is usually performed during the transportation of the fuel to the station; also, at the fuels station on above ground or illegal underground tanks. The ways in which this can be performed in the fuels station are as follows: by simply mixing or discoloration and neutralizing the tracer. This is because low taxed fuel containing colored markers to identify more easily if mixed with other fuels higher taxes. Most fuel traffickers have found ways which can neutralize all of the above methods of fraud and their identification.

The alleged fuel exports are also a major problem in addition to fraud. In such cases, the fuels for export are not taxed or simply have low tariffs or transported by tanker ships abroad. Virtual uploads are included to this category (Greek Petroleum, 2008). It is duty free fuel oil which passed illegally in the internal market. The ship, in this case, is not provided at all or sub-provided with a small amount of fuel. The rest returns without tariffs to be used by fuel stations in the internal market. Another case concerns the movement of fuel in the external market. And here is the export dummy fuel where smugglers illegally reintroduce some amount of fuel, adulterated, to be used by fuel stations.

The phenomenon of adulteration and smuggling is maintained by the large differences in the high taxation of various fuels and facilitated by insufficient controls of the state authorities.

Apart from the company with which they are affiliated the operator of a fuel station may be provided with fuels by another dealer or "pirates". The above phenomenon has been investigated in several studies. National Technical University performed a research on lubricants and showed that most of them were pure oil, whereas the rates of illicit fuel identified to be ranging between 7% and 10% (National Technical University of Athens, 2008).

Research also indicated that the diesel figures are even higher, particularly outside of Athens. For example, as regards the illicit diesel the percentage of 15.9% in Athens will have to be translated into a percentage of 30% for the whole Greece, whereas it cannot be rejected that the final percentages are close 40% in Greece. This is because the numbers mentioned above are percentages of irregular samples and when are weighed with the consumption volumes of the fuel stations can reach 40% (National Technical University of Athens, 2008).

The main characteristics of the Greek oil market consist of the monopolistic conditions, high levels of fraud and the existence of a large number of oil stations. Two groups of companies (Hellenic Petroleum SA and Motor Oil Hellas SA) operate four refineries with a total capacity of refining 526,000 barrels per day or 26.3 million tons per year. With continuous investments in modernization and upgrading, the Greek refineries have achieved a high Nelson complexity index. For comparison, the average capacity of European refineries is about 144 mm barrels per day, while the average Nelson complexity index is 7,63 (IHS, 2013). In Greece, the average capacity is slightly smaller at 131 mm barrels per day, but the average complexity index is well above the European average (9.57) (IOVE, 2014).

The Greek refineries have expanded their activities with the vertical integration in the marketing of petroleum products in which occupy a significant market share, which was further extended after the acquisition of two multinational marketing companies who left the Greek market. Thus, the close interactions with the refining industry marketing activity became even more powerful.

According to data from the Association of Oil Marketing Companies (SEEPE, 2013), the oil trading market operates as following:

- 22 marketing companies licensed A with storage facilities and the handling in Greece.
- 29 companies licensed B1 and B2 for shipping and/or air fuel, refuelling facilities in ports and ships and aircraft refuelling stations in 25 airports. Of these, 13 have license type A.
- 34 companies licensed C – i.e. for gas marketing, investments in LPG bottling. Of these, four have license type A.
- 26 companies licensed D – i.e. for marketing asphalt. Of these, seven have a license Type A.
- 1 company licensing pipeline transport engaged in transportation of aviation fuel (Jet fuels) from refineries to Airport "Eleftherios Venizelos".
- Approximately 6,500 stations (of which approximately 500 independent stations, i.e. stations without a labelled marketing company).
- Approximately 1,000 heating oil dealers.
- For the transportation of used fuel pipelines, and about 1,500 public trucks, 350 private tracks owned by the trading companies and 8,400 small private tanks for heating oil distribution.

With a total turnover which approached in 2012 the EUR 12.5 billion the oil marketing sector (companies - members of SEEPE) estimated that generated directly a EUR 486 million of added value in the Greek economy and more than 23,000 jobs. Moreover, the social product of the industry includes: a. taxes related to the sale of products, income taxes and social security contributions; b. staff; c. interest loans; and d. net gains of the business, which have exceeded EUR 4 billion.

THE IMPACT OF TAX EVASION IN GREECE

Tax fraud and tax evasion are limiting the capacity of the Greek government to raise revenues and to carry out its economic policy. Estimates show that billions of Euros remain often unreported and untaxed, reducing national tax revenues. Decisive action to minimise tax fraud and tax evasion could generate billions in extra revenue for public budgets in Greece and across Europe.

Tax fraud and tax evasion are also a challenge for fairness and equity. Fairness is an essential condition to make the necessary economic reforms socially and politically acceptable. The burden of taxation should be spread more evenly by ensuring that everyone, whether blue-collar employees, multi-national companies that benefit from the single market or wealthy individuals with offshore savings, contribute to public finances by paying their fair share. Fairness and equity also mean creating better and fairer taxation systems.

Particularly, in a single market, like the Greek one, within a globalised economy, national mismatches and loopholes are too easily exploited by those that seek to escape taxation. Indicatively, we can refer to the recent case of "Spanos", the President and CEO of the oil marketing company ETEKA S.A., who was accused in February 2014 for illegal marketing of oil. The defendants, according to the Police, had illegally marketed during the last two years about 4,500,000 liters of shipping oil, and evaded customs duties and taxes that exceeded EUR 3,500,000. Among stakeholders were also owners of service stations, oil company executives and staff of the Ministry of Environment.

As it was stated "the members of the criminal organization were retaining part of the shipping oil that was to be delivered to ships and shipping companies, which was in turn fed into gas stations, where, after admixture with diesel was sent to the market again". The criminal organization cooperated with twelve gas stations in Attica, Greece. An employee in the Customs of Piraeus port informed about forthcoming investigations in the floating instruments available to the company for the movement of marine fuel, thus avoiding potential criminal and administrative penalties.

At the same time the employee of the ministry informed regarding forthcoming investigations as he had "access to information on planned audits of the service or other competent services and knew in advance details of the time and areas where they were to move the audit teams".

The total oil consumption of shipping oil is about 713,000 cubic meters (this volume is sold by all companies in the sector) and according to sources market smuggling in this form corresponds to approximately 20-30%. (Newpost.gr, 23/2/2014; Capital.gr, 2/11/2011).

According to the Professor of Economics at the Aristotle University of Thessaloniki, Dimitris Mardas, smugglers in shipping fuel benefit first of all taxes, since this fuel is supplied to ships free of tax. The smuggling process is based on the so called "slepia", i.e. small tankers which load the marine fuel from refineries, in customs' presence, stating that the amounts are intended for the refuelling of ships. The

losses of the Greek government by the action of the circuit which allegedly guilty of smuggling fuel oil is estimated at EUR 3.5 million. Professor Dimitris Mardas estimates that the total loss from illegal trafficking of fuels approximates EUR 2.5 billion annually (Naftemporiki, 22/2/2014).

On the other side, in an effort to reduce smuggling, the Ministry of Finance proceeded recently to the measure of equalization of excise rates on heating oil and traffic oil, which drastically reduced smuggling, but had significant negative side effects (IOVE, 2013):

- The measure of equalizing excise rates on oil heating and motion seeks to limit smuggling. An additional objective is the increase of public revenues, but as it turned out in practice is not easily attainable.
- The measure has a drastic effect on the heating oil market, as a sharp increase in prices, but delays in the formation of a financial support system of heating oil consumers with low incomes and the limited coverage of the demand consumers have all turned them to alternative ways of heating and narrowed the final oil demand heating.
- The dropping sales of heating oil have resulted in a significant loss of tax revenue and deviations from budget targets.
- The unintended consequences of the measure associated with environmental pollution in urban areas, due to the extensive use of firewood for heating homes, which is a negative external effect (externality) that are highly likely to result in significant additional costs to the health system. It is also associated with increasing "energy" poverty and deteriorating living conditions, as considerable number of the citizens were not able to secure the minimum required level of heating their homes.
- Considering the aforementioned developments the respective measure of tax equalization should be reviewed and improved.

Overall, the study of measuring and analysing the reasons responsible for the high rate of shadow / black economy in the energy sector in Greece and the proposed policies in order to minimise this high rate are the main goals of the research agenda of this working paper. The respective analysis will allow us to conduct conclusions regarding economic, political, legal and social aspects, which will be also the bases for the creation of proposals regarding the resolution of problems caused by shadow economy. Greece is facing high government debt; as long as Greece is able to fight corruption, bureaucracy, tax and social security evasion, and can recognise the high rate of informal work, thus the target will be the possibility of controlling the phenomenon, containing the rate of shadow economy (which is considered to be between 28% and 35% of Greek GDP according to Schneider: 2013).

RESEARCH METHODOLOGY

The method of empirical research is the use a questionnaire survey on a random sample / structured interviews of market participants in the energy trading sector with the aim of achieving nationwide coverage. The questionnaire survey is an integral part of the overall investigation of Professor Aristides Bitzenis "The Shadow economy (informal sector) in Greece: Size, Causes and Consequences", in the context of Thales Research Project. Regression econometric analysis will be further utilized to enhance the results of the questionnaire research.

Emphasis is given to the qualitative analysis of questionnaire results which it aspires to reveal the opinions of households, enterprises and institutional entities and public services. It does not aim to the precise percentage regarding the measurement of Greek shadow economy but aims to the qualitative analysis and the comprehension of the problem so that we can reach essential and thorough proposals to the government in order to minimise the problem.

The whole process of collection of questionnaires in the Project Thales, including the current research proposal, is innovating, based on new technologies (using laptops, the internet, mobile internet, mobiles, SMS, real time distribution of the results, local collection of the answered questionnaires). Moreover, the use of questionnaires with bullet points is a pioneering method for the Greek standards. This kind of questionnaires make the research extensive since they are read through a professional scanner special for quick reading and accurate analysis of the results.

It should be noted that the fieldwork has secured funding through the above mentioned research Project. The funding is necessary in order to carry out all the necessary preparatory work for the interview, reproduction and completion of the questionnaire from the final sample. The configuration of the questionnaire finding suitable questions, the processing of the questionnaire and the respective analysis in the case of Greek energy sector is part of the whole project.

EXPECTED CONTRIBUTION OF THE PROPOSED RESEARCH

The successful implementation of the specific action of energy, is aligned with the context and aims of Thales Research Project, as aforementioned, and is expected to assist (1) the local and the national GDP growth (2) the confrontation of the problem of high deficits of Greece, (3) the decrease of social contributions avoidance and tax evasion, (4) the reduction of corruption, (5) the reduction of bureaucracy, (6) the increase of national income but also (7) the improvement of the enterprising environment (energy business environment), (8) the improvement of reliability of the statistical information in Greece, (9) the social conscience, (10) the confidence in the state, (11) better finances of state, (12) sectors such as income, employment, and consumption will be increased, (13) the

productive base of economy will be extended, and (14) in the medium- or long-term many positively side effects will appear.

The innovativeness and the originality of the proposed research area and the wider Project is associated with the fact that has never before in Greece been performed a similar research, and also the fact that this study is situated at the peak of the current public and academic debate.

Until now, the estimated size of shadow economy in Greece results only through indirect approaches, methods that are easily applicable but include a great possibility of fault in the accurate measurement of the shadow economy, and are also unable to determine the factors that cause people to shift toward shadow economy. These indirect approaches to measure shadow economy are the widespread calculations of black economy that are based on secondary macroeconomic data. The research methodology and the Project by considering the weaknesses of a direct approach of measuring the Greek shadow economy (there is a cost in resources and time of managing a large number questionnaires), however, aspire to be the first that will calculate the shadow economy in Greece by using and analysing primary data.

Finally, the subject of the current research is closely correlated to the Trans-European Energy Networks (TENs) and European strategies for Gas and Power trading, and engages a sector with prominent prospects, of which the profound importance is expected to shape both the short and medium-term geo-economics of Greece, Cyprus, and other Eastern Mediterranean countries, as well as determining their growth profiles and models in the forthcoming decades.

PRELIMINARY RESULTS FROM THE QUESTIONNAIRE SURVEY PERFORMED IN OIL TRADING COMPANIES

The preliminary results are based on the questionnaire survey and structured interviews of market participants performed in oil trading companies located in Northern Greece region. The main areas of questions addressed to the participants involved the following aspects: a. Level of compliance of oil companies with Greek tax laws; b. Level of competence of tax officials; c. Enforcement procedures and penalties; d. Corruption and tax administration; e. Tax evasion and black economy (informal sector). Particular questions were primarily of qualitative nature and involved the following:

- (1) What is your view of the fiscal policies affecting oil trade companies in Greece?
- (2) What challenges does oil trade sector faces in Greece?
- (3) What is responsible for leakages in tax revenue in Greece?
- (4) How can tax leakages be stemmed?
- (5) What is your view about the black economy in Greece?
- (6) What can be done to reduce the level of the black economy in Greece?

(7) What is your view of tax non-compliance by oil trade companies in Greece?

(8) How can the regulators work together to improve tax administration in your sector of activity in Greece?

(9) Which tax model do you deem appropriate for oil trade activities in Greece?

(10) Do the different tax regimes give scope to reduce tax?

(11) What is your view on allowing the different tax regimes to remain or be consolidated?

According to the feedback received by market participants, it has been achieved in recent years a restriction of fraud and fuel smuggling as a result of *tighter legislation and better system controls*. The measure of equalizing of Special Consumption Tax (SCT, or ΕΦΚ) in heating and traffic oil and to limit smuggling will lead many stations out of the market; at the same time, many private consumers in Northern Greece are turning to cover their demand in neighbouring countries (e.g. Bulgaria) due to significantly lower taxes and the final price of fuels. The intensification of competition may also lead the industry in further contracting profit margins and higher concentration.

The market will continue to have characteristics of *oligopolistic structure* with dominance of the refining companies and their subsidiaries in the fuels' marketing industry. However, the rationalization of the market due to the reduction in the number of oil stations is also expected to contribute to more effective auditing and controls and further restriction of illegal activities. Further, despite the fact that the number of trading companies is large a form of collusion at local level (e.g. remote areas, islands) remains very likely.

The measure, however, to *increase the Special Consumption Tax in heating oil* (by 440%) had a drastic effect on sales of heating oil, by increasing sharply the prices, and has turned consumers to alternative heating modes with significant environmental impacts (negative externalities) and narrowed the final demand for heating oil (from 55-60% to almost 20% of total oil consumption) and tax revenues. At the same, this measure has contracted significantly the number of oil stations, as a result of the decreased profit margins from the reduced sales of heating oil, and is expected to further intensify the oligopolistic structure of the market (further to the departure of the two multinational players Shell and BP who decided to exit from the Greek market).

Further, the contracted profit margins at the levels of 2-7 euro cents per litter, does not facilitate the *funding of new investments in gas facilities* and infrastructures.

The recent introduction of an *input-output system* is a positive development, despite the problems and inefficiencies resulting from the lack of scaling (deduction) in real time at 15° C of the sold volume fuel by pumps (i.e. during hot weather conditions the quantity of oil in terms of weight that is pumped/transferred to the consumers is much less in comparison to normal conditions of 15° C, as the pumps operate in terms of volume, which increases significantly during hot periods). Connecting

electronically the reservoir to the pump station provides at any time the data on the quantity of liquid fuel (gasoline, diesel) that entered or sold with significant precision. In combination with the use of *cash registers* is expected to contribute significantly to the reduction of smuggling and adulteration of fuel. To be mentioned, that the negotiated Troika package passed by the Greek Parliament, includes explicit provisions for the implementation of this system also by the two refineries (ELPE and Motor-oil). At the same time, the introduction of the input-output system has created protests from smaller and remote oil stations, as its installation cost (approx. EUR 15.000) burdens un-proportionally their operations, thus requesting financial support from the Government for its application.

Smuggling in *shipping oil* sector remains important. Tax-exempted allocation of shipping fuels is required by the provisions of Articles 15 and 23 of Law 2127/93 and Law 603/77. The supply of passenger and cargo ships is carried out by tank cars or “*slepia*”, transporting untaxed fuel (transit). The surveillance mechanism of this activity on the part of state authorities remains inadequate and important measures remain to be undertaken in this direction.

The market participants referred finally to the inefficiencies resulting from the fact that tax clearance for fuels take place only in the Customs offices in Aspopyrgos, Korinth and Thessaloniki, and the specifics of the Greek geography due to the large number of islands, which further increases the final fuels cost due to the high transportation costs, which over exceed the benefits from the lower VAT regime which is applicable.

CONCLUSIONS

In Greece, many are those who argue that tax revenues of hundreds millions of euro a year are lost by the Greek government from illegal activity such as in fuel trading, arguing that tax evasion and fraud affect both public revenues and healthy companies. Experts say that specifically fraud, piracy, incomplete deliveries to consumers, lack of transparency, the limited fraud inspections, delays in sentencing, fictitious exports, the lack of controls for maintaining buffer stocks substantially all arise from the lack of proper control mechanisms set by public authorities. Further, it is noted that the existing institutional framework is inadequate to eliminate the barriers in competition and healthy functioning of the market and achieve consumer protection.

Overall, the study of measuring and analysing the reasons responsible for the high rate of shadow / black economy in the energy sector in Greece and the proposed policies in order to minimise this high rate are the main goal of the research agenda of this working paper. The preliminary results presented are based on the questionnaire survey and structured interviews of market participants performed in oil trading companies located in Northern Greece region.

According to first evidence from the interviews performed, significant progress has been achieved in recent years in the restriction of fraud and fuel smuggling as a result of tighter legislation and improved system controls and measures. However, smuggling in shipping oil sector remains an important issue that should be further researched and effective measures needs to be established by the tax authorities. This area also consists the aim of further future work of this paper.

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THE CHARACTERISTICS OF THE MENTALITY LEADING TO A LONG-TERM SUCCESS IN AN EVER-CHANGING WORLD

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ABSTRACT

People from previous generations did not grow up in a world where transformation was common so for them the norm of life and business was stability. But the times have changed. The globalization, the technology and the increasing volume of information, are creating a social and economic environment, which is characterized by a rapid and continuous changing, sometimes even hazardous. In such a world where no one is immune to these forces, people and companies have two options: to constantly improve themselves or to die, to be a master of the change or a victim of it.

The current article tries to answer to a vital question: „What can it be done in a changing world, for people and companies to achieve a long-term success?“ „Which is the essential factor that makes the difference between those who have long-term success and those who can not handle the change?“

An examination of the evidence provided by the stories of those who are a master of changing and those who are a victim of it, reveals that the main difference between these two categories is not the potential, is not the hard working culture but it consists in the mentality. The quality of our thinking gives the level of our life quality. The more we are willing to change quickly inside, the faster we will change on outside.

Keywords: *quality mentality, changing world, long-term success*

INTRODUCTION

At least in Romanian society until 1989, people knew that if someone learn a trade or graduate a school and if they had found a job, they would have likely retired from that place. After the Revolution, the situation has changed dramatically and many have not been able to adapt to the new conditions. Unfortunately, too often, people and organizations do not see the need for change. They do not correctly identify what to do, and too many people think and act as James Allen declared in "As a Man Thinketh": „Men are anxious to improve their circumstances, but are unwilling to improve themselves, they therefore remain bound" (Allen 1902). They remain blocked to the level of trying to managing change and do not pass beyond to leading change. The Romanian society in particular and

the whole world in general, has faced in the last years more big changes than ever before, which lead in every area of activity to more competition than ever but also to more opportunities than ever before and the trend is the acceleration of these factors. If this is the case, the only rational solution is to learn more about what creates successful change and to pass that knowledge on to increasingly larger groups of people (Kotter, 2012).

From the beginning it must be clear that the methods used in successful transformations are all based on one fundamental insight: that major change will not happen easily (Kotter, 2012) because people and companies are more likely to defend the status quo than to fight for what they must become in order to have long-term success. But only those who are willing to change the way of thinking and making things have more chances for long term success. It seems that fundamental difference between these two categories is not the potential, is not the hard working culture (in that case the developing countries should be on top of the world economy) but it consists in the mentality. The quality of our thinking gives the level of our life quality. The more we are willing to change quickly inside, the faster we will change on outside because the changing of the mentality leads to the changing of the attitude who leads to the changing of life. Handling the challenge of change well, the people and organization can prosper greatly. Handling it poorly, they put themselves and other at risk. In the case of the company, Vasile Lutai, Managing Partner Quest Advisors explain that "The role of innovation in the development of an organization begins where it ends the role of expertise, after the foundation of the organization and dedication were put and now moves on identifying a factor shootout." (Csatlos P. 2014)

SO, WHICH ARE THE BASIC CHARACTERISTICS OF A WINNING MENTALITY?

Focus on the Future

How can we focus on the future?

The first step is preparation for it. You always must be ready. When the opportunity comes it is too late to prepare. Everyday you prepare or repair. The first step in being prepared for the future, is to create a vision of the future. Without the vision the people perish. Creating the vision of the future means a proactive attitude that is willing to make some changes on the road but always keep the direction. The clarity is one of the most important factors in achieving the long-time success, a real hidden driver of the excellence. (Goleman, 2013) When there is a clear vision of the future is easier to make decisions in the present because the vision clarifies the general direction for change, motivates people to take action in the right direction and helps coordinate the actions of different people. This is an important aspect because in the most cases it is necessary to build a guiding coalition to have the

capacity to make needed change happen because too often the forces of inertia are too strong. The life of a person and the activity of a company must be goal-oriented knowing the fact that not every activity it is a realization. The personal life and the company leadership must establish goals and always focus on the best way to use time. In this case the discipline to implement them is very important. Developing a vision and a strategy has to do with planning ahead, doing what is good and what is needed today for reaching the good destination tomorrow. If someone does not properly care about today and does not manage the daily details of life, he will not have long-term success.

According to Kotter, a good and effective vision is imaginable (conveys a picture of what the future look like), desirable (appeals to the long-term interests of people), feasible (comprises realistic, attainable goals), focused (is clear enough to provide guidance in decision making), flexible (is general enough to allow individual initiative and alternative responses in light of changing conditions) and communicable (is easy to communicate; can be successfully explained within five minutes).

Another ingredient of the focus on future is the reflection of the past. You cannot be efficient as a person or as a leader of a company if you do not take time for reflection. At this point I think that it is useful to imagine our life in three concentric circles. The inner circle represents all we can control in life, the middle circle is what we can influence in life and the outer circle represents what we cannot control or influence. Our personal past or the history of the company cannot be controlled or influenced. The past it is just something that it can be learned. Instead, the future can and must be modeled and the only way to predict the future is to create it.

A Continual Investment in Personal Growing

In this life we are the limiting thresholds of all we do so if we want a better business, organization, even a better family, the first investment must be in ourselves. The success in life begins with the area of personal leadership. The success will not be beyond our level of development.

How can we invest in us?

Value the experience through reflection. The experience is just what we live every day so it cannot be the best teacher. But the experience accompanied by reflection it is. To have a beginner's mindset is not about age but a matter of attitude. A beginner's mindset is not preset rules of commonly accepted behavior or thinking. Learn something new everyday.

Find mentors and coaches from whom to ask advice. If you want to think more deeply, do it with more deeply thinkers than you.

Do something beyond your level. Get out from your comfort zone but stay in the area of your skills. Think outside the box.

The Failure is a Friend not an Enemy

Many times for ordinary people the biggest barrier in the success achievement is not the fact that they do not have any dreams and goals but it is the fear of failure that's why they lower their life at a "decent" level. But, a decent level of life is far from a full capitalization of their full potential. Maybe the lower standards allow you to avoid the failure but it doesn't help you to lead an adaptive change because this kind of change requires an attitude of an experimenter that implies risks. On the other hand, examining the personal history of important people or the history of big companies we will be struck by how often they made some of their best moves not by detailed strategic planning, but rather by experimentation, trial and error, opportunism and – quite literally – accident. (Collins, 2005). R. W. Johnson Jr., Former CEO at Johnson & Hohnson in 1954 used to say "Failure is our most important product" said (Collins, 2005). Vaslie Lutai, Managing Partner Quest Advisors makes a step forward and recommends "Reward people who make mistakes and learn from it." (Csatlos, 2014). We are humans so the big question for us is not if we will fail, but what we can do with the fails. If we learn to correctly manage the bad experiences, they can lead to a big development. We must learn to make from the bad experiences the engine of our growth. It is very important not to don't fail, because no matter how high are our standards, how well prepared we can be, will be a time when we will fail. The important thing is to fail forward and to turn our mistakes into stepping-stones for success. (Maxwell, 2000). A long-term success person or company has learned that in life sometimes you win, sometimes you learn and winning isn't everything, but learning is. (Maxwell, 2013).

Here are some suggestions that can help us to manage better the failure:

Give a broader definition to the success of the process through you try to make adaptive changes. Don't judge you just according to the criterion „it worked/it doesn't work“. Learn the lessons of your efforts even if not all are successful.

Prepare the group to which you take responsibility. Manage their expectations and prepare them for a possible failure that could result from your efforts.

Make small experiments. The small failures are easier to manage than the bigger and expensive ones.

Perseverance

There are too many who overstate the importance of the event in the achieving of the success and understates the power of the process. The event encourages the decisions but the process encourages the development. The event motivates people, but the process matures the people. The event it is related by a date in the agenda, the process it is an aspect of the culture. The event is very pleasant, but the process is difficult. The key to success in life is the perseverance because the information itself doesn't change anyone and the change doesn't appear when someone read a book or talk about it. You must apply on the daily bases the information; you should take time to absorb, to learn who you are ,

what is your potential. The shortcuts don't bring long-term rewards, but the perseverance is not simply at all. The effort of change and adaptive work represent a complex journey, it may be accompanied by a lot of digressions, detours, frictions and trinkets. This process means to learn, to grow, to apply, to adjust, and to readjust. There will be a lot of moments when you can ask yourself if it is worth all the effort but keep in mind that long-term success is never made is never created in the microwave.

How can we stay focused and persevere? Here are some tips.

In difficult times, it is very important to keep in mind why you are on that particular road of your life or company life. The answer to why question it is the power that helps you to continue during the difficult times. In order to be able to give maximum efficiency, you must become your own coach. You must develop the habit to prepare and encourage yourself in order to make the best game possible all the time. The power of "why" is more important than the power of will. The power of will helps you to do what is necessary even if you don't like it, but the „why“ makes you happy.

Another important decision related to perseverance, is to be willing to pay the price for success. Be aware that as your dreams are higher, the price for their achievement is bigger. People start to die when they stop to pay the price for their growing because there isn't success without sacrifice that's why so many people just dream in their life – dreams are free, the journey isn't.

Be focused not in the goals but on the continual development. If you are focused on the goals, the destination became very important, it motivates you for a limited period but when you achieve the goal, the motivation stops. When you are focused on the development, the journey became important, and this journey makes you grow up for all your life, because the journey itself is as long as life. You will grow up until and after the achieving of your goal.

CONCLUSION

The future is hard to predict, but it seems that in the next few decades the speed of change will increase and its environmental volatility continues to increase, the standard social order and the standard organization of the twentieth century will disappear.

So how will the successful people and the winning enterprise of the future look like? Honestly, I think that we do not know, but considering the implication of those mentioned in this article, I think that if we want to be a master of change and not a victim of it, we need to get rid of the feeling of complacency and develop a high sense of urgency that thus not mean panic, anxiety or fear, in our every day life. It means a state in which complacency is virtually absent, in which people are always looking for both problems and opportunities, and in which the norm is „do it now“. (Kotter, 2012).

Organizational culture of the company should be one that encourages innovation. People should be taught to feel free to express their ideas, to ask questions, to learn from failure and mistakes.

It doesn't matter where you came from; it matters where you are going.

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MANAGEMENT CONTROL SYSTEMS AND SUCCESSION IN FAMILY FIRMS: AN ITALIAN CASE STUDY

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ABSTRACT

One of the dominant research topics in family business phenomenon are the management succession and the professionalization.

Our main aim is to underline the importance of Management Control Systems (MCSs) implementation and evolution, in conjunction with professionalization, in supporting a succession process in family businesses, especially if small and medium-sized ones, in order to achieve a long-run value creation and to guarantee the survival of the firm. In particular, we tried to understand how formal systems - specifically Diagnostic Control Systems (DCSs) and Interactive Control Systems (ICSs) which represent Performance Measurement Systems (PMSs) - together with a professionalization phenomenon can affect family businesses strategy implementation and indirectly performances, especially during a generational handover process.

Among qualitative approach, we made an explanatory case study, opting for a single case study, i.e. Vega Tools International, which is quite representative for this research topic.

We can affirm that during the process of succession, especially if characterised by a strong crisis that makes urgent a change in the business strategy, the professionalization phenomenon together with the introduction of formal MCSs are relevant organizational changes to improve strategy formulation, implementation and control. In addition, the interplay and the tension between formal DCSs and ICSs are very useful in a family business, in order to support the succession, in conjunction with the professionalization phenomenon, as they permit to couple the family business culture together with the formal competences of managers.

The implications are several. Formal PMSs can be sustained with positive effects on succession and strategy implementation. Indeed, DCSs and ICSs and their dynamic tension represent a positive solution to maintain competitiveness above all when the founder of the firm is preparing his succession. In addition, ICS contributes to the emersion of new opportunities and creativeness within the business and makes possible the top manager, usually a member of the family as in our case study, to capture emergent strategic initiatives that arise from the bottom of the structure, usually represented by non-family members.

One limitation of the paper is represented by a single case study method, which makes difficult to generalize uncritically our conclusions. Furthermore, in addition to the interview technique we could also adopt additional data collection methodologies, based for example on questionnaires sent to representative employees in a sample of family businesses.

Keywords: family businesses; management succession; professionalization; Management Control Systems (MCSs); Diagnostic Control Systems (DCSs); Interactive Control Systems (ICSs); Performance Measurement Systems (PMSs).

INTRODUCTION

The family firms (FFs) phenomenon is widespread around the world and for this reason the literature has given high consideration to this topic (Astrachan and Shanker, 2003; Claessens *et al.*, 2000; Faccio and Lang, 2002; La Porta *et al.*, 1999; Morck and Yeung, 2004). The vast majority of publicly traded businesses in Europe, Asia, Africa and Latin America are family controlled (Acquaah, 2013; García-Ramos, García-Olalla, 2011). In Italy, as well as in Europe, the economic environment is characterized by the presence of numerous small and medium-sized companies, often family-controlled (Mediobanca, 2013). Both in advanced and developing economies, FFs manage most of the economic activity and are increasingly considered by both public opinion and policy-makers as a driving force (Colli, 2013).

One of the dominant research topics in family business phenomenon is the management succession and, in particular, the generational handover, which represents the most relevant concern of family business leaders (Chua *et al.*, 2003). Another important issue debated in literature is the professionalization in FFs, which is generally defined as the phenomenon during which professional managers become part of the management or of the ownership in a family business (Giovannoni *et al.*, 2011). Despite the fact that succession and professionalization are critical issues for the literature about family business, the topic concerning how Management Control Systems (MCSs) could change and evolve in order to support the generational handover and how its implementation is affected by or affects professionalization have been largely overlooked by researchers, with few exceptions (Amat *et al.*, 1994; Giovannoni *et al.*, 2011).

For this reason, as suggested by Salvato and Moores (2010), our main aim is to underline the importance of MCSs implementation and evolution, in conjunction with professionalization, in supporting a succession process in FFs, especially if small and medium-sized ones, in order to achieve a long-run value creation and to guarantee the survival of the firm. In particular, relying on Simons' (1995, 2000) levers of control framework and on Acquaah's (2013) work, we tried to understand how

formal systems - specifically Diagnostic Control Systems (DCSs) and Interactive Control Systems (ICSs) which represent Performance Measurement Systems (PMSs) - together with a professionalization phenomenon can affect FFs strategy implementation and indirectly performances, especially during a generational handover process.

In the context of a qualitative approach, we combined the insights of the literature on management accounting in FFs with the findings observed in an explanatory case study. Our research case study is represented by an Italian small-sized FF, Vega Tools International, which purchases and sells technical components and services for the machine tools sector. In this firm a generational handover happened some years ago and in the meanwhile the economic crisis caused a turnaround process, which required an organisational transition (professional managers, such as the CFO) and the implementation of modern management control systems.

We consider this issue relevant both for the practitioners and for the literature, especially in a context characterised by economic crisis, as it indicates an important perspective of managerial innovation in FFs to achieve competitiveness, and, above all, as we have observed a gap in current frameworks concerning the role of managerial mechanisms, especially according to family business succession (Songini *et al.*, 2013).

In this article, we first outlined our research method. Then we looked at the analysis of the theoretical background of the FFs, drawing particular attention to the main issues of our paper (the succession, the professionalization and the role of MCSs). In the fourth section, the discussion of the results is presented together with the conclusion. Finally, implications of the study are given, along with the limitations of the research.

METHODOLOGY

The aim of our work was to understand how MCSs support strategy formulation and implementation, especially during a process of succession, in conjunction with a phenomenon of professionalization.

On the basis of the research objectives, the following hypotheses have been developed.

HP1: during a process of succession, especially if characterised by a strong crisis that makes urgent a change in the business strategy, the professionalization phenomenon together with the introduction of formal MCSs are relevant organizational changes to improve strategy formulation, implementation and control.

HP2: the interplay and the tension between formal DCSs and ICSs are very useful in a FF, in order to support the succession, in conjunction with the professionalization phenomenon, as they permit to couple the family business culture together with the formal competences of managers.

The research methodology was structured around the following phases:

a) in the first phase, we made a literature review on the succession and professionalization phenomena in FFs and on the role of MCSs during these processes. This literature review brought to light a lack on the role of MCSs to facilitate generational handover in FFs; indeed, current studies didn't focus on the recourse of strategic planning, management control and professional managers, such as the CFO (Songini *et al.*, 2013). On the contrary, researchers focused on the use of financial accounting tools in combination with other typical problems during planning and handling succession, such as governance, finance, law and tax planning;

b) in the second phase, we used a qualitative approach. Aware of its criticism in terms of trustworthiness (Atkinson and Shaffir, 1998; Guba and Lincoln, 1998), we chosen the qualitative method (Bonoma, 1985; Creswell, 1994; Eisenhardt, 1989; Glaser and Strauss, 1967; Van Maanen, 1982; Yin, 1984) due to its accuracy both in understanding the dynamics of the observed phenomenon (without making a lacking description of the phenomenon itself) and in applying the theories to the analysed context (George and Bennett, 2005; McKeown, 2004).

Among qualitative approach, we used the case study method. Case study method is the most suitable means to fulfil the research objectives (Gillham, 2001; Gummesson, 2000; George, 1979; George and McKeown, 1985; Merriam, 1988; Miles and Huberman 1994; Stake, 1995), emphasising words rather than figures about specific situations and involved people (Maxwell, 2012; Thiengnoi and Afzal, 2009). Case study method is frequently used in family businesses researches (De Massis *et al.*, 2012), both to understand the family decision process (Chrisman *et al.*, 2012) and to make a comparison between FFs and non-family firms (De Massis *et al.*, 2014). This method is particularly useful in family businesses context: indeed, its heterogeneity, due to an intersection of family and business (Tagiuri and Davis, 1992; Chua *et al.*, 2012), requires a multiple theoretical perspective and levels of analysis. For this reason, also case studies have to reflect this heterogeneity (De Massis and Kotlar, 2014), observing the multiple facets of the observed phenomenon.

We made an explanatory case study (Johansson, 2002; Kotlar and De Massis, 2013; Rolf, 2003; Scapens, 1990) that allowed understanding how the investigated phenomenon takes place. "Opening up the black box" (De Massis *et al.*, 2013) on the role of MCSs and professionalization in succession of family businesses, this case study permits to identify how Vega's business model can be effective and efficient.

We decided to observe a single case study, i.e. Vega Tools International, for several reasons. Although several limitations of a single case study method (De Massis and Kotlar, 2014), our single case study is significant because it meets a series of conditions:

- the case study is firstly a typical small-sized FF which composes the Italian economic context. Succession and professionalization topic in Italian FFs are particularly interesting for researchers

(Prencipe *et al.*, 2008). MCSs were not so widespread in Vega Tools International, even if over the last five years the company has undergone a significant change in management roles, routines and systems. Lastly, it is involved both in a professionalization process, which permits the entrance and training of non-family members managers, and in a succession process;

- our choice was influenced by the offered opportunities for unusual research access (De Massis and Kotlar, 2014) for an extended period of time: indeed, the management of Vega Tools International provided us an high degree of research access to the company, both with in-depth interviews and with the provisions of extensive information and data. Therefore, the case study presents a series of variables for observation, the analysis of which requires the use of a multitude of data, which are generally inter-connected (Yin, 2003a) and have to converge in a “triangulation fashion” (De Massis and Kotlar, 2014);

- our case study is characterized by several variables and actors over the different life cycles of the company, which permits us to investigate all the multifaceted processes concerning the business activity (Cooper and Morgan, 2008; Ditillo, 2004; Moores and Yuen, 2001);

- in conclusion, this case study was extreme, representative and leading case (Patton, 1990; Stake, 1995; Yin, 2003a and 2003b). It is extreme, because MCSs were not so widespread in the past and the company is now involved in a generational handover; it is representative, inasmuch as the company is a typical small-sized FF, which composes the Italian economic context; and, lastly, it is a leading case, because it combines tradition and innovation values in its management, both on the part of family members and of the staff operating in companies and at various hierarchical levels. Therefore, we considered our case study particularly suitable for revealing a phenomenon and for identifying relationship and logic among variables (Eisenhardt, 1989; Graebner and Eisenhardt, 2004).

Our research lasted three years (from 2011 to 2013): this period is sufficiently representative for us to observe case study development, growing and changing of knowledge, skills, attitudes, perceptions and behaviours in essential ways over a period of time. In addition, despite professionalization and succession processes could be considered as an on-going process that needs to be studied over time (Giovannoni *et al.*, 2011), these processes accelerated in 2011 to permit the retirement of the founder and the consequent professionalization and generational handover.

Data collection first started in the beginning of the research and then repeatedly continued for the duration of the research itself. Due to an enormous amounts of time required for an in-depth exploration and analysis of the phenomenon, we decided to make a panel study, observing a small group of subjects (the founder, the CEO, the CFO, the Sales Manager, three Product Managers, two Sales Agents, six employees and four warehousemen) and making a sampling of a cross-section of individuals.

We conducted the case study by using multiple information sources (Eisenhardt, 1989), as both qualitative and quantitative ones should improve findings credibility (Patton, 1990). Interview was the primary data source, due to its attitude to observe a phenomenon at various levels (Alvesson, 2003; Eisenhardt and Graebner, 2007; Potter and Wetherell, 1987). The interviews were semi-structured one-to-one (Alvesson and Deetz, 2000; Corbetta, 2003), and they were targeted and characterized by a rich articulated scheme.

These interviews were prepared simultaneously by three authors and were structured to cover the following topics: a first topic was of an introductory nature, with the purpose of describing the sector in which the company operates, the history of the company and the family, and the role played by individual family members in running the business (this interview was conducted with the founder and the CEO, son of the founder); the second topic focused on the recognized improvement areas, such as strategy (value and mission of the whole company, especially compared to the interviewee's ones), organization (organizational structure of the company, a description of each work process, the role of team work, the improvement of the work process, MCSs and professionalization) and governance (leadership pattern of the company and decision-making process). The interviews were conducted over a period of 3 years (2011-2013) at the firm's headquarters and the informants have been the following: the founder, the CEO, the CFO, the Sales Manager, three Product Manager, two Sales Agents, six employees and four warehousemen. The interviews were carried out by two of the authors of the research and lasted approximately two hours, during which the pre-prepared structure was followed. Some informants were interviewed more than once, with the purpose to clarify some important topics during the analysis of information. We made in total twenty-nine interviews with nineteen different individuals. The last series of interviews was conducted in winter of 2013. The interviews' findings were then autonomously analysed by the three authors to avoid influences by each other's interpretations (Atkinson and Shaffir, 1998; Jönsson and Lukka, 2005). A comparison between authors' interpretations was made. All the interviews were transcribed in an electronic manner, in addition to trustworthiness verification from the informants on collected data.

In addition, other secondary sources were used. Among them, we made: direct observations in Vega Tools International offices, during which we observed organisational life in the company and obtained rich information about several aspects of the business activities (Myers, 2013); non-participant observations in which informants were followed during casual meeting in Vega Tools International, such as coffee breaks and family dinner; documentary material, including internal reports, documentation taken from websites and other published material. A combination of interviews and secondary information sources findings was made in a sort of "triangulation process" (Denzin and Lincoln, 1994; Jick, 1979; Pettigrew, 1973; Stake, 2013; Yin, 1984) by observing the phenomenon in

different angles, increasing findings validity and avoiding post hoc rationalization (De Massis and Kotlar, 2014).

Data analysis began with a preliminary understanding of the really use of MCSs by the company and then on the professionalization and succession process. Information were prepared before being analysed using some techniques, such as data reduction, data categorisation into different topics (such as MCSs, professionalization, generational handover) and data contextualisation (De Massis and Kotlar, 2014). Subsequently, we also identified relationships between different data categories. Qualitative data were then systematically analysed, even if data collection and analysis happened simultaneously (Kotlar and De Massis, 2013), sometimes requiring an on-going change in our research design and identifying some new features to observe. We converged data to understand the case study in its complexity, avoiding separate considerations on separate parts of the case study. Internal validity of our research (Yin, 2003b) was improved by identifying some plausible logical causal relationships between variables and findings; external validity required an analytical generalisation of the phenomenon (Yin, 1984 and 2003b), rather than a statistical generalisation of the results. We tried to avoid subjective judgments, preferring a well-considered set of measures; in addition, other scholars were involved in the data analysis process with the purpose to improve the rigour and trustworthiness of our case study research (Campbell, 1975; Gibbert *et al.*, 2008; Gibbert and Ruigrok, 2010; Yin, 1981). We then sent the draft paper to the various informants, with the purpose to verify our interpretation. The research was concluded outlining a model for applying MCSs and professionalization to succession.

THEORETICAL BACKGROUND

Family business succession and professionalization

The FF survival is influenced by relations between the family and the firm: indeed, the family is involved in the maintenance and support of its members, investing its own resources in the business activities based on entrepreneurial values, also inspired by tradition, unity and affection (Salvato, 2002; Ward, 1997). Some shared values motivate both the family and the company, such as the continuity of the economic activity (Coda, 1988; Giannessi, 1960; Onida, 1954; Zappa, 1957) and the value creation (Catuogno, 2006; Cuccurullo, 2006; Tiscini, 2006).

Management succession in FFs is the transfer process of firm leadership or the passing of the leadership baton from a managing or incumbent owner to a successor, who could be either a family or a non-family member (Beckhard and Dyer, 1983). Due to the transfer of management is a long way beginning in childhood (Longenecker and Schoen, 1978), management succession is a multiple-stage process (Handler, 1990). Miller *et al.* (2003) assumed that management succession transfers firm

leadership from one family member to another or, in the absence of a competent family contender in the short-term, to a bridge manager between family tenures. When the management succession happens between members of the same family it is defined generational handover. Scholars stated that responsibilities and experiences inside the family business enable the successor to understand the culture of the firm and to develop relationships within the company (Tirdasari and Dhewanto, 2012).

Scholars refer to management succession in several topics, such as:

1) *defining a family business*: some scholars affirmed that in a FF there must be at least two family's generations involved in its management (Ward, 1988), conveying managerial skills to the next generation (Churchill and Hatten, 1987). In addition, it emerged that a family business can be composed of a single family in the case of the generation establishing the business, which is headed by the founder assisted by the other members of his/her family; alternately, different families may be involved, in particular after a generational handover through which the company is in its second or third generation (Corbetta and Dematté, 1993);

2) *considering its impact on the performance and innovation*: a growing literature focused the impact of incoming family heirs and professional CEOs on company performance after management succession (Bennedsen *et al.*, 2007; Cucculelli and Micucci, 2008). We can group the various assertions in two categories:

a) the authors who asserted a negative effect of the management succession on the business performance and innovation;

b) the authors who describe which are the conditions in order to achieve a positive effect of the management succession on the business performance and innovation.

Belong to the first group some studies which considered the management succession a traumatic event, due to the typical overlap between executive and ownership positions in a family firm (Gomez-Mejia *et al.*, 2001), which negatively impacts on longer investment horizons, reputational concerns and agency conflicts between managers and owners (Amore *et al.*, 2011). A destruction of value may occur when the family business is managed by their second or third generation (Villalonga and Amit, 2006; Pérez-González, 2006; Smith and Amoako-Adu, 1999). Only a small part of family businesses survive the management succession to the second generation, observing the failure of many intergenerational transitions after taking of control by the second generation takes control (Davis and Harveston, 1998; Handler, 1990, 1992; Morris *et al.*, 1997; Sonnenfeld, 1988; Ward, 1997; De Massis *et al.*, 2008). In addition, when CEO succession occurs, it may aggravate capital structure decisions in FFs (Amore *et al.*, 2011).

Belong to the second group other studies that showed how the family's attitude (Birley, 1986) is a great condition to facilitate management succession. Personal relations among family members often

represent a dominant condition for a maximum profit in family firms (Davis, 1986). To reach positive impact on company performance, the successor must enjoy the confidence from the family (Goldberg and Woolridge, 1992; Horton, 1982). Commitment to business is a dominant condition to reach positive management succession, rather than gender and birth order of family members (Chrisman *et al.*, 1998). Nevertheless, the level of junior generation members' interest (Stavrou, 1999) in the business influences the succession results (Handler, 1989; Ward, 1987). Some studies focused on the best age the successor has to have. It emerged that the eldest member may not always be the best solution, as well as sons may not necessarily be better than daughters. Nevertheless, choosing a younger son or a daughter as successor may not necessarily be a better solution (Tirdasari and Dhewanto, 2012). Some authors have underlined how the successions outside the family are generally associated to an increase of the operating returns (Amore *et al.*, 2011).

Multi-generation family businesses also have a lower entrepreneurial drive than first-generation family firms (Westhead and Howorth, 2006), even in the innovative policy (Bresciani *et al.*, 2013). Innovation policy is favoured if the company develops across generations (Bresciani *et al.*, 2013); in other words, innovation is family-based if and only spontaneous interaction between family members across generations takes place and if the innovation investments are relevant to the process's outcome. Without both generations being involved, it is difficult for innovation in family business to take place. The secret of innovation in family business lies with the attitude of dynamically balancing power and trust, and control and freedom in the developmental process of a senior-junior relationship in the management succession (Litz and Kleysen, 2001). Especially larger and older family businesses are characterised by generational evolutionary stages (Lubatkin *et al.*, 2005), which impact on the long-term investment perspective and on the innovative strategies.

It is evident that the vast majority of studies have focused on the family level (Songini, *et al.*, 2013), while few researchers have underlined the importance of professionalization and MCSs in succession process, as tool with which implementing and controlling strategies and, indirectly, performances. The professionalization is generally defined as "the process through which professional managers become part of the family business at the management or ownership level. This process entails the adequate formal training and education of individuals (regarded as professional managers), but it may also result in an increasing adoption of formal mechanism and systems inside the family firm to support the business" (Giovannoni *et al.*, 2011). The main part of the literature considers the professionalization phenomenon in a FF as the entrance of an external subject, not belonging to the family, into the business, but it also happens that the same members or employees of the family become more "professional" through specific educational process (Dyer, 1989; Hall and Nordqvist, 2008).

Furthermore, the interplay between succession, professionalization and MCSs deserves an in-depth research, in order to understand how professionalization and MCSs can support a successful succession, especially considering the effects on business strategy implementation and, indirectly, on performances. For this reason a brief analysis on MCSs can support our study in underlying some key aspects on which focusing the attention.

Management Control Systems

MCSs are “the formal, information-based routines and procedures used by managers to maintain or alter patterns in organizational activities” (Simons, 2000). According to Chenhall (2003), the term MCSs is a broader concept that includes:

- Management Accounting (MA), that is usually referred to accounting tools, such as budgeting, cost accounting and financial reporting;
- Management Accounting Systems (MASs), the systems with which MA tools are used to achieve some goals in the firm;
- Organizational Controls (OCs), which are referred to the control of activities and processes, individuals or business culture, to achieve some goals.

The literature considers MCSs as indispensable to support both the implementation and the monitoring of the deliberated top-down strategies in a firm, and at the same time to shape the emergence of new and creative bottom-up strategies (Kaplan and Norton, 1992).

According to Simons’ performance measurement and control systems framework (1995, 2000), that informs our research, formal MCSs can be classified in four different groups – belief systems, boundary systems, DCSs and ICSs. In particular, DCSs and ICSs are the PMSs adopted by firms to implement and monitor the strategic intentions over time.

DCSs are usually used by managers to formally identify specific goals for the whole company and for each responsibility centre, considering both the current and the strategic period of time, with which making more rational and conscious decisions in order to correctly implement the deliberated strategy of the company. Companies consequently adopt feedback mechanism to inform managers with reports about the variations between original goals and achieved results, in order to make corrective actions. DCSs are usually used to motivate managers to achieve organisational goals in a conservatism framework, within the deliberated strategy of the company.

ICSs, instead, are formally systems adopted by top managers to encourage innovative and emergent bottom-up strategies in a company. The most important feature of ICSs is that the information that emerges through the interaction between top managers and managers at all levels of the organisation is an important source of competitive advantage and managers should use this information trough

face-to-face meetings with superiors, peers and subordinates, with the aim of continuously challenge and debate the deliberated strategy of a company, underlying new opportunities and new risks (Simons, 2000).

When DCSs and ICSs are jointed together in a firm, a Dynamic Tension is created that opposes innovation versus control and profitability versus growth, complementing the benefits of each of the control systems (Simons, 1995). The simultaneous use of DCSs and ICSs has a positive effect on the implementation of business strategy, both in terms of cost leadership strategy and in terms of differentiation strategy (Porter, 1980, 1985; Simons, 2000).

According to Acquaah framework (2013), DCSs have a greater effect on the implementation of business strategy for non-family businesses than for family businesses, especially considering a cost leadership strategy, while ICSs have a greater influence on the implementation of a differentiation business strategy for family businesses than non-family businesses. In any case, the dynamic tension created by a concurrent adoption of DCSs and ICSs has a greater influence on the implementation of business strategy (both the cost leadership and the differentiation strategy) for family businesses than non-family businesses. Through this consideration, Acquaah (2013) affirms that the indirect effects of DCSs on performance, mediated by business strategy, are greater for non-family businesses than family businesses, while the indirect effects of ICSs on performances are exactly the opposite, that is greater for family businesses than for non-family businesses. Furthermore, the indirect effects on performance of DCSs and ICSs combined together in a dynamic tension are higher in family businesses than in non-family businesses. The implications of Acquaah's work (2013) underline how formal MCSs are important in supporting strategic activities of FFs to create competitive advantage, especially when DCSs and ICSs are used simultaneously.

CASE STUDY

The company

Vega Tools International (Vega) is a company that imports and distributes products of some of the most famous international brands of machinery industry, exclusively on the Italian area. The company is based in Santena, a few kilometers from Turin, in the North-West of Italy, where an important manufacturing culture is embedded. A 1,000 square meters barn works as storage warehouse and, at the same time, it is used also as place for customer assistance and products repair.

Founded in 1973 in Turin by two entrepreneurs, Enrico Vergnano and Bartolomeo Gattini, Vega has 17 employees operating in the headquarters (in Santena, Turin) and various agents and associates partners working all over the Country. The company's sales volume decreased from an average of 12 millions Euros per year in the past to 8 millions in 2013.

Over the past forty years, Vega moved to a great growth stage, undergoing significant changes about governance, strategies, organizational structures and management systems. After the exit of one of the two founders of Vega in 2011, the Gattino's family decided to delegate the management of specific functions of the company to external managers, to enhance the level of professionalism in the business activities. The entrepreneur was not afraid to open the doors to the external world and at the same time he did not avoid the possibility to co-operate with some management consultants. Nevertheless, the guidelines for the governance of the company come from the Gattino's family, who leads the company with centralized power, even if assisted by top managers.

Giuseppe Gattino (founder's son) joined the firm in 2011 after an initial career as a journalist and started his training inside the company, to permit the retirement of the founder, who was till this moment the head of the firm, the unique center of decisional power in the company. The succession process has been experienced by the employees both as challenge as well as a chance for change and renewal. Giuseppe Gattino now is trying to bring young people in the company and establish a new model of governance primarily based on meritocracy.

Both the entrance of external members of the family as managers and the training of the son of the founder outside the firm can be considered as a typical professionalization phenomenon, involving a FF, with which the founder started to delegate decisions to the son and to the managers.

The company in 2013 was going through a difficult time due to the critical market conditions. To overcome the crisis situation, the company implemented a turnaround strategy, by a redefinition of the critical processes and an expansion of the target market. In addition, the family supported a substantial outlay to recapitalize the company. Moreover, an injection of liquidity made by the Gattino's family was made. At the same time, in 2013 some shareholders left the company and sold their shares to the Gattino's family.

At the moment, the Board of Directors consists of a President (Bartolomeo Gattino, the founder), a CEO (Giuseppe Gattino, Bartolomeo Gattino's son), two non-family members (Marco Sanpietro, CFO, and Massimo Maida, commercial director).

Today the company has regained stability and defined new guidelines for future development. In 2014, due to extraordinary actions to improve efficiency and thanks to recovered economic-financial balances, the company will be able to make investments for regaining the revenues lost over the past 5 years.

The machinery industry has always been an important point of reference for the manufacturing sector worldwide. The commercial distribution activity, which is Vega core business, is directly influenced by the primary market and replicates the cyclical trends. The economic crisis and competition from developing countries slammed this area, negatively impacting on the trend in revenues and profits.

Vega is still a big name in the machinery sector that means quality and reliability. The brand is certainly a valuable asset for the company even if not yet exploited through new media channels. The main product lines of Vega is represented by 5 representative brands and each of one is a business unit headed by a product manager, who has the task of developing specific business line growth.

The commercial structure is formed by the product managers and by many salesmen. The sales strategy consists in many on-site visits and tests to demonstrate the technical qualities of the product along with the ongoing support to the client at all stages of testing and setup. In spite of that, we found that even if the average customers are satisfied with the service provided, there is a declining level of loyalty, especially in the matter of urgent purchases and products with lower added value.

The company uses its own brand as the main marketing asset and participates in several trade fairs.

The strategy and the strategic planning

The processes of strategy formulation and strategic planning since 2013 have never been formalized in Vega. The CEO Giuseppe Gattino stated that *"the strategic planning was never a formalized process inside the company"* and the product manager Bruno Aragno, in charge of the cutting tools line, referred that *"a real corporate strategy never existed"*. The CFO Marco Sampietro referred that *"we always trusted the owner's vision making short-and medium-term predictions and observing the market just on the field. An explicit mission never existed and if we ask what is the company strategy the answer would be surviving"*. Being the strategic planning process an obscure subject inside the company, the employees have seen these procedures as useless or even counter-productive and, in other words, a loss of time.

With regard to the shared values, it emerged that the opinions of the managers were really different. They were above all elusive, but the reason could not be ascribed to a lack of interest. On the contrary, people proved to be curious about this subject. For example, the members of the sales team reported that *"it will be nice having a general guideline in order to organize the work in the long-term period"* and that *"unfortunately, the lack of shared values causes conflicts and misunderstandings"* and again *"we may need team building sessions in order to learn how to work together"*. The issue was that the interviewees never reasoned in terms of common values nor fully understood the meaning of the company's values. They never faced the problem to figure out if common values existed and if they were aligned with the individual ones. The values of the founder were implicitly transferred just trying to act as an example and to build trusted relationships in the long-term period. Among these values emerged from the employees opinion, we can find honesty, work dedication and loyalty. Almost all the interviewees stated that they believed in the owner's vision of the future even if they were not able to explain it, saying that *"Mr. Gattino knows what to do"* or *"I trust Mr. Gattino, I do not ask too many questions"*.

One of the issues that came out was the quality of the communication between the owner, the management and the rest of the structure. Nevertheless, there still were communicative obstructions

inside the company due to cultural reasons and traditions consolidated over the years. The company developed itself around the founder who never felt the need to communicate his purposes and his vision of the future. The respondents felt that, due to the fact the company reached considerable dimensions, the formalization of the vision became critically necessary and it should be communicated in order to inspire the employees.

The mission has never been declared and the tasks were mostly the result of the execution of guidelines coming from the founder. The mission was just settled in the mind of the owner-entrepreneur and has not been shared with all the employees yet. The fractioned nature of the activities prevailed and the impact of the single employee's performance was never clear. They never understood how these performances affected the ability of the business to achieve stated objectives. There was a lack of formal analytical instruments, which could have been useful in order to describe and summarize thoroughly and yet promptly the most critical performance issues. Mentioning Massimo Maida's words, sales manager, *"nowadays, it is necessary for the company to reinvent itself in order to compete in a very competitive market in which the competitors reduced medium prices. Being able to measure our results as fast as possible is part of this change"*.

In 2013 the management tried to formalize the strategic process, starting with the identifications of values, vision and mission. The managers, through inter-functional work groups and regular meetings, to which also the CEO Giuseppe Gattino participated, tried to reconstruct and formalize the implicit business strategy in six concrete steps. The starting point highlighted by the sales manager, the CEO and all the Vega's product managers was the following:

- Stronger penetration in the industrial segment: *"In order to increase the product margin and the customer loyalty rate, we have to be more present for the end users of our products"* (The President)
- International market extension: *"We identified some markets that might represent for us a great opportunity of commercial development"* (The CFO);
- Product line extension: *"the first goal is to increase the turnover in order to reach the break even point. The product line extension, inserting new products in our catalogues, is the first move in order to obtain the minimum turnover levels"* (The Sales Manager);
- Focus in the niche products: *"Even if we strongly want to expand our activity, we want to keep our position in the niche products distribution too. For this reason we will continue to focus on those areas in which the state-of-the-art technologies are required"* (The Sales Manager);
- Introduction of new products: *"We will introduce new products which are not part of the machine tools line of products. Despite that, these products may create strong synergies as in the case of lubricating oils for machines"* (The Product Manager);

- Integrated offers and premium prices: *“Our prices will always be higher than our competitors and they will be also raised in order to increase the margin. Our aim is to intensify our tailor-made integrated offer according to customers’ needs and to keep a well-perceived premium price for our clients”* (The Product Manager).

As the Sales Manager explained *“Vega’s business strategies are made up on the choice of the best available product on the market and on the production of tailor-made offers for our most profitable customers”*.

Thus, a good differentiation strategy, correlated to the ability of the company to store the products according to the request, emerged through the introduction of a typical ICS. Basically, it was necessary to have stored products that can be ordered and shipped on time. With regards to the business strategy planning, solid supports for the quantitative analysis of orders were required as well as a strong intuition about future machining market trends.

After the formalization of the strategic intentions and initiatives, the need to measure the performances related to the main critical success factors was felt, establishing the realization of a preliminary measurement system, able to respect the logic-casual relations identified, similarly to a Balanced Scorecard (BSC) model.

The CEO Giuseppe Gattino referred this need: *“In order to compete we need to measure our performance with reproducible, reliable and measurable data. Our competitors are structured companies with standardized processes and high operational efficiency. We need some indicators in order to support the strategy”*.

Hence, some analytical profiles were selected in order to test the performance of the critical processes, which were the sale process and the logistic process. Afterward, some performance indicators were selected in order to keep them into account during the periodic planning and monitoring of the strategic goals. As far as the sale process is concerned, the following indicators were identified:

- Net Marketing Contribution (NMC) = gross margin - sales and marketing costs;
- Return on Marketing Investments = NMC / marketing and sales costs;
- Customers’ performance (based on surveys): a set of quantitative and qualitative indicators about the customers’ satisfaction and their loyalty rate towards the company.

With regards to the supply chain process, these indicators were identified:

- Transportation costs / customer margin: Vega has always adopted a very advantageous corporate policy on shipments towards the most loyal customers. Indeed, the company covers the shipping cost for them. However, in such a critical period of crisis, Vega’s management must be able to understand when they need to interrupt this policy.
- Supply indicators such as:
 - Backlog: back orders / received orders;
 - Back average demand: back units / ordered units;

Stock out incidence: stock out number of articles / quantity of articles in the catalogue;

Stock out persistence: stock out number of days / total amount of working days.

- Alacrity and reliability indicators such as:

Deliver alacrity (deliver date – order date) / number of orders or number of dispatched orders in x days / number of orders;

Deliver reliability (delivery date – arranged date) / number of orders or number of dispatched orders / number of orders.

Thus, the monitoring of the differentiation strategy was supported by the progressive introduction of a typical DCS, based on a feedback mechanism, in order to avoid that inefficiency could compromise the innovation and differentiation strategic investments.

The creation of a PMS brought the firm to be aware of its capabilities and to honor progressive behaviors leading to an enhanced cooperation among employees.

The organizational structure

Till 2013 the company's organization was not clear for all of the respondents of the interviews. Furthermore, at each investigation level, a different perception of the organization was expressed. This was also dictated by the wide vision of the interviewee's role. The current perception at an operating level was the existence of a pyramidal structure headed by the owner. In this regard we recall here some deduced sentences from the interviews with the employees:

"the head of the company is Mr. Gattino, after him Mr. Maida and Mr. Gattino's son and then the rest of them"
(storehouse employee)

"the organization is divided into three levels: the management, the product managers and the employees"
(accounting employee)

The beginning of the succession process did not help to make the situation clearer. Indeed, it was not understood by every employee which was the role of the founder, the father, and the role of the son, who joined the company in 2011.

"I really appreciate Mr. Giuseppe Gattino's contribution but I think that Mr. Bartolomeo Gattino is still the head here" (storehouse employee)

"When Mr. Bartolomeo Gattino asks me to do something, I stop doing what I am doing in order to satisfy his request. I act this way because he is the company's head and because we always worked this way" (quality manager)

Summing up all the collected observations, a matrix structure emerged, in which the main functional areas (sales and finance, control, accounting) crossed the business units corresponding to the product lines. A more balanced allocation of the resources was useful. The presence of saturations in some

operating mechanisms, which were also part of the critical processes, was observed. Moreover, the configuration did not allow to clearly defining the process flow, which crossed the functions. In a specific question about the definition of suppliers and of the internal process customers, many interviewees replied: *“I cannot tell who are my internal customers, we do not have a real job description nor the procedures for the process management. We work as always using common sense and putting effort into our work”* (sales employee).

Starting from a strategic consideration and the need to align the organizational structure to the processes, the management redefined in 2013 the organization of work, reinforcing the matrix structure. This structure should allow the company to be flatter and make clearer cross-functionality of the processes, without losing the division of the critical areas guided by high-level managers. The 4 main functional areas (Finance, Control, Accounting, Sales, Logistics, Information and Communication Technology) have been crossed with the 5 business units corresponding to the five product lines. The customer care and the repair service coincide with the product business units while the quality management crosses all the areas.

DISCUSSION AND CONCLUSION

Vega was created as a micro-enterprise. The success obtained during the '80s-'90s period led the company to grow. However, the development in its dimensions did not generate a reciprocal adaptation in the managerial system, also because the firm remained as small. The interviews clearly reveal how, over the years, Vega never went through a formal process referring both to the planning of corporate and business strategies and to the adoption of PMSs. These factors did not invalidate the growth of the company during the years of greatest success. However, they created issues of goal orientation in the last specific situation (2011-2013), characterized by the presence of a financial crisis all over the world and by a beginning in the succession process of the company.

The company has always been a family-owned firm. In this context, the activities have been rarely undertaken with a critical eye and a spirit of innovation. The absence of a vision, of a mission and of a common goal caused the fact that the organizational structure accustomed to a managerial style characterized by inactivity due to the previous success.

In 2011 the founder understood the need to prepare his succession in the company and started a professionalization process, opening to the entrance of non-family members in the management and using the competencies of external consultants and, at the same time, evaluating the possibility of attributing the role of CEO to his son, who in the meanwhile had had a significant training and experience outside the company.

The new management (the son of the founder together with the external managers) in 2011 decided to deal with some new challenges. Among them, the identification of new values in order to share them within the company, the visualization of a mission and of a vision in a way that all the employees internalize them with enthusiasm. In order to keep a leadership status in a strongly reshaped marketplace in terms of volume and turnover, the management identified new performance oriented values, a new mission, strategic goals and new strategic initiatives. The organization, reflecting a participative leadership style and a real decentralization process, through inter-functional work groups and meetings, recognized some values in order to integrate them into the mission of the future strategy. Among these values co-operation, sharing, credit, passion and success were identified. These values became the basic principles in the company way of working. Besides, they have become an essential part of the organizational structure.

As far as the consideration about the opportunity to create a strategic and an organizational model that considered the peculiarities of the family business, it was clear that this opportunity was real. Through the interplay between the family, the management team and the external consultants, the values and the ideas of the founder concerning the business were transferred to the whole firm and became general values and culture for all the employees. By this way, the management arrived at the formal definition of a new strategy, in one hand based on the strategic initiatives deliberated by the family and, in the other, based on the perception of emergent opportunities and risks by the operative managers in the firm. Therefore, the CEO, the founder's son, was supported by ICS in the strategy formulation and monitoring, encouraging opportunity-seeking behaviors, experimentation and learning through the company, which resulted in emergent strategies (Acquaah, 2013, Simons, 2000). To avoid the economic crisis in which the firm was involved, these systems permitted the top management to anticipate and handle strategic uncertain situations. It appears clear as the implementation of a typical ICS in the company permitted managers "to personally involved themselves in the decision activities" (Acquaah, 2013; Simons, 2000), influencing the formulation of a differentiating strategy. Indeed, the perception of customers' needs and the identification of new ideas and product innovation were fostered by ICS introduced in the firm.

In addition, new tools of DCS were adopted to support the strategy formulation, implementation and monitoring in the short as in the long run. Indeed, the concrete realization of improvement programs depended on the will of the family to be equipped with feedback mechanism and goal orientation, which could move the company towards a dynamic and a modern business running. Indeed, DCSs serve "to review and monitor outcomes, and correct deviations from preset measures of organizational goals, they are mechanistic systems used to tightly control actions and discourage opportunity-seeking behavior, which are perceived as deterrents to creativity and innovation"

(Acquaah, 2013; Simons, 1995). The DCS was firstly introduced to monitor the efficiency level, in order to verify that financial resources were not wasted, but invested in the differentiation strategy.

Resuming and according to Simons (1995, 2000), in Vega ICSs and DCSs work together and “the information and learning generated by ICSs can be embedded in the strategies and goals that are monitored by DCSs”. Acquaah (2013) affirms that FFs are “likely to achieve a balanced used of DCSs and ICSs to implement their business strategy, as they want to preserve socio-emotional wealth, in addition to their interest in both economic and non-economic benefits”. ICSs and DCSs, jointly together, provide the family owners and the managers, such as all the employees of the firm, with “the advantage of establishing broad constraints within which employees are expected to operate and balancing those constraints with an enabling environment to exploit innovative opportunities and facilitate the development of the capabilities required for the successful implementation of the strategy” (Acquaah, 2013). In Vega, top manager and operative managers work together in an interactive environment in order to capture emergent opportunities and innovation, but at the same time they are supported by DCSs to avoid misunderstanding and opportunistic behaviors that could preclude the achievement of strategic goals of the firm.

Concluding, we can affirm that:

- *during the process of succession, especially if characterised by a strong crisis that makes urgent a change in the business strategy, the professionalization phenomenon together with the introduction of formal MCSs are relevant organizational changes to improve strategy formulation, implementation and control (HP1 is confirmed);*
- *the interplay and the tension between formal DCSs and ICSs are very useful in a FF, in order to support the succession, in conjunction with the professionalization phenomenon, as they permit to couple the family business culture together with the formal competences of managers (HP2 is confirmed).*

IMPLICATIONS AND LIMITATIONS

The present paper can be considered as a development in the research studies of the family business management and, in particular, it contributes to the literature concerning the effects of the implementation of MCSs in FFs, especially during a succession/professionalization process characterized by an economic crisis environment. Using an explorative case study, indeed, this article proves that, for this type of business, formal PMSs can be sustained with positive effects on succession and strategy implementation. Indeed, DCSs and ICSs and their dynamic tension represent a positive solution to maintain competitiveness above all when the founder of the firm is preparing his

succession. Indeed, ICS contributes to the emersion of new opportunities and creativeness within the business and makes possible the top manager, usually a member of the family as in our case study, to capture emergent strategic initiatives that arise from the bottom of the structure, usually represented by non-family members. By this way, the ICS supports the succession process, creating the conditions to “substitute” the competencies and skills of the founder with the competencies and the skills of all the people involved in the firm. At the same time, DCSs monitors that the strategic goals of the company deliberated by the family are well understood by all the employees, avoiding opportunistic behaviors. We underlined how the dynamic tension between ICS and DCS is fundamental to reinforce the competitive advantage in a FF, especially involved in succession processes.

We strengthened the assumptions of Acquaaah (2013), who sustained that one of the functions of MCS in FFs is to support the implementation of business strategies. Furthermore, we reinforced the conclusions of Giovannoni, Maraghini, Riccaboni (2011), for which the MCSs can be formalized to make possible the reproduction of the founder’s values, culture and competencies concerning the business, in a way that can be understood by the family members, the managers and the employees. In addition, we underlined how MCSs, succession and professionalization are intertwined in FFs and how it is important that their interplays are jointly observed.

One limitation of the paper is represented by a single case study method, which makes difficult to generalize uncritically our conclusions. In this research we chose to adopt a qualitative case study methodology, focusing on a small FF, which purchases and sells technical components and services for the machine tools sector. Even if our case study is representative, it could be useful to extend our research data analysis using a multiple-case study method, with the purpose to compare strategic approaches and MCSs adopted by each company, both in the same sector and in other sectors. Furthermore, in addition to the interview technique we could also adopt additional data collection methodologies, based for example on questionnaires sent to representative employees in a sample of FFs.

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INTERNATIONAL DIVERSIFICATION AND PERFORMANCE IN EUROPEAN SERVICE MULTINATIONAL COMPANIES

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ABSTRACT

The relationship between international diversification and firm performance has been extensively studied in the international strategy literature, which generally assumed that the performance of a firm improves with greater multinationality. The majority of these studies were based on manufacturing firms. However, recent empirical studies have shown different impact on performance in particular with regard to service multinationals (SMNCs). As the services sector expands, the prominence of SMNCs in producing and delivering value-creating services across national borders continues to grow more than ever before. In this paper we provide an empirical evidence that support the existence of a U-shaped curvilinear relationship between multinationality and performance (which suggest an initially negative effect of international expansion on performance, before the positive returns of international expansion are realized). Moreover, we also test and we did not find significant evidence that support a S-shaped curvilinear relationship. In addition, we found that R&D intensity significantly strengthen the impact of internationalization on firm performance. We test this on cross sectional data of 92 European SMNCs from Global Top 500 Multinationals (Fortune) belonging to ten service industries. Based on the findings, implications and directions for future research are provided.

Keywords: *international diversification, multinationality, MNEs performance, service, SMNCs, service multinationals, R&D intensity, moderator.*

1. INTRODUCTION

One of the most noteworthy aspects of today's international business (IB) landscape is the growing importance of service multinationals (SMNCs). As the services sector expands, the prominence of SMNCs in producing and delivering value-creating services across national borders continues to grow more than ever before. (UNCTAD, 2012). Over the past 50 years, the importance of services has grown steadily; it is possible to find out three different waves with different characteristic (Kundu and Merchant, 2008). The first wave of SMNC's growth (1960 to 1980) involved firms like Citi Bank, Price Waterhouse and Saatchi & Saatchi and came in response to international expansion of their

manufacturing MNCs' clients. The second wave (1980 to 1990) represented the internationalization of service firms in certain sectors, such as telecommunications, when services firms ventured abroad in search of "new" markets. The third wave (1990 to present) in the internationalization of service firms came in response to the liberalization, deregulation, and privatization taking place in the service sector in developing countries.

In this context, one important topic for researchers in strategic management and international business has been the investigation of the relationship between international diversification and performance (e.g., Tallman and Li, 1996; Hitt et al., 1997; Gomes and Ramaswamy, 1999; Kotabe et al., 2002; Tsai, 2013). International diversification represents an important growth strategy (Chandler, 1962; Ansoff, 1965) that has major potential impact on firm performance. Despite the numerous studies that have examined the association between multinationality and performance, these efforts have provided evidence of conflicting results (Annavarjula and Beldona, 2000; Contractor *et al.*, 2003). However, studies examining the international diversification-performance relationship were based largely on samples of manufacturing firms. Thus it is likely that the form of the relationship between international diversification and performance observed in manufacturing firms might not apply similarly to firms in service industries. In fact, some studies based on a sample of services firms have already argued that there exist an U-shaped curvilinear relationship (Capar and Kotabe, 2003) or a S-shaped relationship (Contractor *et al.*, 2003; Tsai, 2013).

In general, service firms are expanding internationally for the same reasons as the manufacturing firms: labor costs, market access, and resources, among others (Guile, 1988; Kundu and Merchant, 2008). However, SMNCs differ from their manufacturing counterparts, along crucial business dimensions such as birth, growth, evolution, performance and sustenance (Kundu and Merchant, 2008). Moreover, the nature of service businesses is mostly intangible and the production and consumption of many services occur simultaneously owing to the impossibility of inventory in services (Habib and Victor, 1991).

Summarizing, previous studies extensively examine this issue, but they suffer from three main problems. First, there is no consensus on the shape of the relationship between a firm's internationalization and its performance. Second, usually the sample using in these studies are composed by manufacturing firms. Third, researchers have made little effort to identify the factors that play a critical role in moderating the relationship between internationalization and performance, in particular regarding service firms.

In this paper, we argue that the earlier theoretical rationale used to explain the relationship between multinationality and performance in manufacturing firms needs to be somewhat modified to account

for the differences inherent to service firms (Capar and Kotabe, 2003). Our goal is to find out the form of this relationship in "top" SMNCs and to find out the existence of a moderating effect regarding firms with high level of R&D expenditure. So, it addresses the following two questions: (1) what is the relationship between internationalization and performance for "top" SMNCs? (2) may R&D intensity in service SMNCs influences and moderates this relationship?

Thus, this work improves knowledge in to the stream of literature that refers to the internationalization of multinational companies by highlighting the form of the relationship between internationalization and performance in a relevant sample of "top" SMNCs and also empirically supporting the direct and interacting effects of R&D intensity on firm performance in the process of internationalization.

The remainder of the paper is organized as follows. First, a theoretical background and literature review of the SMNCs and of the international diversification–performance relationship will be provided. Second, this paper develops a conceptual framework and presents the research hypotheses. Third, the research methods of the study and the variables used will be explained. Fourth, the results will be presented and discussed. Finally, a review of the study will be provided in the conclusion section along with the identification of limitations and possible future directions of inquiry.

2. THEORETICAL BACKGROUND AND RELEVANCE

Services MNCs

As early as the 1980s, scholars such as Daniels (1982) and Riddle (1986) examined the growing importance of services founding some demand and supply led factors. Dunning (1989) stated that these factors favored FDI as a modality for organizing the cross-border production and transaction of these services. Consequently, MNCs share of total services activities undertaken increased rapidly. Aharoni (2000) noted that an important manifestation of the changing nature of the global economy was the increasing importance of service sector as a percentage of gross national product in both developed and developing economies

The state of SMNC research was summed up by Kundu and Merchant (2008), who observed that the “the challenge lies ahead in the development of theories of service multinational enterprise to explain the intricacies of service firms”. The importance and contribution of services and SMNCs in IB caught the attention of scholars almost a quarter of a century ago (Boddewyn *et al.*, 1986, Dunning, 1989, Erramilli, 1990). Over time, researchers have attempted to draw on various theories, traditionally used for the manufacturing sector, to explain competitiveness and internationalization of SMNCs. In the 1970s and 1980s the eclectic paradigm and transaction cost theory has been widely used to explain the internationalization of SMNCs, while in the 1990s and onwards scholars have looked into

organizational capability perspective, sequential investment theory and contingency theory to explain the internationalization and performance issues of service firms.

An examination of the literature revealed certain thematic issues namely - international entry mode for service firms (Erramilli and Rao, 1993); determinants of internationalization for industry based studies of service firms located in industrialized nations (Dunning, 1993); the determinants of foreign direct investment (Li and Guisinger, 1992); sourcing strategies of SMNCs (Murray and Kotabe, 1999); spatial and economic geography issues faced by SMNCs (Zaheer and Manrakhan, 2001) and, finally, studies examining the relationship between multinationality/geographic diversification and firm performance (Capar and Kotabe, 2003; Contractor *et al.*, 2003). However, compared to studies in the manufacturing sector, empirical examination in the services sector has continued to remain grossly inadequate. The latter one is the focus of our paper.

International diversification and performance in SMNCs

The relationship between international diversification and performance has been widely analyzed drawing on the resource or knowledge-based view of the firm in strategic management (Barney, 1991; Kogut and Zander, 1993), and on internalization theory in the FDI-based international business literature (Buckley and Casson, 1976; Hymer, 1976). Mainstream studies support the view that a positive, linear relationship exists between international-diversity and performance (see for example the studies of Grant *et al.*, 1988; Han *et al.*, 1998).

These studies has been grounded on the theoretical assumption that firms exploit the benefits of internalization in international markets (Hymer, 1976; Rugman, 1981; Caves, 1982). Internalization of markets has advantages such as economies of scale, scope, and learning (Kogut, 1985; Ghoshal, 1987; Kim *et al.*, 1989, 1993), and sharing core competencies among different business segments and geographic markets (Hamel, 1991). In addition, firms with strong competencies that are developed at home can utilize these in international markets (Bartlett and Ghoshal, 1989). Moreover, multinational firms can gain additional competitive advantages by exploiting market imperfections (such as a less competitive environment) and cross-border transactions (such as transfer pricing) and can also achieve a greater bargaining power with increased size (Sundaram and Black, 1992). In addition, other advantages derive from greater learning or international experience (Kobrin, 1991); access to cheaper and idiosyncratic resources in foreign countries (Porter, 1990); global scanning of rivals, markets, and other profit opportunities and from better cross-subsidization, price discrimination, and arbitrage potential with larger geographic scope (Contractor *et al.*, 2003).

Despite this, another stream of research has examined a nonlinear relationship between multinationality and performance (Tallman and Li, 1996; Hitt *et al.*, 1997; Gomes and Ramaswamy,

1999; Kotabe *et al.*, 2002). According to transaction cost theory, a high level of diversification increases the governance cost of firms (Williamson, 1975); so, these studies have found an inverse U-shaped relationship between multinationality and firm performance, where performance increases up to a certain point, and then levels off. It has been argued that factors such as logistics, trade barriers, cultural diversity but also environmental factors, might increase the cost of operations along with increasing levels of international diversity.

The problems of the majorities of these empirical studies were they are based mainly on a sample of manufacturing MNEs. In fact, despite the similar motivations of SMNCs to expand internationally, the unique characteristics of service firms are likely to lead to a different pattern with respect to performance (Capar and Kotabe, 2003). Service companies, contrary to manufacturing firms, are likely to face declining performance with initial attempts at international diversification for the following reasons.

First, it is more difficult for SMNCs to benefit from scale economies and, also, suffer from diseconomies of scale in the short period (Katrishen and Scordis, 1998). Ghoshal (1987) suggests that, as firms further increase their total involvement in foreign markets, they may benefit from economies of scope and economies of scale in the long run. Second, an initial problem in the internationalization expansion is the costs of acquiring foreign market knowledge (Johanson and Vahlne, 1977) and the initial costs of a foreign firm establishing its legitimacy abroad (Zaheer and Mosakowski, 1997). After these initial costs, SMNCs may benefit from the advantages of internationalization, such as price discrimination, strategic cross-subsidization, arbitrage and so on (Contractor, 2002). Third, services supplied by multinational firms to local customers may have to be adapted more extensively than manufactured products owing to linguistic and cultural differences of the customers along with the intangible nature of most services (Patterson and Cicic, 1995; Capar and Kotabe, 2003). It has been argued that service firms suffer from diseconomies of scale when they expand abroad (Katrishen and Scordis, 1998). In fact, when a service firm makes an initial expansion abroad, it must undertake considerably higher investments than manufacturing firms that begin foreign expansion by exporting (Capar and Kotabe, 2003). Such investments are likely to increase the costs and thereby reduce the performance of these firms (Boddewyn *et al.*, 1986). The aforementioned arguments can be summarized in the following hypothesis:

Hypothesis 1: The relationship between international diversification and performance in SMNCs will be U-shaped curvilinear, with performance decreasing up to a certain point, beyond which higher levels of international diversification will increase performance.

From this starting points, Contractor et al. (2003), using pooled cross-section/time series data, proposed a new unified three-stage theory of international expansion that incorporates different concepts in a sigmoid hypothesis (S-shaped relationship). This study has also been confirmed by Tsai (2013) analyzing advanced emerging markets. It has been argued that the relationship between international diversification and performance varies depending on the different stage in which the firms are. In the first stage (early internationalizes) firms suffer from liability of foreignness (Verbeke, 2009), initial learning costs because of unfamiliarity with foreign markets, cultures and environments and insufficient economies of scale and a negative slope may emerge (Johanson and Vahlne, 1977). In the second stage (mid-stage internationalizes) firms gain classical internationalization benefit (Contractor, 2002) such as an increasing the efficiency, the ability to exercise global market power (Grant, 1987), but also to extend the product cycle (Vernon, 1966) and to better arbitrage national differences (Rugman, 1981) and performance increase. At the end, in the third stage of internationalization the firms expand beyond a desirable optimum level. For such firms, the incremental costs of further expansion into peripheral nations are greater than the incremental benefits. This is due in particular to: a) after having expanded in the most lucrative market, the firm is then left with minor or peripheral markets with lower profit potential; b) beyond an optimum number of nations, the growth of coordination and governance costs may exceed the benefits of further expansion, because of the complexity of global operations (Galbraith and Kazanjian, 1986). The aforementioned arguments can be summarized in the following hypothesis:

Hypothesis 2: The relationship between international diversification and performance in SMNCs will be S-shaped curvilinear, with performance that follow three different internationalization's stages, showing at the beginning a short negative slope, then up to a certain point a positive slope, beyond which higher levels of international diversification will decrease performance.

R&D intensity as a moderating effect of the relationship

Firms with intangible assets should be able to generate abnormal high returns from their foreign direct investments through scale and scope economies and through the exploitation of market imperfections in the trade of intangible assets (Kotabe *et al.*, 2002).

In particular, R&D intensity reflect the abilities to design unique products and improve product quality, but also refers to the ability to improve or develop new methods of doing business. Numerous studies such as Capar and Kotabe (2003) have demonstrated that innovative capabilities have a significant effect on technological progress or output performance. Generally, firms with a superior R&D ability create products and advance operating methods that improve organizational performance (Tsai, 2013), and thus R&D intensity has significant effects on firm performance in competitive

international markets. Moreover, firms that invest more in R&D activities increase the likelihood to develop technology-creation routines and learning regimes, which can help them to offer new products more efficiently and quickly than their rivals. So, it is expected to reinforce the impact of internationalization on firm performance (Kotabe, 1990; Zahra *et al.*, 2000). The aforementioned arguments can be summarized in the following hypothesis:

Hypothesis 3. The impact of internationalization on SMNCs performance will be stronger for firms with higher R&D intensity than those with lower R&D intensity.

3. METHODS AND VARIABLES

Methodology

The study relies on world's largest services companies, derived from the Fortune 500 lists (Fortune, 2013). We took the list of the largest 500 corporations in the world published annually by *Fortune* magazine; it is one of the most important annual ranking of the firm worldwide as measured by revenue. To be included in our sample, a firm had to: (1) be a service firm, (2) have the HQ in Europe, and (3) have >10% of foreign sales on total sales. We took firm level data of each firm from the Amadeus Bureau-Van Dijk database and from the annual report of each firm. Due to data availability constraints our final sample consisted of 92 SMNCs spanning ten industries. The sample is relevant because consists of major European firms from different service industries such as retail/wholesale, utility, information technology (IT) service, tourism, banking, advertising and insurance. So, these companies represent the main firm sales, diversification behavior, and innovative activities of different industries. The average annual revenues or sales of these service firms were 44.8 billion dollar, ranging from 4.5 billion dollar to 341.3 billion dollar; the average number of employees were 124,666. The average of FS/TS were 59.47 %, the R&D expenditures were 362.7 million dollar while the average of ROS was 12%.

Independent variable: firm performance

Return on sales (ROS) was used to measure firm performance. The choice of using this accounting based profitability measure was due largely to the fact that many previous studies have used this measure (e.g., Haar, 1989; Capar and Kotabe, 2003) and also to data availability. Although many other studies have used return on assets (ROA) for performance, data were not widely available to compute these other two indicators. But, Hitt *et al.* (1997) have indicated that both ROA and ROS have generated similar findings and that they were highly correlated ($r = 0.91$). Furthermore, service firms tend to possess significant portions of intangible assets, and the degree of intangible assets is likely to differ considerably across different service industries (for example, utility firms vs consulting firms).

Thus assets-based performance measures are less likely to take this difference into consideration. Other studies such as Chang and Wang (2007) use the Tobin's Q ratio that provides information about the value of a firm as a going concern, and thus reflects investors' valuation of both the tangible and intangible assets of the firm. But, this measure leaves intangible assets out of the denominator, thus overstating the relative performance of firms with large investments in intangibles (Lindenberg and Ross, 1981). Moreover, since the market value of a firm varies with the strength of the general economy, the value of Tobin's Q may fluctuate substantially from year to year (Sharpe, 1978).

Dependent variable: International diversification

Consistent with the majority of previous studies (Grant, 1987; Tallman and Li, 1996; Gomes and Ramaswamy, 1999; Capar and Kotabe, 2003; Tsai, 2013), the international diversification is measured as the ratio of foreign sales to total sales (FS/TS). Ramaswamy et al. (1996) have argued for the use of single-item measures. They have cast serious doubts on multidimensional measures based on problems with content validity, criterion validity, and reliability. Other measures used, besides the FS/TS measure, in some studies include the number of countries in which the firm operates (e.g., Tallman and Li, 1996) and the ratio of foreign assets to total assets (Gomes and Ramaswamy, 1999). Hitt et al. (1997) have argued that the entropy index, used for example in the study of Chang and Wang (2007) is a more appropriate measure of international diversification. However, because of data availability constraints and for comparison purposes, the FS/TS ratio has been used in this study. This measure is also in line with the study of Rugman and Verbeke (2004), that used the same list of firms of our study (Fortune 500) to analyze the regional nature of MNEs.

Moderator and control variables

The variable R&D intensity is defined as the annual expenditure on R&D divided by sales (Lu and Beamish, 2004; Tsai, 2013). Companies with higher R&D intensity can achieve higher returns (Hitt *et al.*, 1997; Kotabe *et al.*, 2002). For example, Franko (1989) found a positive association between a firm's R&D spending and its sales growth. We used it as a moderator variable.

The effect of industry membership on firm performance has been confirmed by previous studies (Contractor *et al.*, 2003). We controlled for industry effects by using an industry dummy, which was 1 for knowledge-based service sectors (financial services, telecommunications, insurance and banking) and 0 for capital intensive service sectors (energy & utilities, food & beverage, retail, transport postal services and tourism services). Research also indicates that firm size may partially explain the variance in firm performance in international markets (Decarolis and Reeds, 1999). We thus use firm size as one of our control variables, measured as the natural logarithm of total employees (Capar and Kotabe, 2003; Contractor *et al.*, 2003). It has been used to control for economies and diseconomies of scale at the

corporate level. But, the effect of firm size on the performance of international diversification is ambiguous. Firm size is related to the amount of resources under managerial control. Another variable included is the *debt-to-equity ratio*, as a measure of financial leverage (Lu and Beamish, 2004) in order to capture a portion of firm's value and financial indebtedness.

4. ANALYSIS AND RESULTS

To test our hypothesis, four regression models were used as presented below. The linear relationship vs the curvilinear relationship vs the sigmoid (S-shaped curve) effect of international diversification on firm performance were tested by a regression procedure using OLS estimation in order to look for the correct form of the relationship. Our focus is only on the results of 2 and 3 regressions, but we chose to include also the first regression to test the linear model. So, to test for curvilinearity, the squared and cubic terms of International Diversification (ID) were gradually entered into the baseline model. In addition, the fourth model was used to test the effect of the R&D intensity as a moderator variable in this relationship.

Table 1 – Results of the regression analysis

Independent variables	1 - Linear	2 -Square	3 -Cubic	4 - Moderator
International diversification (ID)	0.08 (2.07)*	-0.94 (-1.87)	-2.68 (-1.37) 0.38 (4.23)	0.07 (2.10) *
R&D intensity	0.41 (4.40) ***	0.39 (4.25) ***	***	0.40 (4.21) ***
Size	0.01 (0.07)	0.02 (0.22)	0.03 (0.36)	0.01 (0.06)
Industry (1= knowledge based, 0 = capital intensive)	0.30 (3.01)**	0.26 (2.63) **	0.26 (2.66) **	0.31 (3.16) **
Debt-to-equity ratio	0.03 (0.26)	0.03 (0.35)	0.04 (0.43)	0.01 (0.13)
International diversification ² (ID ²)	-	1.04 (2.63) *	4.83 (1.16)	
International diversification ³ (ID ³)	-	-	-2.10 (-0.93)	
ID x R&D intensity	-	-	-	0.17 (2.97) **
R ²	0.35	0.39	0.39	0.42
Adjusted R ²	0.32	0.35	0.34	0.38
F-value	6.36 ***	8.81 ***	7.66 ***	9.88 ***

* P<.05

** P<.01

*** P<.001

The first equation in Table 1 is an examination of the linear effect of international diversification on performance. As can be seen, there is a statistically significant positive relationship. The second equation show that there is a positive and significant relationship at five per cent level when the quadratic term entered in the regression. It shows that there is support for our first hypothesis that there is a U-shaped relationship (curvilinear effect) between international diversification and firm performance in SMNCs. The overall model is significant at the one per cent level, with an Adj. R² of 0.35 and the explanatory power of the model increased when the squared term of international diversification, ID², entered in the model. In the third regression, in order to investigate the possibility

of a three-stage sigmoid (S-shaped) hypothesis (Contractor et al., 2003), we entered a cubic term (ID^3) in the model. As can be seen, there is not a statistically significant relationship and the hypothesis 2 is not supported.

Finally, to test the hypothesis that the impact of internationalization can be moderated by R&D expenditure (hypothesis 3), model 4 was proposed. This hypothesis is supported because the interaction effects ($ID \times R\&D$ intensity variable) is positive and it increases the explanatory power of the model and it is significant at one per cent level. So, the interaction of R&D intensity and internationalization appear to have significant moderating impacts on the relationship between internationalization and performance relationship. Finally, looking at all the four models, we observed that R&D intensity is positive and significant in each of these meaning that a SMNCs with higher level of R&D expenditures have better performance than others with lower level. Moreover, we found an important industry effect meaning that international expansion strategy varies across the two subsamples of SMNCs and differences in reaping the positive benefits of internationalization.

5. DISCUSSION AND CONCLUSIONS

The topic of this paper was to find out the form of the relationship between internationalization and firm performance in huge SMNCs and to identify another factor that play a critical role in strengthen this relationship. This study found a curvilinear relationship (U) between internationalization and performance for SMNCs. So, we have confirmed the study by Capar and Kotabe (2003) that the form of the relationship between multinationality and performance is different for service firms than it is for manufacturing firms. At the same time, we improve the reliability of this study under two different sides: first, testing the hypothesis with a cubic term, we did not find the evidence that support a S-shaped relationship that has been found by Contractor et al. (2003); second, we improve the characteristic of the sample both geographically and over different sector/industry focusing on top SMNEs because the study of Capar and Kotabe (2003) focused only on medium-sized German SMNCs. Moreover, we also found that the characteristics of firms' intangible assets (R&D intensity) have an important impact on this relationship; these explain how firm heterogeneity, in particular in top companies, may strengthens the impact of internationalization on firm performance.

This work thus addresses an important gap in the literature by highlighting the form of the relationship between internationalization and performance in SMNCs and also empirically supporting the direct and interacting effects of R&D intensity on firm performance in the process of internationalization. This indicates that successful in geographic expansion depends not merely on possessing distinctive capabilities, but also on firms' intangible assets. So, this study has three

implications that are important in the international business literature. First, it improves knowledge in to the stream of literature that refers to the internationalization of multinational companies, finding empirical evidence of a particular curvilinear form relationship (U-shaped). Second, at the same time it confirms previous studies (in particular Capar and Kotabe, 2003) and improve it with testing also the sigmoid effect by inserting the cubic term in to the regression analysis and also with testing on a specific sample of "top" SMNEs. Third, it empirically tests that R&D intensity strengthens the impact of internationalization on firm performance. Summarizing, this is one of the first study that tests this relationship on a sample that is very relevant because consists of major European firms from different service industries. From this point of view, previous studies in this field limit their analysis based on a less relevant sample, for example a single European country (Capar and Kotabe, 2003) or taking firms from lists that catch also SMNCs that are in the first stages of internationalization process (Contractor et al., 2003).

This study has also some limitations. First of all, international diversification was measured by a single indicator only, namely the ratio of FSTS (such as the study of Capar and Kotabe, 2003). Ideally, it is desirable to have multiple or different indicators to capture the international activities of firms more fully. However, constraints in data availability hindered this attempt, though the foreign sales to total sales ratio used in this study still remains the most accepted and appropriate measure of international diversification. Second, a number of potential variables (and also moderator variables) such as advertising intensity (Kotabe et al., 2002) and learning capability (Tsai, 2013) has to be excluded due to data availability.

From a managerial perspective, looking at model 2, the main contribution is that the incremental effect of international diversification on firm performance of top SMNCs is expected to stay negative until international diversification, or the ratio of FS/TS, reaches approximately 46%¹. Above and beyond this 46% threshold level, international diversification is expected to improve firm performance. This threshold level could be influenced by the characteristics of the sample, in particular average dimensions that are particularly high in our sample and geographic home country origins (Europe). These results open up space for further research, in particular it would be interesting to investigate these relationships in all the top SMNCs in the Fortune List and improve the sample with firms coming from all over the world (in particular US and Asia) in order to find different growth path or relationship depending on the home country origin of firms. Moreover, it could be improve the results of our analysis testing for the possibility of a M curve relationship such as the recent paper of

¹ Assuming away the effect of moderator and control variables, the estimated regression equation for the curvilinear model show how international diversification affects firm performance; a partial derivative of the curvilinear regression equation is taken with respect to ID, which will be 0, if ID² IS 0.46.

Almodovar and Rugman (2014) has found in the Spanish manufacturing MNCs. Finally, future research could also focus on analyzing differences between services and manufacturing MNEs within the top 500 firms. In conclusion, this paper examined the relationship between international diversification and performance by using a sample of European service multinationals. Evidence was found in favor of a U-shaped curvilinear relationship between international diversification and performance. The results of this study also illustrate that the relationship between internationalization and performance can be significantly moderated by R&D intensity. This highlights the need for managers to consider how a firm's intangible assets leverage its competence and performance in the process of geographic expansion.

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COST OF CAPITAL IN SMES: THEORETICAL CONSIDERATIONS AND EMPIRICAL RESULTS CONCERNING SMES IN SOUTHWEST GERMANY

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ABSTRACT

Value-based management (VBM) is becoming increasingly important in small- and medium-sized enterprises (SMEs) due to several internal and external factors. Yet, as a result of a number of implementation barriers related to the specific characteristics of SMEs, various empirical findings suggest a limited application of VBM in SMEs. Still, there are indications of an implicit value orientation. Since the cost of capital is central to the concept of value orientation, this paper analyzes the application and determination of the cost of capital in traditional management control systems (cost accounting and capital budgeting) of SMEs. Based on the introduction of characteristics of SMEs as well as fundamentals and calculation methods of the cost of capital, difficulties concerning the transferability of capital costs to SMEs are identified. Also previous empirical results suggest a minor significance of capital costs in SMEs compared to large companies. However, with the cost of capital solely being a minor aspect in the available studies about VBM in SMEs, an empirical study on the application of the cost of capital among SMEs in southwest Germany was conducted. The results confirm the previous findings, according to which cost of capital are applied irregularly among SMEs. Also within the SMEs applying cost of capital, those are mainly determined using heuristic methods instead of the systematic approaches recommended in the literature. Therefore, an implicit value orientation based on the cost of capital could not be confirmed.

Keywords: *cost of capital, small- and medium-sized enterprises, Germany, value-based management*

INTRODUCTION

Today, the concept of value-based management (VBM) represents a key management philosophy being widely accepted in science as well as in corporate practice (Britzelmaier 2009, p. 11; Weber et al. 2004, p. 5). While VBM is already widely established in large listed companies, also its application in small- and medium-sized enterprises (SMEs) is becoming increasingly important (Krol 2009, p. 2).

Hence, the application of the cost of capital in SMEs is discussed mainly in the context of VBM (cf. the empirical studies by Tappe 2009, Piontkowski 2009, Gonschorek 2009 and Krol 2009). Cost of capital play a key role in VBM, as this management approach considers company activities only as favourable in case the resulting return exceeds the profitability expected by the investors of the company. This specific hurdle rate of return is defined as the cost of capital (Krol 2009, p. 62f).

However, the increasing significance of VBM in SMEs, resulting from several influencing factors like growing competition and more restrictive conditions for capital procurement (Tappe 2009, pp. 46-50), is opposed to a number of implementation barriers in business practice, e.g. limited resources and deficits in knowledge (Krol and Wömpener 2009, p. 19). Also previous empirical studies give evidence that there is a contradiction between the fundamental significance of VBM for SMEs, especially concerning its main goal of an increase in company value, and its limited explicit application in these companies (Gonschorek 2009, p. 249; Krol 2009, p. 392f; Piontkowski 2009, p. 363). Still, there are indications of an implicit VBM, according to which SMEs implicitly include principles of VBM in their decision processes (Krol 2009, p. 221; Tappe 2009, p. 290). One possibility of such an implicit value orientation could be the integration of the cost of capital, as key figure of VBM, within the applied processes of cost accounting and capital budgeting in SMEs.

Based on these findings, the objective of this paper is to analyze the determination of the cost of capital in SMEs in the context of an implicit VBM. In contrast to previous studies, this paper analyzes the determination of the cost of capital in isolation and detached from the background of VBM in order to detect whether and how SMEs apply cost of capital without the explicit implementation of a VBM system. Therefore, the application areas of the cost of capital in internal management (cost accounting and capital budgeting) are considered.

The paper first discusses characteristics of SMEs in general. In a next step, the fundamentals of the cost of capital as well as application areas and common calculation methods are introduced. In this context, also the transferability of the established calculation methods to SMEs and alternative calculation methods are discussed. After a review of previous empirical findings on the application of the cost of capital in SMEs, the main results of an empirical study among SMEs in the Southwest of Germany are presented. The paper finally summarizes the findings and highlights areas for further research.

CHARACTERISTICS OF SMES

As this paper discusses the cost of capital in the context of SMEs, the concept of SMEs needs to be defined and characterized in a first step. Despite the undoubted economic significance of SMEs in Germany and Europe, until now, there is no uniform definition of SMEs in the literature (Tappe 2009, p. 11f). Yet, in science and business practice several concepts have been established in order to

distinguish SMEs from other companies. Basically, those approaches can be divided into quantitative and qualitative definition concepts (Flacke 2006, p. 10).

Common quantitative definitions for SMEs used in Germany are those by the European Commission and by the Institute for Research into Small and Medium-Sized Businesses (Institut für Mittelstandsforschung, IfM) Bonn. Furthermore, also the German commercial law provides quantitatively defined company classes, whose primary purpose however, is not the definition of SMEs in itself. Instead, these classes serve as a basis for obligating limited companies and limited partnerships to prepare and disclose annual financial statements (Flacke 2006, p. 11). Each quantitative definition concept generally aims at the size of a company (Schachner et al. 2006, p. 600; Tappe 2009, p. 11). While the IfM Bonn only considers turnover and number of employees, the German Commercial Code and the European Commission additionally use the balance sheet total for measuring the company size (Flacke 2006, p. 11f). The IfM Bonn designates companies as SMEs in case they have less than 500 employees and an annual turnover of less than 50 million euro. According to this concept, both quantitative criteria need to be fulfilled at the same time (IfM Bonn 2012, p. 174f). In contrast to this, the definitions by the European Commission (EC) and the German Commercial Code (GCC) require the number of employees to be within a certain range (EC: 10 to 249, GCC: 10 to 250). Further, either turnover (EC: 2m to < 50m EUR, GCC: 0.7m to 32.12m EUR) or balance sheet total (EC: 2m to < 43m EUR, GCC: 0.35m to 16.06m EUR) of the company needs to match the corresponding dimensions (Krol 2009, p. 14).

Although the introduced quantitative criteria are considered as strong indicator for SMEs (Segbers 2007, p. 59), the exclusive use of quantitative definitions for SMEs is often criticised in the literature, as they leave out certain qualitative characteristics of SMEs and the defined threshold values seem to be chosen arbitrarily (Behringer 2009, p. 8; Krol 2009, p. 15). Due to the heterogeneity of SMEs, there are a vast number of qualitative criteria. A prevalent qualitative characteristic of SMEs is the strong impact of the entrepreneur's personality on the company. Often, this is reflected directly by a unity of ownership and management (Mugler 1995, p.18ff) or indirectly by holding large parts of the company shares. In this context, the term family business is commonly used as synonym for SME (Gonschorek 2009, p. 44). Also the absence of capital market orientation is an established qualitative criterion for SMEs in the literature (Ang 1992, p. 185). Despite its declining importance due to the fact that SMEs increasingly strengthen their equity base by going public without losing their SME-specific character (Behringer, 2009, p. 35), especially this criterion could be relevant for this paper, since the determination methods for the cost of capital in listed companies differ from those in non-quoted companies (Mugler 1995, p. 23; Krol 2009, p. 21). Finally, SMEs are usually characterized by specific organizational structures with flat hierarchies and little standardised processes compared to large

scale enterprises (Pfohl 1997, p. 20ff). Equally, as a result of limited resources, management control systems of SMEs are often restricted (Muggler 1995, p. 244), being also relevant in the context of the determination of the cost of capital.

Recent publications on SMEs use a combination of quantitative criteria to demarcate SMEs from microenterprises and qualitative criteria to distinguish them from large scale companies (Gonschorek 2009, p. 98ff; Tappe 2009, p. 198f).

FUNDAMENTALS AND COMMON CALCULATION METHODS OF THE COST OF CAPITAL

Regarding an investment, the cost of capital represents the rate of return on capital employed expected by the corresponding investors. Consequently, an investment at least has to meet this expectation of return in order to attract capital. From the investors' perspective the cost of capital has the characteristic of opportunity costs. By allocating capital to a specific investment, they forego providing capital to alternative investments with comparable risk structure and duration and therefore also relinquish the related returns. With growing risk also the expected return and hence the cost of capital increases. Usually, the cost of capital is expressed as a percentage of capital employed (Pratt, Shannon 2010, p. 3; Stewart 1999, p. 431f). From the company perspective the cost of capital represents the minimum rate of return expected as adequate compensation by the providers of equity and debt capital (Brealey et al. 2011, p. 242). Hence, the company cost of capital is divided into cost of equity and cost of debt, representing the expected returns of lenders and investors in isolation (Britzelmaier 2009, p. 69ff). Cost of capital can be applied in 3 different areas of management control (VBM, cost accounting, capital budgeting), whereas deviating terminologies for the concept of capital costs can be found. Another application field is the evaluation of companies based on capitalized earnings (Exel, Meister 2011, p. 74; Dörschel et al. 2009, p. 5). However, since this paper focuses on the cost of capital in management control systems, this aspect will not be considered in the following discussion.

In the different approaches of VBM the cost of capital play a significant role for being central to the key objective of these management concepts. All VBM concepts aim at a permanent and sustainable increase in shareholder value (Britzelmaier 2009, p. 13), whereby company activities only contribute to value creation in case the resulting return exceeds the company cost of capital (Krol 2009, p. 62f). In contrast to the traditional accounting approaches, which only consider the cost of debt, the total cost of capital including the cost of equity has to be charged against income in order to determine the respective value based key performance measure (Hauser 1999, p. 400).

Apart from the explicit consideration in VBM, the cost of capital is also applied within traditional management control instruments. In cost accounting, being used as period-based and short-term oriented management control instrument (Hofberg 2004, p. 271), the concept of the cost of capital is integrated by the application of imputed interest charges. Despite the deviating terminology, also this specific cost element represents the cost of capital employed within the enterprise (Jórasz 2009, p. 92). Imputed interest charges are calculated by multiplying the estimated imputed interest rate by the operating capital of the company (Olfert 2010, p. 120). Subsequently, the resulting interest charge is either considered as fixed overhead in the operating profit statement or assigned to cost centres according to the proportional operational capital and allocated to cost units in a second step (Hofberg 2004, p. 272; Coenenberg et al. 2009, p. 91). In both cases, the interest expenses recorded in financial accounting need to be excluded in cost accounting first (Jórasz 2009, p. 93). In the literature, imputed interest charges are most commonly applied for both debt and equity capital. This approach is mostly preferred over the other existing concepts in cost accounting, according to which imputed interest charges are only used for debt or not applied at all, neither for debt nor for equity (Götze 2010, p. 55; Jórasz 2009, pp. 92-98; Coenenberg et al. 2009, pp. 86-91; Olfert 2010, pp. 117-121). Consequently, in case the applied imputed interest charges correspond to the total cost of capital, also within cost accounting the return expected by lenders and investors is implicitly considered in the operating profit statement.

Also in static and dynamic capital budgeting, applied for long-term and project oriented management control (Hofberg 2004, p. 271) the cost of capital play a central role. Since static capital budgeting methods (cost/profit/profitability comparison calculation, static amortization calculation) refer to cost accounting figures (Zantow 2007, pp. 406-409; Perridon et al. 2009, pp. 33-47) and the usage of the cost of capital within those methods thus depends on the type of application in cost accounting, these approaches do not need to be regarded in detail again. In dynamic capital budgeting (net present value method, internal rate of return method, annuity method, dynamic amortization calculation), however, the cost of capital are integrated in a different manner (detailed description of those methods cf. Zantow 2007, pp. 430-449). Instead of costs and revenues, those methods consider future cash inflows and outflows at various specific points in time during the investment period (Perridon et al. 2009, p. 49). For determining the present value of those cash flows, the cost of capital is used as discount rate (Zantow 2007, pp. 430-449). The reason for this is again the already introduced principle of opportunity costs (Brealey et al. 2011, p. 51ff). The adequate discount rate basically depends on the individual risk of the regarded investment project. However, it is reasonable to at least start with the company cost of capital for each investment project, as it represents the expected return on investment

projects with average company risk. For projects containing a deviating risk profile, the discount rate can be adjusted in a second step (Brealey et al. 2011, p. 242f).

In each of the relevant application areas usually the weighted average cost of capital (WACC) is calculated. While this approach is especially prevalent in VBM and dynamic capital budgeting (Stewart 1999, p. 433f; Rappaport 1986, p. 55; Brealey et al. 2011, p. 244), in cost accounting, for reasons of simplification, also alternative heuristic approaches are used instead of calculating the total cost of capital systematically and in accordance with the WACC approach. In these cases, for instance, the interest rate of government bonds increased by a risk premium, the average borrowing rate or the maximum borrowing rate of the company is utilized as the total cost of capital. Still, also in cost accounting the WACC is preferred in the literature (Jórasz 2009, p. 96; Coenenberg et al. 2009, p. 89ff). Despite different possible calculation methods, from a theoretical perspective uniform cost of capital in the different areas of management control is favourable, since in this case, long-term oriented capital budgeting and short-term based cost accounting show the same results concerning performance measurement, as suggested by the theorem of Preinreich and Lücke (Kruschwitz 2011, p. 159ff).

The WACC determines the total cost of capital of a company by weighting the cost of debt and the cost of equity rate according to the capital structure. It is calculated using the following formula (e.g. Britzelmaier 2009, p. 69f):

$$WACC = r_{(equity)} \times \frac{equity}{equity + debt} + r_{(debt)} \times (1 - t) \times \frac{debt}{equity + debt}$$

where WACC is the weighted average-cost of capital, $r_{(equity)}$ the cost of equity rate, $r_{(debt)}$ the cost of debt rate and t the company tax rate. As indicated by the formula, the tax effect of the cost of debt (the so-called tax shield: $1 - t$) needs to be deducted, which results from the fact that borrowing costs are recognized as expense and therefore reduce income tax expenses (e.g. Coenenberg et al. 2009, p. 828). For equity and debt capital, market values instead of book values are used, since those represent the actual financing conditions of a company. The realization of hidden reserves results in a higher equity share (e.g. Brealey et al. 2011, p. 244). Furthermore, the use of the future target capital structure is mostly recommended in the literature (Britzelmaier 2009, p. 69; Copeland et al. 2002, p. 252).

The cost of debt should represent the interest rate to which a company is able to borrow new long-term capital (Stewart 1999, p. 435), with the corresponding interest rate being derived from the current borrowing conditions of a company (Rappaport 1986, p. 56). For this purpose, for instance, the yield to maturity of listed debt instruments can be used. In absence of listed debt instruments, alternatively, the average yield to maturity of a sample of corporate bonds issued by companies with a comparable

rating can be applied (Stewart 1999, p. 435; Copeland et al. 2002, p. 260f; Britzelmaier 2009, p. 71f). Apart from this market oriented approach, also the weighted average cost of debt based on all components of debt which are tied up in the regarded company can be determined (Coenenberg et al. 2009, p. 828). In this context, non-interest-bearing liabilities are excluded from the cost of debt, whereas in case of provisions the application of cost of debt is argued controversially in the literature (Britzelmaier 2009, p. 71f). For financial liabilities the cost of debt is derived from the contractually agreed interest rates, representing the prevailing market conditions at the time of the contractual agreement and serving as a basis for the future-oriented cost of debt (Coenenberg et al. 2009, p. 828; Britzelmaier 2009, p. 72). The methods for issued debt instruments were already previously discussed. Regarding SMEs, the applicability of those approaches does not seem to be a major issue. Although the market oriented method should be applied rarely due to the high significance of bank loans in the funding structure of SMEs (Preysing 2012, p. 12), the determination of the weighted average borrowing costs derived from contractually agreed interest rates does not represent an obstacle for SMEs.

The cost of equity, standing for the expected return of an investor compared to alternative investments with a similar risk and payment structure, (e.g. Hostettler 2002) represents the more complex part of the cost of capital. The common approaches in the literature are each based on neoclassical capital market models (Zimmermann, Meser 2013, p. 3). These models include the following (Britzelmaier 2009, p. 73f): Capital Asset Pricing Model (CAPM), Arbitrage Pricing Theory (APT), dividend discount model and market-derived capital pricing model. Although the APT has several advantages over the CAPM (e.g. Pankoke, Petersmeier 2009, p. 129), only the CAPM shall be introduced in the following due to its dominant role in business practice (Stehle 2004, p. 917; Zimmermann, Meser 2013, p. 9).

The CAPM was developed by Sharpe, Lintner and Mossin and is based on the portfolio theory of Markowitz as well as on the separation theorem of Tobin (Garz et al. 2004, p. 65). The basic idea of the CAPM is the explanation of the correlation between return and risk of an investment alternative in market equilibrium (Specht, Gohout 2009, pp. 108-111). According to the CAPM, the expected return of an investment option, e.g. company shares, rises with increasing systematic risk. The systematic risk represents the market risk, which all companies, however to different extents, are exposed to, and depends exclusively on macroeconomic factors. In contrast to that, the unsystematic risk, resulting from company specific, internal factors, is not reimbursed, since it can be diversified (Pankoke, Petersmeier 2009, p. 112; Britzelmaier 2009, p. 74). These basic assumptions finally lead to the following equation for the cost of equity (Pankoke, Petersmeier 2009, p. 113):

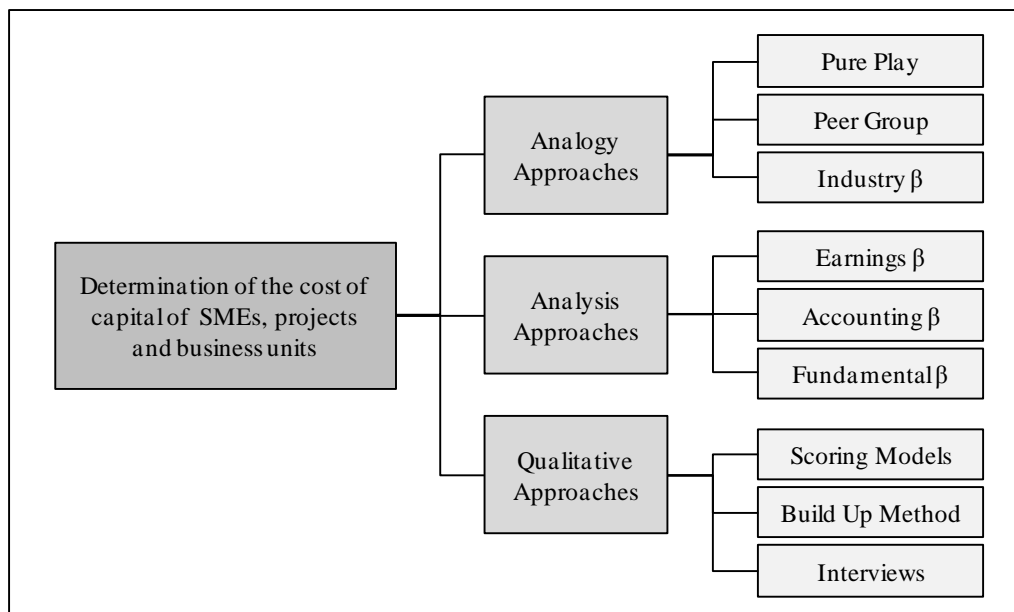
$$r_{(equity)} = r_{(risk-free)} + (r_m - r_{(risk-free)}) \times \beta$$

Thus, the cost of equity $r_{\text{(equity)}}$ is equal to the yield of a risk-free investment $r_{\text{(risk-free)}}$, usually derived from the yield of highly accredited government bonds, plus a risk premium. The risk premium again results from multiplying the excess return of the market compared to a risk-free investment ($r_{\text{(m)}} - r_{\text{(risk-free)}}$) by the specific systematic risk of the company in relation to the market risk, the so-called β (Vogler 2009, p. 382). For calculating the risk premium, the market portfolio, which is usually represented by a specific market index (e.g. the German Stock Index), needs to be determined in a first previous step (Watrin, Stöver 2012, p. 119f). Subsequently, the company specific β -factor is calculated by conducting a linear regression analysis between the yield on shares of the regarded company and the yield of the chosen market at the same points in time (Pankoke, Petersmeier 2009, p. 121).

Despite its prevalence in science and business practice, the different assumptions of the CAPM result in some limitations. For one thing, criticisms are related to the general assumptions of the portfolio theory as fundament of the CAPM (e.g. Specht, Gohout 2009, pp. 108-109). Additionally, it is argued that apart from the market yield also additional factors, not considered by the CAPM, have influence on the yield of a share (Ziegler et al. 2007, p. 356). In the context of the research topic of this paper, especially limitations concerning the transferability to SMEs need to be discussed. Since SMEs are mainly not listed (see section 'characteristics of SMEs'), the required β -factor cannot be calculated by linear regression analysis based on the stock yields, as suggested in the basic form of the CAPM (Pankoke, Petersmeier 2009, p. 121). Furthermore, in case of SMEs, the application of specific risk premiums for additional unsystematic risks and illiquidity risks compared to large scale companies are suggested (Balz, Bordemann 2007, p. 737; Bucher, Schwendener 2007, p. 345). Despite these criticisms and due to the lack of a more adequate model, the application of the CAPM, supplemented by premiums for the additional risks, is the preferred method for determining the cost of equity in SMEs from a theoretical perspective (Peemöller 2005, p. 33; Palliam 2005, p. 338f). For this purpose, also alternative approaches for the determination of the obligatory β -factor are available.

ALTERNATIVE CALCULATION METHODS FOR SMES

As illustrated in figure 1, there are several methods to determine the β -factor and hence the cost of equity for SMEs without stock market listing. Those can be divided in 3 categories: analogy approaches, analysis approaches and qualitative approaches.

Figure 1: Alternative approaches for determining the cost of capital of SMEs

Source: own illustration, based on Britzelmaier et al. 2012, p. 231.

Analogy approaches

Analogy approaches in general derive the β -factor of a non-listed company from β -factors of comparable listed companies (Arbeitskreis Finanzierung 1996, p. 552). The basic requirement for the projection of β -factors on non-listed companies is the existence of listed enterprises that are similar concerning operating activities, business environment and capital structure (Peemöller 2005, p. 33). Based on the number of reference companies, 3 methods can be distinguished (Steinle et al. 2007, p. 206).

The pure play method compares a non-listed company with a single listed company whose β -factor can be determined, using market data. Therefore, the systematic risk of the reference company needs to be equal to that of the underlying company due to a comparable company structure (Pfister 2003, p. 88). The main difficulty of this technique is the identification of a reference company with comparable systematic risk based on objective (size, industry, capital structure) as well as subjective (e.g. competitive positioning) criteria. In case a fully comparable company cannot be identified, adaptations need to be made in order to match both companies (Arbeitskreis Finanzierung 1996, p. 552).

Another method is based on the transfer of the average β of listed companies within a specific industry to a non-listed company of the same industry. The basic assumption in this concept of industry β is that the systematic risk of a company substantially depends on the industry it belongs to (Peemöller 2005, p. 33). The third technique within the analogy approaches is the peer group method. Like in the industry β approach, also this method transfers the average β of a group of listed

companies to a non-listed company (Steinle et al. 2007, p. 206). However, the reference companies are not selected because of the belonging to the same industry but due to a high degree of homogeneity compared to the underlying company concerning factors like company size, products, cost structure, markets and strategic orientation (Arbeitskreis Finanzierung 1996, p. 554).

The main advantage of the latter methods over the pure play technique is the reduction of statistical estimation errors as well as the balancing of extreme values (Arbeitskreis Finanzierung 1996, p. 553; Peemöller 2005, p. 33). Nevertheless, all approaches are related to the issue of identifying comparable companies and reliable information (Peemöller 2005, p. 33; Steinle et al. 2007, p. 207).

Analysis approaches

In case reliable market data of comparable companies is not available, analysis approaches represent another possibility to determine the β -factor of a non-listed company (Bufka et al. 1999, p. 118). The existing techniques in this area (earnings β , accounting β , fundamental β) all derive the systematic risk of the underlying company and hence its β from economic determinants (Arbeitskreis Finanzierung 1996, p. 554). The earnings β approach, for instance, uses earnings figures as proxy indicator for the systematic risk of non-listed companies instead of the share price on the stock market, which is the original risk indicator in case of listed companies. Under the assumption that those earnings figures are basically exposed to the same influencing factors as share prices and thus fluctuate to the same extent in case of certain events, a systematic correlation between market prices and earnings figures can be derived. Based on these correlations, the earnings β of non-listed companies can be calculated (Arbeitskreis Finanzierung 1996, p. 556). While earnings β s only consider profit in order to derive the systematic risk, accounting β methods integrate additional accounting figures. Fundamental β approaches, apart from accounting figures, moreover include macroeconomic and industry-specific determinants (Peemöller 2005, p. 34).

In case the analysis approach is applied, the fact that within the model, empirical yields on shares are avoided is considered advantageous. Yet, it needs to be questioned whether accounting figures are suitable for determining the systematic risk objectively, since those can be manipulated to a certain extent by accounting policy (Schütte-Biastoch 2011, p. 187). Besides, a strong empirical correlation between accounting figures and market valuation can be only achieved, if many explanatory factors are included. This is especially true for fundamental β approaches. However, the complexity of those models contrasts the lack of resources which is characteristic for SMEs, as mentioned above (Peemöller 2005, p. 34).

Qualitative approaches

Qualitative approaches, as third possibility for an alternative determination of β , evaluate the systematic risk of a company qualitatively and based on the subjective assessment of several risk

indicators (Steinle et al. 2007, p. 207). These include scoring models, the so-called build up method as well as the qualitative interviewing of investors and managers (Peemöller 2005, p. 34; Pratt, Grabowski 2010, 87ff; Damodaran 2012, p. 16ff).

The common characteristic of scoring models is the derivation of the systematic risk from a structural analysis of business activities and business environment (Arbeitskreis Finanzierung 1996, p. 557). One of the most common scoring models is that developed by the Boston Consulting Group, which determines the cost of equity directly by adding risk discounts or premiums to a predefined basic risk. The amount of discounts and premiums is deduced by a qualitative assessment of the company using a criteria matrix with criteria like market, competitors, products/concepts, market entry barriers and cost structure (Lewis 1994, p. 895ff). The build up method adopts a similar approach. Here, the cost of capital is determined by adding subjectively defined risk premiums to the yield of a risk-free investment. The risk premium includes a premium for the general risks of equity, for risks related to the company size and for company specific risks (Pfister 2003, p. 226; Pratt, Grabowski 2010, p. 87ff).

Another very pragmatic method is the questioning of investors and managers on their estimation of risk. Since the cost of equity are defined as expected risk-adequate return on capital employed by the investors, the basic idea is that direct consulting of the investors leads to good results (Damodaran 2012, p. 17). Additionally, managers can be queried, as they have the best knowledge about the operational and strategic direction of the company and thus should give a good estimate on the systematic risk (Copeland et al. 2002, p. 371). For the final assessment of the introduced qualitative approaches, it needs to be stated that all of them have clear benefits due to their simplicity and practical feasibility, whereas the high degree of subjectivity in all of those approaches is considered as a major drawback (Pfister 2003, pp. 224-226; Arbeitskreis Finanzierung 1996, p. 557).

LITERATURE REVIEW

The previous theoretical discourse on the cost of capital in SMEs reveals that the major problem is the transferability of the recommended calculation methods for the cost of equity to SMEs. Despite the introduced modifications of the CAPM, there is no established standard model, as it exists for large listed companies. Therefore, an analysis of previous empirical findings on the determination of the cost of capital in SMEs seems to be suitable.

There are only few empirical studies which specifically cover the topic of application and calculation of the cost of capital in companies (Geginat et al. 2006; Weißenberger, Ulmer 2004; annual cost of capital study by KPMG, e.g. KPMG 2012). However, since those studies either mainly refer to large scale enterprises or do not separately disclose particular results for SMEs, their outcomes are not relevant for the topic of this paper. For this reason, it seems necessary to review empirical studies on

SMEs, which do not explicitly consider, but still implicitly affect the issue of cost of capital due to their specific research topic. This criterion applies to the empirical studies on the application of VBM in SMEs by Krol 2009, Tappe 2009, Piontkowski 2009 and Gonschorek 2009. In the following, those studies are analyzed in more detail with regard to their results on the application and calculation of the cost of capital in SMEs, serving as starting point for the following empirical study introduced in this paper.

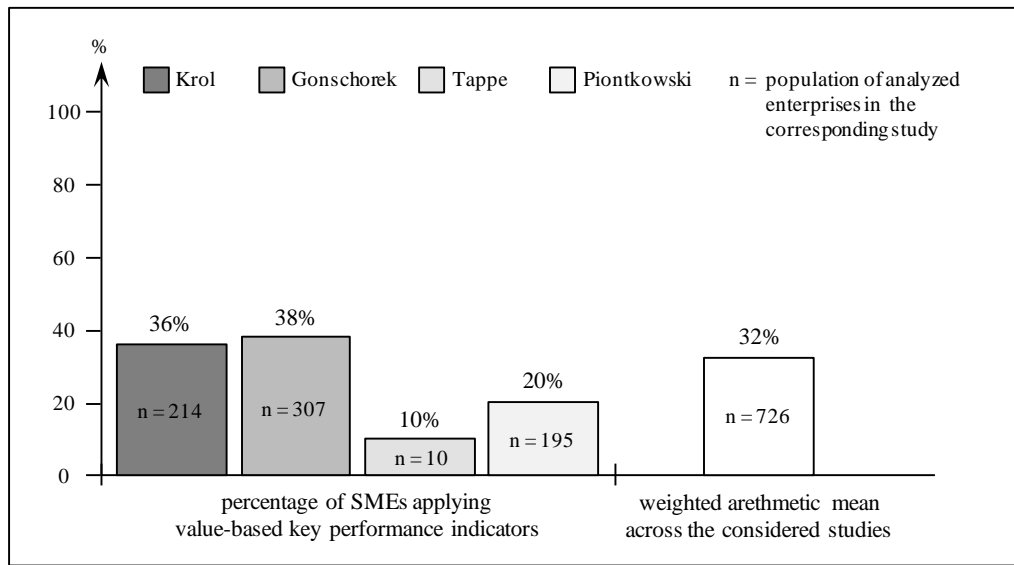
Due to the lack of a uniform definition of SMEs, the definition criteria applied in the different studies need to be displayed and compared in a first step. Krol 2009 and Piontkowski 2009 identify SMEs by considering the quantitative definition criteria established by the IfM Bonn (number of employees and turnover). While Piontkowski 2009 classifies a company as SME as soon as it meets one of both quantitative criteria, according to Krol 2009 a company needs to fulfil both criteria in order to be categorized as SME (Krol 2009, p. 162; Piontkowski 2009, p. 359). Also Gonschorek 2009 and Tappe 2009 use the quantitative criteria by the IfM Bonn as a basis for defining SMEs, but supplementary add qualitative criteria in a second step. According to their definition schemes, companies exceeding both quantitative criteria are still classified as SMEs in case they fulfil certain qualitative attributes (Gonschorek 2009, p. 98ff; Tappe 2009, p. 198f). The comparison of the different definitions applied shows that all studies and therefore also their empirical findings are based on SMEs in the broader sense. However, the identified deviations need to be taken into consideration, especially when comparing specific empirical results among those studies.

While the empirical results of the studies by Krol 2009 (including 158 SMEs), Piontkowski 2009 (195 SMEs) and Gonschorek 2009 (307 SMEs) are each based on a quantitative survey, Tappe 2009 derived his findings from a qualitative study using expert interviews (10 SMEs). Within those studies, there are basically two sections from which information about the application and calculation of the cost of capital in SMEs can be derived. On the one hand, empirical results on the general application of VBM in SMEs implicitly also give information about the application of cost of capital, as the cost of capital are a crucial part of VBM concepts and need to be calculated according to certain standardized rules within these concepts. Corresponding results can be found in each of the available studies. On the other hand, within most of the regarded studies, it is explicitly asked whether cost of capital serve as a basis for capital budgeting. Piontkowski 2009 solely determines whether cost of capital are used for capital budgeting in general (Piontkowski 2009, p. 360f), whereas the surveys of Krol 2009 and Gonschorek 2009 also give details about the applied calculation methods (Krol 2009, p. 191ff; Gonschorek 2009, p. 179ff). Tappe, on the other hand, provides no direct empirical results on the determination of the cost of capital within specific areas of managerial accounting. However, as his study comes to the result that the cost of capital generally has no significance on the operational level

within SMEs, he points out the necessity to include the cost of capital as opportunity costs to compensate capital commitment (Tappe 2009, p. 282).

The empirical results concerning the application of VBM in SMEs, displayed in figure 2, reveal that SMEs mainly use traditional management concepts instead of VBM. Therefore, it can be concluded that also the application of the cost of capital within the area of VBM is very limited among SMEs.

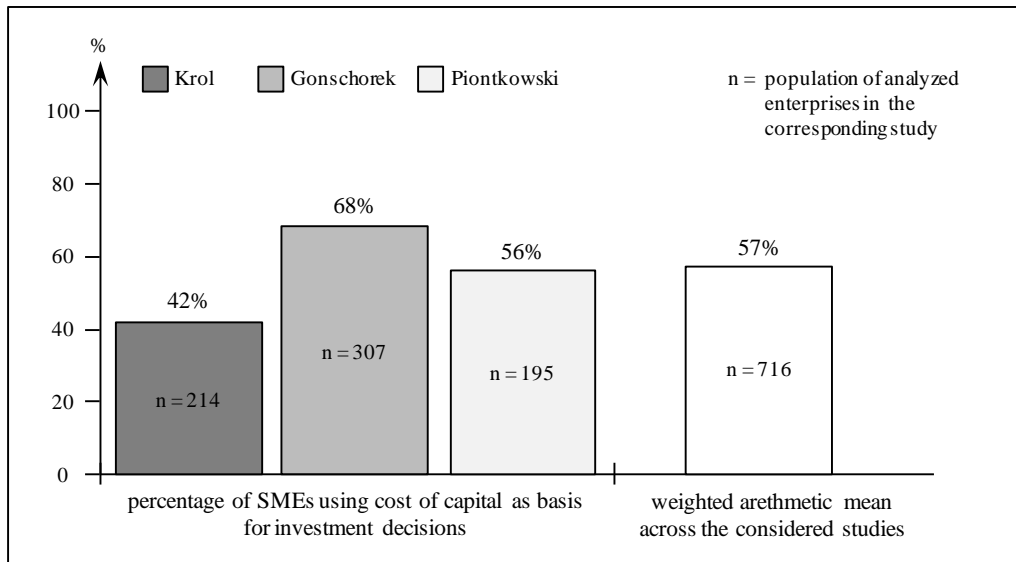
Figure 2: Application of value-based key performance indicators among SMEs



Source: own illustration, based on data by Krol 2009, p. 184f; Tappe 2009, p. 213; Piontkowski 2009, p. 362; Gonschorek 2009, p. 177.

When taking a look at capital budgeting as application area for the cost of capital, it can be stated that across the studies by Krol 2009, Piontkowski 2009 and Gonschorek 2009 the majority of the queried SMEs uses the cost of capital as basis for capital budgeting and profitability calculations (see figure 3). As already mentioned, Tappe 2009 comes to the result that the cost of capital are not of importance for SMEs in this application area (Tappe 2009, p. 282). However, due to the small population of only 10 enterprises in his study, those results cannot be considered as statistically representative.

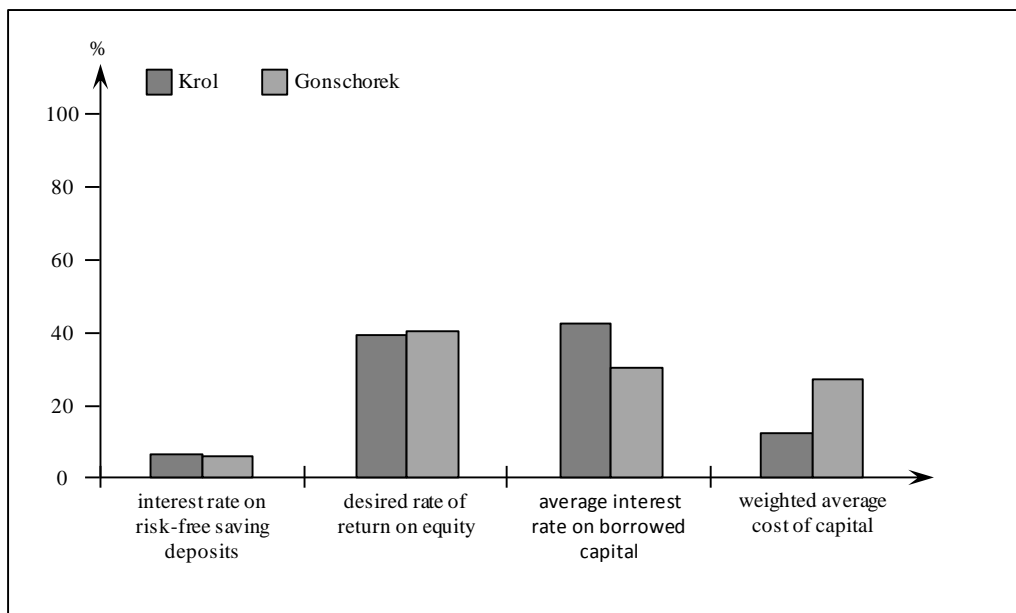
Figure 3: Cost of capital as basis for investment decisions in SMEs



Source: own illustration, based on data by Krol 2009, p.191f.; Piontkowski 2009, p. 360; Gonschorek 2009, p. 180.

Although each of the regarded studies covers the extent to which cost of capital are applied in SMEs, only Krol 2009 and Gonschorek 2009 address the applied methods for determining the cost of capital. Both conclude that among the queried SMEs which generally determine cost of capital the majority includes the cost of equity within the cost of capital. Furthermore, according to the outcomes of both studies, SMEs most often use the desired minimum rate of return on equity as well as the average interest rate on borrowed capital when determining the cost of capital. In contrast, weighted average cost of capital as dominant calculation method among large scale enterprises (Geginat et al. 2006, p. 13; KPMG 2012, p.8) are only rarely applied (see figure 4).

Figure 4: Calculation methods for the cost of capital applied in capital budgeting among SMEs



Source: own illustration, based on data by Krol 2009 p. 193f; Gonschorek 2009, p. 180.

In conclusion, the findings on the application of the cost of capital within the regarded studies show that the cost of capital was applied only irregularly among SMEs at the time the studies were conducted. Especially the cost of equity was often neglected among SMEs. Moreover, it needs to be emphasised again that, so far, there are no studies which are explicitly focused on the application and determination of the cost of capital in SMEs. With the cost of capital being a key component of VBM, a survey on this topic seems to be essential for further studies on VBM in SMEs. For this purpose, the empirical results of the study introduced hereafter are supposed to give first indications on the extent of application and employed calculation methods for the cost of capital in SMEs.

METHOTODOLOGY

Research hypotheses

Based on the initial theoretical considerations and the analysis of previous empirical results on the application and determination of the cost of capital in SMEs, 7 hypotheses for the empirical study of this paper are derived in the following.

H1: In case a company is a SME, the cost of capital generally plays a minor role.

H2: The larger a SME, the higher the probability for the application of cost of capital within the company.

A minor role of the cost of capital in SMEs is assumed, since SMEs are faced with restricted resources and insufficiently developed processes leading to a limitation of management control systems, which was already identified as a characteristic of SMEs in this paper. This assumption is also supported by some of the introduced empirical studies, especially by those of Tappe 2009. Furthermore, it is expected that an increase in company size and management capacities finally leads to the implementation of sufficiently developed management control systems as precondition for the calculation of cost of capital.

H3: Of those SMEs that currently do not apply cost of capital a majority plans to introduce them within the next 3 years.

As introductorily referred to, SMEs are increasingly confronted with incentives for the introduction of VBM systems. In this context, also a growing awareness of the cost of capital as key figure of VBM is presumed.

H4: Capital market based models in their basic form are hardly applied among SMEs, as SMEs are mainly not listed.

One of the identified main characteristic of SMEs in this paper is the lack of capital market orientation. Moreover, the application of capital market based models is not possible for non-

listed SMEs, as the theoretical configuration of those models requires a linear regression of the return of a share against the return of the market portfolio in order to determine the cost of equity (see section 'common calculation methods of cost of capital'). Consequently, a small portion of listed SMEs should result in a low degree of application of those models.

H5: Capital market based models are generally hardly applied among SMEs, as SMEs mainly consider them to be too complex and elaborate.

The CAPM in its basic form as well as its additionally introduced variations (analogy, analysis and qualitative approaches) are characterized by a high degree of complexity (see sections 'common calculation methods of cost of capital' and 'alternative calculation methods for SMEs'). Contrasting this complexity with the already mentioned limited resources and management control systems as specific characteristic of SMEs, a low degree of application of those models has to be assumed.

H6: Among those SMEs which determine the cost of equity, the most common method applied is determining the rate of return on equity required by the company owners.

H7: Among those SMEs which determine the cost of debt, the most common method applied is determining the average borrowing costs of the company.

The previously analyzed studies by Krol 2009 and Gonschorek 2009 conclude that most of the regarded SMEs use the average borrowing costs for determining the cost of debt, whereas in case of the cost of equity the rate of return required by the company owners is applied most frequently. Due to the similarity concerning the applied definition of SMEs, it is assumed that their empirical results are confirmed in this paper.

Data collection method

In order to verify the proposed hypothesis and gain additional descriptive results a quantitative empirical survey among SMEs was conducted. The data was collected through a questionnaire which was provided online via a server. The questionnaire was pretested by graduate students of Pforzheim University with work experience in managerial accounting departments of SMEs. Based on their feedback, the questionnaire was modified. The survey was conducted in two waves in May and June 2013. In a first step, the online survey was published by the International Controller Association in the news section of its website (URL: <http://www.controllerverein.com/e-news/e-news-25.05.2013.html>). Additionally, 1,000 companies in southwest Germany were consulted directly via e-mail. Therefore, a mailing list was obtained from the Chamber of Industry and Commerce Baden-Württemberg. Due to the applied data collection method, the empirical results cannot be considered as statistically representative.

Research Definition of SMEs

Based on the previously introduced prevailing definition concepts of SMEs in the literature, a research definition of SMEs was developed. Since merely quantitative definitions are criticized for not considering other qualitative characteristics of SMEs beyond their size, the research definition includes quantitative as well as qualitative definition criteria of SMEs.

By analogy with the definition concept of the IfM Bonn, turnover and number of employees of a company were chosen as quantitative definition criteria. The ranges were however selected according to those defined by the European Commission, thus classifying a company as SME in case the number of employees amounts to maximum 250 and the turnover is maximum 50 million euro. Among the possible qualitative criteria for SMEs the family-owned number of shares was selected, as this criterion reflects the unity of management and ownership, already introduced as a main characteristic of SMEs. Enterprises exceeding one or both quantitative criteria were still classified as SME in case more than 50% of the shares were family-owned.

Research Instrument

As research instrument an online questionnaire was applied. Initially, general information about the participating companies being necessary for the identification of SMEs and further classifications of those SMEs were interrogated. These information included the related industry (manufacturing, commerce, services, others), number of employees (<50, 50 -250, 251- 500, 500- 750, >750), annual turnover in euro (<10m, 11-50m, 51-250m, 251-500m, >500m), stock exchange listing (listed company, non-listed company as part of listed group, non-listed company) and portion of family-owned shares (0%, 1-25%, 26-50%, 51-75%, 76-100%).

The second part of the questionnaire aimed at the different possibilities to apply and determine the cost of capital in SMEs. First, application areas of the cost of capital (cost accounting, capital budgeting, none of both areas) within the respective SMEs were queried, whereas multiple selection was possible. In accordance with the research objective to analyze the application of the cost of capital in the context of an implicit value orientation, the area of VBM was omitted purposely. For each selected application area, the applied type of cost of capital (cost of equity, cost of debt, total cost of capital by combining cost of debt and cost of equity) was identified. Subsequent to the first vague specification of calculation methods, the questionnaire was split in several branches from one level to the next. Depending on the selected type of cost of capital, the participating SMEs were queried in detail about the applied calculation methods for the cost of equity, cost of debt and total cost of capital as well as about the reasons for not applying certain approaches.

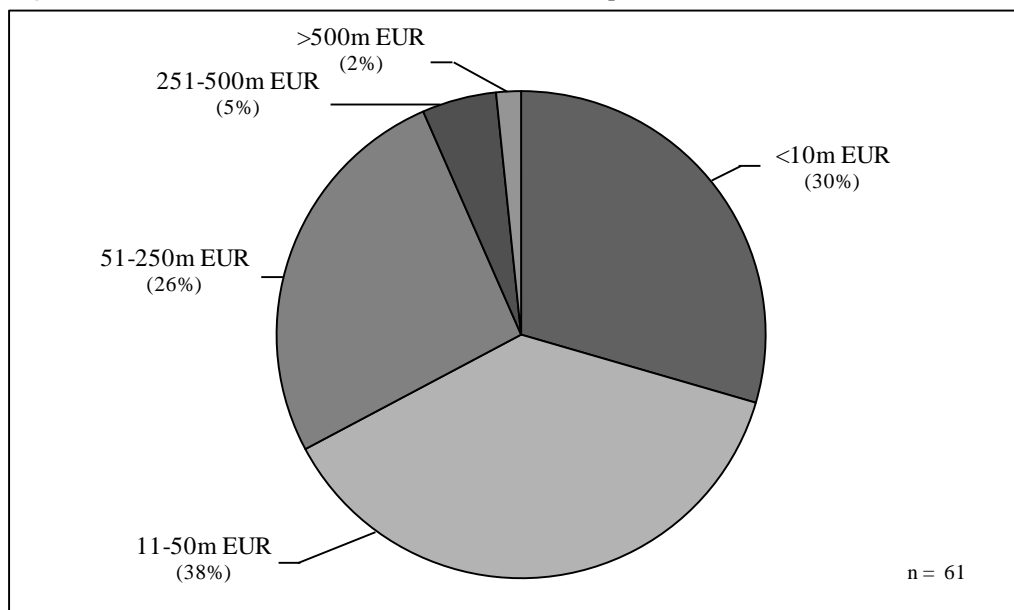
In case SMEs applied cost of capital in both cost accounting and capital budgeting with different approaches, the procedure was repeated for both areas. If SMEs however generally did not apply cost

of capital, they were asked to give reasons for this in a free entry field and queried about plans to introduce cost of capital in the future.

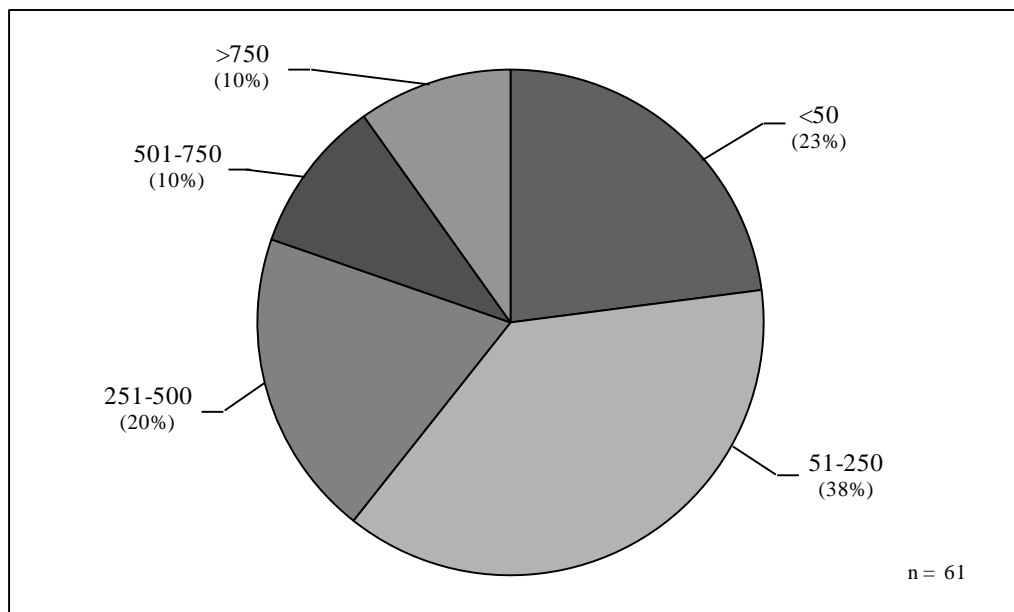
Sample

In total, 75 analyzable responses were received, whereas 61 companies could be classified as SMEs according to the research definition. While 58 of those SMEs fulfilled the qualitative criterion of family ownership, 3 companies were classified as SMEs solely due to the quantitative definition criteria. Hence, the sample almost exclusively consists of family-owned enterprises. Additionally, none of the SMEs in the sample is a listed company or part of a listed group. When classifying those SMEs according to their related industry, 86% pertain to the manufacturing sector, whereas 7% were each assigned to the commercial and the services sector. The distribution of number of employees and annual turnover of the SMEs in the data sample is apparent from figure 5 and 6.

Figure 5: Distribution of annual turnover in the data sample



Source: own illustration, based on the data sample of the conducted survey

Figure 6: Distribution of number of employees in the data sample

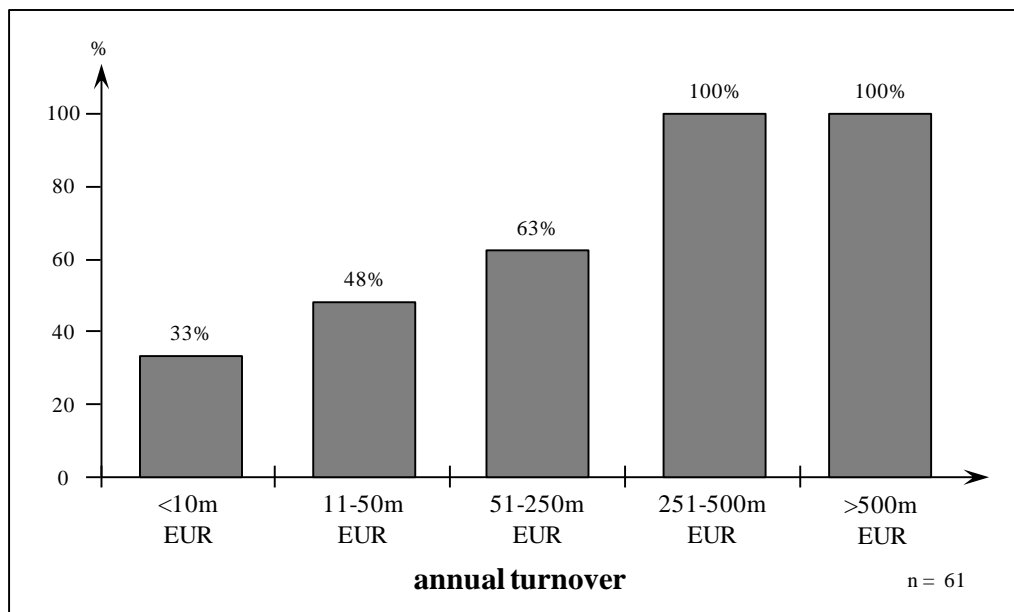
Source: own illustration, based on the data sample of the conducted survey

RESULTS

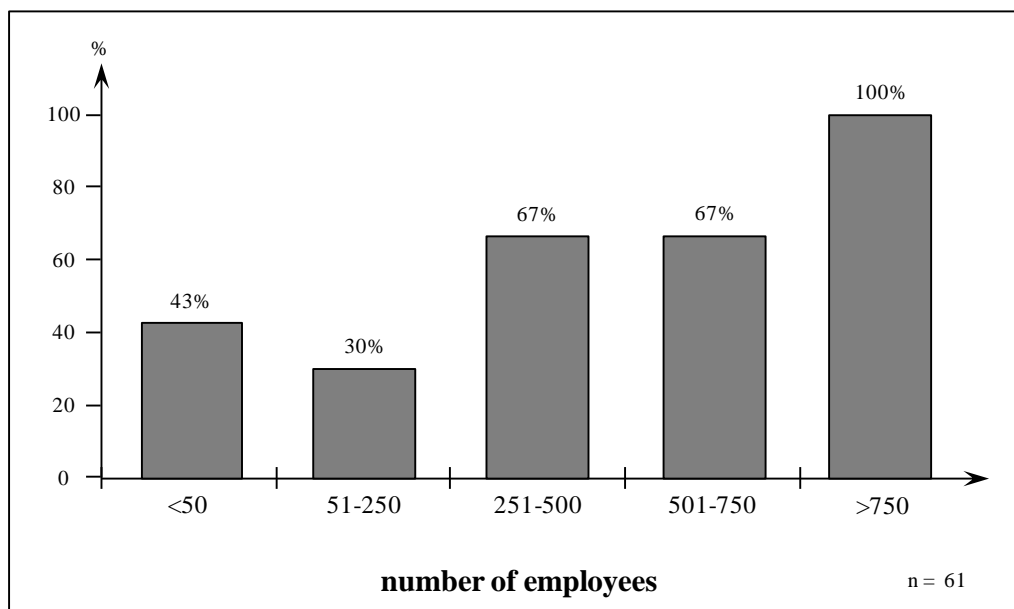
General application of the cost of capital in SMEs (H1 to H3)

The hypothesis according to which the cost of capital plays a minor role in SMEs (H1) is not supported by the empirical results of this study. Since 51% of the sampled SMEs apply cost of capital in cost accounting and/or capital budgeting, the proportion between SMEs using cost of capital in at least one of both areas and those not applying cost of capital needs to be considered largely balanced. The application of the cost of capital across the application areas is distributed as follows: while 49% of the sampled SMEs do not apply capital costs, 16% apply them only in cost accounting, 8% only in capital budgeting and 26% in both areas. In the latter case, for both areas uniform cost of capital is applied by a vast majority (62%). Still, it needs to be considered that the cost of capital is applied only irregularly among SMEs.

The empirical findings also show that the probability for the application of cost of capital increases with the size of a SME (H2). Within the sample, the degree of application of cost of capital increases steadily with growing annual turnover and at least tends to rise with growing number of employees, as shown in figure 7 and 8.

Figure 7: Relative degree of application of the cost of capital in SMEs by annual turnover

Source: own illustration, based on the data sample of the conducted survey

Figure 8: Relative degree of application of the cost of capital in SMEs by number of employees

Source: own illustration, based on the data sample of the conducted survey

Furthermore, of those 30 SMEs in the sample which do not apply cost of capital only 17% plan an introduction within the next 3 years. Consequently, a majority of the SMEs not applying capital costs at the moment does not plan to introduce them within the next 3 years, either. Therefore hypothesis 3 is disproved by the empirical findings. Additionally, those 30 SMEs were questioned about reasons for not applying cost of capital by means of a free entry field in the survey, leading to three clusters of answers. While 13 SMEs stated that there is no need for cost of capital without giving further reasons and 5 SMEs mentioned limited resources or management control systems, 7 SMEs had insufficient

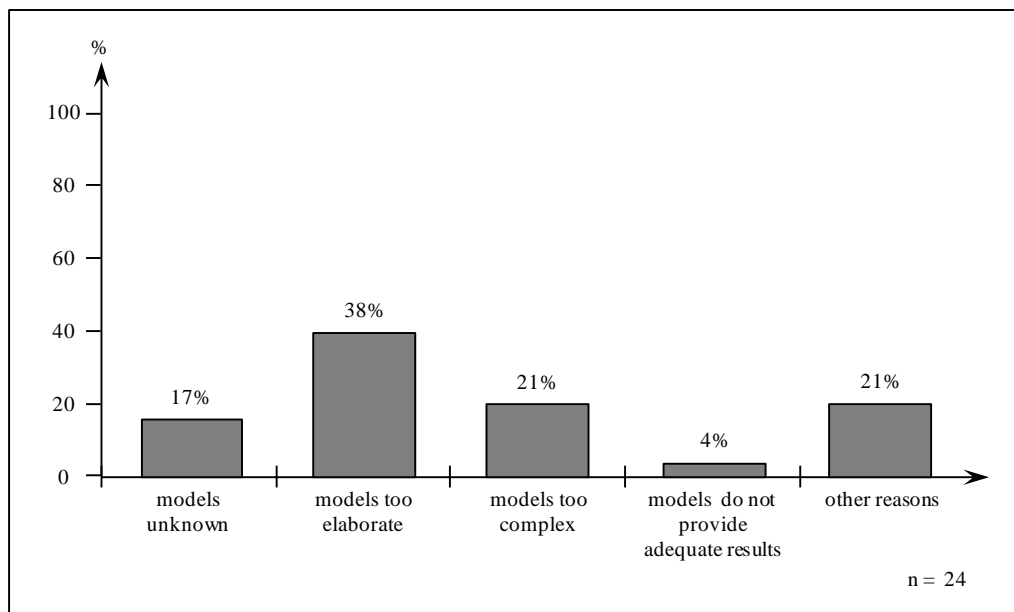
knowledge about the cost of capital. This was either directly mentioned as a reason by the participants or indirectly indicated by illogical reasoning. For instance, some of those SMEs argued that the company is fully equity financed, which leads to the assumption that only the cost of debt are considered as cost of capital in these cases. The remaining SMEs did not answer this question.

Application of capital market based models in SMEs (H4, H5)

The application of capital market based models refers to the calculation of the cost of equity in the sampled SMEs. In this context, the survey findings suggest that capital market based models only play a minor role among SMEs. As, due to the structure of the questionnaire, the study queries two different equity cost rates for one SME in case different calculation approaches are applied in cost accounting and capital budgeting, it needs to be started from the number of collected applied calculation methods for the cost of equity instead of the sampled SMEs applying cost of equity.

Of the 21 collected calculation methods for the cost of equity 90% are based on heuristic methods, whereas 90% go back to capital market based models (exact distribution of calculation methods see section "applied calculation methods"). In none of the cases the capital market based model is applied in its basic form. Instead, those 2 SMEs that apply a capital market based model use modified procedures for calculating β . Consequently, combining this result with the already ascertained absence of listed companies among the sampled SMEs, the hypothesis according to which capital market based models in their basic form are hardly applied due to the predominant lack of listing (H4) can be confirmed by the empirical findings.

In case capital market based models were not applied (19), the reasons for this were queried in a second step. Here, multiple selection as well as free input of additional reasons was possible. As illustrated in figure 9, the survey reveals that 59% of the given explanations refer to the high effort and complexity of capital market based models, thus confirming that those models are generally hardly applied among SMEs for being mainly considered as too complex and elaborate (H5).

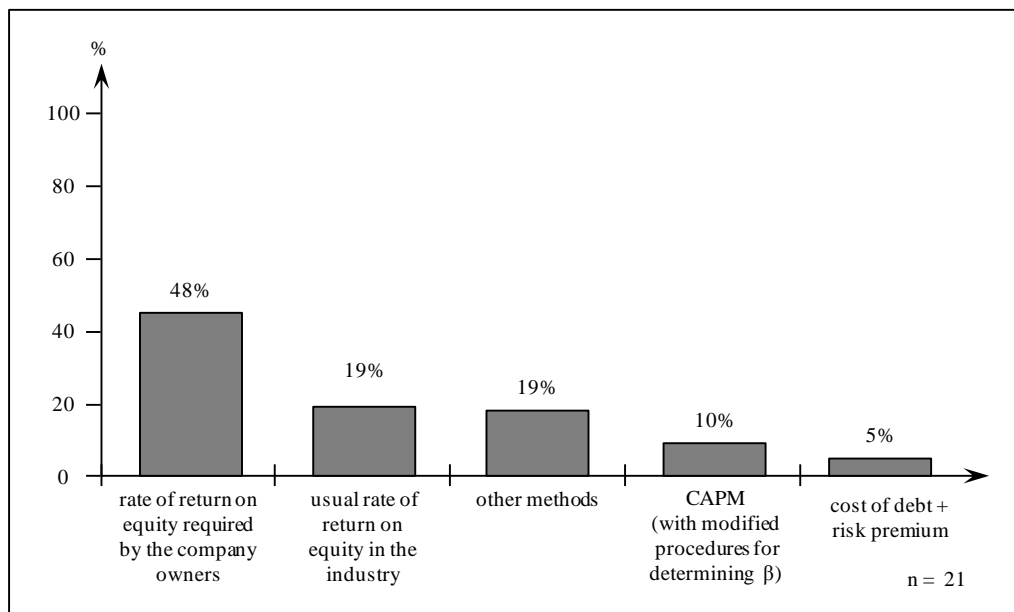
Figure 9: Reasons for not applying capital market based models

Source: own illustration, based on the data sample of the conducted survey

Applied calculation methods (H6, H7)

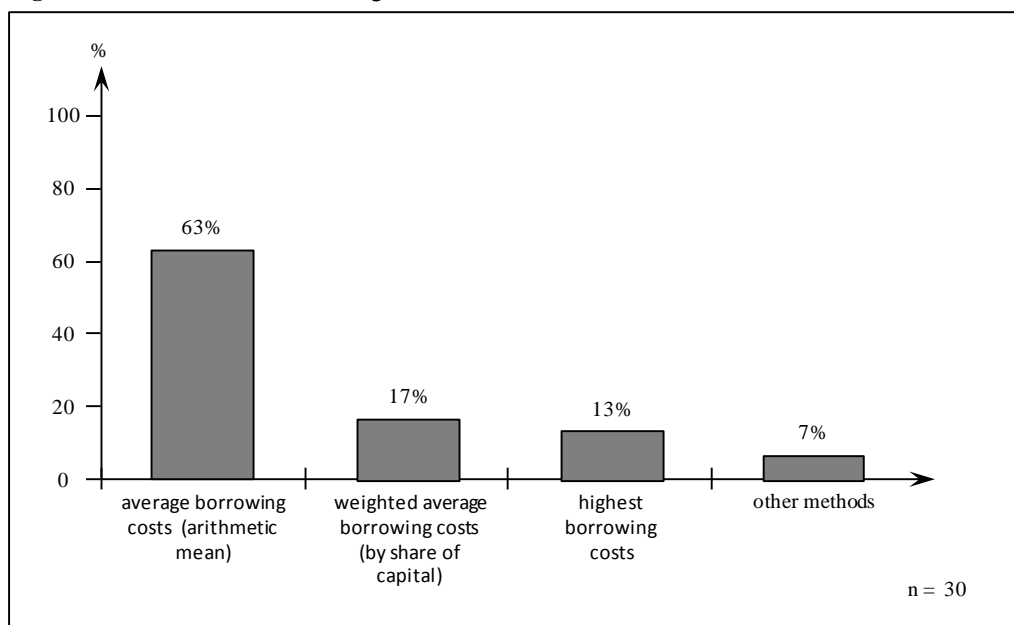
The analysis of applied calculation methods in the sampled SMEs again needs to be based on the number of collected calculation methods in the survey, which exceeds the number of sampled SMEs applying cost of capital by reason of the structure of the survey. Since the cost of capital was queried separately for cost accounting and capital budgeting and 6 of the 31 sampled SMEs that apply cost of capital use different procedures in both areas, 37 applied approaches for calculating the cost of capital were collected. While 57% of the 37 applied approaches in the sample use the total cost of capital, in 19% of all cases only the cost of equity and in 24% only the cost of debt is charged as cost of capital. Furthermore, if the total cost of capital is applied, in 67% of those cases the weighted average cost of capital is calculated, whereas in 33% of those cases the calculation is based on the cost of debt increased by a risk premium.

The survey also reveals, which calculation methods for the cost of debt and the cost of equity are applied among the sampled SMEs. Of the 21 determined cost of equity in the sample, either directly applied as the cost of capital (7) or as part of the weighted average cost of capital (14), 48% are based on the rate of return on equity required by the company owners. Other methods are considerably less common, as illustrated in figure 10. Hence, the hypothesis concerning the most common method for determining the cost of equity (H6) is confirmed by the survey.

Figure 10: Methods for determining the cost of equity

Source: own illustration, based on the data sample of the conducted survey

Concerning the cost of debt, the empirical results also confirm the hypothesis according to which the average borrowing costs of the company are the most common method applied among the sampled SMEs (H7). As shown in figure 11, even 63% of the determined cost of debt is based on this method, whereas the weighted average borrowing costs and the highest borrowing costs are applied in 17% respectively 13% of all cases. Again this analysis includes each of the collected methods applied in the sampled SMEs, either included in the calculation procedure for the total cost of capital or calculated separately and applied independently as the cost of capital.

Figure 11: Methods for determining the cost of debt

Source: own illustration, based on the data sample of the conducted survey

Finally, the survey also analyzed the frequency with which the cost of capital is updated within SMEs. The empirical findings suggest that regardless of the type of cost of capital, an update is done mainly once in a year (64%). 15% of the applied cost of capital are each updated every 2 years respectively in case of considerable changes.

CONCLUSION AND DIRECTIONS FOR FURTHER RESEARCH

In this paper, theoretical foundations as well as previous empirical findings on the cost of capital in SMEs were described initially. Thus, the cost of capital plays an important role in internal management control systems. On the one hand, the cost of capital is explicitly considered in VBM systems, on the other hand also an implicit integration within cost accounting and capital budgeting as central management control instruments is possible. Another application area is the valuation of companies.

When determining the cost of capital, it needs to be distinguished between the cost of equity and the cost of debt. By weighting of both components according to the capital structure, the returns expected by providers of equity and debt capital are combined. While the transferability of the theoretical approaches for determining the cost of debt to SMEs is considered unproblematic, the correct calculation of the cost of equity is the core issue for the determination of the cost of capital in SMEs. Yet, the lack of transferability of the CAPM in its basic form as established theoretical standard model for the cost of equity can be overcome by applying modified approaches for the calculation of the company specific β -factor. Therefore, the CAPM in its modified forms is favoured for the application in SMEs from a theoretical perspective.

The empirical findings on the application of the cost of capital in SMEs by Krol 2009, Piontkowski 2009 and Gonschorek 2009 indicated that the cost of capital only play a minor role among SMEs. However, since those studies are targeted on VBM in general and therefore only touch the topic of the cost of capital, the applied calculations methods among SMEs as well as the significance of the CAPM in this context are not analyzed in detail.

Taking these perceptions into account, the present empirical study in this paper aimed at the fundamental significance of the cost of capital in SMEs in isolation from the background of VBM. Therefore the possible application areas cost accounting and capital budgeting were analyzed in detail. In a second step, the employed calculation methods for the cost of capital in SMEs were investigated with a special focus on the cost of equity. Based on the identified characteristics of SMEs, particularly their limitations in resources, it needed to be analyzed how frequently the CAPM is applied and to which extent simplified heuristic approaches are used instead.

The fundamental findings of the present study in this paper can be summarized as follows:

- For half of the sampled SMEs the cost of capital currently as well as in the short and medium term does not play any role. The vast majority of those SMEs consider that there is no need for them to apply cost of capital.
- With an increase in company size the degree of application of cost of capital tends to rise.
- Those SMEs for which cost of capital are of significance apply them most commonly in both cost accounting and capital budgeting. In these cases, in both areas uniform cost of capital is applied in majority.
- For determining the cost of equity the CAPM is of minor significance among SMEs, as it is most commonly considered too complex and elaborate. Instead, simplified heuristic methods are used in majority. The most commonly applied method is the expected rate of return on equity by the company owners.

In conclusion, it needs to be stated that the cost of capital only plays a minor role among SMEs. Moreover, in case of application in internal management control systems, the cost of capital is mostly not determined according to those approaches preferred from a theoretical perspective. Hence, also an implicit value orientation of SMEs being the starting point of this paper is not supported by the empirical results of the present study. Since the vast majority of SMEs do not apply systematically determined, risk-adequate cost of capital, SMEs, at least under this aspect, mostly do not act value-oriented.

Areas for further research especially arise from the contradiction between the low significance of the cost of capital in SMEs identified by the present study and the initially introduced increasing importance of value orientation and thus of the cost of capital for SMEs due to several influencing factors (Tappe 2009, pp. 46-50). For instance, more restrictive lending policies by financial institutions as a result of the new Basel III rules (Waschbuch et al. 2012, p. 191) increasingly force SMEs to find alternative forms of financing, e.g. the issuance of bonds (Tappe 2009, p. 48; Mausbach, Simmert 2012, p. 14). Additionally, large parts of SMEs are presently faced with difficulties in finding a successor for the current entrepreneur (IfM Bonn 2010, p. 49). In both cases, it is beneficial for SMEs to increase their attractiveness for investor by consequent value orientation (Krol 2009, p. 52ff). In this context, it would be of significance to analyze how SMEs judge the application of risk-adequate cost of capital in the light of those developments.

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FAMILY AND NOT FAMILY FIRMS AND THE IMPACT ON PERFORMANCE: A COMPARISON BETWEEN ITALY, FRANCE, SPAIN

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ABSTRACT

The main goal of this study is to analyse the impact of corporate governance, observing the variable family, on performance, comparing the Italian, French and Spanish companies, large size, belonging to the Manufacture Sector of wine from grape.

This variable has a significant impact on business performance. In fact, many studies underline the relevance of the family through the composition-performance relationship.

The analysis is conducted in both family and not family firms to notice the analogies, the differences, and the impact on performance and to understand where the most value is created. Studying this topic the research would also to understand the specific features of this kind of firms, their culture and some possible changes in corporate governance.

Keywords: *family firms, not family firms, Italy, Spain, France, economic performance, financial performance.*

INTRODUCTION

The influence of ownership structures on firm performance has been researched extensively in the theoretical and empirical literature. The relevant literature suggests that ownership structure is one of the main corporate governance mechanisms influencing the scope of a firm's agency cost (Arosa, Txomin Iturralde, Amaia Maseda, 2010).

Identifying differences between Family Firms (FFs) and Not Family Firms (NFFs) and understanding the medium and long-term consequences of the Family Firms strategic behavior constitute two of the basic fields of family business research. Recent research has taken important steps toward these ends. However, in some cases, the differences between FFs and NFFs have not been sufficiently explained. (Gallo, Tapias, Cappuyns, 2004).

This study analyses the composition-performance relationship in the family business, because in the organizational management researches, the family is a relevant variable, but sometimes it is forgotten. Also Dyer (2003, p. 401) refers to the family as "the missing variable in organizational research" and he warns that "failing to use the family as a variable in organizational research can lead to incomplete or misleading findings" (Speckbaker G., Wentges P. 2007).

This study compares family and not family firms, belonging to three different countries, Italy, France and Spain, considering a particular sector, where these countries excel, the Manufacture of wine from grape, to better understand where the most value is created.

Gallo, Tapies, Cappuyens (2004), in their study, underline, in the field of financial structure and policies, as well as the economic results of FFs, the following research is worth noting. First, Daily and Dollinger (1992), working with a sample of 186 manufacturing businesses in Indiana (USA) with fewer than 500 employees and sales levels of less than \$30 million per year, found that in comparing FFs with NFFs, between 1986 and 1988, FFs surpassed NFFs in rate of sales, profit margin increases and, in an elaborated measure using four comparison points, in each business with its main competitor. Second, Gallo and Vilaseca (1996, 1998), using a sample of 104 Spanish FFs having an average sales figure of €33.7 million (at 2001 equivalency), found that the smaller FFs used less complex financial practices and had very low debt ratios, but the research failed to identify statistically significant differences in “resource profitability.”

This study try to understand if there are significant difference between FFs and NFFs, but also if there are significant differences or analogies in these three different countries.

This paper is organised as follows. Firstly, it analyses the theoretical background about the Family Firms and Not Family Firms. Secondly, the research method is outlined, as well as a brief presentation of the analysed sample. Finally, the discussion of the results and the main conclusions are described with the limitations of the study.

THEORETICAL BACKGROUND

Defining Family firms

In the last years family firms have received increasing attention and several recent studies have reported and underlined that in continental Europe, Asia, and Latin America, the vast majority of publicly traded firms are family controlled (La Porta et al., 1999; Claessens et al., 2000; European Corporate Governance Network, 2001; Faccio and Lang, 2002). They, also, suggest that family firms play an important role in economic activity worldwide. In fact two-thirds of private businesses in many countries are considered to be family firms (Neubauer and Lank 1998, IFERA 2003), and they contribute to wealth creation and job generation with reference to narrow and broad family firm definitions (Astrachan and Shanker 2003).

However, how is it possible to define the meaning of family firm? It is not so easy to give a definition of family firm, in fact in the literature persist ambiguities.

Kraiczky (2013) affirms that: “although many researchers have tried to develop a satisfactory definition, there is still no consensus about a widely accepted definition. Although some studies in the finance

literature identify any public company where a family or a founder owns more than 5 percent as a family firm, other studies define firms only as family firms if the first succession into the second generation has taken place. However, in most studies a family firm has been characterized as a firm that is controlled and usually managed by multiple family members, sometimes from multiple generations. The use of different definitions is a major problem in family firm research. Although studies analyze related topics, the use of different family firm definitions makes the comparability of these results difficult. One of the biggest challenges of developing a general definition is the heterogeneity of family firms”.

The main definitions are the following.

Chua, Sharma, and Chrisman (1996) define family business as a business governed and/or managed on a sustainable, potentially cross-generational, basis to shape and perhaps pursue the formal or implicit vision of the business held by members of the same family or a small number of families.

La Porta (1999) defines family business like a firm that is partly owned by one or more family members who control together at least 20% of the total votes outstanding.

Astrachan and Kolenko (1994) suggest that a family had to own over 50 percent of the business in a private company or more than 10 percent of a public company in order to qualify as a family business.

Le Breton-Miller, Miller, and Steier (2004) do not explicitly define a family firm but they assume that management succession means firm leadership will pass from one family member to another or, in the absence of a competent family contender in the short-term, a bridge manager between family tenures.

Zahra, Hayton, and Salvato (2004) define family firms according to the presence of both a family member with some identifiable share of the ownership of the firm and multiple generations of family members in leadership positions within that firm.

Morck and Yeung (2004) use the following criteria of family control to distinguish family firms: (1) the largest group of shareholders in a firm is a specific family, and (2) the stake of that family is greater than either a 10% or 20% control of the voting shares.

This research to identify family businesses uses the following parameter: family had to own over 50 percent of the business in a private company or more than 10 percent of a public company in order to qualify as a family business (Astrachan, Kolenko, 1994).

Family versus not family firms

After defining family firm it is important to examine the “family effect” on firm performance.

Jensen and Meckling (1976) suggested that ownership concentration has a positive effect on performance because it alleviates the conflict of interest between owners and managers. The opposite view of the ownership structure directs attention towards the effects of the agency problem resulting from the combination of concentrated ownership and owner control (Fama & Jensen, 1983).

In the literature, there are studies which underline that family firm are better than non-family firm and they report that controlled family ownership positively influences firm performance (Anderson and Reeb, 2003, Burkart et al., 2003, and Wang, 2006)

Anderson and Reeb, in a research conducts in 2003, found that family firms outperformed non-family firms in the S&P 500, noting that “family firms are significantly better performers than non-family firms”.

Another study, conducted by Arosa, Txomin Iturralde, Amaia Maseda (2010), underlines that the distinctive features of family firms have a positive effect on their corporate behavior. The family’s interest in the long-term survival of the business as well as its concern for maintaining the reputation of the firm and the family, lead the family to avoid acting opportunistically with regard to the earnings obtained (Burkart, Panunzi, & Shleifer, 2003; Wang,2006). Families have concerns and interests of their own, such as stability and capital preservation, which may not align with the interests of other firm investors.

However, in general, the empirical evidence is not conclusive.

Arosa, Txomin Iturralde, Amaia Maseda (2010), also underline that some empirical findings indicate that firms with concentrated ownership structure, such as founding families, show lower profitability than those firms with a dispersed ownership structure (DeAngelo & DeAngelo, 2000; Fama & Jensen, 1983; Gomez-Mejia et al., 2001).

Furthermore, there are also many studies which highlight that family firms under-perform if compared with non-family firms.

Daily and Dollinger (1992) write that family-run firms do appear to achieve performance advantages whether performance is measured in terms of financially oriented growth rates or perceived measures of performance.

Faccio, Lang, and Young (2001) have also noted that family firms are relatively poor performers due to conflicts that arise as a family attempts to manage an enterprise.

Despite the different positions in the literature, this study tries to understand if the most value is created in family or in not family firms.

METHODOLOGY

The sample

This study is based on a sample of 421 companies operating in the Manufacture Sector of wine from grape, where the tree considered countries, Italy, France, Spain, are historical producers. The sample includes only large firms and data were extracted by Amadeus database.

The sample includes 140 companies from Italy, 147 from France and 134 From Spain.

	n. company	% n. of companies
Italy	140	33%
France	147	35%
Spain	134	32%
Total	421	100%

Table 1. The sample

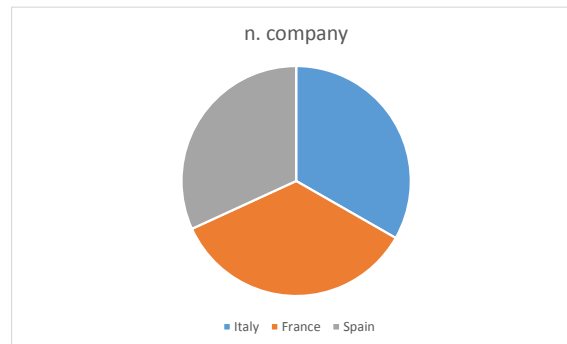


Figure 1. The sample

As state in the previous paragraph, in this study a firm is classified as a family firm, if family had to own over 50 percent of the business in a private company or more than 10 percent of a public company (Astrachan, Kolenko, 1994).

The sample includes 182 family Firms (43%) and 239 Not Family Firms (57%). The details for each countries are included in the following table.

	FF	%FF	NFF	% NFF	Total	% Total
Italy	65	46%	75	54%	140	100%
France	46	31%	101	69%	147	100%
Spain	71	53%	63	47%	134	100%
Total	182	43%	239	57%	421	100%

Table 2. The sample: FFs and NFFs

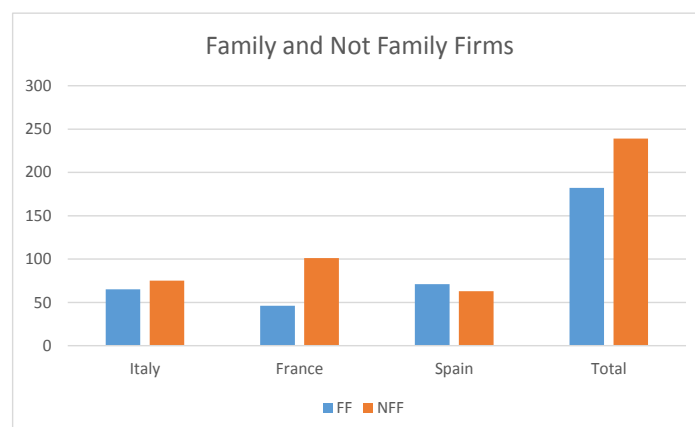


Figure 2. The sample: FFs and NFFs

Research question and method

The main goal of this study is to analyze the impact of the variable “family” on performance, to reach the declared goal. The main research question is:

RQ1: Does the family have a positive impact on economic financial performance?

To answer to this RQ1 the most relevant financial and economic ratio between family and not family firms were compared, for each country.

FINDINGS AND RESULTS*Italy*

About Italian family firms the data shown that FFs outperform in ROE, and not family firms outperform in ROA, how shown in the following table.

	FFs Italy	NFFs Italy	outperformance classification - Italy
ROE Year 2012	4,92	1,86	FFs
ROE Year 2011	5,05	3,62	FFs
ROE Year 2010	4,64	7,92	NFFs
ROE Mean 2010-2012	4,87	4,47	FFs
ROA Year 2012	1,71	1,72	-
ROA Year 2011	0,93	1,48	NFFs
ROA Year 2010	0,78	2,07	NFFs
ROA Mean 2010-2012	1,14	1,76	NFFs

Table 3. Economic performance in Italian FFs and NFFs

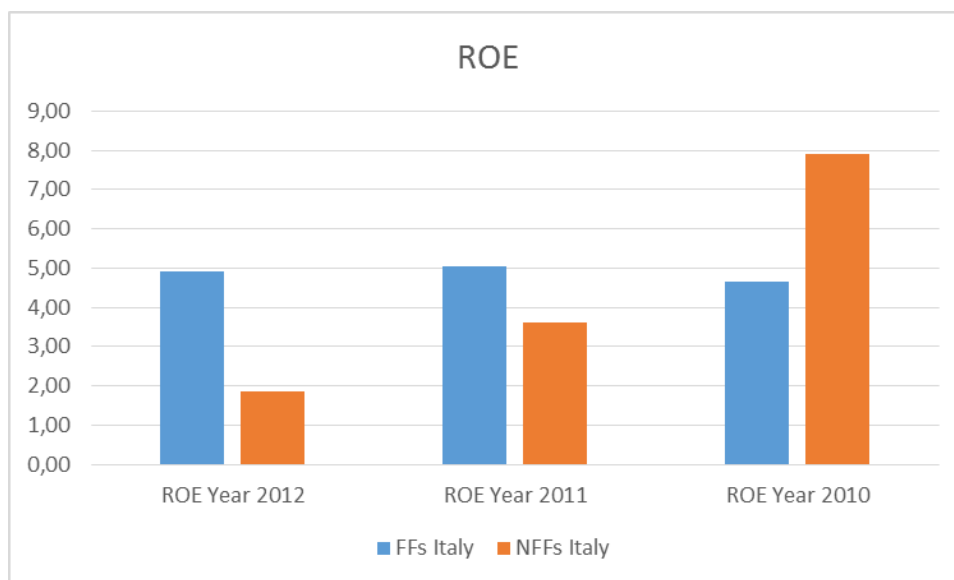


Figure 3. ROE in Italian FFs and NFFs

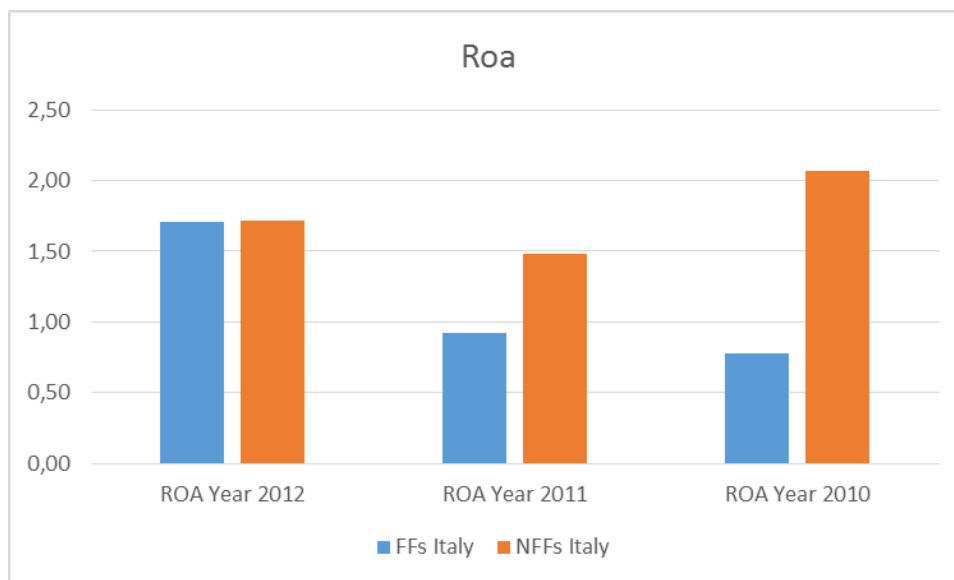


Figure 4. ROA in Italian FFs and NFFs

The ROA shows that the assets in NFFs are more profitable in generating revenue; in particular, this index shows how many euro of earnings they derive from each euro of assets they control.

On the contrary, FFs outperform in ROE, which measures the rate of return on the ownership interest of the common stock owners. Italian FFs seem more efficient at generating profits from every unit of shareholders' equity.

About the liquidity ratio, the index that measure the ability of a company to meet its short term debt obligations and the ability of a company to pay off its short-term liabilities when they fall due, it emerges that NFFs outperform than FFs.

	FFs Italy	NFFs Italy	outperformance classification - Italy
Liquidity ratio Year 2012	0,93	0,84	FFs
Liquidity ratio Year 2011	0,78	0,85	NFFs
Liquidity ratio Year 2010	0,76	0,88	NFFs
Liquidity ratio Mean 2010-2012	0,82	0,86	NFFs

Table 4. Financial performance in Italian FFs and NFFs

France

About French family firms the data shown that FFs outperform in ROE, and not family firms outperform in ROA, also if less evident observing the mean, how shown in the following table.

	FFs France	NFFs France	outperformance classification - France
ROE Year 2012	4,26	1,96	FFs
ROE Year 2011	3,91	2,57	FFs
ROE Year 2010	3,47	2,47	FFs
ROE Mean 2010-2012	3,88	2,33	FFs
ROA Year 2012	2,02	0,92	FFs
ROA Year 2011	0,64	1,29	NFFs
ROA Year 2010	0,68	1,13	NFFs
ROA Mean 2010-2012	1,11	1,11	-

Table 5. Economic performance in French FFs and NFFs

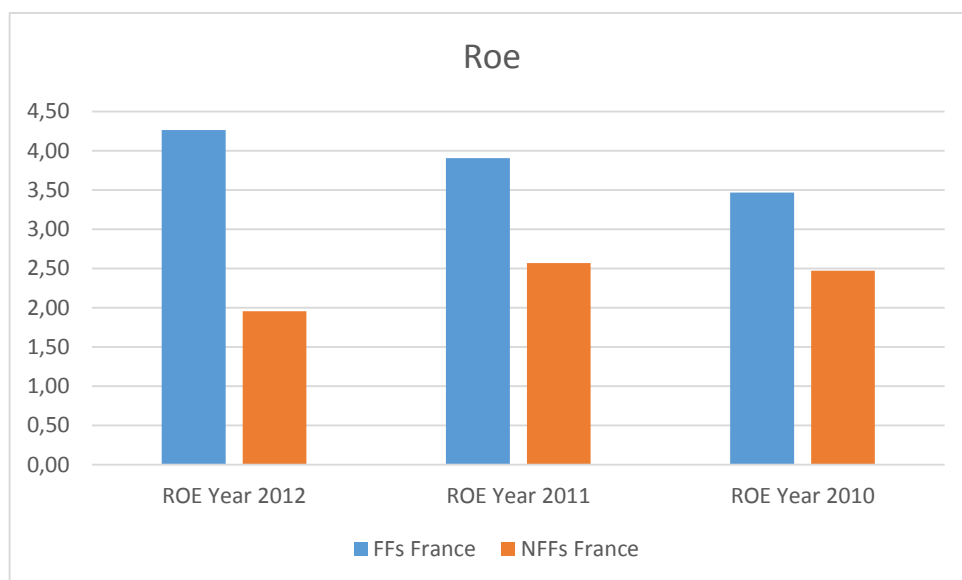


Figure 5. ROE in French FFs and NFFs

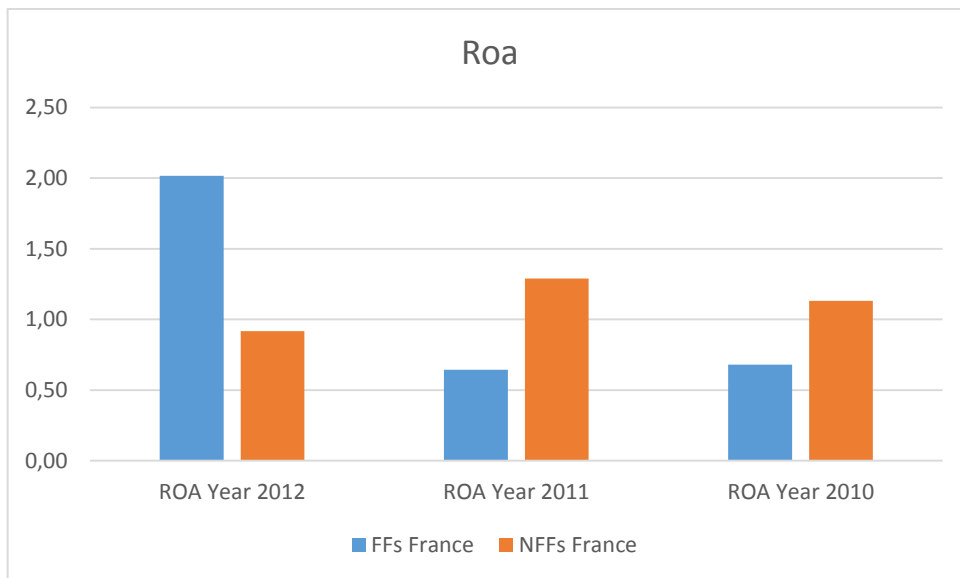


Figure 6. ROA in French FFs and NFFs

The ROA shows that the assets in NFFs are more profitable in generating revenue, in particular this index shows how many euro of earnings they derive from each euro of assets they control.

On the contrary FFs outperform in ROE which measures the rate of return on the ownership interest of the common stock owners. Also French FFs, compared with Italian FFs, seem more efficient at generating profits from every unit of shareholders' equity.

About the liquidity ratio, also French NFFs are more able, than French FFs, to meet its short term debt obligations, as Italian NFFs.

	FFs France	NFFs France	outperformance classification - France
Liquidity ratio Year 2012	0,64	1,28	NFFs
Liquidity ratio Year 2011	0,68	1,30	NFFs
Liquidity ratio Year 2010	1,10	1,25	NFFs
Liquidity ratio Mean 2010-2012	0,81	1,28	NFFs

Table 6. Financial performance in French FFs and NFFs

Spain

About Spanish family firms the data shown that, in this case, NFFs outperform in ROE, and FFs outperform in ROA, how shown in the following table.

	FFs Spain	NFFs Spain	outperformance classification - Spain
ROE Year 2012	2,16	6,11	NFFs
ROE Year 2011	-0,36	-1,96	FFs
ROE Year 2010	-4,72	-0,44	NFFs
ROE Mean 2010-2012	-0,97	1,24	NFFs
ROA Year 2012	1,90	0,15	FFs
ROA Year 2011	1,18	1,09	FFs
ROA Year 2010	1,37	1,95	NFFs
ROA Mean 2010-2012	1,48	1,06	FFs

Table 7. Economic performance in Spanish FFs and NFFs

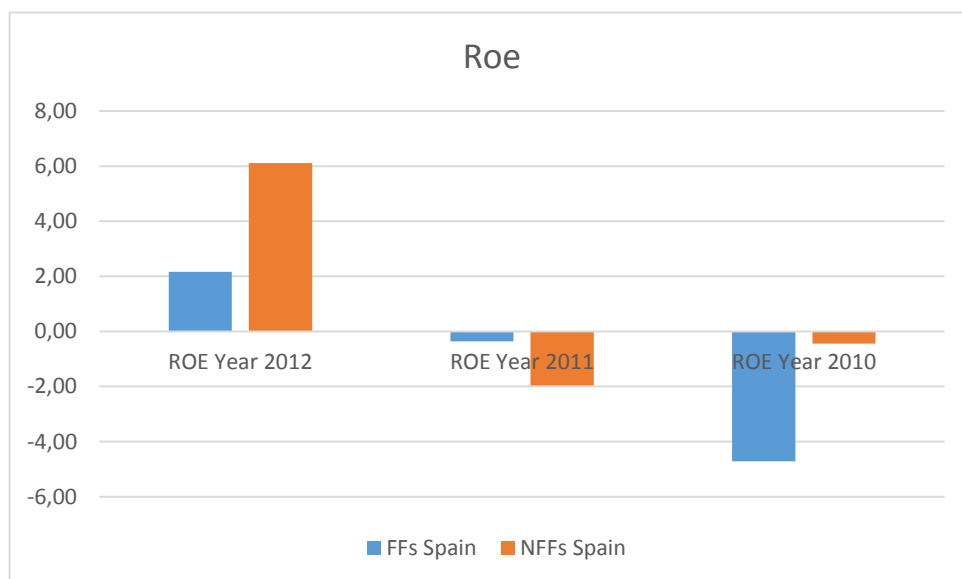


Figure 7. ROE in Spanish FFs and NFFs

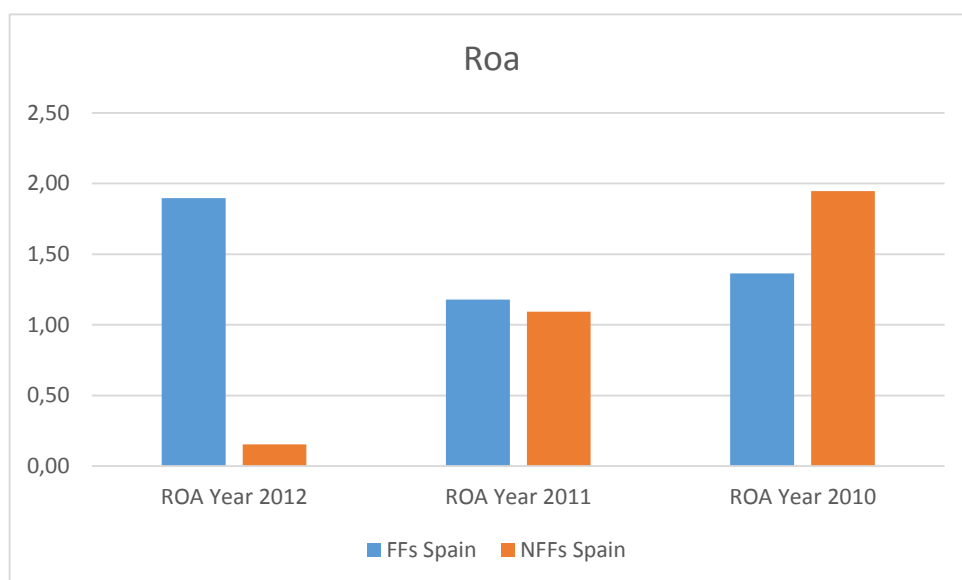


Figure 8. ROA in Spanish FFs and NFFs

The ROA shows that the assets in FFs are more profitable in generating revenue; in particular, this index shows how many euro of earnings they derive from each euro of assets they control.

Spanish NFFs outperform in ROE, which measures the rate of return on the ownership interest of the common stock owners. Spanish NFFs seem more efficient at generating profits from every unit of shareholders' equity.

About the liquidity ratio, Spanish FFs seem more able, than NFFs, to meet its short term debt obligations, if we consider the mean, also if NFFs outperform for two year in this index.

	FFs Spain	NFFs Spain	outperformance classification - Spain
Liquidity ratio Year 2012	1,18	1,40	NFFs
Liquidity ratio Year 2011	1,37	1,67	NFFs
Liquidity ratio Year 2010	2,20	1,31	FFs
Liquidity ratio Mean 2010-2012	1,58	1,46	FFs

Table 6. Financial performance in Spanish FFs and NFFs

LIMITS AND FUTURE RESEARCH

This research presents some limitation that can be summarized as follows:

- the sample includes only large firms;
- the method used can be improved adopting some econometrical model.

Future researches could improve these limitations and investigate about the reasons of the performance results in FFs and NFFs.

CONCLUSION AND CONTRIBUTION

The purpose of this study was to scrutinize the relationship between ownership structure and the performance in Italian, French, Spanish NFFs and FFs, that operate in Manufacture of wine from grape. First, the analysis reveals that Not Family firms outperform than Family Firms in ROA, and this aspect is more evident in Italy and France, consequently these NFFs are more profitable in generating value.

About ROE, in Italy and France, it is clear that FFs outperform than NFFs, appearing more efficient at generating profits from every unit of shareholders' equity.

It emerges also that the behavior of Spanish FFs and NFFs is in contraposition with Italy and France. Indeed FFs outperform in ROA, compared with NFFs, but not in ROE, where the best results were achieved by NFFs.

This behavior, in contraposition, it is confirmed by the liquidity ratio; indeed Italian and French NFFs outperform in this ratio, instead in Spain the FFs outperform in this ratio.

What clearly emerges from this research is that Italian and French Firms act in the similar way, in contraposition with Spanish firms, but about the variable “family” it does not clearly emerge if this variable influences positively or not the firm performance. What it is possible to affirm is that the “family” impact on performance and gives different connotations to the firms.

This research confirms what is possible to find in the literature: the family is a relevant variable in performance evaluation, but it is not easy to affirm, in a unique way, when it impacts positively or not.

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THE USE OF A BUDGETING PROCESS. AN EMPIRICAL RESEARCH ON ITALIAN LISTED FAMILY FIRMS

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ABSTRACT

The aim of this study is to investigate the use of budget by Italian listed firms (FTSE MIB, STAR and SMALL CAP indexes), verifying the presence of a systematic use of a budgeting process. In particular, we analyzed the Family Firms (FFs) in order to understand better the features of this kind of firms. The questionnaire tool was used to collect the data, analyzing both qualitative and quantitative ones.

This study shows that the budget is yet a fundamental tool in the Italian listed firms, even if budget needs to be joined by other tools to overcome its limitations and besides the problem about the budget gaming.

Keywords: *managerial systems, budget, listed Family Firms, beyond budgeting, better budgeting, Italy*

INTRODUCTION

The aim of this study is to investigate the use of budget by Italian family firms listed on Borsa Italiana Stock Exchange, verifying the presence of a systematic use of a budgeting process. In particular, we analyzed the Family Firms (FFs) in order to understand better the features of this kind of firms.

In particular, our main goal is to test both the intensity in the use of the budgeting tool by Italian listed FFs and the beyond or the better budgeting theory on this sample.

Until a recent past, the budget has proved an effective tool for planning and control, designed to measure the performance and giving the company a competitive advantage. This tool is useful when the economic environment is stable (De Luca, 2010). On the contrary, in the last year managers increasingly see the budgeting process as a process too long, too complex and not flexible. For Jack Welsh, Ceo of General Electric, someone defines this tool as “the bane of corporate America” (Loeb, 1995) and for Bob Lutz, Former vice-Chairman of Chrysler (Hope, and Fraser, 1999) this is “a tool of repression” or a tool that not motivate you to set yourself ambitious targets. Indeed, this tool has some critical as (Anthony, 2005; Brusa, 2012; De Luca, 2010; Dematté, 2002, Hirst, 1987; Hope, 2007; Libby and Lindsay, 2003; Merchant, 1985):

- a long time to draft (too much time compared uncertain benefits);
- stiffness and slowness of response to the economic environment;

- emphasis on quantitative performance - monetary and non-qualitative performance;
- manipulation of the data;
- managers are often not involved in setting goals, but they have to reach them;
- validity at all costs (the budget is “the Law”);
- too much focused on the short term;
- poor orientation to customer needs and market trend;
- gap between strategy and budget;
- obstacle to innovation;
- authorization to spend money.

A study conducted by Hacket Benchmark (Daum, 2002) underlines that enterprises spend on average 25,000 person days on planning and performance measurement per US\$ 1 billion turnover; another study by KPMG (Daum, 2002) shows that the budgeting process takes up 20-30 percent of managers' and controllers' time.

To overcome these limitations, in the recent years new technical tools of business management have been developed; in particular, it is interesting to analyze the thinking of the Beyond Budgeting Round Table (BBRT), which has analyzed 14 successful companies, operating totally or partially in the absence of budget. The result of the analysis led to the formulation of 12 rules (guidelines) for the dynamic management company.

The new approach focuses on the key role that cover human resources and it is based on the assumption that, in the current economic and globalized market, it is more important to manage the "complexity" than the efficiency (De Luca, 2010).

Recently Hope and Fraser (2003a, 2003b) propose a new management model based on employee empowerment and alternative methods of performance management. Budgets are yet a key element in the firm management control systems, also if its usefulness has generated much recent discussion and debate.

In this context, our study contributes to the literature as it explains if the budget is yet a useful tool adopted by Italian listed companies with particular regard to the family control variable.

The second section of this paper analyzes the theoretical background concerning respectively the Beyond and Better Budgeting Theory and FFs phenomenon. Section three outlines the research method and describes the sample. The fourth section presents the findings and discusses the results. Finally, section five defines the conclusions and implications of the study, along with its limitations.

LITERATURE REVIEW

Beyond or better Budgeting

Budgeting is a main instrument for the control of companies' management (Malmi et al., 2001), representing a central topic in management accounting researches (Luft and Shields, 2003). Indeed most companies consider budgets as a key tool in their management control systems (Bassani et al. 2010; Brusa, 2012).

Several scholars focused on the usefulness of budgets, generating recent discussion and debate. In the past, budget was mainly considered as a suitable tool for coordination, communication and performance evaluation (Brusa and Dezzani 1983, Brusa, 2010, 2012); more recently, some scholars consider it the cause of gaming and earnings manipulation by managers, time consuming and costly to develop, and a barrier to change. Among them, Charles Horngren, who promoted traditional budgeting for more than 40 years, recently admits that "numerous managers are extremely unhappy about budgeting" (Sivabalan et al., 2009, Libby and Lindsay, 2010, Ostergren and Stensaker, 2011).

Also considering a slow change in this topic (Granlund, 2001), traditional budgeting still appears to retain its strong position. Indeed, it emerged that some tools are developing, such as rolling forecasts and balanced scorecard (Ekholm and Wallin, 2000; Libby and Lindsay, 2010).

In the last years, a new tendency named "Beyond Budgeting" (BB) took place: "managing and controlling without budgets", opens new possibilities for strategic enterprise management with the transition to flexible resource allocation (Wallander 1999, Daum, 2002).

This approach comes from evidences concerning several large multinational companies, which – in times of crisis - have adopted alternative strategies to the classical model of planning and control. In particular, in these companies, traditional management style (based on the annual planning top-down) is replaced (De Luca, 2010).

The main founders of BB are Hope and Fraser (2003a, 2003b, 2007): they stated that the management accounting model used by companies during the "second wave" (the industrial age) must be changed if companies are to compete successfully in the "third wave" (the information age). In these terms, budgeting systems represent a primary barrier to change. This issue is supported by a sample of Scandinavian companies, which have completely abandoned budgeting, obtaining success. For this purpose, they provided a sort of guide to help companies to break through this barrier (Ray and Proctor, 2006).

Some scholars suggested a sort of transition to flexible operational planning and measure management; in this way, the planning and management process should be simplified and become more flexible, and the effort should be reduced at the same time.

In particular, Daum underlines the 12 Beyond Budgeting principles. Due to their different purposes, they are articulated into the following groups:

- performance management and controlling processes principles

- new leadership principles

that should support a management concept “Beyond Budgeting” described in the table below.

Performance Management Principles	Leadership Principles
The target setting process is based on the agreement of external benchmarks	The creation of a performance management climate that measures success against the competitors and not against an internally focused budget
The motivation and reward process is based on the success of the team compared to the competitors	The motivation through challenges and transferring responsibility within clearly defined enterprise values
The strategy and the action planning is delegated to operational managers and takes place continuously	The delegation of responsibility to operational managers, who can make decisions themselves
The resource utilization process is based on direct local access to resources (within agreed parameters)	The empowerment of operational managers by giving them the means to act independently (access to resources)
The coordination process allocates the use of resources on the basis of internal markets	The organization based on customer-oriented teams, who are responsible for satisfied and profitable customers
The measurement and controlling process provides quick and open performance information for multilevel control	The creation of a single “truth” in the organization with open and transparent information systems

Therefore, the two fundamental elements of the BB model are new more adaptive management processes and new leadership principles based on the empowerment of managers and employees (Daum, 2002).

More recently, some scholars contrasted the BB approach. Among them, Libby and Lindsay (2010) explored about the use of the budget, discovering that the firms do not abandon this tool, despite some defections and limitations. They concluded that “It’s entirely possible, as the Johnson & Johnson and Emerson Electric examples indicate, that both the beyond budgeting and budgeting models can be highly effective if designed appropriately, regardless of the specific conditions faced. Alternatively, one approach may have a greater propensity of success than the other under certain conditions. Nevertheless, while many of us might be skeptical of abandoning budgeting, the beyond budgeting movement has sparked deeper thinking by us all about the usefulness of budgeting for purposes of management control”.

Defining Family Firms

It is not that easy to find a definition for the expression “family firm” and ambiguities persist in the literature.

Some studies defined family firms using mixed criteria always related to ownership and control (Smyrnios et al., 1998). According to these authors, an enterprise is classified as a family business if (Chua et al., 1999) i) at least 50 per cent of the shares are owned by the family, and the family is

responsible for the management of the company, ii) or at least 50 per cent of the shares are owned by the family, the enterprise is not family-run, but the CEO perceives it as a family business, iii) or family ownership is less than 50 per cent, the company is family-run, the CEO perceives it as a family business, and a venture capital or investment company owns at least 50 per cent of the shares (Culasso et al., 2012).

In our study we choose a mixed criterion (Culasso et al., 2012), which includes:

- controlled participation in the capital by the family/ies;
- the presence on the Board of at least one family member.

Indeed, this mixed criterion is the most adequate and precise to identify a family firm and to distinguish FFs from NNFs, as it considers simultaneously many variables instead of only one (Smyrnios et al., 1998). In addition, a mixed criterion mirrors the Italian context in which a FF has one or more families control participation in the capital and also some family members are in the Board of Directors, even without executive roles.

The family business phenomenon in Italy has been strongly analyzed in terms of relationship between FFs and governance. In particular, there are studies that focused on FFs by taking into account organisational structures and decision making process (Gubitta and Giannecchini, 2002; Songini, 2007), corporate governance (Corbetta et al., 2002a; Montemerlo, 2000), second and third generation turnover (Corbetta et al., 2002b; Montemerlo, 2010; Zocchi, 2004a, 2004b), international development (Stampacchia et al., 2008) and performance (Chu Wenyi, 2011; Culasso et al., 2012; Faccio et al., 2001; Gonzalez et al., 2012; Villalonga and Amit, 2004; 2006). On the contrary, studying the literature and searching inside academic database (as EBSCO, Google Scholar and similar), we observe a sort of lack of researches about the use of managerial systems in family firms.

RESEARCH METHOD AND RESEARCH QUESTION

The research has been conducted through an empirical analysis.

The companies selected belong to the FTSE MIB index, to the STAR and the Small Cap one in Borsa Italiana Stock Exchange (223 medium-large sized companies). We choose listed companies, as they adopt a structured strategic and control system, recommend by the Guide of Borsa Italiana (September, 2011); in addition, the firms of the sample do not belong to the same sector to avoid the sector influence. Focusing on Italian companies of the industrial sector, we excluded banks, insurance and other financial companies and also foreign industrial listed companies.

We distinguished the sample in FFs and NNFs using the criterion explained in the Literature section and the information provided by the "Corporate Governance Report" of each company, published on the Borsa Italiana website, and for this research we considered only FFs. Due to the response rate of

14,80 %, in line with the main literature (Lucianetti, 2006), our sample is composed by 33 listed family firms.

The data, both quantitative and qualitative, were collected with a questionnaire and analyzed using statistical tools. The questionnaire allows collecting a significant amount of data, which permits statistical analysis and draws up generalizations (Zimmerman, 2001). The approach used is both qualitative, analyzing the empirical evidence, and quantitative, measuring information.

The questionnaire has been created in the end of 2012 by all the authors and subsequently sent to the companies. Compilation time was about 3 months, with several requests by telephone. All the authors made the data elaboration.

The questionnaire was structured in three sections:

- the first section collected general data of the companies (corporate name, number of employees, revenues, economic sector, and legal form);
- the second section collected data on the trend of the companies (production, orders, employment, and investments);
- the third section collected information on budgeting process.

The appendix 1 contains the above questionnaire.

The main research questions of this study are the following:

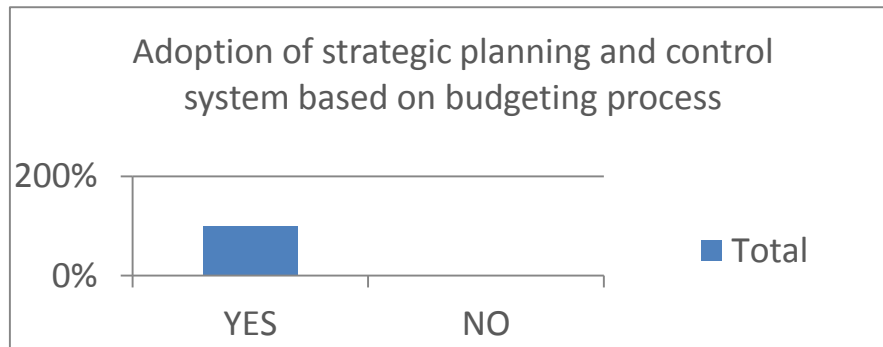
- RQ1: Is yet the budget the main tool of strategic planning and control in the Italian FFs?
- RQ2: What are the main perceived advantages and disadvantages of the budget by these companies?
- RQ3: What is the budget gaming in the Italian FFs?

FINDINGS

For RQ1 “Is yet the budget the main tool of strategic planning and control in the Italian FFs?”, it emerged that the budget is adopted by the totality of the family firms.

	YES	NO
FAMILY FIRMS	100%	0%

Exhibit 1. Budget adoption



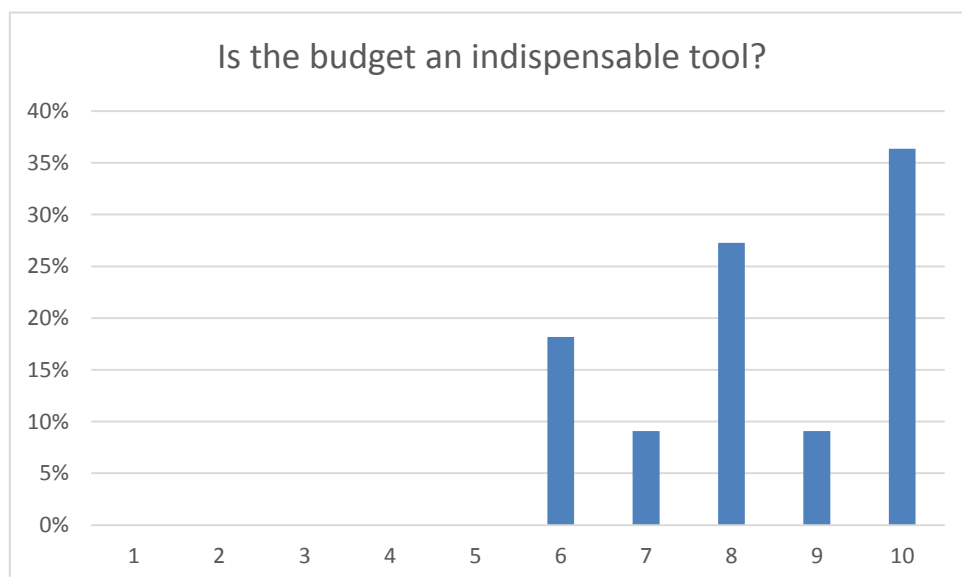
Graph 1. Budget adoption

The answer to the first question is significant, as no companies of the sample abandon the budget. On the contrary, we expected that at least some of these medium – large sized companies abandon the budget. Indeed, in the literature (Hope and Fraser, 2003a, 2003b), it seems that the abandon of budget is encouraged and the first steps are moved in particular by large size companies. Our assumption refers to Italian medium - large sized companies with the purpose to compare their behavioral in an international context.

To strengthen the findings about the first research question, we found that all the companies of the sample considered the budget an essential tool, as they assigned to it a score higher than 6 (on a scale of 1 to 10) in terms of importance, and even the 45% of the companies analyzed (listed FFs) assigned a score between 9 and 10.

	1	2	3	4	5	6	7	8	9	10
FAMILY FIRMS						18%	9%	27%	9%	36%

Exhibit 2. Budget as an indispensable tool

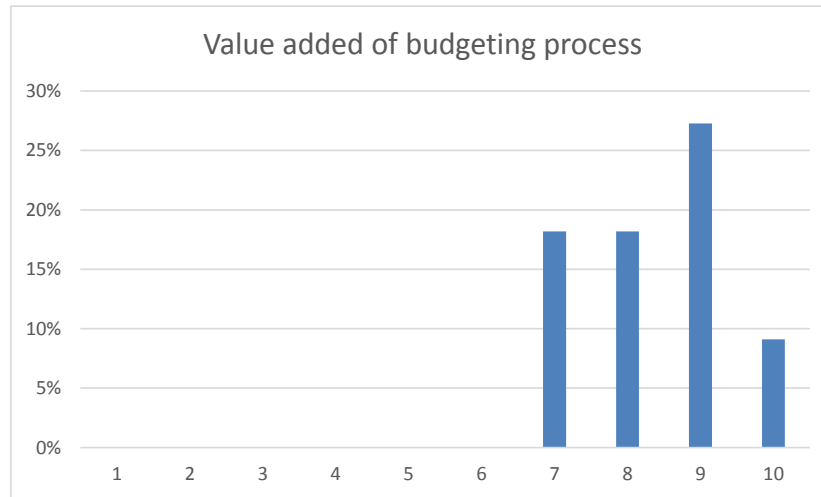


Graph 2. Budget as an indispensable tool

About the value added assigned to this tool, the companies of the sample confirmed the answers to the previous question. Indeed, if we consider both the 9 and 10 scores assigned to the budget, it emerged how the 44% of the listed family firms have assigned a high value added to the budget.

	1	2	3	4	5	6	7	8	9	10
FAMILY FIRMS						0%	18%	18%	27%	9%

Exhibit 3. Budget - Value added



Graph 3. Budget - Value added

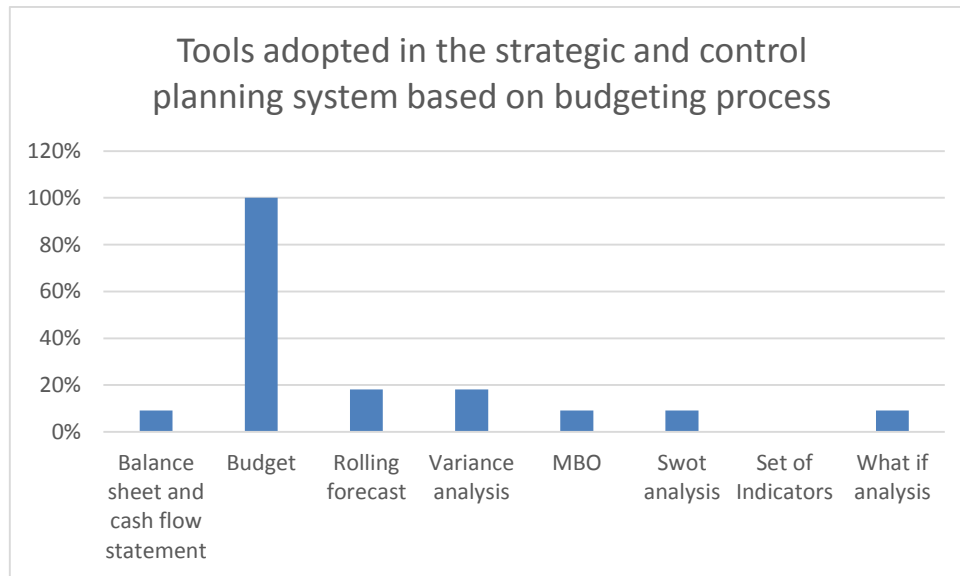
About the other tools adopted in the strategic planning and management control system, it emerged that the budget is the more widespread, followed by (in order):

- Variance analysis (18%);
- Rolling forecast (18%);
- MBO – Swot analysis – What if analysis and Balance sheet and cash flow statement (9%).

In general, the FFs showed a lower adoption of other strategic planning and management control systems.

	Balance sheet and cash flow statement	Budget	Rolling forecast	Variance analysis	MBO	Swot analysis	Set of Indicators	What if analysis
FAMILY FIRMS	9%	100%	18%	18%	9%	9%	0%	9%

Exhibit 4. Other tools adopted



Graph 4. Other tools adopted

According to RQ1, the budget is yet the main tool of strategic planning and control in the Italian FFs. In addition, traditional budgeting still appears to retain its strong position (Granlund, 2001), also if it emerged that some tools are developing, such as rolling forecasts and balanced scorecard (Ekholm and Wallin, 2000; Libby and Lindsay, 2010).

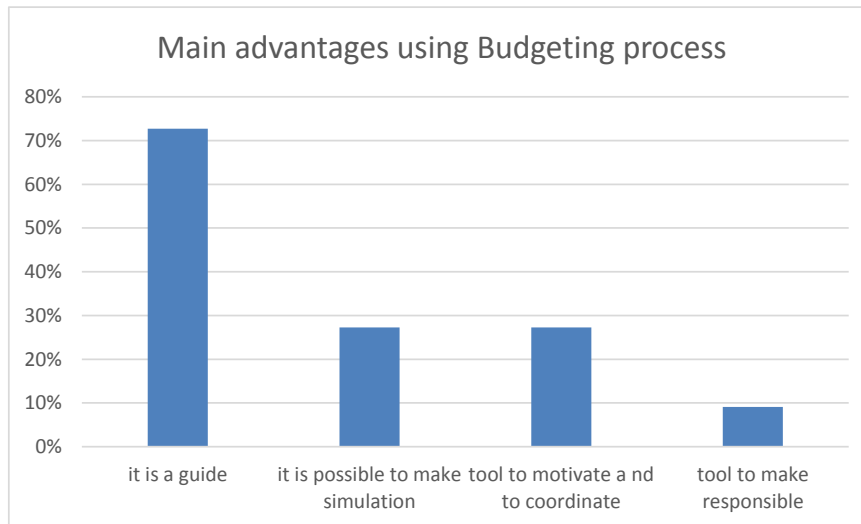
About RQ2 “What are the main perceived advantages and disadvantages of the budget by the companies?” , it emerged that the listed family firms usually perceive also some budget advantages, as:

- the budget is a sort of guide (63%);
- the budget is useful to make simulations (31%);
- the budget is useful to motivate and coordinate the manager (19%);
- the budget is useful to make managers responsible (13%).

In particular, listed FFs considered budget as an important tool to guide decision makers in their short-run decision making process (73%), while a low percentage of FFs assigned to the budget a specific role in terms of organizational mechanisms to make managers responsible (9%).

	it is a guide	it is possible to make simulation	tool to motivate and to coordinate	tool to make responsible
FAMILY FIRMS	73%	27%	27%	9%

Exhibit 5. Budgeting advantages



Graph 5. Budgeting advantages

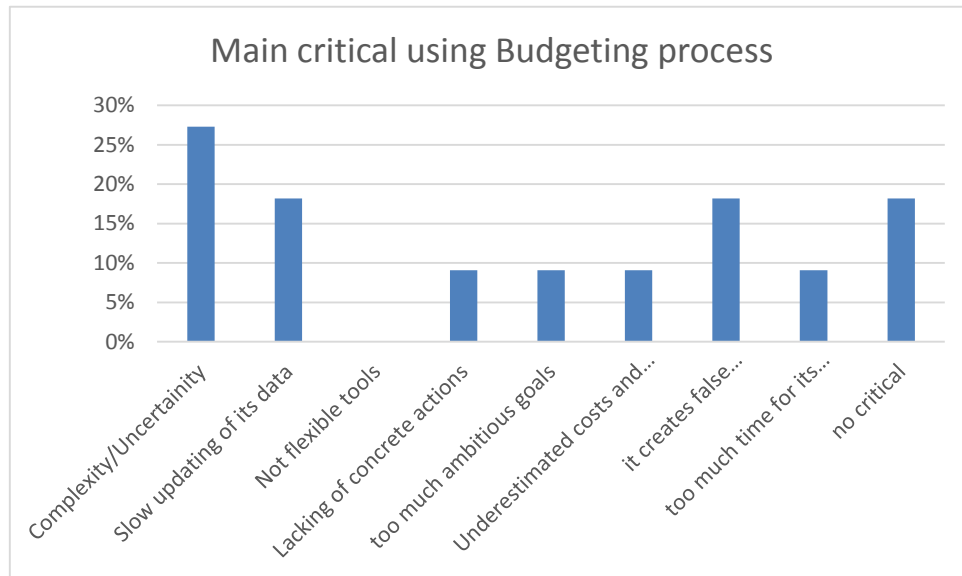
Even if the companies of the sample are strictly tied to the budgeting process and the 18% of them did not identify any critical, some criticisms of this tool were analyzed:

- complexity (27%);
- slow updating of its data (18%);
- it creates false expectations in stakeholders (18%);
- too much time for its drafting (9%);
- lacking of concrete actions (9%);
- too much ambitious goals (9%);
- underestimated costs and overestimated revenues (9%);
- not flexible tools (0%).

In particular, FFs evaluated its complexity/uncertainty as the main important critical of the budget (27%) and they attributed to the slow updating (18%) and the creation of false expectations in stakeholders (18%) a big importance in terms of limits of use.

	Complexity/Uncertainty	Slow updating of its data	Not flexible tools	Lacking of concrete actions	too much ambitious goals	Underestimated costs and overestimated revenues	it creates false expectations in stakeholders	too much time for its drafting	no critical
FAMILY FIRMS	27%	18%	0%	9%	9%	9%	18%	9%	18%

Exhibit 6. Budgeting main critical



Graph 6. Budgeting main critical in the sample

According to RQ2, the main advantages is that the budget is perceived as an important tool to guide decision makers in their short-run decision making process (Brusa, 2012) and main disadvantages of the budget are the complexity and uncertainty (Anthony, 2005; Brusa, 2012; De Luca, 2010).

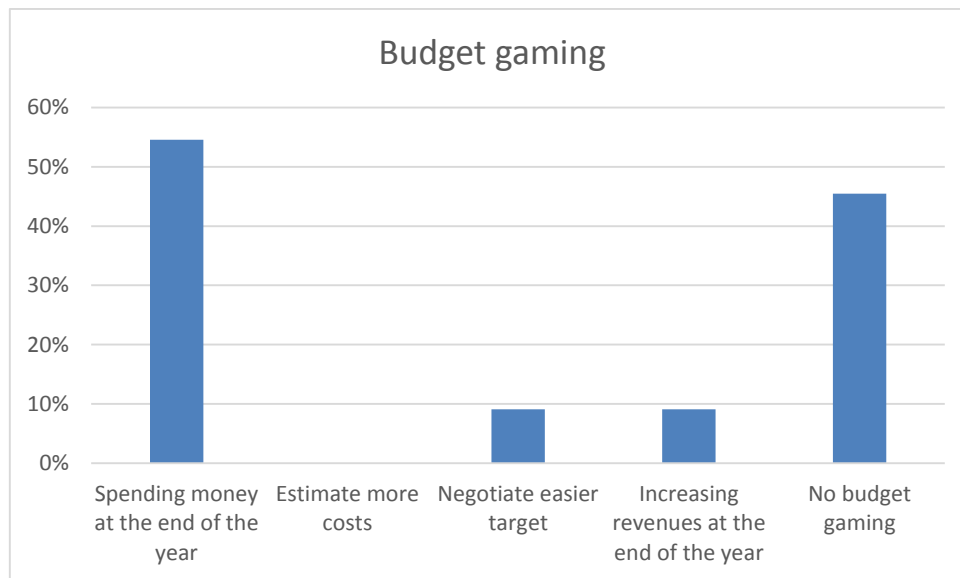
About RQ3 "What is the budget gaming in the Italian FFs?", the budget gaming emerged are:

- managers spend money at the end of the year (55%);
- revenues increase at the end of the year (9%);
- managers negotiate easier targets (9%).

Besides, for the 45% of the firms there is not budget gaming.

	Spending money at the end of the year	Estimate more costs	Negotiate easier target	Increasing revenues at the end of the year	No budget gaming
FAMILY FIRMS	55%	0%	9%	9%	45%

Exhibit 7. Budget gaming



Graph 7. Budget gaming

It emerged that the main budget gaming is referred to spending money at the end of the year, followed by the increase of revenues at the end of the year together with the negotiation of easier target.

According to RQ3, the budget gaming is widespread also in the Italian listed FFs, as showed in the literature (Libby and Lindsay, 2010, Ostergren and Stensaker, 2011), also if the 45% of the sample states that there are no budget games in the firm.

CONCLUSIONS, IMPLICATIONS AND LIMITATIONS

This study shows that the budget is yet a fundamental tool for Italian listed Family Firms. It seems that listed FFs use budget only as a tool to guide and support the short-run decision making process, and not as an organizational system to make managers responsible and the other advanced tools of strategic management system are not widespread.

In any case, budget needs to be joined by other tools to overcome its limitations and besides the problem about the budget gaming and it seems that listed FFs adopt a short-term perspective.

Despite a certain part of the literature affirms that the budget tool is overcome, our study states that the companies of the sample adopt the budget in their management control process.

The scope of this study is relevant for the literature concerning the use of the budget in Italian listed FFs.

These findings can also be generalized for firms operating in other countries, especially where the FFs phenomenon is widespread as in Italy, and future developments of this study would make a comparison among companies from different countries.

Concluding, it is possible to affirm that in the Italian listed FFs (considering the manufacturing medium-large sized companies listed on Borsa Italiana Stock Exchange, belonging to the FTSE MIB

index and to the STAR and Small Cap one), the budget is yet widespread and it is not possible to abandon this tool. This is true, even if it is recommended to joint other tools to satisfy new needs as:

- to adapt at changing market conditions and customers needs;
- to increase innovation in a broad sense (product/process);
- to achieve a correct support to decentralization.

This study has to be improved analyzing more firms and comparing the Italian context with other countries. Indeed, this study presents some limitations that can be summarized as specified below:

- only listed companies are considered. Nevertheless, the listed companies represent an homogeneous sample in terms of organizational and financial features;
- the lack of comparison with NFFs;
- the method adopted could be integrated with some econometrical models.

Further research will remove stated limits and especially analyze the impact of budget use on performance, distinguishing between FFs and NFFs (large and not-large), taking into account the existence of a correlation between the budget use on the one hand, with achieved performance on the other.

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APPENDIX 1

The main questions included in the questionnaire were the following:

- Do you adopt the budgeting process in your firm?

If yes:

- Budgets are indispensable in your firm? (on a scale of 1 to 10)
- Are budgeting systems adding value to your firm? (on a scale of 1 to 10)
- What are other tools used in your firm in the strategic planning and management control system?
- What are the main advantages of the budget?
- What are the main criticisms of the budget?
- What is the budget gaming in your firm?
- If no:
- Why does your firm not adopt the budget?
- What are the main criticisms of the budget?
- Are there and what are the “new tools” adopted in your firm?

INTERNATIONALIZATION OF NON PROFIT ORGANIZATIONS; IS IT REALLY DIFFERENT?

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ABSTRACT

Internationalization of the organizations has been studied for a very long period of time, starting around early nineteenth century. The Initial research on this area focused on Foreign Direct Investments (FDIs) and the focus was later shifted into the studying of the Multinational Corporations (MNCs) as they were later regarded as the forefront of internationalization of the businesses. As a result of this attention, there is considerable amount of literature exists pertaining to this area. However an important observation is that, all most all of this previous knowledge on internationalization exists with respect to For-profit Organizations (FPOs) and internationalization of Nonprofit Organizations (NPOs) that have been relatively absent from the mainstream management literature. Therefore the objective of this paper is to briefly summarize the main explanations about the two sectors, highlight the differences between the two sectors and thereby argue that internationalization process of these two types of organizations are different. The study developed three propositions related to three key internationalization issues faced by organizations, they are motives for internationalization, international market selection and the entry mode choice. Due to the structural differences in the two sectors in terms of missions, financing and planning, the study argues that, the NPOs internationalize for different reasons, to different markets using different entry modes.

Keywords: *Entry Modes, International Market Selection, Motives for Internationalization, Non Profit Organizations*

INTRODUCTION

Internationalization of the organizations has been studied for a very long period of time, starting around early nineteenth century. Initial research on this area focused on Foreign Direct Investments (FDIs) and the focus later shifted into the studying of the Multinational Corporations (MNCs) as they were later regarded as the forefront of internationalization of the businesses. As a result of this attention, there is considerable amount of literature exists pertaining to this area and, management researchers are fairly knowledgeable about the internationalization of organizations.

However, organizations can be categorized into two broad categories, For-Profit Organizations (FPOs); whose main objective is earning profits, and non-profit organizations (NPOs); whose main objective is not to earn profits but to do something good. Strategies used by an organizations is largely depend upon its objectives, thus it is argued that strategies used by FPOs and NPOs are different from each other, including internationalization strategies.

How ever an important observation is that all most all of this previous knowledge on internationalization exists with respect to FPOs. In fact internationalization of NPOs have been relatively absent from the mainstream management literature (Lambell, et al.2008), despite their uniqueness. Thus there is considerable research gap exists when it comes to internationalization of the NPOs (Teegen, Doh, & Vachani, 2004).

Therefore the objective of this paper is to briefly summarize the main explanations about the two sectors, highlight the differences between the two sectors and thereby argue that internationalization decisions faced by these two types of organizations are different.

LITERATURE REVIEW

Organizational types

Sustaining profitability in the long run is a challenge as well as a necessity for any profit oriented firm; as a result many firms do not survive for long. There are at least four different theories of profit; namely competitive advantage, rivalry restraint, information asymmetry and commitment timing (Makadok, 2011). The study will discuss each of these theories in brief, however it is important to note that in most cases these theories are complementary rather than contradictory, thus there is significant amount of overlap.

Theories of competitive advantage highlight the importance of having superior processes so that conversion process from inputs to outputs for a given firm is superior compared to its competitors thus giving that firm a competitive advantage which will enable the firm to make profits (Makadok, 2011). Resource based View (RBV) is one of the most influential competitive advantage theories. Rivalry restraint theories highlight the importance of avoiding or managing the competition for sustaining profitability (Makadok, 2011). Information asymmetry argues the importance of information in decision making and highlights that the access to certain information might reduce the chances of adverse selection (Akerlof, 1970) or moral hazard (Grubel, 1971) and place a given organization in a superior position. Transaction Cost Analysis (TCA) explains some of these transaction costs and highlights the impact of those costs in organizations' performance. Finally timing of certain decisions also influence profitability of a firm (Makadok, 2011), firms can enter

markets first with higher uncertainties and higher returns or might wait till some other organizations to clear the uncertainties and then enter later but with average or low returns.

On the other hand, there are at least two main economic theories which explain the nonprofit sector; contract failure theory and government failure theory (Clarke & Estes, 1992). In order to be efficient, market system requires flowing conditions, reasonable knowledge of the markets by all parties, ability to reach explicit agreements with the intended parties, and finally the ability to confirm the compliance to the agreement (Hansmann, 1987). In the absence of these conditions "a for-profit firm has both the incentive and the opportunity to take advantage of customers by providing less service to them, than was promised and paid for" (Hansmann, 1987, p. 29). However a nonprofit firm due to its non-distributive constraint is tend to be less opportunistic in the same scenario (Clarke & Estes, 1992; Hansmann, 1987). Thus the contract failure theory argues that nonprofits will be more effective in circumstances where market system fails. As far as government failure theory is concerned, governments tend to address their programmes to average citizens, thus there will be always more of certain goods and services and less of other goods and services, NPOs' tend to fill this gap by targeting these marginalized communities by the government programmes (Clarke & Estes, 1992). These two theories are been recognized as the two main explanation of growth as well as the existence of the nonprofit sector.

For-profit organizations and non-profit organizations; the difference

The discussion here will try to establish the main differences between non-profit and for-profit sectors with the objective of understanding the influences it will have on decision making process of the organization in general and internationalization decision in particular. Under this, at least three broader areas of differences can be identified, mission/objectives (Epstein & McFarlan, 2011; Gilmour, 2007; Hansmann, 1987; Hull & Lio, 2006), financing (Epstein & McFarlan, 2011; Lewis, 1999; Moore, 2000) and structure (Euske, 2003; Hull & Lio, 2006; Nutt & Backoff, 1993).

Mission of a for-profit organization basically serves as a guide, to how the profit should be achieved, while for a not for-profit, mission defines the overall goal of the organization, which is to create positive social change (Hull & Lio, 2006). Financing of a for-profit organization comprises with funds from capital markets (equity and debt) and funds from operations, while financing for a not for-profit organization comes mainly from grants (Epstein & McFarlan, 2011). As far as the structure of a for-profit organization is concerned, for-profits firms are owned by its shareholders thus the entity is primarily responsible for them (Hull & Lio, 2006) and therefore decision making generally be top down, not for-profits on the other hand are equally responsible for its donors, beneficiaries, and many other stakeholders (Epstein & McFarlan, 2011) thus the chain of command is not so clear. See table 1 for the summary. Author believes that these differences will directly influence the decision making of

these entities thus the study will use these differences in arguing for differences in internationalization decisions among nonprofits and for-profits.

Table 1: Main differences between not for-profits and for-profits organizations

Criteria	Not for-profit	For-profit
Mission/Objectives	Mainly Social - To create as much positive social change as possible	Mainly Economical - To manage the overall profitability of the organization
Ownership & Financing	Donors, Employees, Many stakeholders	Shareholders
Management and Planning	Bottom up	Top Down

Source: Literature review

Internationalization process of an organization

“Internationalization is the process of adapting exchange transaction modality to international markets” (Calof & Beamish, 1995 p. 115). Internationalization is also a process including many critical steps (Andersen, 1997), out of which, understanding motives for internationalization, which markets to enter and using which methods to enter those markets, are the most important.

First the firm should decide whether to internationalize or not, in order to understand this decision, it is important to examine the motives for firms to internationalize. According to Etemad (2004) firms internationalize as a result of push factors (industry competition, economy, legislation, & domestic saturation) and/or pull factors (economic & political stability in international markets, new opportunities, access to resources, etc.). Once a firm decides to go international it has to decide what markets/countries it is planning to enter. Once the decision of which markets to be entered is finalized, a firm has to evaluate and select a proper entry mode (Sakarya, Eckman, & Hyllegard, 2007). Then the timing of the entry and finally a firm has to decide on the mode of operations.

As far as this particular study is concerned, the focus will be on internationalization motives, international market selection and the entry mode selection. The study will try to argue that there are critical differences among FPOs and NPOs in terms of internationalization related decision making because of the differences in the two sectors.

Internationalization of for-profit firms

The general theory suggests that there are four main motives behind FPO internationalization, namely natural resource seeking, market-seeking, efficiency seeking and innovations seeking (Dunning & Lundan, 2008). Natural seeking refers to organization’s internationalizing with the primary focus of obtaining natural resources like oil, minerals, etc, while market seeking refers to organization’s

internationalizing with the objective of serving their customers better. Efficiency seeking organizations would internationalize to minimize their cost of production and innovation seeking organizations internationalize with the objective of increasing access to new technologies and to facilitate learning. There is also significant number of other theories explaining different aspects of the internationalization of FPOs, the study will briefly outline the following main contributions in this regard, International Product Life Cycle Theory (IPLCT), Monopolistic Advantage Theory, Eclectic Paradigm, Uppsala Model and the Network Theory.

The IPLC theory “emphasizes upon comparative cost doctrine and more upon the timing of innovation, the effects of scale economies, and the roles of ignorance and uncertainty in influencing trade patterns” (Vernon, 1966: 190). The focus of the theory is at the product level compared with other theories (Allred and Swan, 2005). The theory suggests four phases, in the first phase, U.S. exports, dominates the world market, in the second phase the awareness about the product increases and other countries catch up and start to produce for their home markets, in the third phase with the increased competitiveness other countries are able to export to third world markets and in the final stage these countries are even start to export to the US market which the product was initially innovated (Ayal, 1981). The theory explains the internationalization as depend upon market readiness of its products.

Monopolistic advantage theory argues that the survival and growth of firms outside their borders are determined by the given firms ability to manage its superiorities over their local counterparts in foreign markets (Hymer, 1976). Hymer (1960) further argues that these unique abilities also known as Firm Specific Assets (FSA's) and will allow a firm to overcome "Liability of Foreignness (LOF)" and will allow the firm to be successful in foreign markets. Thus the theory explains internationalization decisions as dependent upon the amount and level of FSAs of a particular firm.

The initial idea of the Eclectic paradigm was presented by Dunning in 1976 at a Noble Symposium, and was further developed so that it will include three factors which will influence a firm's internationalization, namely Ownership advantages (OA), Locational Advantages (LA) and Internalization advantages (IA) (Dunning, 1980, 1988). “The eclectic framework represents a multi-theoretical approach, which used International trade theory (location advantages), resource-based theory (Ownership advantages) and transaction cost theory (internalization advantages) in order to predict internationalization decisions” (Anderson, 1997, p 35). The theory argues that firm's internationalization strategy will be developed in order to manage these advantages.

In early 1970's a new set of research emerged explaining the internationalization of Small and Medium scale Enterprises (SME's), commonly known as stage models of internationalization. In the Uppsala model which emerged based on Nordic countries, Internationalization has been explained as a chain

of gradual events. Firms which operates initially in their home markets, receives demand from foreign customers and starts to export their products in order to meet those demands, and gradually expands their operations and ultimately becomes a fully-fledged foreign operation. For an example Johanson & Paul (1975) identifies four different levels of internationalization namely, no regular export activities, to exporting through independent agents, to starting an overseas sales unit and finally overseas production.

Network theory on the other hand assumes that especially service based firms internationalize because of and using their mutually beneficial relationships with other network partners (O'Farrell et al. 1998). Further According to Malhotra, Agarwal, and Ulgado (2003), development of these networks represent dynamic, complex and less structured patterns. Networks can be in the form of both formal and informal and the main idea is coordination rather than competition.

PROPOSITION DEVELOPMENT; INTERNATIONALIZATION OF NON-PROFIT FIRMS

Internationalization motives of NPOs

Ultimate objective of any FPO strategy, including the internationalization strategy is to increase the profitability and the long run survival of the organization. Therefore as explained earlier FPOs internationalize for four main motives, natural resource seeking, market-seeking, efficiency seeking and innovations seeking (Dunning & Lundan, 2008).

NPOs on the other hand due to their non-profit orientation and socially driven mission would have different objectives in strategy selection. The available literature on NPO international strategy selection is very limited (Teegen et al., 2004). However as per available limited literature, there are several major reasons why NPOs internationalize. In certain cases, they are founded on missions with serving marginalized communities outside their home country (Baguley, Cornforth, Mallory, & Keynes, 2004). For an example "Save the Children", was initially founded in UK to take care of German and Austrian children, who were marginalized by their disrupted economies. Some NPOs internationalize because they deal with issues which are global in nature like poverty, rights violation, access to education, etc.(Siméant, 2005). For an example Amnesty International works on minimizing human rights violations by governments, which is a global issue. Then there are NPOs who responds to requests from beneficiaries aboard or respond to sudden changes of circumstances like disasters. For an example significant amount of disaster relief organizations responded to 2004 Asian Tsunami and went into Indonesia and Sri Lanka as those two were the mostly affected countries. There are also NPOs who wants to share their knowledge as well as to learn from their counterparts, to be more

efficient and then finally there are NPOs who have grown in their home markets and looking to expand their services across borders (eg: Red Cross) (Bennett & Ali-Choudhury, 2010).

Therefore it is obvious that there are differences in motives among two sectors when it comes to internationalization. Therefore the study proposes the following proposition.

P1: NPOs have different motives for internationalization compared with their for-profit counterparts.

International market selection of NPOs

Market selection is a very important decision for an internationalizing organization (Papadopoulos & Martín, 2011) and FPOs select markets which provide them with the highest returns. Thus FPOs tend to select markets with higher market potentials, lesser psychic differences, lesser risk profiles and lesser competition, because each of these mentioned factors have positive relationships with organizational profitability (Brouthers, Mukhopadhyay, Wilkinson, & Brouthers, 2009).

But as explained earlier NPOs have social missions, many stakeholders and bottom up planning. On the other hand FPOs have economically motivated missions, and mainly responsible for increasing the wealth of its shareholders. As a result of these differences the factors which affect market selection of these two types of organizations also can differ. Even though there is a considerable knowledge about the factors affecting FPOs, the factors which affect market selection of NPOs remains relatively unknown (Brass, 2012). However due to the differences between the two sectors, the study proposes the following proposition.

P2: NPOs use different criteria in international market selection compared with their for-profit counterparts.

Entry mode selection of NPOs

As explained earlier FPOs will select an entry mode which provides them with the highest returns for its shareholders. However, given firm's choices are also determined by the availability of resources and desire for control (Anderson & Gatignon, 1986). For a FPO, level of control they obtain under each entry mode will be of critical importance, because it can influence the risks an organization takes and thereby the returns (Barkema, Bell, & Pennings, 1996). Control refers to the "level of authority a firm may exercise over systems, methods, and decisions of the foreign affiliate" (Ekeledo & Sivakumar, 2004). Thus one of the most common bases for categorizing entry modes is control. Previous literature found out that size of the organization and international experience have positive relationship with a firm's selection of high control entry modes, while country risk have a negative relationship with control preferred.

NPOs however due to their differences in objectives and ownership, are not that much worried about the level of control they have, as long as their socially oriented missions can be accomplished. Thus there is a tendency for a NPO to prefer shared control entry modes as long as they can find a "natural

local partner". "If a local partner has similar interests, objectives and intended beneficiaries, like the internationalizing NPO, then the local partner can be called a natural partner" (Fowler, 1991a, p. 11). Because for a NPO, main objective would be to do as much social good as possible and one can do it more effectively if they do it together with a partner with similar objectives.

P3: Entry mode choices of NPOs are influenced by different set of factors compared with their for-profit counterparts.

CONCLUSIONS

Despite the growth in number of NPOs operating abroad, there have been very little work done in the particular context. The objective of this paper was to highlight the differences between for-profit and non-profit sectors and thereby argue that the internationalization decisions faced by organizations belonging to these two sectors are different.

The study developed three propositions related to three key internationalization issues faced by organizations, i.e. motives for internationalization, international market selection and the entry mode choice. Due to the structural differences in the two sectors in terms of missions, financing and planning, the study argues that, NPOs internationalize for different reasons, to different markets using different entry modes compared to their for-profit counterparts.

The study provides a basis for future empirical research to bridge the knowledge gap in the area. There are also possibilities to explore further into each of these internationalization decisions and there by understand motives behind these internationalization decisions.

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BOARDS AND FIRMS' ENVIRONMENTAL PROACTIVITY: EVIDENCE FROM EUROPEAN POLLUTING INDUSTRIES

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ABSTRACT

The present paper addresses the relation between board size and composition and firms' environmental proactivity. Specifically, it aims at exploring the relationship between firms' board structure and their green proactivity, within the agency theory and resource dependence theory frameworks, in order to outline if particular types of board composition could act as a stimulating driver for firms' proactive environmental strategies.

The theoretical analysis is completed by an empirical exploration, performed by two linear regression models, on a sample of European firms, belonging to polluting industries, that were included in the Carbon Disclosure Project questionnaire 2012. The Score emerging from the questionnaire is considered as a proxy for firms' environmental proactivity, while the industry choice is related to the increasing pressure for better environmental performance that polluting industries are nowadays experiencing because of the stakeholders' and media requests.

The results show that board composition matters in firms' environmental proactivity. In particular, firms with a higher percentage of independent directors in the board and a two tier system of governance present superior environmental proactivity, while a greater percentage of non executive directors and of women or board size do not seem to be related with firms' proactive environmental strategies.

Keywords: *Environmental Proactivity, Corporate Governance, Board of directors, Carbon Disclosure Project, Independent Directors, Non-Executive Directors, Gender Diversity, Polluting industries.*

INTRODUCTION

In recent years, scholars and managers have devoted greater attention to the strategic implications of corporate social responsibility (CSR): the success of a business is in fact no longer defined only by monetary gains but also by the impact that an organization's activities have on society as a whole. Achieving sustainability is therefore one of the most relevant challenges for society and firms.

In particular, companies can play a key role in order to reduce the global environmental impact of the present society (Carballo-Penela and Castromán-Diz, 2014); that's why the commitment to the natural environment has become an important variable within the current competitive scenarios (Gonzales-Benito and Gonzales-Benito, 2006) and environmental performance is increasingly considered a strategic issue for firms. This is particularly true for firms belonging to polluting industries which are increasingly forced to change their attitude towards green issues (Bansal, 2005; Sharma and Henriques, 2005). The emerging consumers' preference for greener products and services, together with the pressure operated by stringent governmental regulations and by stakeholders (Kassinis and Vafeas, 2006) and media are, in fact, requesting corporate managers to adopt better environmental behaviors (Kock *et al.*, 2012).

These behaviors, in particular, may range in a continuum between two extreme positions (Gonzales-Benito and Gonzales-Benito, 2006): a passive, or reactive, performance, by which companies decide to follow only the necessary actions in order to meet regulatory requirements; a proactive conduct, specific of firms that decide to voluntarily introduce policies and actions to prevent or decrease their impact on the natural environment.

As there is a growing evidence that a proactive environmental strategy may help firms to gain competitive advantage, such strategy, and in particular its drivers and impact on business performance, has been object, in the last few years, of an ongoing debate.

The Organizations and Natural Environment literature has, in fact, extensively developed on the drivers of firms' proactive environmental strategies, focusing on a variety of antecedents, such as: regulation (Ambec and Lanoie, 2006), stakeholder pressure (Henriques and Sadosky, 1999), firm's ethical attitude (Bansal and Roth, 2000), industry structure (Claver *et al.*, 2007), geographic location, company's size, its position in the value chain (Gonzales-Benito and Gonzales-Benito, 2006) or the perception of new business opportunities (Bansal and Roth, 2000). A few studies have recently explored the influence of corporate governance mechanisms on firms' environmental performance and proactivity (Berrone and Gomez-Mejia, 2009; Earnhart and Lizal, 2006; Kock *et al.*, 2012; Ortiz-de-Mandojana *et al.*, 2012; Ortiz-de-Mandojana and Aragon-Correa, 2013), trying to understand if there are mechanisms that may direct managers towards green practices, but the relationship between corporate governance, in particular corporate ownership and board structure, and firms' environmental proactivity has not been sufficiently investigated and the debate is still open.

The present paper contributes to extant literature by analyzing the relationship between corporate board's structure and firm environmental proactivity, in order to visualize if some types of directors (non executive directors, independent directors or women) or particular features of the board (size

and structure: one tier or two tier system) could act as a stimulating driver for firms' proactive environmental strategies.

Using a sample of European firms belonging to polluting industries that responded to the Carbon Disclosure Project (CDP), this study highlights the importance of a firm's board with respect to companies' proactive environmental conducts, advancing knowledge in the understanding of the drivers of such strategies. Moreover, while most of the studies investigating this issue are focused on Anglo-Saxon countries, in particular US (Kock *et al.*, 2012; Berrone and Gomez-Mejia, 2009; Darnall and Edwards, 2006) or developing countries (Meng *et al.*, 2013; Earnhart and Lizal, 2006), our analysis is focused on companies belonging to different European non Anglo-Saxon countries (in particular France, Italy, Spain, Portugal and Switzerland).

The remainder of the paper is organized as follows: the next section reviews prior studies on the drivers of proactive environmental strategies and, in particular, the relationship between corporate board structure and firms' green attitude, and it develops the research hypotheses. The subsequent section discusses the data and the adopted methodology. Then, the descriptive statistics and the results of the analysis, together with a formal discussion of the implications of the results are presented. Lastly, the final section concludes the paper summarizing the main findings and limitations of the study.

BOARDS OF DIRECTORS AND PROACTIVE ENVIRONMENTAL STRATEGIES: CONCEPTUAL FOUNDATIONS AND RESEARCH HYPOTHESES

The Organizations and the Natural Environment scholars (Berry and Rondinelli, 1998; Sharma and Vredenburg, 1998) defined proactive environmental strategies (PES) as the reduction of a firm's environmental impact and the management of the relationship between business and nature beyond imposed compliance (Sharma, 2000; Aragon-Correa and Sharma, 2003; Gonzales-Benito and Gonzales-Benito, 2006). Thus, a firm that adopts a PES is trying to anticipate future regulations and trends, designing and managing new and alternative operations, processes, and products in order to prevent (instead of simply correct) negative environmental impacts (Aragon-Correa and Sharma, 2003).

A proactive environmental strategy may be ideally seen as the last stage of a firm's environmental efforts that influence management practices (Hunt and Auster, 1990) and it is usually characterized by the presence of four basic elements: (a) regulatory proactivity, (b) operational improvements, (c) organizational changes, and (d) environmental reporting (Delmas *et al.*, 2011). In other words, a proactive environmental strategy is not just a firm's reaction to regulation, but it implies the adoption of advanced environmental oriented organizational systems and measures in all management decision

areas (Gonzales-Benito and Gonzales-Benito, 2006). Several studies recognized that the introduction of environmental protection may be used by companies to develop successful strategies aimed at gaining competitive advantage, enhancing their position in the market and developing the resources and capabilities in order to build a long term profit potential (Bansal and Roth, 2000). Consequently, a number of scholars from different fields of study, have tried to identify and analyze the drivers that may encourage a company to develop and sustain its environmental proactivity, together with its environmental performance.

Prior studies have classified environmental drivers in organizational, or internal, and contextual, or external (Ghobadian *et al.*, 1998; Gonzales-Benito and Gonzales-Benito, 2006; Claver *et al.*, 2007). Essentially, environmental regulation (Ambec and Barla, 2006; Bansal and Roth, 2000; Majumdar and Marcus, 2001) and stakeholder pressure (Buisse and Verbake, 2003; Henriques and Sadorsky, 1999; Garcés-Ayerbe *et al.*, 2012) represent the external factors, while company characteristics constitute the internal ones, both moderated by the presence and strength of ethical attitude (Husted, 2005).

In particular, internal drivers have been detected as key elements for improving firms' voluntary orientation towards green issues. Company's structural features, such as firm's size, position in the value chain and type of industrial sector exert, in fact, considerable pressure in the direction of proactive environmental strategies. Moreover, applying the so called "natural resource-based view" of the firms (Hart, 1995; Aragon-Correa and Sharma, 2003) also intangible resources (Surroca *et al.*, 2010), absorptive capabilities (Delmas *et al.*, 2011), complementary assets (Christmann, 2000) managerial attitude and motivation (Fernández *et al.*, 1996; Hust and Auster, 1990), leadership capability (Azzone and Noci, 1998), and intellectual capital (Claver *et al.*, 2007) may affect a firm's ability to detect economic opportunities from environmental engagement and the effective implementation of corporate environmental strategies.

A recently growing stream of literature has examined the linkages between corporate governance issues and firms' PES, challenging the role of ownership structure as well as board composition, but the few studies on the issue have provided contradictory results and the relationship should be further exploited.

Most of the papers have their roots in the agency problem caused by the separation between management and ownership (Jensen and Meckling, 1976; Shleifer and Vishny, 1997) and are focused on "how some corporate governance mechanisms resolve the divergence of interests between firm owners (principal) and managers (agent) with respect to environmental practices" (Kock *et al.*, 2012, p. 493): in particular, executive pay (Berrone and Gomez-Mejia, 2009; Cordero and Sarkis, 2008), the market for corporate control, the composition of the board of directors (de Villiers *et al.*, 2011) and equity based incentive plans (Kock *et al.*, 2012).

As regards firms' ownership structure, some authors have outlined the influence exerted by family ownership on the adoption of proactive environmental strategies, even though with contradictory results (Berrone *et al.*, 2010; Craig and Dibrell, 2006; Lepoutre, 2008; Sharma and Irving, 2005). Darnall and Edwards (2006), instead, investigated the relationships between government-based or market-based ownership and the costs of adopting an Environmental Management System (EMS), showing that publicly traded firms incur lower costs, while Earnhart and Lizal (2006), distinguishing between concentrated ownership, with the presence of a strategic investor, and diffuse ownership, with the predominance of institutional investors, found a connection between greater ownership concentration and better environmental performance.

As regards the relation between boards and firms' environmental proactivity, most of the studies are concentrated on the board's ability to create ties and relations with the external environment through board interlocks. The influence of director interlocks on the value generated by the social capital of the board may, in fact, improve corporate environmental performance (Ortiz-de-Mandojana and Aragon-Correa, 2013). Ortiz-de-Mandojana *et al.* (2012), in particular, reported that board interlocks may enhance or inhibit the adoption of PES: director interlocks with firms providing knowledge-intensive business services are beneficial for the adoption of PES, while those with fossil fuel suppliers and financial institutions are found to be negatively related. Moreover, such mechanisms seem positively connected also with the environmental performance, especially when a firm is linked to a larger parent company and in cases of low and high levels of interlock diversity (Ortiz-de-Mandojana and Aragon-Correa, 2013). Less attention has, instead, been given to the analysis of corporate board structure and composition. Kassinis and Vafeas (2006) found that board size and the presence of executive members on the board are positively related to environmental litigation, while Kock *et al.* (2012) reported a positive association between the environmental performance of a firm and the presence of pro-stakeholder directors in the board. A direct relationship was also found in case of presence of independent directors, legal experts and board size (de Villiers *et al.*, 2011).

Our aim is, therefore, to fulfill this literature gap, trying to understand if board size and different types of director could influence the orientation of a firm towards PES and testing our hypotheses on a sample of non Anglo-Saxon European firms belonging to polluting industries, where the commitment to the environment requested by stakeholders tends to be higher.

As Hillman and Dalziel (2003) and de Villiers *et al.* (2011) pointed out, the resource dependence theory and the agency theory provide the general theoretical frameworks for analysing how the size and the composition of the board can affect firms' environmental proactivity. Boards, in fact, have two functions, namely, to monitor management and align its interests to those of shareholders and to increase access to information and other resources.

The resource dependence theory (Pfeffer, 1972; Pfeffer and Salancik, 1978) views organisations as operating in an open system and needing to exchange and acquire certain resources to survive, creating a dependency between firms and external environment. In this framework, boards are seen positively, as they may provide valuable expertise and capabilities, influence and aid in strategy formulation and help in connecting the firm with stakeholders (Ortiz-de-Mandojana and Aragon-Correa, 2013). In this way, larger boards, with a variety of directors, may expand existing board member networks and contacts and help firms to better understand and respond to their stakeholders (Boyd, 1990), also in case of natural environmental issues.

Therefore, following the results of de Villiers *et al.* (2011), that showed how environmental performance tends to be higher in firms with larger boards, we hypothesize that:

H1: Larger boards are positively related with firms' environmental proactivity.

Within the resource dependence theory, diversity in general, and differences in gender in particular, very likely enrich the resources and capabilities of a board, producing unique information available to management for better decision making. As some researchers have pointed out that women have a more protective attitude towards the environment (Wehrmeyer and McNeil, 2000) and are more likely than males to be ecologically conscious (Park *et al.*, 2012), we expect firms that have a higher percentage of women in the board to be more environmental proactive. Thus, following Setò-Pamies (2013), we hypothesize that:

H2: A higher percentage of women in the board is positively related with firms' environmental proactivity.

Following the agency theory framework, the board of directors is an internal control mechanism used to ensure that management behaviour is consistent with the owners' interests (Jensen and Meckling, 1976; Shleifer and Vishny, 1997). Such instrument should not only fulfil its responsibility in monitoring agents and protecting shareholders, but also, more importantly, in managing stakeholders. Board's directors may, in fact, exert pressures over managers in order to have strategies and actions that satisfy shareholders (and stakeholders) interests. Therefore, they should be able to influence executive managers to adopt proactive environmental strategies, that could help firms to obtain a sustainable competitive advantage. An effective control depends, in particular, on whether the directors are non executive and independent (professional managers with expertise in monitoring activities, who have incentives to exercise control in order to maintain their reputational capital), thus able to indeed act on the shareholders' behalf: de Villiers *et al.* (2011) found, in fact, a positive relation between the presence

of independent directors and a firm environmental performance. Johnson and Greening (1999), instead, showed that outside director representation was positively related to corporate social performance. Thus, following the mainstream literature, we hypothesize that:

H3: A higher percentage of non executive directors in the board is positively related with firms' environmental proactivity.

H4: A higher percentage of independent directors in the board is positively related with firms' environmental proactivity.

Board structures are not homogeneous across countries, and, even in the same country, it is possible to adopt different governance systems (Weimer and Pape, 1999). The company law in many European nations allows, in fact, listed firms to adopt a two-tier board (as opposed to a unitary board) composed of a Management Board and a Supervisory Board. The dual board structure ensure the independence of the two boards by making sure that executives are not too powerful and the Supervisory Board has the duty of protecting stakeholders' interests, related also to environmental issues. Thus, we expect that firms adopting a two-tier board present a higher level of environmental proactivity, in comparison to those adopting a one-board system:

H5: The adoption of a two-tier board is positively related with firms' environmental proactivity.

METHODOLOGY AND DATA COLLECTION

In order to test our hypotheses, we explain variations in firms' environmental proactivity using two OLS regression models, where board structure and composition constitute the primary explanatory variables. This methodology has already been used to predict the relationships between several variables and different metrics of environmental engagement or performance (Majumdar and Marcus, 2001; Surroca *et al.*, 2010), so it appears to be an appropriate method of analysis.

Variables' measurement

Considering the difficult task of defining and measuring PES, we decided to employ an environmental proactivity index that could measure the extent of management commitment to climate change and environmental disclosure. Consistent with the definition provided by Delmas *et al.* (2011), in fact, the measure of environmental disclosure could be considered a proxy of environmental proactivity.

We therefore used, as dependent variable (i. e. firms' environmental proactivity), the company's Carbon Disclosure Score (CDS) 2012, measured by the Carbon Disclosure Project (CDP), an

independent, not for profit organization that provides environmental and climate change data of companies and cities through an annual questionnaire.

Such questionnaire covers different topics, such as the emission reduction strategies adopted, technologies, products, processes or services the company develops or applies in response to climate change, the extent to which a company has measured its carbon emissions, and the frequency and relevance of disclosure to key corporate stakeholders. The Carbon Disclosure Score is the index that gathers all these factors and goes from 0 to 100.

A CDS smaller than 50 indicates limited or restricted ability to measure and disclose risks and opportunities that come from carbon emissions and environmental concerns. On the contrary, companies with a CDS higher than 70 show a deeper involvement in climate change issues. These companies identify environmental management as a tool to achieve strategic advantage and include climate change related risks and opportunities into their core business.

We decided to assign the value 0 to the companies that do not have a score as they did not answer to CDP questionnaire, or asked to not show the results, as a sign of low environmental proactivity.

As regards, instead, the independent variables related to firms' board structure and composition, we collected the data from the companies' annual reports and corporate governance reports 2012, together with Thomson Reuters Datastream Database. In particular, we considered the board size (SIZE), as the total number of directors appointed in the board, and the percentage of women (WOM), non-executive directors (NON-EX) and independent directors (IND) present in the board. We also included a dummy variable to measure the employed board structure in the firm (CGSYSTEM). The variable assumes value 1 for the companies that have a two-tier board and 0 for firms that adopt a one-tier board.

To test the hypotheses we selected a set of control variables, already identified and used in extant literature as relevant drivers for firms' environmental proactivity. These are: company's total annual revenues (REV), as a proxy for size (Gonzales-Benito and Gonzales-Benito, 2006), company's return on equity (ROE), company's longevity (LONG), as usually environmental performance and proactivity increase over time (Hass, 1996) and the Carbon Dioxide Emission (CDE) as a proxy of environmental regulatory stringency. Consistent with Kassinin and Vafeas (2006) and Berrone *et al.* (2010), it is supposed that country's CO₂ emissions are inversely related with regulatory stringency and, as a consequence, with environmental performance. The definition and measurement of all the variables used in the analysis are summarized in Table 1.

Group	Code	Variable	Measurement	Predicted sign
<i>Dependent Variable</i>	CDS	Environmental Proactivity	Carbon Disclosure Score 2012	
<i>Independent Variables</i>				
	SIZE	Board Size	Number of board members	+
	NON-EX	Non Executive directors	% of non-executive directors in the board	+
	IND	Independent directors	% of independent directors in the board	+
	WOM	Gender diversity	% of women directors in the board	+
	CGSYSTEM	Board structure	Dummy variable: 1= two-tier board; 0= one-tier board	+
<i>Control Variables</i>				
	REV	Revenues in 2012	Natural logarithm of the revenues in 2012 (Euro)	+
	LONG	Company's age	No. of years since company's foundation	+
	ROE	Return on Equity	Company's Return on Equity in 2012	+
	CDE	Carbon Dioxide Emissions (CO ₂)	Country's CO ₂ emissions (metric tons per capita) in 2010	+

Table 1. *Definition and Measurement of the variablesSample*

The sample used in the study consists of the European companies that were included in the Carbon Disclosure Project questionnaire 2012. We decided to focus the attention on the companies that the CDP selected in Switzerland and Austria (350), Italy (100), France (250), Spain and Portugal (125), as the largest in terms of market capitalization, because they all belong to non Anglo-Saxon corporate governance systems and present comparable ownership and board structures.

We then selected only the companies operating in pollutant industries, that are increasingly facing pressure from stakeholders and media towards better environmental performance. In particular, we considered the firms belonging to the following environmentally sensitive industries: mining, oil, gas, chemicals, paper, iron, steel and other metals, electricity (with the exception of renewable energy producers), gas and water distribution.

Our final sample is therefore composed of 162 firms of different European countries (France, Italy, Spain, Switzerland, Austria and Portugal).

RESULTS AND DISCUSSION

The Descriptive statistics and Pearson's correlation coefficients of the variables used in our analysis are presented in Table 2.

	Mean	Std Dev	CDS	SIZE	NON-EX	IND	WOM	CGSYST	REV	CAP	LONG	CDE
CDS	26.6111	37.2277	1									
SIZE	9.0062	3.9508	.334**	1								
NON-EX	0.6635	0.3312	.186*	.598**	1							
IND	0.4327	0.3221	.320**	.389**	.706**	1						
WOM	0.1200	0.1273	.062	.295**	.299**	.135	1					
CGSYST ^b		0.148	-.056	-.592**	-.838**	-.572**	-.287**	1				
REV	7.3484	2.0736	.593**	.438**	.168*	.310**	.029	-.077	1			
LONG	63.9691	58.4577	.095	.011	.134	.178*	-.005	-.018	.173*	1		
ROE	8.2040	24.0802	.034	.053	.068	-.002	-.058	-.106	.189*	.095	1	
CDE	6.5854	1.2080	-.016	.000	-.305**	-.326**	-.256**	.218**	.038	-.135	.034	1

^a n=162; ^b % of cases where CGSYSTEM=1

** Significant at 0.01 (2-tails); * Significant at 0.05 (2-tails) (Pearson's index)

Table 2. *Descriptive statistics and Pearson's correlation*

The average value of the Carbon Disclosure Score is 26.611, with a quite high standard deviation of around 37.23. As regards the independent variables, the average size of the board of directors is 9 members, with a minimum size of 1 director and a maximum of 23 members.

Regarding board composition, the presence of non-executive directors is larger than the independent ones: the average percentage of the first typology in the board is around 66%, while independent directors cover on average 43% of the total board members. Conversely, the presence of women in the board is quite low: only 12% of the board positions are, indeed, covered by women.

Board size presents an high correlation with the other board's characteristics. In particular, the larger is the board, the higher are the percentages of independent (0.389; p-value <0.01), non-executive (0.598; p-value <0.01) and woman (0.295; p-value <0.01) directors in the board. Conversely, board size is negatively related to board structure: the size of two-tier boards is significantly smaller (- 0.592; p-value <0.01) than one-tier boards.

The Pearson's correlation reveals a significant positive correlation between the Carbon Disclosure Score (CDS) and board size (0.334; p-value <0.01), the percentage of non-executive directors (0.186; p-value

<0.05) and independent directors (0.320 ; p-value <0.01). The CDS is also positively correlated with revenues (0.593, p-value <0.01).

For investigating the relationship between board structure and composition and firms' environmental proactivity, we developed two OLS regression models (Table 3): the first model considers only the effects of board characteristics on CDS, while in the second model the control variables are inserted.

<i>Variable</i>	Model	
	1	2
SIZE	4.186** (0.854)	1.360 (0.927)
NON-EX	-2.733 (17.649)	5.3813 (16.331)
IND	46.839** (11.764)	24.778* (11.592)
WOM	2.3850 (22.372)	7.560 (21.239)
CGSYST	44.115** (13.814)	23.491* (13.169)
REV		8.805** (1.500)
LONG		-0.000 (0.044)
ROE		-0.094 (0.103)
CDE		0.181 (2.312)
Constant	-36.827** (13.106)	-69.137** (20.727)
Observations	162	162
Adjusted R-Squared	0.231	0.370
Δ R-Squared	0.256	0.151
F-Statistics	10.049**	10.849**

Robust standard errors in brackets

** Significant at 0.01 (2-tails); * Significant at 0.05 (2-tails)

Table 3. *Regression analysis results*

Regression results for Model 1 show that, consistent with Hypothesis 1, board size (SIZE) has a significant positive impact on CDS, so the higher the number of directors in a board, the higher is the level of environmental proactivity, as already reported by de Villiers *et al.* (2011). Moreover, consistent with Hypothesis 4 and following de Villiers *et al.* (2011), we found a positive relation between CDS and the percentage of independent directors in the board (IND), while the association with the percentage of women (Hypothesis 2) in the board is not significant, even if correctly signed. We therefore failed to find any relationship between firms' environmental proactivity and gender diversity of the board (WOM), contrary to extant literature focused, in particular, on corporate social responsibility (Setò-Pamies, 2013). Our results are also non consistent with Hypothesis 3: at an higher percentage of non executive directors in the board (NON-EX) does not correspond a statistically significant increase of firms' environmental proactivity (CDS) and the coefficient is also not correctly signed. This finding does not follow the mainstream literature, like Johnson and Greening (1999): maybe, non executive directors are still too closed to management and are not able to fully exploit their monitoring function. Finally, model 1 confirms that two-tier boards (CGSYST) are positively associated with CDS; the presence of a Supervisory Board is probably enhancing the protection of stakeholders' interests, also regarding environmental issues.

Considering control variables (model 2), the regression fit increased (Adjusted T-Squared = 0.370; Δ R-Squared= 0.151). Among these drivers, only firm's revenues, considered as a proxy of a company's size (REV = 8.805), positively affect environmental proactivity. However, the introduction of control variables reduces the effect of board structure and composition on CDS. In model 2 the positive coefficients related to the percentage of independent directors (IND) and board system (CGSYST) decrease in value and board size becomes non-significant. It means that firm's size, longevity, profitability and environmental regulatory stringency seem to primarily affect company's environmental proactivity, neutralising the pressure exerted by the board.

Thus, our second model shows that only the weight of independent directors in the board and the presence of two-tier boards significantly affect CDS (24.778), consistent with Hypotheses 4 and 5.

CONCLUSIONS

The present paper addresses the nature and intensity of the relations existing between board structure and composition and firms' environmental proactivity.

In this regard, founding on agency theory and resource dependence theory assumptions, the manuscript investigates the role of board size, board composition (percentage of women, non executive and independent directors) and structure (two-tier or one-tier board) in affecting the

proactive orientation towards environmental issues of a sample of non Anglo-Saxon European firms belonging to pollutant industries.

Indeed, the results of the two OLS regression models provide insightful evidences that boards do affect firms' PES. Our main findings suggest a positive relationship between the presence of independent directors in the board or the two-tier structure of the board and companies' environmental proactivity, measured by the Carbon Disclosure Score 2012; while the percentage of women and non executive directors, together with board size, do not seem to be related with firms' green proactivity.

Our study presents some limitations that may be ironed out in future studies. The first limitation is related to the measurement of firms' environmental proactivity. We used the Carbon Disclosure Score generated by a voluntary self-reporting process (CDP). This is a reliable index, but it may lead to include in the analysis mainly companies that are already biased towards environmental proactivity and who may want to report it. Secondly, we investigated firms' environmental performance in a quite specific context: namely polluting industries operating in a developed economy, that has both a strong environmental regulation and environmentally conscious consumers.

Despite such limitations, however, this contribution provides some valuable research implications, useful for researchers and academics, but also for managers and public authorities, as the results allow to identify the characteristics of the board that may foster and enforce firms' environmental proactivity, as a mean for reaching sustainability. Companies, in fact, may play a significant role in the reduction of man activities' impact on natural environment and in the promotion of a more ecologically sustainable world.

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THE CONTRIBUTION OF PERSONAL VALUES IN EXPLAINING CONSUMER UTILITY

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ABSTRACT

The purpose of this study is to understand the contribution of the personal value system in influencing consumer choice and utility. The analysis is focused on alcoholic beverage consumption situations. A survey has been conducted by 266 young consumers in Verona (Italy). A questionnaire was face-to-face submitted aiming to collect personal values of individuals according to the Rokeach Value Survey and stated preferences for different alcoholic beverage consumption situations. The Principal Component Analysis highlighted the most relevant terminal and instrumental value factors characterising young consumers' personality. The Multinomial Logit Model was applied including alcoholic beverage consumption situation attributes and consumers' value factors to determine utility and the influence of individual sphere on them. Also willingness to pay has been estimated. This study contributes to better understand the role of the individual's value system in consumer behaviour analysis. The results show that the individual sphere is able to influence food choice and the evaluation of consumption situations and attribute preferences. Market research should increasingly consider the personality traits of individuals as part of their mode of action and consumption choices rather than as simple background variables.

Keywords: *Consumer choice, personal values, discrete choice models, alcoholic beverages, young generation*

INTRODUCTION

For many years, economists have applied their theories to a fully rational consumer in perception, preference and decision making process (McFadden, 2001), and therefore assuming that "the rational man of economics is a maximiser, who will settle for nothing less than the best" (Simon, 1978, p. 2). However, the analysis of the postmodern consumer puts a strain on the economic theory (Thrassou and Vrontis, 2009). The twenty-first century consumers are more and more driven by their system of value in choosing a good or a service (Rokeach, 1973), increasing the irrationality of choice. Therefore, the gradual realisation that behind the individual's choices there is more than the mere pursuit of

rationality means losing the figure of the *homo æconomicus* and the idea that value is a mechanical process devoid of moral, social and cultural connotations.

This study attempts to understand the role of the value system in influencing consumer choice and utility. The analysis will be focused on food choice to deepen the relation between individual and food, aware that food is an expression of the culture and the values of the modern society.

In the next sections, literature about values and consumer will be analysed and the objective of the research will be outlined. Subsequently, the research methodology will be explained. Finally, the results of a survey that studies the value system in a sample of young consumers of alcoholic beverages and its influence on the consumption situation choice will be discussed.

VALUE SYSTEM AND CONSUMER

Since the 1970s, the social sciences have focused on the analysis of the value system that influences individual behaviour; however, only in the late '80 marketing scholars understand the impact of values in determining consumption behaviour (Homer and Kahle, 1988). The seminal definition of the concepts 'value' and 'value system' was proposed by Rokeach, who stated that: «A value is an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence. A value system is an enduring organization of beliefs concerning preferable modes of conduct or end-states of existence along a continuum of relative importance» (Rokeach, 1973, p. 5).

Values are shaped by individuals' experiences and their learning processes and once learned they become part of a hierarchical system, which is essential for people to take decisions and resolve conflicts (Kahle, 1996; Rokeach, 1973). The value system influences the cognitive and affective assessment of people in relation to their means and ends (Feather, 1995).

According to Schwartz (2012) values i) are beliefs linked to affect; ii) concern desirable goals that motivate action; iii) transcend specific actions and situations; iv) are standard or criteria that drive choice; v) are included in a hierarchical structure by each individual; vi) are able to drive behaviour.

First Kluckhohn (1951) recognised the importance of the value system in the human behaviour, and defined it as principles of action that include abstract goals of life and standards of conduct preferred by an individual in different contexts and situations. However, according to Gutman (1997, p. 558), values are different than goals, because "goals are what we want; values are why we want them".

Values are useful in explaining consume choice because they are more closely related to behaviour, fewer, more central and more immediately connected to the motivations than personality traits. (Homer and Kahle, 1988).

Kahle and Kennedy (1989) stated that the function of marketing is to help consumers to meet their value system. They proposed the principle of abstraction that, when applied to goods or services, ties to them a value that is infused through the positive aspects associated with that value. According to them, consumer perceives product attributes not only for their functional components, but because they are consistent with lifestyle.

The determination of the value system expressed by individuals is a difficult aspect to investigate. Some researchers have developed lists of values to bridge this gap. The first set of values applicable to the different cultures was the Rokeach Value Survey (RVS) (Rokeach, 1973). The Author processed two sets of values: i) terminal values, consisting of 18 items, which represent the goals that people seek to achieve in their lives, and ii) instrumental values, 18 items that include the means or the best ways to behave to get the terminal values.

Other researchers have created different classifications based on the RVS. The most applied by scholars are the List of Values (LOV) by Kahle (1983) and the Schwartz Value Survey (SVS) by Schwartz (1992).

In food consumption studies, values explain food quality perception and food choice through the means-end theory, according to which consumers are not interested in the product itself, but in the way in which the product helps them to meet their own values (Gutman, 1982; Grunert, 2007). Consumers' values system has also been analysed to study the motivations to consume organic, typical, high-service products or products containing GMOs (Brunso *et al.*, 2004; Dreezens *et al.*, 2005; Vermeir and Verbeke, 2008; Botonaki and Mattas, 2010; Fotopoulos *et al.*, 2011).

Concerning alcoholic beverages, much research analysed the influence of values on wine consumption and recognised that personal values influence consumption motivations. Judica and Perkins (1992) applied the means-end chain to sparkling wine consumption, highlighting that self-realisation, self-esteem and family life are fundamental values for the consumer. Hall and Lockshin (1999) used the means-end chain to segment Australian wine consumers. D'Hauteville (2004) studied the relationship between the wine consumption frequency of French consumers and their values, and highlighted that individuals prone to social integration consume more than individuals who pursue safety in their lives. In the study of Barber and Taylor (2013), values have been taken into account as psychographic variables and used to explain the intention to consume wine and the willingness to pay for it.

Mueller *et al.* (2011) wondered about the potential influence that values could have on sustainable consumption behaviours and applied first the SVS (1992) to predict the consumer choice of organic wines.

Kropp *et al.* (1999) studied the link between beer consumption and the individual's value system by the LOV (Kahle, 1983), and highlighted a direct relationship between beer consumption and the value excitement, and an inverse relationship with security.

A different research field deals with personal values in correlation with the alcohol abuse (Wray-Lake *et al.*, 2012; Shim and Maggs, 2005; Kropp *et al.*, 2004). This is not of interest for this paper because of different purposes and their sociological and medical nature.

The literature review shows that most studies identify the individual values beginning from the consumption behaviour and the perception of the product attributes and quality. The possibility of describing consumers from their value system and, from this, to study their food consumption pattern has not yet been well explored.

This research assumes that the individual's value system is the basis of human behaviour, from which consumption behaviour cannot be abstracted. Therefore, consumption utility is influenced by the value system. The objective of this paper is to understand the role of personal values in influencing choice behaviour and consumer utility perception. This objective will be reached by analysing the relationship between perceived utility and socio-psychological sphere of consumers and the consumption of alcoholic beverages in the different situations.

METHODOLOGY

To achieve the research objective, a survey has been conducted by young consumers in Verona, a city of Northern Italy. The focus on young generation allowed investigation to avoid the generational effect in the value perception. As suggested by Szolnoki and Hoffmann (2013), the questionnaire was face-to-face submitted and involved 266 young people. The sample was not extracted through probabilistic method. Therefore, the results are not representative of the whole macro-area, but offer a significant insight into the mechanisms that drive the alcoholic beverages choices by young people.

The questionnaire aimed to collect three kinds of information: (i) socio-demographic characteristics; (ii) personal values; (iii) stated preferences for alcoholic beverages consumption situations and their attributes.

Socio-demographic characteristics have been gathered through questions about gender, age, household and education.

Personal values have been gathered through the Rokeach Value Survey (RVS; Rokeach, 1973). Respondents have indicated the degree of identification in each terminal and instrumental value on a Likert scale from 1 to 5 and these values have been summarised through the Principal Component Analysis.

Stated preferences have been collected through the discrete choice models (Train, 2009). Table 1 shows alternatives, attributes and levels selected through a pilot study. Four consumption locations were identified as alternatives: bars, discos, restaurants and the home. Three attributes were identified within each alternative: beverage, company and price. The levels of these attributes were selected following the specificity of the consumption situation.

From these elements, a Bayesian efficient design has been build (Sándor and Wedel, 2001; Scarpa *et al.*, 2007; Ferrini and Scarpa, 2007). It includes 26 choice sets that were divided in two groups through the blocking procedure in order to make the filling of the questionnaire easier.

Four utility functions have been estimated, one for each alternative, by applying the Multinomial Logit Model (MNL) (McFadden, 1974). They include the attributes and levels resulted by the experimental design and the characteristics of respondents. Therefore, the functions include gender and social-psychological values of respondents.

This represents a first attempt to include values in the estimation of food consumption utility. Many studies in recent years have been engaged with attitudinal and perceptive components in analysing individual's choices through RUMs (Ben-Akiva *et al.*, 2002; Daly *et al.*, 2012), but they do not explain them using psychological and sociological constructs stemming from theoretical models, although applying more advanced approaches than this paper in choice modelling. This latter aspect is not the topic of this paper, and it will represent the aim of future analysis.

Attributes	Levels	Alternatives			
		Bar	Disco	Restaurant	Home
1. Beverage	1. Wine	✓	✓	✓	✓
	2. Beer	✓	✓	✓	✓
	3. Aperitif	✓		✓	✓
	4. Spirits	✓	✓	✓	✓
2. Company	1. Friends	✓	✓	✓	✓
	2. Family			✓	✓
	3. Alone	✓	✓		✓
3. Price	5, 10, 15 €	✓	✓	✓	✓
	3, 6, 9, 12 €				✓

Table 1. Alternatives, attributes and levels of the experimental design

RESULTS

Table 2 summarises the demographic and socioeconomic characteristics of young respondents. Most of them was male, under 25, had an education level lower than graduation, was still a student and lived with their parents.

Attributes	Levels	Frequency	
		N	%
Gender	Male	165	62.0
	Female	101	37.97
Age classes	less than 21	98	36.8
	from 21 to 25 years	108	40.6
	more than 25	60	22.6
Education level	junior high school	53	19.9
	technical schools	14	5.3
	high school/secondary school	166	62.4
	college/university	33	12.4
Occupation	Student	170	63.9
	Worker	98	36.1
Household	live with parents	216	81.2
	live alone or with friends	50	28.8

Table 2. Sample characteristics (N = 266)

The PCA highlights the main factors of terminal and instrumental values drawn from the RVS (Rokeach, 1973).

For terminal values, four dimensions have been selected. They explained the 54.5% of the variance (Table 3) and they summarise the following values factors: 1) 'Inner hedonism' draws from the Schwartz value type hedonism concerning pleasure and happiness (Schwartz, 1992); it is enriched by traits involving the inner sphere of individuals, such as self-respect, true friendship, wisdom and inner harmony; 2) 'Security', that concerns the terminal values of family and national security, salvation and freedom; 3) 'Self-achievement', the desire to achieve success both from a social and an affective point of view through a 'self-accomplishment' and love; 4) 'Universalism', as the homonymous Schwartz value type (Schwartz, 1992), comprehends the wish of a world free of war and equal opportunity for all, as opposed to the desire of social recognition.

Terminal value factors	Factor loadings	Explained variance (%)	Cumulative variance (%)	Cronbach's Alpha
Factor 1 – Inner hedonism		20.98	20.98	0.676
Happiness, contentedness	0.787			
Self-respect, self-esteem	0.729			
Pleasure, an enjoyable, leisurely life	0.666			
True friendship, close companionship	0.665			
Wisdom, a mature understanding of life	0.631			
Inner harmony, freedom from inner conflict	0.592			
Factor 2 – Security		13.46	34.45	0.628
Family Security, taking care of loved ones	0.535			
National security, protection from attack	0.491			
Salvation, saved, eternal life	0.474			
Freedom, independence and free choice	0.455			
Factor 3 – Self-achievement		11.17	45.41	0.345 ^(a)
A sense of accomplishment, a lasting contribution	0.813			
Mature love, sexual and spiritual intimacy	0.758			
Factor 4 – Universalism		8.92	54.54	0.519
Equality, brotherhood and equal opportunity for all	0.656			
A world at peace, a world free of war and conflict	0.565			
Social recognition, respect and admiration	-0.512			

^(a) Given that this factor is explained by two values, Cronbach's alpha is not applicable. Therefore, the Pearson's correlation was processed.

Table 3 – Factor analysis of terminal Rokeach values

Four instrumental values factors have been selected, explaining the 51.6% of the variance (Table 4). They summarise the following values: (i) 'Benevolence and conformity', which enclose in a unique factor the Schwartz's value types Benevolence and Conformity (Schwartz, 1992), where the former is explained by the instrumental values of being helpful, honest, forgiving, loving and responsible, and the latter by politeness, self-discipline, and obedience; (ii) 'Self-direction' draws from Schwartz Value Survey and encloses intellect, independence, ambition, imaginative, capable and courageous, opposed to loyalty; (iii) 'Pretence' opposes politeness, and loveliness, having to do with conformity and benevolence, with aversion towards cleanliness, logic and loyalty; (iv) 'Concreteness', which is negatively correlated with imaginative being.

Instrumental value factors	Factor loadings	Explained Variance (%)	Cumulative variance (%)	Cronbach's Alpha
Factor 1 – Benevolence and conformity		19.38	19.38	0.764
Helpful, working for welfare of others	0.620			
Polite, courteous and well-mannered	0.612			
Responsible, dependable and reliable	0.587			
Self-controlled, restrained, self-disciplined	0.579			
Forgiving, willing to pardon others	0.563			
Obedient, dutiful, respectful	0.550			
Loving, affectionate and tender	0.542			
Honest, sincere and truthful	0.455			
Factor 2 – Self-Direction		14.25	33.59	0.672
Loyal, faithful to friends of the group	-0.587			
Intellectual, intelligent and reflective	0.563			
Independent, self-reliant, self-sufficient	0.553			
Ambitious, hardworking and aspiring	0.521			
Imaginative, daring and creative	0.469			
Capable, competent, effective	0.445			
Courageous, standing up for your beliefs	0.442			
Factor 3 – Pretence		9.82	43.40	0.522
Clean, neat and tidy	-0.591			
Polite, courteous and well-mannered	0.515			
Logical, consistent, rational	-0.420			
Loving, affectionate and tender	0.407			
Loyal, faithful to friends of the group	-0.390			
Factor 4 – Concreteness		8.20	51.60	-
Imaginative, daring and creative	-0.622			

Table 4 – Factor analysis of instrumental Rokeach values

The estimations of the utility functions in the different consumption situations of alcoholic beverages for Italian young generations have been calculated through the MNL (Table 5).

Wine and the company of friends have been fixed to zero because the model estimates the differences between utility components. The contribution of the model is not to estimate the absolute value of utility, but the relationship between alternatives, attribute and levels.

Price coefficients are negative, confirming compliance with the demand law.

Bar is the best location to consume alcoholic beverages for young Italians, more than disco, as emerged by the analysis of the Alternative-Specific Constants (ASC). Wine is the preferred beverages at home and in the restaurant, namely in consumption occasions linked with mealtime. At bars and disco, the main entertainment locations for young people, respectively aperitifs and spirits are the favourite alcoholic beverages. The situations provide the young with the highest utility when they involve friends.

To understand the power of the personal sphere in explaining consumer utility, terminal and instrumental value factors and gender of the individuals have been introduced in the model estimation (Table 6).

The better goodness-of-fit of the model confirms that the individual sphere affects the perceived utility for the different consumption situations. The final log-likelihood increases of 69 points and the rho-square of 1.5 points.

	Bar		Disco		Restaurant		Home	
	Value	SE	Value	SE	Value	SE	Value	SE
Alternative-Specific Constants (ASC)			-1.500 **	0.148	-0.060	0.136	0.251	0.187
Beverages								
Wine (reference)								
Beer	0.027	0.124	0.259	0.144	-0.138	0.123	-0.271 *	0.129
Aperitif	0.350 **	0.133			-0.345 **	0.117	-0.279 *	0.138
Spirits	-0.273 *	0.132	0.910 **	0.125	-1.750 **	0.157	-1.350 **	0.165
Company								
With friends (reference)								
With family					-0.762 **	0.107	-1.370 **	0.122
Alone	-1.680 **	0.101	-1.200 **	0.115			-1.680 **	0.124
Price	-0.457 **	0.054	-0.284 **	0.065	-0.229 **	0.063	-0.188 **	0.052
N. obs.					3458			
Final log-likelihood					-4001.789			
Rho-square					0.165			

SE = Standard Error; * = p-value ≤ 5%; ** = p-value ≤ 1

Table 5 – MNL applied to alcoholic beverages consumption contexts

	Bar		Disco		Restaurant		Home	
	Value	SE	Value	SE	Value	SE	Value	SE
Alternative-Specific Constants			-1.460 **	0.170	0.288	0.152	0.548 **	0.202
Beverages								
Wine (reference)								
Beer	0.051	0.126	0.244	0.145	-0.182	0.124	-0.259 *	0.131
Aperitif	0.376 **	0.135			-0.371 **	0.118	-0.281 *	0.140
Spirits	-0.296 **	0.133	0.876 **	0.126	-1.790 **	0.158	-0.350 **	0.167
Company								
With friends (reference)								
With family	-		-		-0.788 **	0.108	-1.400 **	0.123
Alone	-1.710	0.101	-1.220 **	0.115	-		-1.730 **	0.126
Price	-0.454	0.055	-0.277 **	0.066	-0.221 **	0.063	-0.198 **	0.053
Demographic characteristics								
Male	0.436 **	0.110	0.358 **	0.130	-0.084	0.106		
Terminal value factors								
Inner hedonism	0.115	0.064	0.130	0.072	0.143 *	0.062		
Security	0.078	0.059	0.043	0.066	-0.003	0.057		
Self-achievement	-0.156 *	0.070	-0.309 **	0.069	-0.143 *	0.066		
Universalism	-0.138 **	0.052	-0.231 **	0.062	0.008	0.051		
Instrumental value factors								
Benevolence and conformity	-0.193 **	0.058	-0.211 **	0.066	-0.051	0.058		
Self-Direction	-0.021	0.067	-0.002	0.073	0.030	0.066		

Pretence	0.027	0.058	0.063	0.064	0.025	0.059
Concreteness	-0.054	0.057	-0.046	0.063	0.146	** 0.057
N. obs.				3,458		
Final log-likelihood				-3,932.371		
Rho-square				0.180		

SE = Standard Error; * = p-value \leq 5%; ** = p-value \leq 1

Table 6 – MNL applied to alcoholic beverages consumption contexts, terminal and instrumental value factors and gender

Gender and social-psychological values have been omitted in the situation at home because of the model requirements and to focus the analysis outside home, where young people are less subject to family influence.

At bars, the negative sign of spirits shows that they are not considered appropriate to this consumption situation. Aperitifs provide the highest utility (+0.376) and this respond to the dominant behaviour pattern, recently emerged in Italy, which is strongly influenced by the dynamics of sociality. This is confirmed by the model results that show a negative coefficient for the consumption alone compared with the reference level 'with friends'. The coefficient of beer is not significant because the model is not able to capture the preference towards it comparing to wine, given the high competition of beer in respect to the traditional Italian drink. In this location, males get higher utility than females. Considering the value factors, the individuals pursuing self-achievement, universalism and benevolence and conformity draw less utility in consuming alcoholic beverages in this location.

Even at disco men get higher utility than women. Spirits supply the highest measure of utility in respect to wine, which is still suffering the competition of beer. The choice of an alcoholic beverage is more satisfying when made with friends. This concept comes from the negative coefficient of the level 'alone' with high significance. As in bar, in this context, the utility is highly penalised when the young consumers pursue self-achievement and universalism. Despite they concern opposing goals of life, they appear for different reasons to lead consumer to a lack of interest for these meeting locations, and for the alcohol consumption situation they arise. The same effect comes from the instrumental value factor 'benevolence and conformity' that seems to characterize individual less inclined to a lifestyle linked to worldliness. Both at the bar and the disco the other value factors seem to have not any effects on the utility perception.

At restaurants, young people prefer wine in comparison with aperitifs and spirits, and the company of friends during meals. Young individuals pursuing inner hedonism in their life reach higher utility than others in consuming alcoholic beverages in this location. This result is consistent with the set of values that determine this factor (i.e. happiness, pleasure, true friendship, wisdom), for which location can be beneficial according to Kahle and Kennedy's principle of abstraction (1989). Once again, people who pursue self-achievement feel less pleasure in assuming alcoholic beverages in this location. Their

focus on affective and professional sphere curbs enjoyment of alcoholic beverages consumption. Among instrumental value factors, concreteness influences utility in a positive way. Gender does not discriminate utility perception in this situation.

When consumption takes place at home, wine provides the highest utility, especially when compared to spirits. This situation confirms the highest utility with friends.

Prices are useful to determine the willingness to pay (WTP) that facilitates comparison among the four consumption situations and among independent variables (Table 7).

If wine is compared with the other alcoholic beverages, it is preferred at home and in restaurants, where young people are willing to pay more for wine than for beer, aperitifs or spirits. The difference in WTP between wine and spirits reaches 8.10 euros at restaurant, but spirits are the preferred beverages at the disco, with +3.16 euros of WTP in respect of wine.

	Bar	Disco	Restaurant	Home
Compared to wine:				
Beer				-1.31
Aperitif	0.81	n.i.	-1.68	-1.42
Spirits	-0.65	3.16	-8.10	-1.77
Compared to the company of friends:				
With family	n.i.	n.i.	-3.57	-7.07
Alone	-3.77	-4.40	n.i.	-8.74
Demographic characteristics				
Male	0.96	1.29		
Terminal value Factors				
Inner hedonism			0.65	
Security				
Self-achievement	-0.34	-1.12	-0.65	
Universalism	-0.30	-0.83		
Instrumental value Factors				
Benevolence and conformity	-0.43	-0.76		
Self-Direction				
Pretence				
Concreteness			0.66	

n.i. = not included in the alternative

Table 7 – Willingness to pay in the four consumption situations (€)

At discos, at home, and at restaurants, preferences are clearly directed towards a specific type of beverage. At bars or pubs aperitifs are preferred (+0.81 euros) because they are an expression of a social demand driven by fashion. Instead, the WTP is negative for spirits if compared to wine.

Considering the attribute 'company', the estimations show that young people are willing to pay from 3.57 to 4.40 euros more when with friends than when with family or alone at restaurant, bar and disco.

At home WTP reaches the highest value with friends in respect of with family and alone. These results confirm that social dynamics develop the propensity for alcohol intake.

With reference to the individual sphere, the analysis of WTP shows the interest of males toward the consumption situation outside home and mealtime (+0.96 euros at bar and +1.29 euros at the disco). The value factors underlying self-achievement, universalism and benevolence and conformity depress the consumer's WTP at bar and even more at the disco. At the restaurant the inner hedonism makes the WTP increase, as the concreteness do, while the self-achievement penalises it. The location 'disco' suffers the greatest reduction of WTP the individual sphere of the young is added to the model. Disco and bar do not seem to be able to meet the specific value system of young people; conversely, restaurant is able to meet the inner hedonistic and concrete lifestyle of some segments of young people.

CONCLUSION

This study opens new perspectives on the role of the individual's value system in determining consumer utility. The results show that the individual sphere is able to influence the food choice and the evaluation of consumption situations and attribute preferences.

This means that nowadays market research should increasingly consider the personality traits of individuals as part of their mode of action and consumption choices. Therefore, the value system can no longer be considered as consumer background, but it must be included in the analysis model, at the same level of product attributes.

In this regard, studies are still at the beginning and marketing researchers have yet to well address two kinds of problem. One relates to the measurement of personal values. This study applies the RVS, but other value scales should be tested within the marketing model. The other concerns the econometric models used to estimate the consumption utility. Progresses come from the modelling field, but they have not yet connected psychological and sociological theories and their analytical measurement with the marketing approach.

The topic is of interest for businesses, that in this way not only better know consumer expectations with respect to the product and are able to better segment the market, but they can also get useful information to improve the communication with consumers, both in terms of contents and channels. Therefore in the future, marketers should better integrate their skills with those of sociologists and psychologists.

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BUSINESS MODEL INNOVATION: A TYPOLOGY

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ABSTRACT.

The aim of this paper is to clarify what a business model innovation is, how it can be classified and how a change in strategy requires different levels of business model innovation. On the basis of a literature review over 2010-2014 on leading management journals' articles, this paper begins with complementing Zott et al. (2011)'s literature review in three ways. First, it sheds light on the different perspectives that have been used with respect to the business model. Second, it presents the state of the art about business model innovation. Finally, it summarizes how business model and strategy have been analyzed by previous research. Then, drawing from the technology innovation literature and adopting Baden Fuller and Haefliger (2013)'s business model dimensions, the paper proposes a typology of business model innovation, distinguishing between incremental and radical business model innovation. In order to clarify the role of strategy with respect to business model innovation, the impact of servitization strategy (Neeley, 2008) on business model innovation is analyzed. It is shown how different degrees of servitization imply different degrees of business model innovation and it is suggested that different configurations of business models are possible and can co-exist at both firm and industry level.

Keywords: *business model innovation; strategy; servitization; typology*

1. INTRODUCTION

In a recent interview, professor McGrath argues that there are three main reasons that explain the interest on business model innovation (BMI): the increasing speed of everything, the inter-industry competition and the disruptions from business models (BMs) that offer better customer experiences instead of simply products. BMI is considered as the new driver of competitive advantage (Casadesus-Masanell & Ricart, 2011; Chesbrough, 2010) and managers are favoring it (Amit and Zott, 2012) since it seems to be more profitable than product or process innovation. But what is business model innovation?

Most of the literature on BMs has focused on business model definition and BM components classification and have linked BMI with the emergence of new technologies (Doz and Kosonez, 2010; Gambardella and McGahan, 2010). However, a definition of what BMI is (Bock et al., 2012) as well as

how a clear framework of how BMI is linked to strategy, is still lacking. Academics have distinguished between BM and related concepts such as strategy and tactics (Baden-Fuller and Haefliger, 2013; Casadesus-Masanell and Zhu, 2010; Teece, 2010), but they have not distinguished between different degrees of BMI and how a change in strategy affects it. Henceforth, the aim of this paper is to clarify what a business model innovation is, how it can be classified and how a change in strategy requires different levels of business model innovation.

This paper contributes to the existing literature in three ways. First, the literature review presented complements Zott et al. (2011)'s literature review on BMs, (i) distinguishing between real-world vs. cognitive-world perspectives (Baden Fuller and Haefliger, 2013), (ii) summarizing the BMI main contributions and (iii) looking at how strategy and business model have been linked together. Second, it clarifies what BMI is, providing a typology of BMI. Finally it shows how strategy influences BMI, considering the servitization strategy (Neely, 2008; Vandermeewe and Rada, 1988), and it sheds light on how managers can choose between alternative business model configurations.

2. LITERATURE REVIEW

Since Peter Drucker's description of the business model as "*the answer to the questions: who is your customer, what does the customer value, and how do you deliver value at an appropriate cost?*" (Casadesus-Masanell and Ricart, 2011:5), the BM concept has received increasing attention by both practitioners and scholars. Zott et al. (2011)'s literature review highlights how, despite the three main silos in which research about business model has been developed, a business model tends to be considered as a unit of analysis, with the aim of describing how a firm works and how value is both created and captured. However, blurred boundaries are still present around the business model concept, its dimensions, its theoretical roots and its interplay with strategy.

I reviewed the literature on business model, considering publications between 2000 and 2014. In particular, I focused on publications since 2010 due to the fact that Zott et al. (2011) present an extensive literature review from January 1995 to December 2010. I looked at the Association of Business Schools (ABS)'s grade four journals, considering "General Management" and "Strategic Management" journals, namely *Academy of Management Journal*, *Academy of Management Review*, *Administrative Science Quarterly*, *Journal of Management*, *Journal of Management Studies*, *British Journal of Management* (I have excluded *Harvard Business Review* since it is more practitioner-oriented); and *Strategic Management Journal*. I also add to the former list other three ABS grade four journals due to their contributions to the topic on business models *Management Science*, *Organization Science* and *Research Policy*. Finally, I consider also *Long range Planning*, a ABS grade three "Strategic Management" area journal, since a Special Issue on business model was published in 2010). I used the ISI Web of

Science database using all these journals names as “Publication name” and selecting the years 2010-2014. A total of 3600 articles was found. Then I refine the results through the “search within results for...” option, considering again “business model*” and a total of 178 articles were found. I filtered these papers, selecting those papers that used the term “business model” in a non-marginal way and I added to them the highest cited articles that were published before 2010 and after 2000. A total of 73 articles was found and used as the basis of the review.

Complementary to Zott et al. (2011)'s review of the literature, I find that an increasing interest is given to the view adopted by the authors when they use the term business model, the topics of business model innovation\dynamics, and finally the use of BM in strategic decision making processes.

2.1 Real-world vs. Cognitive-world

In approaching BM literature every researcher should understand whether the paper under analysis uses the term BM from a “real world” or “cognitive world” perspective, since in the former case researchers use BM in order to explain “*what companies do*”, while in the second case researchers relate the BM to “*how companies see the world*”. (Baden-Fuller and Haefliger, 2013; Baden-Fuller and Mangematin, 2013; Bohnsack et al., 2014; McNamara et al., 2013).

The “what” perspective is empirically-driven and looks at the consequences of the adoption of one specific kind of BM over alternative ones. For example, Amit and Zott (2012:42) define BM as “*a bundle of specific activities – an activity system- conducted to satisfy the perceived needs of the market, along with the specification of which parties (a company or its partners) conduct which activities, and how these activities are linked to each other*”. Based on that, Amit and Zott (2001) and Zott and Amit (2007) present a taxonomy where distinguish between four business models designs, namely efficiency centered, novelty centered, complementary centered and lock-in centered business models, and link them to companies' performance under different levels of industry munificence. In their model, the BM is considered an independent variable, moderated by environmental conditions. Bonaccorsi et al. (2006) define BM as “*the way products\services are sold to customers, cash is generated, and income is produced*” (p. 1086) and distinguish business models on the basis of their revenue model and value proposition (pure open-source companies and hybrid companies). On the other hand, researchers who look at “how” perspective, focus on the cognitive perspective of BM and look at its dimensions, rather than the consequences. Teece (2010:191) argues that a BM “*reflects management's hypothesis about what customers want, how they want it and what they will pay, and how an enterprise can organize to best meet customer needs, and get paid well for doing so*”. Baden-Fuller and Haefliger (2013) define the BM as “*a system that solves the problem of identifying who is (or are) the customer(s), engaging with their needs, delivering satisfaction, and monetizing value*”. The authors reformulate the BM relationship with technology considering BM as a moderator between technology and performance, but also considering the choice of BM about

openness and user engagement as affecting the technology development. In this way, Baden-Fuller and Haefliger (2013) link the open innovation literature (Chesbrough, 2006) and the user-innovation literature (von Hippel, 2005) in a more clear manner to the BM literature. The two views differ in the use of the business model. Table 1 presents a summary.

	REAL-WORLD	COGNITIVE-WORLD
LOGIC	What company does	How company sees the world
CLASSIFICATION	Taxonomy	Typology
DEFINITION	Bottom up	Top down
FOCUS	Consequences	Dimensions
DRIVERS	Empirically-driven	Theoretically-driven
TECHNOLOGY	Inside the BM	Separate from the BM
TYPE OF VARIABLE	Independent variable	Moderator Independent variable
KEY PAPERS	Zott and Amit (2007)	Teece (2010) Baden-Fuller and Haefliger (2013)

Table 1. Real-world and cognitive-world views (source: author)

2.2 Business model innovation

A second topic that has deserved and is deserving more attention is business model innovation. *“Business model innovation has not been clearly defined in prior studies”* (Bock et al., 2012:290), but in practice it addresses new opportunities: *“business model innovation is perceived as a fundamental rethink of the firm’s value proposition in the context of new opportunities”* (Bock et al., 2012: 290).

The change in a BM, due to both external and internal factors (Bjorkdhal, 2009; Bohnsack et al., 2014; Bonaccorsi et al., 2006; Demil and Lecocq, 2010; Govindarajan and Trimble, 2011), has been analyzed at both industry and company levels. In the case of industry level, authors have analyzed how a ‘dominant’ BM has been threatened by the emergence of a new BM (often introduced by a new entrant): examples are from the software industry (Bonaccorsi et al., 2006; Suarez et al., 2013), the football industry (McNamara et al., 2010), the biotech industry (Mangematin et al., 2003), the movie industry (Gelfond, 2013). The new BM sometimes may change the evolution of the entire industry (Jacobides and Winter, 2012), as in the case of Google and Apple (Gambardella and McGahan, 2010). At firm level, authors have analyzed the (successful) BM of individual companies such as Arsenal FC (Demil and Lecocq, 2010), Naturhouse (Sosna et al., 2010), LEGO, Coloplast and IBM (Hiernerth et al., 2011).

Most of the literature has focused on how BMI has often been enabled by the advent of new technologies. However, whether on the one hand technology innovation often needs BMI in order to be successful (Bjorkdahl, 2009; Chesbrough, 2010), on the other hand technology innovation does not necessary result in a new business model (Baden-Fuller and Haefliger, 2013; Teece, 2010). Baden Fuller and Haefliger (2013) make the examples of EasyJet and Amazon that only applied the well-known BM constructs of respectively Southwest Airlines and Sears and Roebuck in new contexts. Teece (2010)

points out that *“technological innovation often needs to be matched with business model innovation if the innovator is to capture value”* (p. 186). This is consistent with Baden-Fuller and Haefliger (2013) and Baden-Fuller and Morgan (2013)’s suggestions to look at the BM as a moderator between technology and performance. Also Chesbrough (2010) argues that technology *“remains latent until it is commercialized in some way via a business model”* (p. 354). But, if the use of a new technology for an old BM does not constitute a new business model, what does a BMI consist in?

Although the terms *“business model innovation”*, *“new business model”*, *“change in the business model”* or *“business model evolution”* are widely used, unexpectedly an explicit definition of what BMI is does not emerge, letting the reader to deduct it. In broad terms, the papers considered refer to BMI as the search for new logic of the firm and new ways that redefine the value proposition, how it is delivered and how value is captured (Casadesus-Masanell and Zhu, 2013; Velu and Stiles, 2013). Despite often the terms BMI and new BM have been used interchangeably, we should distinguish business model innovation (when BM changes one of its dimensions) from new business model (when a company develops a new type of business model, changing all the linkages within and between its dimensions): a new BM is a specific type of BMI since it represents what I name later a radical BMI.

2.3 Business model and strategy

Strategy is not the same of business model (Casadesus-Masanell and Ricart, 2010, 2011; Chesbrough and Rosebloom, 2002; Osterwalder and Pigneur, 2010; Teece, 2010; Zott et al., 2011). Chesbrough and Ronsenbloom (2002) identifies three elements that distinguish between BM and strategy: the predominance of value creation rather than value capture in business models, the creation of value for the shareholders rather than for only the business, and the assumptions on knowledge (limited and biased for the business model, reliable and analytical for strategy). Zott et al. (2011) stress that competition, value capture and competitive advantage belong to strategy sphere, while cooperation, partnership and joint value creation are emphasized by business models. Casadesus-Masanell and Ricart see the *“business model as a reflection of firm’s realized strategy”* (Casadesus-Masanell and Ricart, 2010:204), where the BM refers to the logic of the firm, while the strategy is the plan to *“create a unique and valuable position involving a distinctive set of activities”* (Casadesus-Masanell and Ricart, 2011:9). Similarly, Teece (2010) asserts that a BM is more generic of a business strategy and it might be considered as a complement.

How have been BM and strategy linked? According to the literature reviewed, three main topics (and sometimes a combination of them) have been looked at with respect to strategy and business model: the entry choice modes, the role of replication of BM in internationalization, and the choice of diversifying the value offering.

Most of the papers deals with entry choices. Using game theory, Casadesus-Masanell and Zhu (2010) analyze the optimal strategy of a high-quality incumbent that faces a low quality ad-sponsored competitor. The authors argue that the incumbent can compete either by adjusting the tactical variables, namely price or number of ads, or by changing the business model. Casadesus-Masanell and Llanes (2011) look at when a profit-maximizing company adopts a mixed-source business model. In this case, the strategic variable is about the openness of technologies, but also on the compatibility regime with competitors' products. In another paper, Casadesus-Masanell and Zhu (2013) analyze how entrants choose the BM (if traditional or new), based on their expectation about incumbents' reaction. What emerges is that entrants can chose to strategic conceal or strategic reveal their intentions, and the decision depends on the comparative quality between entrants or incumbent products. Bonaccorsi et al. (2006) analyze the entry strategies in the open source software industry.

Rooted in the knowledge-based view, Winter and Szulanski (2002) argue that replicators create values refining an existing BM *"by choosing the necessary components to replicate that model in suitable geographical locations, by developing capabilities to routinize knowledge transfer, and by maintaining the model in operation once it has been replicated"*. According to them, *"the business model (or formula) is typically a complex set of interdependent routines that is discovered, adjusted, and fine-tuned by 'doing'"* (Winter and Szulanski, 2002). Drawing on the replication as a strategy framework, Dunford et al. (2010) look at how BM is used when a company decides to internationalize. They identify four processes, namely clarification, localization, experimentation and co-option, that underline both BM change and internationalization. According to the authors, *"early and rapid internationalization may be sought through combining one or more of these modes with the use of a replication strategy, that is one where expansion into new countries is based on the repeated application of a specific business model"* (Dunford et al., 2010: 657).

Another bunch of papers refers to a diversification strategy. Suarez et al. (2013) look at how manufacturing firms, in this case the software producers, are introducing services in their value proposition, and how this choice affects the firm's performance. Bonaccorsi et al. (2006) conduct a survey on Italian open source companies and look at the strategies of software firms with respect to the open source, finding that software companies have chosen to combine proprietary and open source software under different license schemes.

From the literature reviewed, three main shortcomings are identified. First, BMI is treated as a 'one-fits-all' concept, where different degrees of BMI have not been distinguished. Second, BMI and new business models have been used as interchangeably terms, but there is a nuance between them. Finally, most of the articles about BM and strategy has looked at specific industries, such as the software industry, where a new technology (such the Internet\open source) has allowed new entrants to change the rules of the game and forced incumbents to react. However, the literature has only

considered specific components of the business model (such as the revenue model), neglecting how different business model innovations may arise from changing multiple components.

3. TOWARD A BUSINESS MODEL INNOVATION TYPOLOGY

The importance of distinguishing within different degrees of innovation has been largely addressed by literature on technology and innovation management, but it seems to be underdeveloped with respect to BMI. I adopt Henderson and Clark (1990)'s framework of technological change and extend it to business model. Based on the usefulness of the existing architectural and component knowledge of the firm, Anderson and Clark (1990) distinguish between radical innovation (new set of core components and new architecture), incremental innovation (refinement of the existing set of the core components and unchanged link between them), modular innovation (change of core design concepts only), and architectural innovation (change of the link between core concepts only). However, due to the fact that a BM involves also how the components are linked together, I consider the modular and the architectural BMI as part of the incremental BMI.

Whatever the perspective, if cognitive or real, literature focuses on BM as linking two main dimensions, namely the value creation and the value capture activities. For each of these two main dimensions, authors have provided multiple elements. Henceforth, we define a BMI as a change in the linkages within and between value creation and value capture elements: a company can decide to maintain the same BM (i.e. maintain the same value capture and value creation activities) or innovate it in an incremental (i.e. changing only the linkages within value creation activities, but maintain the existing value capture mechanisms or vice versa) or radical (i.e. changing both the linkages within and between the value creation and the value capture mechanisms) manner. The result is a two-by-two matrix (Table 2).

		VALUE CAPTURE	
		Existing	New
VALUE CREATION	Existing	No BMI	Incremental BMI
	New	Incremental BMI	Radical BMI

Table 2. The BMI typology (source: author)

It derives that *incremental business model innovation consists in changes in the link of either value creation or value capture activities while radical business model innovation consists in changes in the link of both value creation and value capture activities.*

To the purposes of this paper, I adopt Baden-Fuller and Haefliger (2013)'s BM dimensions for value creation and value capture activities since they go beyond Teece (2010)'s framework introducing the multiple-sides element, i.e. they account for the presence of multiple business models in the same company. According to them, a BM is made up by four dimensions, namely the customers

identification (who pays), the customer engagement (whether 'taxi' or 'bus'), the value chain linkages (integrated, hierarchy or networked), and the monetization (when, what and how is money raised). Henceforth, the boundaries of BMI are represented by these four dimensions.

In order to understand better the typology of BMI proposed and clarify the link between BM and strategy, I examine how adopting a servitization strategy (Vandermerwe and Rada, 1988; Neely, 2008) by a manufacturing company requires an incremental or radical BMI depending on the type of servitization strategy chosen.

4. THE SERVITIZATION OF THE MANUFACTURING INDUSTRY

"Servitization" is a term coined by Vandermerwe and Rada (1988) for defining "*the offer of integrated packages of products, services, support, self-service and knowledge to add value at company's core businesses*". Despite many other definitions and synonyms have been provided (Baines et al., 2009; Barquet et al., 2013; Beuren et al., 2013; Maglio and Sphorer, 2008, 2013; Mathieu, 2001; Neely, 2008; Velamuri et al., 2011), to the purposes of this article, servitization is considered as a strategy that manufacturing companies could pursue, and consists in shifting a traditional product-based value proposition towards different levels of product-service systems (PSS).

Due to the several classifications provided about servitization options, there is a need to define our field. In broad terms, servitizing implies adding services to existing products. But, how can services be added to product at company level? At company level services can be seen as the business offer (a value proposition made up by pure service), as part of the business offer (a value proposition made up by both product and service) and as provided internally to the firm (services at the process level). Between the various classifications, Neely (2008)'s classification of servitization options is, to the best of my knowledge, the more complete. According to him, there are five options for servitization (Neely, 2008:108): integration oriented product-service system (going downstream by adding services through vertical integration; this option basically consists in products plus services - e.g. retail and distribution); product oriented product-service system (providing additional services related to the product; this option basically consists in products plus services that are integral to the product - e.g. maintenance and support services); service oriented product-service system (incorporating services into the product itself; in this case we have a coupled product and service - e.g. health usage monitoring systems); use oriented product-service system (in which ownership is retained by the service provider who sells the function of the product - e.g. sharing, pooling, and leasing); and result oriented product-service system (the product is replaced by a service - e.g. the voicemail service).

Due to the fact that a BM creates value for the customer, I adapt this classification excluding the integration oriented product-service system since it refers to the service at process level, creating value for the firm only. Table 3 provides the summary.

		SUB-LEVELS	NEELY (2008)'S CLASSIFICATION
LEVEL	Business offer	Pure Service	Result oriented Product-service system
		Product plus service	Use oriented Product-Service System
			Service oriented Product-Service System
	Process	Service provided internally	Product oriented Product-Service System
			Integration oriented Product-Service System

Table 3. Classification of servitization strategies (source: author)

Adopting one of the four servitization strategies considered requires a change in BM that can be incremental or radical. Using the typology on BMI proposed in the previous section, we classify the BMI required for each kind of servitization type.

In order to explain this classification, I create an example based on the car manufacturer ABC. For the sake of simplicity, suppose that the manufacturer sells one type of car (customer engagement = “bus”) directly without the need of retailers and produces and delivers the car by itself (value chain linkages = “hierarchy”). ABC decides to servitize and has to choose which type of servitization strategy adopt. Table 4 shows on the left side the different dimensions (on the basis of Baden-Fuller and Haefliger (2013)'s framework) with their broader options that a firm can choose, while on the upper side the four different strategies that can adopt. The cells are filled with the choices made (or whether the choices need to be defined is has been written TBD). ABC can choose between:

- 1) adopting a product oriented PSS, adding to the sale of the car the maintenance services or allowing the customer to personalize the car. In this case, the users is still the payer, but he can personalize the car and choose the level of optional services wanted. The manufacturer can make everything by itself or decide to outsourcing the provision of optional services.
- 2) adopting a service oriented PSS, integrating the service into the product. In this case the company integrates electronic devices in the car in order to provide instantaneous on the road information and \or instantaneous information about the car to third parties (such as insurance companies, police, etc.). In this latter case, the user still pays but alternative payers (e.g. police that wants to monitor traffic jams) can be found. Moreover, services can be customized. Hence, the manufacturer can change the value chain (for example allowing apps developers to join it). The result is that the monetization depends on the kind and level of services added to the car;
- 3) adopting a use oriented PSS. It implies that the company maintains the ownership of the car and give it to the customer through pooling, sharing or leasing contracts. In this case the manufacturer can adopt different monetization options (e.g. pay a monthly \annual fee or pay per hour). The customer

can choose between the type of contract, the features of the car, the modalities of 'picking up and delivery'. The manufacturer could consider the option of networking with third parties (such as BlaBlaCar, Carpooling.com, Zipcar) or dedicating an ad hoc business unit for that, rather than reconverting itself into a pure service provider (eliminating the manufacturing activity and becoming a carpooling\carsharing –service- company as Carpooling.com). Advertisers can pay. Money comes from use;

4) adopting a result oriented PSS. The customer benefits directly of the service, substituting the product. In the case of a manufacturing company, the company can offer a "hire with driver" solution. In this case, the user calls the company and the company provides a car with the driver who drives the car in place of the user. The user pays the travel (i.e. it pays for a service, not the use of a product as in the case of user oriented PSS or the ownership of the product, as in the case of product\service oriented PSS) and this service is tailored on the needs of the user.

		Traditional Product	Product oriented PSS	Service oriented PSS	Use oriented PSS	Result oriented PSS
Customer identification	User pays	X	X	X	X	X
	Other pays			X	X	
Customer engagement	Bus	X	TBD			
	Taxi		TBD	X	X	X
Value Chain Linkages	Hierarchy	X	TBD	TBD	TBD	X
	Network			TBD	TBD	
Monetization	Point of purchase	X	TBD	TBD		
	Point of use		TBD	TBD	X	X
	Fees		TBD	TBD	TBD	
BMI		No BMI	Incremental	Incremental	Incremental \Radical	Radical

Table 4. An example of BMI for a car manufacturer (source: author)

As shown in table 4, there are dimensions that tend to be fixed or change slightly, such as the customer identification that in all cases sees the user paying, although sometimes he can receive contributions from third parties. Other dimensions instead change more radically, such as the monetization and the customer engagement. What is interesting is that the value chain linkages present a very high level of flexibility in terms of choice. For simplicity I have just distinguished between the hierarchy and network structures, but more fine-grained classifications can be adopted. As shown, multiple combinations between the dimensions are possible (and managers may choose among different alternatives on the basis of their perceptions of the external environments and internal assets and capabilities), although choosing a result oriented PSS servitization strategy seems to result, at least from the previous example, in a more radical business model innovation, especially

because the value for the customer changes disruptively (he receives the services directly). This is supported also by other examples of result oriented PSS such as Xerox' document management and Roll-Royce's power by the hour (Baines et al., 2009), that have represented new (successful) business models.

5. CONCLUSION AND FURTHER RESEARCH

My main argument in this paper is that literature has missed to distinguish within different degrees of business model innovation (BMI) and has not clearly shown how a change in strategy implies a BMI. I suggest that, as well as other concepts in the technology and innovation management literature, BMI can be either incremental or radical. This typology has been linked with Baden-Fuller and Haefliger (2013)'s BM dimensions in order to set the boundaries within which a BMI can occur.

In order to clarify the role of strategy with respect to business model, I have analyzed the servitization strategy showing how different degrees of servitization require different degrees of business model innovation. What emerges is that companies can choose between different configurations (Drazin and van de Ven, 1985) of business models also within the same servitization strategy. Moreover, as well as within the same industry companies can servitize in different ways, a company may also choose to pursue simultaneously different business models within the servitization option chosen or pursue multiple business models choosing to adopt more servitization strategies. Further research is needed in order to understand whether certain configurations are more viable than others and under what conditions. I suggest that different theories can be helpful in order to understand the co-existence of multiple business models within an industry and within the same company. In the first case (McNamara et al., 2013), institutional theory (Di Maggio and Powell, 1983) and the concept of isomorphism can help in order to see how companies are imitating a specific business model. At company level, an interesting path of research may be linked to the ambidexterity literature. In a recent paper, Markides (2013) identifies spatial separation, temporal separation, and contextual ambidexterity as possible solutions to manage multiple business models within the same company. I suggest that further research is needed in this direction.

Moreover, preliminary empirical surveys on the impact of servitization strategy on businesses' performance have shown a paradox (Fang et al., 2008; Neely, 2008), synthesized as the fact that *"substantial investment in extending the service business leads to increased service offerings and higher costs, but does not generate the expected correspondingly higher returns"* (Gebauer et al., 2005) or *"why are servitized firms generating higher revenues but delivering lower profits than pure manufacturing firms"* (Neeley, 2008). A U-shaped relationship has been arisen in recent empirical studies on servitization and performance (Suarez et al., 2013; Visnjic and van Looy, 2013). Despite the performance of

servitized firms seems to be highly contingent on the industry, the nature and the size of the service portfolio (Visnjic and van Looy, 2013), I think that accounting for different levels of business model innovation and hence different business model configurations (i.e. considering the business model as moderator as Baden-Fuller and Haefliger (2013) suggest), can shed light on the servitization paradox. Finally, further evidences are needed on the capabilities required by manufacturing firms for successfully shifting towards more service-oriented business models.

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STUDY ON CONSUMERS' BEHAVIOR CONCERNING BERRIES CONSUMPTION IN ITALY

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ABSTRACT

In Italy, the cultivated land of berries shows a positive trend, nevertheless berries still remain a productive segment of niche and luxury in the Italian agri-food system. In the world, the interest for these productions is high for their healthy aspects that have a strong appeal to the consumers. The objectives of this study are to know the consumers behavior of berries and the determinants of purchase in Italy in order to improve the management of the producing and retailers companies for increase the competitiveness of the supply chain. The results obtained through a multivariate analysis show some difference among the consumers interviewed. The most important results of this study is that good taste and flavor and nutritional properties are the most important motivation to buy berries as fresh fruit. Among the three geographical Italian macro-regions (Northern, Central and Southern) have not been revealed relevant differences. These are related mainly to the type of fruit consumed, the place and frequency of purchase. Furthermore, consumers living in big capitals, compared to those living in the small cities, can easily find berries at supermarket and consider label a very important element for traceability of product. Moreover, they usually buy berries for special occasions as fresh fruits or to prepare particular dishes. Several implication both for companies and Institution have been identified.

INTRODUCTION

We define "Berries" a small group of species within the genus *Rubus*, *Ribes* and *Vaccinum* that are grown in recent years in different sites of the world because of the strong demand of the agri-food, pharmaceutical and cosmetic industries (Crescimanno et al., 2013). In Italy, the cultivated land of berries, in the most recent official statistics, amounted to 402 hectares with a production of 27,900 tons (72% are raspberries), and recording, compared to 2005, an increase of 49.5% for cultivated land and of 28.2% for the quantities obtained (ISTAT, 2010). These numbers, however, make that berries still remain a productive segment of niche and luxury in the Italian agri-food system, that recently are present also in protected cultivation. This is a good opportunity for some areas of Southern Italy to enhance marginal areas not usable for agricultural purposes. The limited quantities produced make

Italy a country strongly importer (especially during non-production period) as shows the trade balance data for 2012 that is negative both in terms of quantity (-30,335 tons) and value (-62.7 million euro) (INEA, 2012).

In the global context, Blueberries, Cranberries, Raspberries, as a whole, reach a production value of \$2.6 billion with a production of 1.5 million tons. Among the major world producers there are US, Canada, Poland and Russian; in particular, US and Canada are the world leading exporters of blueberries (FAOSTAT, 2012). The interest shown by the world market to the cultivation of berries is due in particular to the specific health properties of exceptional importance that these fruits contain, to varying degrees depending on the species. The healthy aspects of berries have a strong appeal to the consumer; for example, James et al. (2002) argue that the intense colors of this products are associated with substances undisputed preventive value against some diseases of our time, such as cardiovascular diseases, stroke, cancer, and the color is one of the characteristics that the consumer takes into consideration when choosing of Fruits and Vegetables (F&V) consumption. In the cranberry industry e.g. growers are paid by the tonnage of product modified by the quality, that is partially determinate by the color and the pigment content that increases the coloring of the fruit; so the growers would like harvest early to reduce risk of frost but the processor later to increase pigment content (Francis, 1995). In the light of the healthy properties of berries are added to the indications of the World Health Organization (WHO) that for several years has put together an information campaign on the benefits of F&V consumption of the recommended intake of a minimum of 400g/day for the prevention of chronic disease, cancer, diabetes and obesity, as well as for the prevention and alleviation of several micronutrient deficiencies, especially in less developed countries (World Health Organization, 2004). To improve F&V consumption in populations, many countries have developed and adopted a variety of healthy policies and intervention; among all China, USA, Canada, Australia (Yang Li et al., 2011), and in the American urban new forms of community gardening (Alaimo et al., 2008).

Many studies have been conducted to understand the consumers behavior of food products and in particular of F&V consumption, but there aren't study about the berries consumption, particularly in Italy. In this scenario, the aim of the paper is to identify the main intrinsic and extrinsic attributes affecting berries' consumption in Italy, and also to analyze which differences emerge among Italian geographical macro-areas (Northern, Central and Southern) and between big and small capitals regions ($\geq 200,000$ and $< 200,000$ residents, respectively). The first hypothesis of this study is that consumers are driven mainly by intrinsic attributes in their choice (taste, flavour, nutritional properties) and that this behavior is more marked in the Northern regions. Our second hypothesis is

that in the big city consumers show more attention to the products traceability, indeed and they buy berries mainly in the large scale retail trade.

To achieve the aim we did a telephone survey to 200 consumers of berries residents in the 20 Italian regional capitals. Results of this survey have been analyzed through a multivariate statistical analysis (cluster analysis) in order to identify the main factors influencing consumers behavior. The variables that we studied in our work are intrinsic, like the taste, the color of the fruit, the health properties, and extrinsic properties, such as price and the traceability (or origin). Others variables concerning the choice of the place of purchase, the mainly occasions and modalities of consumption (fresh or prepared).

This paper after the introduction follows with the Literature Review on F&V and berries behavior consumption, with the methodologies of the work and the results of the analysis; the conclusions close the work.

LITERATURE REVIEW

Many variables like personal characteristics can play an important role in explaining fruit consumption, as life experience or socio-demographic variables, and they are significant determinants of behavior (Guillaumie et al., 2010).

Translating these statements in the F&V consumption, Menozzi and Mora (2012) argued that there are differences between countries, because the Southern European countries show a higher consumption of fruits and vegetables compared to those of Northern Europe, or between gender and age, because women consume more fruit than males and older people consume more fruits of the younger. Other Authors, in addition, explain the relationship between fruit consumption and life style as physical activity (Menozzi and Mora, 2012).

Stark Casagrande and Gary-Webb (2010), studied the trends of F&V consumption in the U.S. in relation to the suggestion which have been given in recent years by the WHO, combined with other factors. They argue that a lack of improvement in F&V consumption can be attributed to a variety of factors. First food preferences and cultural backgrounds, second environmental barriers, and then that the price of snack and unhealthy foods are relatively cheap compared to the fresh ones. Furthermore the advertising for F&V is less than for nutritionally poor food.

By getting more into the heart of the debate, the literature is rich in contributions that emphasize the consumption of goods that are relevant to their intrinsic and extrinsic characteristics. In particular, on the consumption of fresh fruit there is a specific literature and in particular the concept of quality has been deeply analyzed; Espejel et al. (2007) argued that the concept of product quality can be analyzed under two main different perspectives: the objective and the perceived (subjective) quality.

Many authors and among them, Oude Ophuis and Van Trijp (1995) and Steenkamp (1997) think it is pertinent to classify the subjective quality into two groups that drive the consumer to evaluate the intrinsic (e.g. color, flavor, form, appearance) and extrinsic attributes (e.g. brand name, country of origin price, packaging and production information) of the products (Bernues et al., 2003). We think that, in the case of berries, it will be ever more important, among intrinsic attributes, the healthy properties of the products and that this attribute is the most important lever in the world market of berries. Berries are important dietary sources of fiber and essential vitamins and mineral (Schnettler et al., 2011); among them blueberries are an excellent source of phytochemicals in fact they are believed to have significant biological activity (Schmidt, 2005), and also in vitro of *Vaccinium* genus, berries were found antioxidant and anti-carcinogenic (Rimando, 2004). So one of the major reason for the blueberry increasing popularity in the human diet is their higher antioxidant capacity among berry fruits (Seeram et al., 2006).

Regarding the others intrinsic attributes, color among the appearance, is one of the major attributes which affect the consumer perception of quality. In particular, as argued James et al. (2002) to the intense colors of berries are associated substances with preventive value against some diseases of our time, such as cardio-circulatory diseases, ictus, cancer. Furthermore color function in several ways is considered an indicator of freshness (Francis, 1995). In relation to freshness, a survey conducted in the European Community countries showed that the primary factor influencing food choice of European consumers was quality/freshness (Péneau et al., 2006), according to a survey carried out in Germany with more than 2000 consumers: freshness was the most important criterion takes into account when buying a fruit or vegetable (AgV, 1981). These factors are very important because the berries present a very short shelf life (around 3 days) and this could be a strong limitation for the fresh fruits market.

Among the extrinsic attribute Espejuel (2007) suggests that these among the consumer's behaviors can play a role in presence of Protected Denomination of Origin (PDO), because the intrinsic attributes are guaranteed by the rigorous quality control by the Regulatory Councils of PDO; we think that in all other cases they could be decisive as the intrinsic attribute.

The price of the products could have an important role in the consumer behavior, in particular for low-income populations (Williams et al., 2012), and many studies carried out the role of the price in the consumption survey (Campbell et al., 2004; Onwezen and Bartels, 2011), or the opinion of consumers on the cost of fresh F&V (Chen et al., 2014). In relation to other extrinsic attributes packaging e.g. has not been considered in our study, because, now, there are few solutions to packaging berries, considering the characteristics of the products; but we agree with Koutsimanis et al. (2012), which think that packaging is constantly being developed and updated to meet changing consumer demands. Regarding trays labeled (e.g. producer and country of origin), study carried out

on this aspects Papanagiotou et al. (2013) and Font et al. (2011), show that product origin is one of the attributes that has a strong influence on consumer choice, in fact it represents a guarantee of product quality.

It is very interesting, for fresh fruits, their easy way to process into juice o jams that has considerably expanded its consumption. We think in agree with Ragaert et al. (2004) that a wide assortment of minimally processed vegetables and fruits has been developed to meet consumer to benefit from F&V benefit healthy image.

MATERIALS AND METHODS

Sampling scheme and survey

The reference Population, for this pilot survey, is the number of residents in the 20 Italian regional capitals, with age between 20 and 80 years, that is $N = 7.062.958$ (ISTAT, 2012). The calculated sample dimension is $n = 200$, with $p = 95\%$ and $\varepsilon = 7\%$. Since this Population is divided into homogenous strata (regional capitals), with a low variability inside, the *Stratified-proportional* sampling scheme was applied. Because of the different Population size of each capital, 20 sub-samples of a calculated dimension proportional to each stratum of the Population were created (Vianelli and Ingrassia, 2011). Table 1 shows Population size and calculated sub-samples size for each stratum. Extraction of units (respondents) from each stratum was made by random procedure (Cicchitelli, 2012), using telephone directories of each regional capital. In this study, to reach 200 consumers of berries we have carried 506 telephone interviews.

Table 1. Reference population and sample of survey

Regional Capitals	Resident population (No)	Sub-sample sizes (No)	Italian geographical macro-regions	Capital size
Torino	671,995	19	Northern	Big
Aosta	25,980	1	Northern	Small
Genova	447,758	13	Northern	Big
Milano	950,791	27	Northern	Big
Trento	85,397	2	Northern	Small
Venezia	199,982	6	Northern	Small
Trieste	155,191	4	Northern	Small
Bologna	285,947	8	Northern	Big
Ancona	75,989	2	Central	Small
Firenze	272,444	8	Central	Big
Perugia	123,096	3	Central	Small
Roma	2,005,303	58	Central	Big

Napoli	712,180	20	Southern	Big
Chieti	39,877	1	Southern	Small
Campobasso	37,356	1	Southern	Small
Bari	242,338	7	Southern	Big
Potenza	51,839	1	Southern	Small
Catanzaro	68,124	2	Southern	Small
Palermo	492,073	14	Southern	Big
Cagliari	119,298	3	Southern	Small
Total	7,062,958	200		

For the telephone interviews it was used a questionnaire properly created for this survey and divided into two parts. The first one contains questions about respondents' socio-demographic characteristics and consumers behavior (age, gender, job profession, possibility to buy fresh fruit or processed into fresh-cut, points of purchase). After these questions it was asked to respondents if they consumed berries: only those who answered affirmatively would continue the questionnaire. In the second part it was asked to respondents to give an order of preference (from 1, as the first, to 18, as the last) to 18 qualitative variables describing both intrinsic qualities attributes of berries (commodity and sensory aspects), extrinsic attributes and other variables (Table 2). Preferences had to be given by consumers according to their motivations for buying and consuming berries (what do you take into consideration when you choose berries).

Table 2. Variables utilized in the Cluster analysis

N.	Variables' description	Label
1	Quality/price ratio	Good _price
2	Flavor and taste	Good _taste
3	Visual appearance (color, shape)	Good _shape
4	Benefic nutritional properties (vitamin C, anthocyanin, antioxidants)	Nutritional _properties
5	Possibility to choose among different types (raspberries, blueberries, currants, strawberries, blackberries)	Different _types
6	Trays labeled with information on quality traceability (date of decay, producer, Country of origin, distributor)	Labelled
7	Easy to find	Easy _to _find
8	Place of purchase: supermarket	Buy _at _Supermarket
9	Place of purchase: fruit and vegetables shop	Buy _Fruit shops
10	Place of purchase: local market	Buy _Fruit markets

11	Place of purchase: short-chain (Km 0)	Km0
12	Used to make sweets, desserts or ice cream	Use_for_sweets
13	Used for preparation of dishes (side dishes, seal plates)	Use_for_dishes
14	Eat as fresh fruit	Use_Fresh fruits
15	Very decorative	Very_decorative
16	Used as a fruit to be offered at lunch or dinner with family and friends	Offered_at_meals
17	Suitable for special occasions and celebrations (Christmas, New Year, Easter, anniversaries, birthdays)	Special_occasions
18	Used to make yogurt, smoothies, jams etc.	Use_for_yogurt_mousse

Clustering Methodology

Cluster Analysis¹ is the multivariate statistical method more suitable for the objective of this research (Mueller and Hamm, 2014; Fabbris, 1997; Heiser and Meulman, 1995). This analysis, as it is known, is used when faced with the problem of creating relatively homogeneous groups in a set of variables. It is a multivariate analysis technique through which it is possible to combine statistical data, so as to minimize the distance between data inside groups and between groups. This distance is quantified by measures of similarity/dissimilarity between the data. Cluster Analysis puts together elements of a certain set into groups (clusters) that are non-predefined before, in order to have, in each cluster, units as homogeneous as possible (elements belonging to different groups are, thus, heterogeneous). So the Clustering, unlike other techniques of analysis, highlights sets of homogeneous groups which can be obtained in absence of knowledge about shape and number of them. Several methods are used to calculate the distance between two or more variables. The *Euclidean distance* method is often applied for Hierarchical Clustering (Beale, 1969) with the standardizing of variables to have comparable values and distances (in case of different units of measurement). For this analysis the *Average Linkage Hierarchical Clustering* resulted the more appropriate and the *Euclidean distance Method*, with the *non-determined* number of clusters, was chosen (all variables are in the same scale of measurement, so standardizing is not required). The *Dendrogram* shows each stage of the agglomeration and levels of aggregation with increasing order (vertical lines are the links of clusters, the positions of those lines, in the scale of reference, show different levels of hierarchical aggregations from the most homogeneous to the less one). In addition, *Agglomeration program* Tables were used to compare coefficients of homogeneity. It was built a matrix ($m \times n$) with rates given to the 18 variables from the 200 respondents. For the market segmentation (Farley et al., 1987; Wedel and Kamakura, 2000) clustering was made with data collected from all the regional capitals considered. Also, Cluster Analysis was made splitting the data-set into parts, in order to compare regional capitals according to: (1) the Italian

¹ Statistic Software SPSS.

geographic zones, which are: Northern Italy, Central Italy and Southern Italy (ISTAT disaggregation); (2) the demographic population's dimensions, considering big capitals with resident population > or equal to 200.000 and small capitals with resident population < 200.000. So it was possible to have a market segmentation basing on different consumer profiles and purchase behaviors (Table 2).

RESULTS AND DISCUSSION

Consumers profile

The socio-economic characteristics of the consumers contacted by telephone are shown in table 3. The sample consisted of women with 67.82%, and men with 32.18%. The most of the respondents have an age between 45 and 64 years (42.57%), follows the range 25-44 years (31.68%), more than 64 years (21.29%) and finally the range 20-24 years with only 4.46% (Tab.3). People younger than 20 years were not selected for the telephone interviews.

With regard to employment, the 39.60% is employee, the 23.27% is retired, the 16.34% is self employed, the 13.37% is housewives and 1.49% is unemployed (Tab. 3). 40.59% of respondents are located in Northern Italy, 35.15% in the Central and 24.26% in the Southern regions. The respondents consume fresh fruit mainly after lunch/dinner (64.36%), and after dinner (23.76%), and less frequently only after lunch (2.48%) and between meals (9.41%). With regard to berries, the majority of respondents (87.13%) say they do not eat frozen berries but prefer fresh fruit. Among the species, results show an high consumption of blueberries (24.41%), blackberries (21.34%), raspberries (20.83%), wild strawberry (12.62%), red currant (10.85%) and white currant (9,95%).

Tab. 3. Socio-economic characteristics of the interviewed (%)

		Sample (n=200)
Gender	Male	32.18
	Female	67.82
Age (Year)	20-24	4.46
	25-44	31.68
	45-64	42.57
	More than 64	21.29
Occupation	Housewife	13.37
	Employee	39.60
	Retired	23.27
	Self employed	16.34
	Unemployed	1.49
	Other	5.93
Distribution	Northern Italy	40.59

Central Italy	35.15
Southern Italy	24.26

Source: Our elaboration on survey data.

81.68% of respondents say they consume berries only in seasons of production, 11.39% throughout the year and 6.93% on special occasions (parties, dinners with friends, etc.). With regard to the frequency of purchase, 59.90% of respondents claimed to buy berries on a monthly/yearly basis, 40.10% daily/weekly. 61.88% said to prefer consuming mixed berries and 38.12 % of one typology. With regard to the place of purchase, 70.79% of respondents claimed to buy berries in supermarkets and hypermarkets, 15.84% in the local market and 12.38% in the specialist retailer. Only 0.99% buy through direct sales between producers and consumers.

Compared with the overall national trend, the main differences between the Northern and the Southern regions concerning the consumption of particular products. In these last regions, in fact, higher is the consumption of wild strawberries (14.38%) than in the Northern regions (9.77%). In contrast, in the Northern regions there is a higher consumption of raspberries (23.37%) compared to the Southern regions (16.52%), where there is also a high consumption of blackberries, thanks to the possibility to find it spontaneous. Another important difference concerns the frequency of purchase of berries that are higher in Northern Italy (56.1% of purchased weekly and monthly) compared to the regions of the Center and South where prevailing monthly and annually purchase (85.71%). Another difference among the three geographical areas is relative to the preference to consume mixture of berries or single types of this fruits. Indeed, in the Northern and Central areas prevails the consume of a mixture, while in the Southern regions the people prefer to consume only one typology of berries.

Cluster analysis

Cluster Analysis grouped variables together basing on consumers scale of judgments, given according to their personal opinion on this produce. Consumers gave priorities (first places) to variables that they estimated as the most important ones, so that scores and logical associations resulted very similar/homogeneous like, also, in the case they evaluated the less important ones (lower positions).

Results revealed groups of homogeneous variables according to consumer's motivations for purchasing berries and choices for consumption. The best selling places where to find berries more easily and the main use consumers do of these fruits were grouped. From the first general clustering, three very big clusters' groups can be seen by the Dendrogram (Fig. 1). In particular, the Dendrogram shows the hierarchies gradually generated by the clustering process; the Agglomeration program (Table 4) shows the homogeneity coefficients.

According to consumers' preferences (statistics of scores frequencies for each variable have been omitted for reasons of printing) the most important motivations for buying berries are produce intrinsic qualities attributes, such as: good taste and flavor, good shape, benefic properties. Variables

belonging to group "Place" had lower positions, it means that special occasions, meals with friends or celebrations are not the main motivation for them to buy berries; sometimes the ease of finding becomes relevant. The lowest places were given to variables "Price", good quality/price ratio and possibility of finding the product through the short chain, it means that consumers think that berries are expensive fruits and it is difficult to find them through the so called short-chain (Km 0), which could, instead, be a means to buy food products at a lower price. The analysis by geographical zones show some differences in the judgments of the respondents, in relation to variables analyzed; however, these differences were not particularly high.

It resulted also, a greater ease of retrieval of the product in the North, on the contrary, in Southern Italy (Fig. 2 and 3) consumers have more difficulty in finding the product on the market, therefore preferring to use of this product on special occasions for the preparation of dishes, sweets or desserts or just as a fresh fruit, as they are very decorative.

Fig. 1 – Dendrogram (Average linkage between groups)

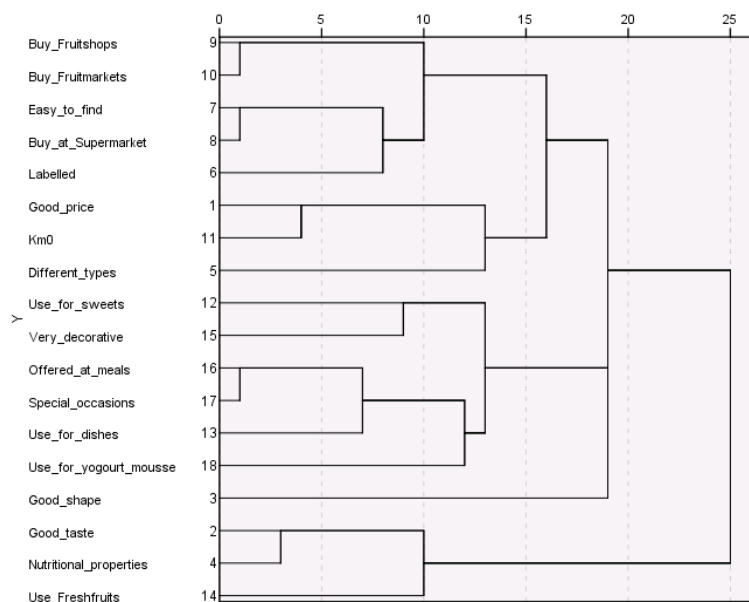


Table 4 – Agglomeration Program (Average linkage between groups)

Stadium	Linked clusters		Coefficients
	Cluster 1	Cluster 2	
1	9	10	42.591
2	7	8	42.895
3	16	17	44.362
4	2	4	51.971
5	1	11	54.369

6	13	16	64.080
7	6	7	67.542
8	12	15	69.921
9	6	9	74.032
10	2	14	74.785
11	13	18	79.710
12	12	13	83.084
13	1	5	84.756
14	1	6	93.920
15	3	12	102.814
16	1	3	104.378
17	1	2	125.181

Fig. 2 – Dendrogram for geographic zone – Northern Italy (Average linkage between groups)

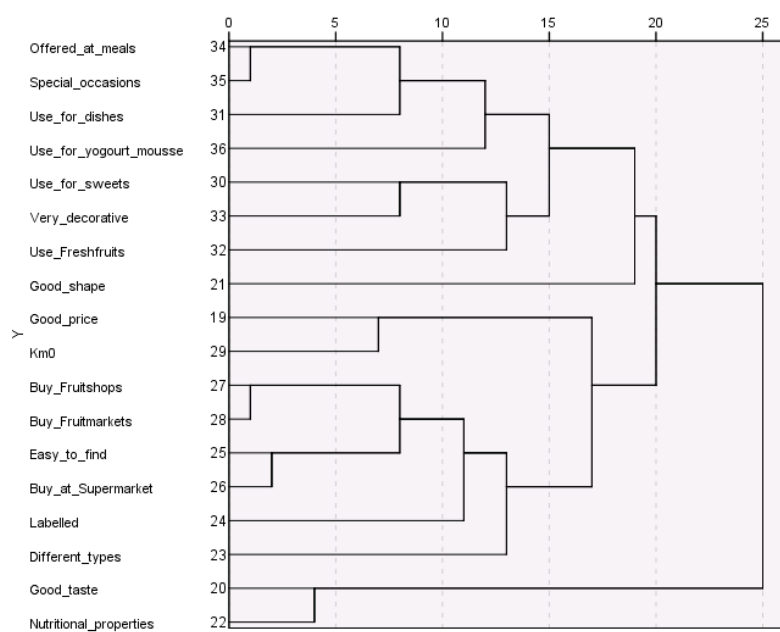
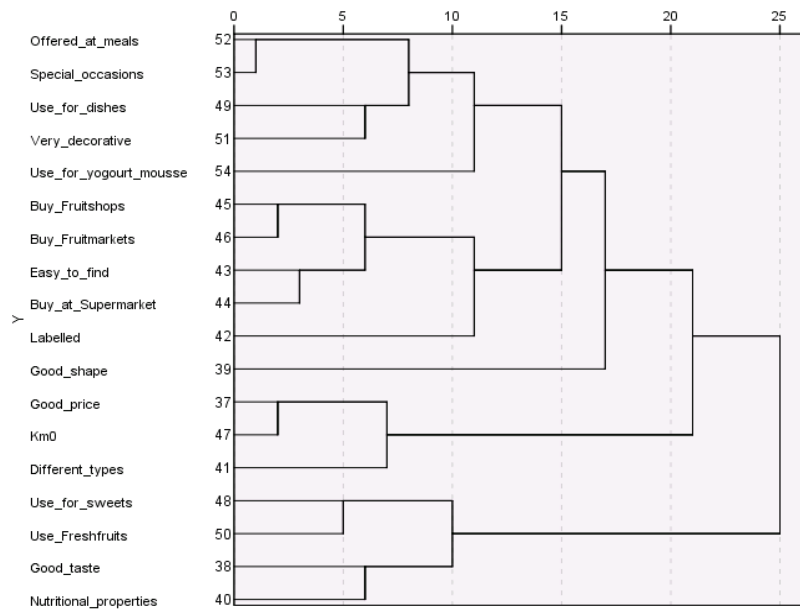
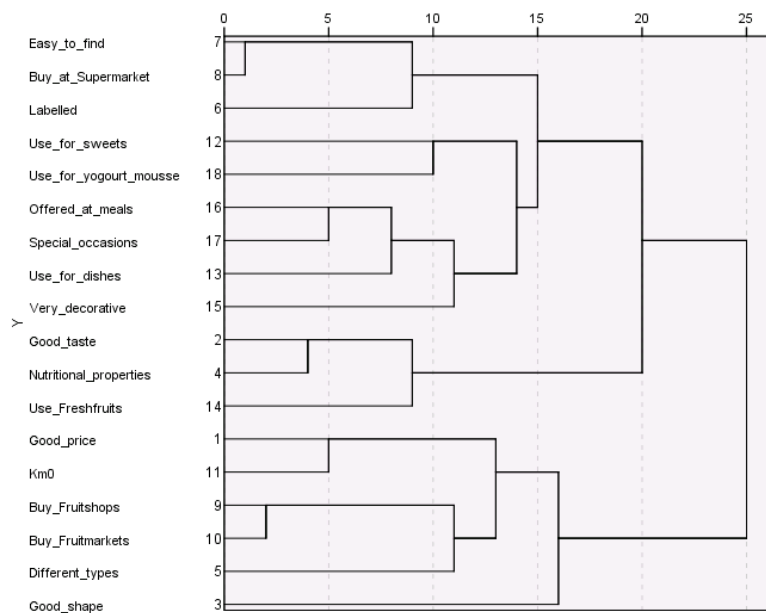


Fig. 3 – Dendrogram for geographic zone – Southern Italy (Average linkage between groups)



In Central Italy (Fig. 4) consumers seem to make a greater use of berries for preparing dishes. In all cases consumers said they like these fruits and think they are very healthy.

Fig. 4 – Dendrogram for demographic size – Central Italy (Average linkage between groups)



Finally, from the analysis by regional capital sizes it was highlighted an interesting difference in consumer’s behaviors (Fig. 5 and 6).

Fig. 5 – Dendrogram for demographic size – Big capital (Average linkage between groups)

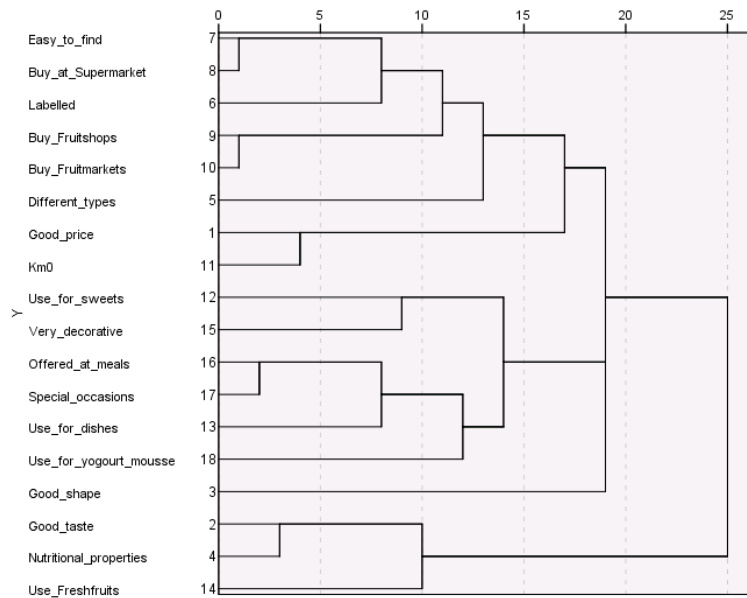
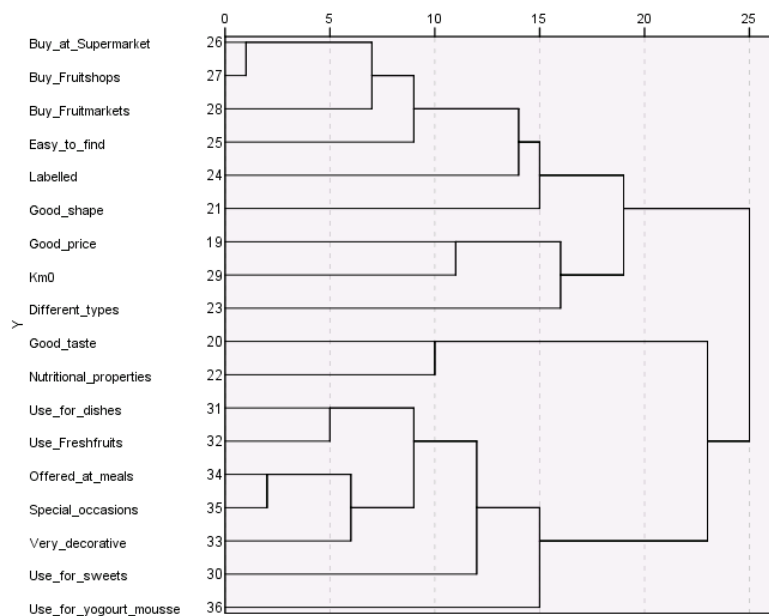


Fig. 6 – Dendrogram for demographic size – Small capital (Average linkage between groups)



It resulted that consumers living in big capitals can easily find berries at supermarket and consider labeling a very important element for traceability of product; moreover they usually buy berries for special occasions as fresh fruits or to prepare dishes. Good taste and nutritional properties are the most important motivation for buying berries as fresh fruit. Consumers living in small capitals do not find differences in buying berries at supermarkets or at fruit-shops or fruit markets, so label become less important for them. They use to consume berries not only for special occasions, as fresh fruits because berries are "very decorative", but also as any other kind of food like ice creams, sweets, yogurts, mousse, etc.. Good taste and nutraceutical properties are relevant but haven't the same

importance than for residents in big capitals, it may be, also, because most part of small capitals are natural producers of berries, so consumers residents in these cities are used to eat these fruits.

CONCLUSIONS

The objectives of this study are to know the consumers behavior of berries and the determinants of purchase in Italy in order to improve the management of the producing and retailers companies for increase the competitiveness of the supply chain.

According to the first hypothesis of our study, the results show that intrinsic attributes of the berries as taste, color and health properties, are the most important lever to purchase, while the price of this products (extrinsic attribute) is the lowest factor. As suggested by Benjamin et al. (2004) and Francis (1995), color is an attribute that is typically important to consumers when they purchase fruit. This is even more true for berries because as argued James et al. (2002) the intense color of berries is associated with the presence of substances that possess preventive value against some diseases of our time. Regarding the nutraceutical properties, the results of our study indicate that the health aspect is important but that it isn't the best, probably, because like other survey carried out by Schnettler et al. (2011) has shown, among consumers the knowledge of the nutritional characteristics of berries is very lack. However, among consumer's behavior some differences emerge with regard to the results of the interviews in the three geographical Italian areas, concerning the place of purchase and the ease of finding the product in the market. In particular, the consumers who live in North Italy, find more easily berries in the large scale retail trade and for this reason the frequency of purchase is greater than in the other areas and the results of cluster analysis remark this information. In the Southern Italy we can note that the consumers have more difficulty in finding the product on the market; in this area, more than in other two, the role of the specialized retail is important enough. The cluster analysis evidences the link between the variables that indicate that berries is used to special occasions and offered to friends or family for convivial meetings.

The results obtained by cluster elaboration data, show that the consumers living in big city are more attracted by the information on the products' traceability (labelled); indeed, they purchase berries mainly in the large scale retail trade. This results confirm our second hypothesis, according to which consumers in the big city are very careful to the informations about the products and buy berries mainly in the large distribution channels. On the contrary, in the small city, that are localized in many berries production areas', consumers behavior is different and lower linked to the benefit aspects.

Regarding the main limitations of this study we think that these are linked to the sample size and its localization among regional capitals only. However, our findings offer valuable insight both for producers and retailers, to identify the main priorities and improving managerial strategies, and for

Institutions, in order to define effective measures for the enhancement of the production chains. Taking into account that most of the domestic demand is met by imported product, we recognized real opportunities for the berries sector' growth in Italy, through an increase of the harvested area and for the development of the entire supply chain. In particular, the results of our study show a great attention of consumers towards the taste and nutraceutical properties of the berries, that we can be consumed fresh or prepared, but that is not easy to find in some Italian regions. Therefore, we suggest that both the companies and the Institutions carry out promotional and informational campaign in particular concerning the nutraceutical properties and the advantage for health. With this in mind, this strategy could help to increase the domestic demand and therefore the main presence of the product in the different distribution channels, even in those areas in which nowadays is less straightforward find the product (Southern Italy). Furthermore, considering that among the consumers there are differences on the types of product purchased (mixture of berries and single type), in particular between Northern and Southern consumers, companies could expand their product line, offering packages with a single type of berries, mixture of fruits, and different size of package in order to reach different segments of consumers. It would be advisable in the future to carry out similar research in other places, not only in the capital regions, to confirm or disconfirm the hypothesis formulated and to identify the life style's influence, through the analysis of main socio-demographic characteristics, on the berries consumption in Italy. Everything, could contribute to improve the knowledge on the consumers' motivation and intention and to create a stable market of berries in Italy.

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HOW TRANSACTION COSTS AFFECT THE SALES CHANNEL CHOICE: AN EMPIRICAL RESEARCH IN THE SICILIAN ORNAMENTAL PLANT SECTOR

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ABSTRACT

This paper, based on transaction costs theory, represents a contribution to the existing literature, and a first step towards a more in depth study, aimed to identify the more important transaction costs able to influence the strategic choices of firms. In particular, this approach has been used to evaluate, through a telephone survey, the influence of transaction costs on the sale channels choice made by a small sample of Sicilian firms active in the Ornamental Plants economic sub-sector. Results show that transaction costs increase moving from direct sale to the sale to wholesalers and large scale retail (LSR) channels, confirming our starting hypothesis. In particular, information and negotiation costs are higher for those firms that sell to intermediaries and/or LSR. For this last channel results show the relevance of monitoring costs too. Our results have implications on the organizational model of firms and on the opportunity that a cooperative model is able to offer also in this economic sub-sector.

Keywords: *Transaction costs, Sale channels, Organizational models, Ornamental plants sector*

INTRODUCTION

During the last few decades, the process of market globalization has led to patterns of consumption and production more similar and convergent, fueling fierce competition between companies. In particular, the entry in the international market of agricultural commodities and food products produced by emerging countries, e.g. Brazil, Argentina, Indonesia and New Zealand (De Filippis, ed., 2012), characterized by a high endowment of natural resources and low production costs, has led to a redefinition of business models in order to compete in the domestic and international market. Consequently, traditional food producers have adopted differentiation strategies aimed at maintaining character of distinctiveness and uniqueness of some agri-food products. The Italian experience in the agri-food sector shows the effective potential of these strategies that have allowed to the "Made in Italy" products to be more and more appreciated worldwide. Alongside to this approach, many other companies, especially in emerging countries, have adopted strategies of

competition based on the quality/price ratio, supported by a strong comparative advantage linked to the low production costs.

In this composite scenario the survival of companies in the market is also linked to their ability to reduce or contain the sum of production and transaction costs. However, if on one hand, reducing production costs is not so easy, taking into account the exponential increase of the price of raw materials and energy costs, on the other hand, companies are more likely to optimize transaction costs related to organization of economic activities and in particular to exchange relationships. Transaction costs, as referred by Kyeyamwa et al. (2008), can be significant deterrent to market participation especially for small firms characterized by insufficient resources so much to make, as reveals Royer (2011), not economically sustainable some transactions; consequently, the amount of transaction costs can make a sale channel preferable than another ones.

Despite their importance, transaction costs have still received little attention in the analysis of those factors influencing the strategic decisions from companies that operate in the agri-food sector. This study helps to fill this gap, proposing an analysis on the influence of transaction costs in the choice of sale channels made by a small sample of Sicilian firms active in the Ornamental Plants sector. The interest of such analysis starts from the consideration that, apart from production costs, there are other factors influencing the market competitiveness of firms.

Ornamental Plants is, in fact, one of the sub-sector of the Sicilian agriculture that, even in an economic downturn like the current one, has recorded a positive performance. Its contribution in the agricultural sector amounted to 5.7% in 2012 (INEA, 2013), and it assumes more importance considering that the same wealth is produced only from 0.4% of the companies operating in the whole sector (ISTAT, 2012). Moreover, it represents one of the Sicilian agri-food sub-sectors that shows a positive trade balance, which amounted on average to €151.7 million in 2011, with a marked trade specialization (INEA, 2012; Tudisca et al., 2013).

In order to achieve the objective of this study, the paper has been organized as follow. The first section analyze the theoretical framework and the literature review related to the studies on the transaction costs in agri-food sector. The second section shows the methodological approach used to address the research aim. The results of the direct survey are presented and discussed in the third section. The fourth section contains final considerations and some concluding remarks from the Authors.

THEORETICAL FRAMEWORK AND LITERATURE REVIEW

The transaction costs theory, of which Ronald Coase and Oliver Williamson are the main representatives, is one of the current thinking pertaining to the neo-institutional theory that, since the '80 of the last century, interprets one of the richer approaches of the contemporaneous economic

theory. According to Williamson, economic agents will choose institutions, organizational forms, and transactions that minimize the costs of exchange depending on the dimension of transaction (asset specificity, uncertainty, and frequency) and behavioural assumptions (bounded rationality and opportunism) (Williamson, 1985; Royer, 2011). In existing studies, transaction costs are subdivided in ex-ante (e.g. information and negotiation costs) and ex-post costs (negotiation and monitoring ones) depending on the moment in which they arise (Williamson, 1985; Nugent e Lin, 1995); into fixed transaction costs, independent of the quantity sold or bought, and proportional transaction costs (Key et al., 2000; Renos et al., 2003).

In the last few years, several Authors have focused their interest on the analysis of transaction costs, developing theoretical concepts and empirical researches in different countries and economic sectors. In general, these studies reveal a relevant impact of transaction costs on the business governance and on the organizational models. In particular, transaction costs theory has been used to evaluate the goodness of the strategic choices of firms concerning sales channels, adherence to common organizations, in-sourcing or outsourcing of enterprises activities.

Many studies show the existence of a positive relationship between transaction costs, company size and vertical integration model. As suggested by Traversac et al. (2011), in their study on the French wine market, and Fernandez Olmos et al. (2009), in their work on Rioja wine in Spain, large firms are more oriented towards governance based on vertical integration and to direct sale to the final consumer in particular. Indeed, Traversac et al. (2011) suggests that small enterprises rely on third-party companies various activities e.g. packaging, distribution and retail sales of their wine. Other studies analyze the influence of transaction costs on the sale channels choice. Comparing the sale of live animals at auction with the sale of dead weight packaging directly to businesses, Hobbs (1997) analyses the influence of transaction costs on the choice of sale channels of cattle breeders in the United Kingdom. His results show that costs of trading negatively influence the choice of selling cattle at auction, while a positive effect is exerted by monitoring costs. Woldie and Nuppenau (2011) in their empirical study on the banana market in Ethiopia, found that information and negotiation costs negatively influence the producer's choice to sell at wholesalers; while, monitoring costs have a positive influence on the amount of product sold to wholesalers due to a greater level of trust with these agents. Negotiation costs linked to the time spent in the negotiation process, defined as fixed transaction costs, besides the distance from markets and the time taken to reach the market, are the most important determinants in the choice of formal sale channel for cattle farmers in Sub-Saharan Africa rather than informal channel (on farm sale) (Kyeyamwa et al., 2008). Similar results are obtained by Gong et al. (2007), according to which, negotiation and monitoring costs have a relevant influence, together with socio-economic factors, on the choice of market channels of the beef

producers in China. Also Royer (2011) found that the participation of dairy farmers to a marketing board (mainly diffused in Canada), compared to the bilateral contracts (widely used in the United Kingdom), leads to much higher information and negotiation costs, related to the time spent to drive the contracts, than monitoring costs. The latter, are more important for those firms that sign bilateral contracts.

Shiimi et al. (2010) in Namibia found that costs generated by the difficult access to market information together with negotiation costs, related to the problems of animals transport, negatively affect the participation of firms to the formal market compared to direct sell.

With specific reference to the vertical integration, as a strategy for SMEs' success, Fundira (2004), in his study on the fruit supply chain in South Africa, found that the asymmetric information and opportunism among the different figures which operate along the supply chain generate higher transaction costs. Bandon et al. (2009) in their study on factors influencing farmer's participation in new supermarket supply chain for fruits and vegetables in Honduras, highlight that human's competence and farm characteristics have not a significant influence in their choices. Authors shows that the benefits obtained from the participation in this new supply chain in terms of consequent higher price compared to alternative markets, have a positive influence, while the perceived risk associated to monitoring of quality and the delays of payments represent deterrents for the participation in these channels.

Transaction costs theory has also been used to study the impact of companies' participation in the agri-food forms of horizontal integration and the influence on the adoption of traceability systems. Several studies show that reduction of transaction costs is one the main reason pushing firms to establish cooperatives. Lemeilleur and Codron (2011) found that although participation in cooperative structures for sale to supermarkets drastically reduces those costs associated with information asymmetry, at the same time, it involves exorbitant costs related to the management of the structures, making most advantageous the direct sales to intermediaries. Staal et al. (1997) found that the participation of smallholder dairying in East Africa in dairy cooperatives contributes to the reduction of transaction costs due to economies of scale in the collection and transport management, and reduce the need for information about widely dispersed and small-scales buyers and sellers. Hernández-Espallardo et al. (2009) found that transaction costs play a more relevant role in explaining not only satisfaction, but also the desire to continue the relationship in the agricultural marketing cooperatives in the Spanish region of Murcia. Beside the contraction of transaction costs, the main reasons which leads producers to establish a cooperative are also the opportunity to increase market power, improving members' income, reducing operating costs, etc. (Ortman and King, 2007; Bijman and Hendrikse, 2003). Furthermore, adhesion to the cooperative structure is a viable option for small

farmers in particular that they face with a new set of transaction costs that emerge from dealing with a food system characterized by different rules, regulations and players (Pingali et al., 2005).

Concerning the adoption of voluntary traceability system, Banterle et al. (2006) in the Italian dairy chain and Banterle et al. (2008) in the Italian food supply chain, reveal that, if on one hand, it reduces the degree of uncertainty of the transactions, on the other hand, implies an increase of those monitoring costs that can be controlled through the diffusion of governance based on “vertical integration”.

Based on the literature review and taking into account the specificity of the sub-sector analyzed in this work, below we present our hypothesis:

H1. Firms selling to wholesalers and Large Scale Retail (LSR) channels support higher information, negotiation and monitoring costs than firms choosing direct sell.

H2. Inherited firms sustain low information, negotiation and monitoring costs, because they are present in the market since a longest period, and for this reason they have an easier access to market information. Moreover, they are able to easily acquire information, showing at the same time, a more efficient internal organization, a greater bargaining power, and a more efficient management of contractual relations with their final customers.

METHODOLOGICAL APPROACH

Our research hypothesis has been empirically tested through a telephone survey to a sample of Sicilian firms producing and commercializing potted plants, excluding those specialized in cut flowers whom market characteristics differ a lot from the first one. This decision reduced a lot the universe of the economic sub-sector selected as, in several Sicilian provinces, firms are mainly specialized in cut flowers (such as: Ragusa).

Our starting sample was made up by 240 firms, geographically located in each of the 9 Sicilian Provinces. To produce the firm contact list, we have extracted the information of each unit from the official web site of Proflora and Florovivaisimo, collecting several information on Ornamental Plants firms. Due to the high mortality rate, success of the interviews occurred for 50 out of 240 units (Table 1). This sample, although could look limited, was all the same able to provide interesting information about the economic sub-sector we wanted to investigate, allowing the production of a series of recommendations useful for a further investigation.

Table 1 – Study Fact Sheet

Unit of analysis	Data from the survey
Population	Sicilian companies producing and commercializing Ornamental Plants
Contacted firms	240
Succesfull Responses	50
Response rate	20.8%
Information sources	Structural surveys (through telephone interviews)
Survey period	From May, 2013 to September, 2013

The questionnaire for the interview was structured in 4 sections: the first one, addressed to collect specific information on firm (legal form, main productions, surface in hectares, year of constitution, commercial partners, annual turnover, and presence of staff for marketing, selling and production tasks) and the respondent (age, professional experience in years, professional role inside the firm, employment typology - part time or full time). The second, third and fourth part of the questionnaire were specifically addressed to collect information on the transaction costs incurred by firms, making a distinction among:

1. *Information costs*, namely availability of information about sale prices, distribution channels, product and process innovation. For these questions, respondents had to provide an opinion on the difficulties to obtain such kind of information, according to a Likert scale at 5 points.
2. *Negotiation costs*, according to the distribution channel: time devoted for the arrangement of the transport, commissions paid to the distribution channel, time needed to receive final payment from buyer, and bargaining power of firm. Also in this case, a Likert scale at 5 points was used.
3. *Monitoring costs*, linked to the management/resolution of those problems arising during the plants transport, or linked to the lack of typology/quality match of the product between what the client asked and the seller has sent. In this last section, we foresaw open questions.

Table 2 reports a detailed description of the variables used.

Table 2 – Variables used in this study

Variables	Modality
<i>Information costs:</i>	
- Sale price knowledge	Knowledge of the sales price during the production phase (1= yes; 0 = no)
- Information about sale channels	
- Information about markets	Access to sale channels information (Likert scale 1 – 5) ⁽¹⁾
- Information on product innovations	Access to markets information (Likert scale 1 – 5) Access to product innovation information (Likert scale 1 – 5)
- Information on process innovations	Access to process innovation information (Likert scale 1 – 5)

Negotiation costs:

- Transport arrangements	Time spent in the preparation of orders (number of days)
- Receiving payments	Waiting time for receipt of payments (number of days)
- Influencing selling price	Power to influence the selling price (1 = yes; 0 = no)
- Bargaining power vs final customer	Bargaining power towards private client (Likert scale 1 – 5) ⁽²⁾
- Bargaining power vs intermediaries	Bargaining power towards brokers and wholesalers (Likert scale 1 – 5)
- Bargaining power vs LSR	Bargaining power towards large-scale distribution (Likert scale 1 – 5)

Monitoring costs:

- Transport damage	Event damage during transport (1 = yes; 0 = no)
	Description of the damage (open question)
- Discrepancy	Discrepancy of quality and / or quantity (1 = yes; 0 = no)
	Description of the consequence (open question)

⁽¹⁾ Note. Likert scale format: 1. Very easy; 2. Easy; 3. Fairly easy; 4. Difficult; 5. Very difficult.

⁽²⁾ Note. Likert scale format: 1. None; 2. Low; 3. Fair; 4. Good; 5. Very good.

For the interpretation of the results we have made two different groups of our sample. As we show after, the first grouping is based on the selling channel mainly used, while the second one is according to the fact that a firm was inherited or was created as a new enterprise.

RESULTS AND DISCUSSION

The 50 firms that successfully answered to our interview are mainly located in the Sicilian Eastern coast (like Catania, Siracuse and Messina), with a small sample from the Western coast (such Palermo and Trapani). On the whole, they recorded an average annual turnover quite oriented within the regional average range (less than 500,000 euros), with a small share of firms with an annual turnover > 500,000 euros (Table 3). This result reflects the average size of Sicilian firms operating in the Ornamental Plants sector that, according to the last General Agricultural Census 2010, is around 1.6 hectares (ISTAT, 2011).

Our survey allowed the quantification, both in monetary and opportunity/costs terms, of the three categories of transaction costs studied according to the selling channels choose by firms.

Concerning the information costs, expressed in terms of the entrepreneurs difficulties of access to the information about market, selling channel, product and process innovation, results show a low or none influence of these last on the selling channel choice. In particular, such kind of costs are almost

totally absent for those firms selling inside their building or through correspondence and more and more relevant for those firms selling to wholesalers and LSR channel (Table 4).

Table 3 - Characteristics of firms

Number	50
Legal form:	
- <i>Individual firm</i>	34
- <i>Cooperative</i>	16
Specialisation:	
- <i>Ornamental plants</i>	44
- <i>Ornamental plants and other products</i>	6
Surface (hectares):	
- <i>Average</i>	8.2 (min 0.1; max 70)
Sale channels:	
- <i>Direct sale</i>	5
- <i>Wholesalers</i>	30
- <i>LSR</i>	1
- <i>Mix</i>	14
Turnover (€):	
- < 50.00	12
- From 50.10 to 100.00 thousand	13
- From 100.10 to 300.00 thousand	10
- From 300.10 to 500.00 thousand	4
- From 500.10 to 1.00 million	9
- From 1.10million to 2.00 million	1
- > 2.00 million	1

Table 4 – Comparison of transaction costs between producers categorized according to sale channels

	Producers selling to private	Producers selling to intermediaries	Producers selling to LSR	Producers selling to 2 or 3 sale channels
Observations	5	30	1	14
Transaction costs				
Information costs				
- <i>Time devoting to acquire information about selling channels</i>	NR	NR	NR	NR
- <i>Time devoting to acquire information about the market</i>	NR	NR	NR	NR
- <i>Time devoting to acquire information about product innovation</i>	NR	NR	AR	NR
- <i>Time devoting to acquire information about process innovation</i>	NR	NR	NR	NR
Negotiation costs				
- <i>Time devoting to transport arrangements</i>	NR	NR	R	NR
- <i>Waiting time for payment reception</i>	NR	R	NR	R
- <i>Bargaining power</i>	R	NR	NR	NR
Monitoring costs				
- <i>Transport damages</i>	NR	R	R	R
- <i>Non compliance in the quality/quantity</i>	NR	R	NR	R

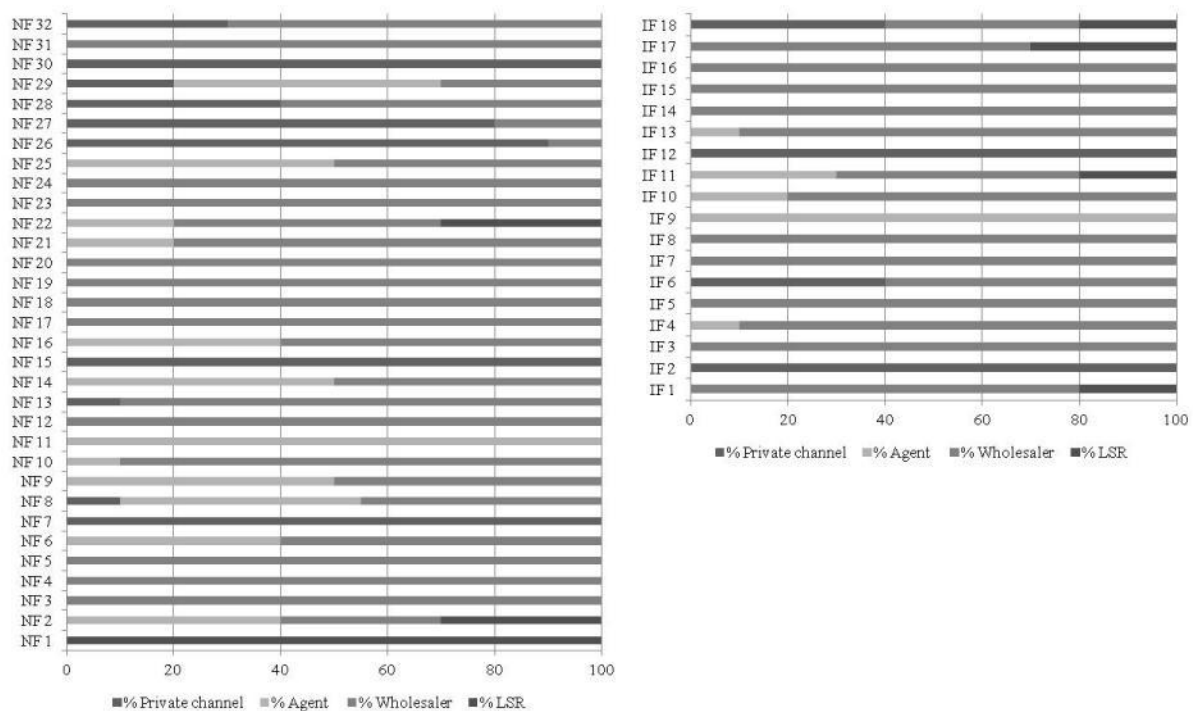
(R) Relevant; (AR) On Average Relevant; (NR) Not Relevant. This codification has been done by authors according to an ex post elaboration of the opinions collected through the Likert scales used in the questionnaire.

This result confirms our first hypothesis. A similar result was reached by Royer (2011), according to which information costs are higher for firms producing milk which habit is to sell to marketing institutions rather than those ones that agree upon bilateral trade contracts. Woldie and Nuppenau (2011) and Lemeilleur and Codron (2011) also assert that information costs are higher for those firms commercializing with wholesalers and selling agents rather than those firms selling their products through farmers cooperatives.

The ability to acquire information may be explained both by the Ornamental Plant market knowledge from entrepreneurs and, above all, by the well-established relationships with trade partners, a fact able to reduce the interest of firm owners to looking for different selling channels and/or new markets. This consideration is further confirmed having a look to a second division we made on our sample, namely: New Firms (NFs) and Inherited firms (IF) (Figures 1). With Inherited Firms we intend a

second-generation ownership status of enterprises, while all the other ones, born from an independent and spontaneous initiative, were inserted inside the New Firms group. Results show how the IFs have an easier access to such kind of information rather than NFs (Table 5), confirming our starting hypothesis. Moreover, while the IFs sample has declared to have a *very easy*, *easy* and *fairly easy* access to information, the NFs sample shows some difficulties for the same actions (represented by the number of answers in the grey rows of Table 5). Again, the different patterns performed by the two groups of firms operating in the same economic sub-sectors, confirm how IFs have more structural advantages allowing them to reduce, in this case, information costs.

Figure 1 - Sales channels comparison between Inherited firms and New firms



Source: Our elaboration on surveyed data.

Also with reference to the *negotiation costs*, results confirm the starting hypothesis: their influence in the selling channel choice results quite modest above all for those firms that usually commercialize their products directly inside firm. Indeed, these last, compared to those commercializing with intermediaries and/or with LSR, spend a lower time to fulfill orders and for the payment reception, that usually occurs in the same moment of the product delivering. A similar higher influence of negotiation costs in the sells to intermediaries was observed by Hobbs (1997). Indeed, he found that beef producers selling at auctions sustain higher negotiation costs than those selling directly to meat packers. A further confirmation comes from the results achieved by Woldie and Nuppenau (2011), according to which the difficulties in acquiring information together with the time spent in transacting with private traders is seen as the main deterrent in selling to wholesalers.

Table 5 – Comparison of information access between Inherited firms and New firms

	Inherited Firms (IF)				New Firms (NF)			
Observations:	18				32			
	Information about				Information about			
	Selling channels	The market	Product innovation	Process innovation	Selling channels	The market	Product innovation	Process innovation
Very easy	3	3	2	1	5	6	6	5
Easy	12	12	13	14	19	17	18	17
Fairly easy	3	3	3	3	4	5	3	5
Difficult	0	0	0	0	4	4	4	5
Very difficult	0	0	0	0	0	0	1	0

Finally, Royer (2011) find that negotiation costs weight for the 50% of the total transaction costs for those firms commercializing their milk with marketing board. Therefore, if on one hand, the high bargaining power allow firms to practice a greater influence on the selling price, on the other hand, these same costs increase when firms sell to intermediaries as, in favor of these last, entrepreneurs must return a monetary commission. Concluding the analysis on the sub categories of negotiation costs effect, we can add that transport costs are not able to play any influence as they are usually at the expense of the final client. From the comparison between IFs and NFs arises that the 94.4% of Inherited firms and the 87.5% of New Firms asserted to be able to influence their selling price. If this is true, it is obvious that they want not to lose such bargaining power that, at the same time, can be used only with wholesaler, agent and private channels. A different matter, in fact, is if they want to negotiate the selling price with the LSR: in this case, both NFs and IFs answered to have *none* or a *low* bargaining power.

As already evidenced in the literature (Traversac et al., 2011; Woldie and Nuppenau, 2011), also in the Sicilian Ornamental Plants market, the size of farmland cannot be ignored in enhancing market access and integrating the final products both into distant/new markets other than the local/national one, and to different marketing channels. At this regard, in our sample, only one firm (NF 1), with a farmland the biggest of the sample (70 hectares) is able to commercialize with mass-market, LSR, for the 100% of its turnover (501,000.00 – 1,000,000.00 euros). On the contrary, small enterprises frequently prefer the direct sale.

Finally, no exhaustive information arise from the analysis of the monitoring costs. They were analyzed in terms of explicit costs sustained by firms when a damage occurred during the despatch phase. In our survey, such kind of costs are present only for those firms that commercialize with intermediaries

or LSR. They are mainly linked to material damages occurred during the transport phase but also damages caused by the non compliance of the dispatched product to what the client ordered. In these last cases, the direct economic damages for firms can be quantified in terms of: extra-discount, order withdraw and consequent change, garbage disposal charge, and/or credit note.

CONCLUSIONS

In this paper we discuss the role of transaction costs (information, negotiation and monitoring costs) on the choice of sale channels of a firms sample active in the Sicilian Ornamental Plant sector. The contribution of our work to the existing literature is well defined, as it represents a first attempt to define and quantifying transaction costs in a new agricultural sub-sector, both in monetary and opportunity/cost terms. The three categories of transaction costs have been studied according to the selling channels choice made from the surveyed firms, producing a further distinction between New firms and Inherited ones. Although we consider our work as a first step towards a more in depth study, e.g. including a bigger sample, our effort is anyway useful to trace a first route, represented by the results just presented.

Results of our study reveal as information, negotiation and monitoring costs are lower for firms adopting the direct sales as commercial channel than those selling to intermediaries or to LSR. In particular, an interesting data that emerges from the survey is that these cost items are more modest for inherited firms compared to young companies. This result is probably due to increased market knowledge and established relationships with the customers of inherited companies that allow to enjoy a greater bargaining power.

Concluding, we can assert that the capacity to negotiate and manage contractual arrangements, in the form of influencing the selling price (*negotiation cost*), affects the choice of the distribution channel. Ornamental Plants firms in Sicily, mainly prefer to commercialize with private channels, wholesalers and agents. In particular, through the direct sale, firms have the opportunity to maintain their bargaining power, preserving their market competitiveness. On the opposite, sales to wholesalers and agent, if on one hand, assure to firms an higher turnover, on the other hand, entail an increase in transaction costs. In this scenario, establishing cooperatives in places where they are almost inexistent and supporting those already established could not only improve the bargaining power of entrepreneurs allowing Sicilian firms to commercialize with further selling channels, like LSR ones. In particular, as asserted by Hernández-Espallardo et al. (2009), adhesion to cooperative offers to firms safeguards and information so that they can know more about the performance of the co-operative, at the same time, adapting their relationships to any new changes in the economic environment. Moreover, the cooperative choice must be taken into consideration also in order to solve some of the

infrastructural obstacles characterizing, above all, the Sicilian land, that negatively affect the competitiveness of territorial productions. At this regards, thanks to the recent political commitment from the Italian Ministry of Agriculture, Food and Forestry Policies such kind of obstacles have been correctly identified and discussed following a problem solving approach, which results are reported in the two Action Plans on Flower sector, that run, respectively, from 2005 to 2010, and from 2010 to 2012. In this context, the same Ministry, in 2011, suggested and concretely (financially) supported the drawing up of the first Made in Italy Brand for the Flowers and Plants, called *Vivai Fiori Made in Italy Brand* (www.vivaifiori.it). A voluntary certification that, in the medium period, will probably increase the competitiveness of the Made in Italy products outside national borders. Such kind of effort would be surely strengthened if the cooperative approach will prevail against the individual market one. From a political programming point of view, a further step should have to come from the European Union technical commission, as established according to the Regulation n.1234/2007, through the provision from each Member State of proposals able to support flower and ornamental plant productions with the double aim to protect them from extra EU more competitive production prices and, at the same time, to guarantee the quality of the EU products themselves, as already happens for the agri-food products (Piano del Settore Florovivaistico, 2010/2012). The implications of our results and suggestions on the importance of the cooperative model will allow, *inter alia*, to improve price information networks and establishing well-defined and more solid contracts with clients. Moreover, taking into consideration the structural mental reticence characterizing farmers living in the southern regions of Italy, it is essential identifying measures, in range of Rural Development Policy, able to raise awareness about the marketing benefits deriving from aggregation processes among companies. Moreover, it is necessary the introduction in the commercial contracts of safeguard measures able to guarantee to the potential cooperative members a greater security about opportunistic behaviors.

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INTERNATIONALISATION OF SMALL AND MEDIUM SICILIAN WINERIES: AN EXPLORATORY STUDY BASED ON THE RBV APPROACH

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ABSTRACT

Strategies of internationalization, such as export, have a central role as well to safeguard the market position and survival for many enterprises, including small and medium ones. The aim of this study is to investigate, through a resource-based view (RBV) approach, the main firms' internal factors that affect the export propensity of sparkling wines producers in Sicily and their ability to insert into foreign market. Based on review of extant literature we have identified the main factors, related both to the firms and to the managers characteristics, that affect the firm performance in the export market. Using survey data of 94 Sicilian small and medium wineries export oriented, this paper shows that some firms and managers' characteristics affect the export activity of Sicilian wineries. In particular, our findings show that a lower perception of export barriers, experience in the sales in foreign market and the educational level, are the most important factors influencing the propensity to export. Results, although not generalizable, may help managers to be aware of the importance that some features have on the involvement of their company in the foreign market.

Keywords: *Internationalisation, Resource-based view theory, Wine sector, Small and Medium Enterprises (SMEs), Sicily*

INTRODUCTION

Over the last few years, the economic process of the globalization of markets has led to a profound transformation of the wine market both in terms of production, with the entry of new producers countries, and in terms of consumption, with a growing trend of consumers, especially in some areas, toward quality wines consumption (Vrontis et al., 2011; Rossi et al., 2012; Crescimanno and Galati, 2014). The new consumer, as suggested by Nosi (2012), chooses wines apted to satisfy more complex needs than purely gastronomic ones, the function of which is enriched with experiential, symbolic and hedonistic elements. These intense and rapid changes have led to an intensification of competition on a global scale that has led to an increasing number of firms seeking opportunities in international

markets to achieve their objective, as well to safeguard their market position and survival (Leonidou et al., 2002). Within the process of internationalization, export maintains a central role being regarded as the simplest and quickest way to access foreign markets (Majocchi et al., 2005). As suggested by Czinkota and Ronkainen (1998) and Samiee and Walters (1990) a multiplicity of factors related both to the business characteristics and to the multiple, diverse, and idiosyncratic nature of foreign environments affect firms' survival, expansion and their success in export markets. Consequently, over the last few decades a growing body of empirical studies has been dedicated to understanding the factors that lead firms to develop international markets (Singh, 2009). In the economic literature, two different approaches have been proposed to analysing the determinants of a firm's export behaviour. On one hand, the Resource-based view (RBV) theory (Wernerfelt, 1984; Barney, 1991) focus on the internal determinant, that include structural and behavioural aspects that have a potential effect on export activity (resources and capabilities). Indeed, export, as suggested by Majocchi et al. (2005), requires various organizational devices and resource commitments and, therefore, the results of export activities can vary significantly according to the availability of resources. On the other hand, Contingency theory (Lawrence and Lorsch, 1967; Mintzberg, 1979) and Industrial organization theory (Bain, 1951, 1956; Scherer and Ross, 1990) linked to the environment in which the firm operates and the industry in which the same firm belongs.

If the environment in which businesses operate exerts a significant influence on their competitive power, in the Sicilian scenario characterized by well-known structural limits and a marked territorial marginality, play an important role the internal resources of the company. The aim of this study is to identify the main firms' internal factors that mainly affect the export intensity of sparkling wines producers in Sicily and their ability to insert into foreign market. Consequently, the Resource-based view theory lends itself to answer to the objective of our paper. The identification of this 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 suggest Lages and Montgomery (2003), the firms' reactive behaviour based to the past results. In particular we focus on the Sicilian wineries that represent the main agri-food activity and they contributes to the promotion and enhancement of the territory and its resources (D'Amico et al., 2005). As suggested by Bellia (2007) wine manages to convey, in Italy and abroad, some intrinsic value of this land or of the main production areas. This product, in fact, cover 1.6% of the Sicilian agricultural production at basic prices and 9.3% of agri-food export in 2011, ranking among the top 4 agri-food products exported from the same region (INEA, 2013).

This paper is as a follows structured. In the next section we briefly present the theoretical background and the main studies on the determinant of firms' export success in foreign market. Section three

report the methodological approach and Research Hypothesis. The main results obtained by the empirical research are reported in section 4. The final section will give some concluding remarks.

THEORETICAL BACKGROUND AND LITERATURE REVIEW

RBV theory has been one of the most recently developed theoretical framework to explain firm international behavioural (Rialp et al., 2005). In particular, this theory combines the traditional assumption adopted in other strategic managerial theories (firms are profit-maximizing entities and the managers are boundedly rational), with two additional assumptions, such as resource heterogeneity, that incorporate two attributes of the firms resources linked to their scarcity and non-substitutability, and resource immobility (Barney, 1991). The RBV theory asserts that the capacity of the firm to gain and sustain competitive advantage is dependent by the unique bundle of resources at the core of the firm that are inelastic in supply and competencies inside (Wernerfelt, 1984; Barney, 1991; Conner and Prahalad, 1996). Internal resources, able to influence the export performance, can be classified in three categories, linked both to the firms' structural characteristics (firms' characteristics) and to objective and subjective factors related to the managers (managerial characteristics, and management attitudes).

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 export markets. Numerous studies reveal that firms with a higher number of employees and higher sales have a greater ability to expand resource and, consequently, absorb risk and are more likely to export activity than smaller one (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 firms' experience can be considered another potent explanatory variables of the export performance since it is related to the firms maturity in the field of management, international transaction, and business partnership. Among the internal resources, firms' innovation degree plays an important role on the export performance. In fact, as suggested by various Authors, process and product innovation have a positive and significant impact on the likelihood that a firm will start to export and on its export intensity (López Rodríguez and García Rodríguez, 2005; Fernandez Olmos, 2011). Numerous empirical works show that innovation can generate a competitive advantage based not only on product differentiation but also on the costs, giving, thus, a greater competitive capacity of enterprises on the international scenarios (López Rodríguez and García Rodríguez, 2005; Tudisca et al., 2011; Di Vita et al., 2013). Some Authors found that the amount of firm's investments addressed to the

advertising is, among the main factors that affect the firms 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 and their attitude and perception, linked to the objective or subjective factors, have a relevant influence on the firms' internationalization process. 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 abroad experienced and proficiency of foreign languages, affect the firms performance in export market because it facilitates social contacts, assist in understanding the business practices of a market, 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 subjective factors, Westhead et al. (2001) emphasizing that the aspirations of entrepreneurs, along with other resources and internal capabilities of firms, have an important impact on the ability to enter export markets. Indeed, as asserted previously by Bloodgood et al. (1996) new venture's ability to enter foreign markets is directly related to its accumulated tangible and intangible resource linked to the human capital. Among these last can ascribed the motivations, and attitudes of entrepreneurs that influence their decision to export a proportion of their sales abroad. Suárez-Ortega and Álamo-Vera (2005) argued that the perception of entrepreneurs on the advantages and disadvantages of export activities have a relevant influence on the firms' performance in export markets.

METHODOLOGICAL APPROACH AND RESEARCH HYPHOTESIS

The survey provides information related to the key factors that affect the strategic and trade performance of a sample of Sicilian wineries. Data were collected through telephone interview using a questionnaire. Pre-test was performed on ten companies in order to verify the correct understanding of the questions and detect errors in their formulation, subsequently it was changed on the basis of the answers. The choice of the sample was made from a list of 545 wineries provided by the "Istituto Regionale Vini ed Oli di Sicilia" using a stratified sampling method that took into account the number of wineries in the Sicilian provinces. Within each strata we proceeded to perform a simple random

sampling without replacement, in order to achieve a sample size of 140 units. The method used made it possible to achieve greater representativeness of the sample chosen. The 140 wineries were contacted by telephone and the questionnaire was sent to each of them via e-mail. 104 valid questionnaires were obtained, registering a non-response rate of 25.0% approximately whereof 94 relative to exporting wineries and 10 to non exporting firms. Taking into account the purpose of our study, the analysis was conducted only on the wineries export-oriented. Our sample reflects the importance of the wineries in Sicilian territory. The wineries investigated are mainly companies and cooperatives (70.2%); individual firms account for only 29.8% of the total number of wineries investigated. Wineries investigated have marketed more than 60 millions of wine bottles, in 2012, both in the foreign markets (53.4%) and in domestic market (46.6%). Concerning the foreign markets, wineries exporting to 34 different countries, among which relevant end markets are Germany, US, Switzerland and Japan. Production is marketed primarily through Large Scale Retail trade (37.5%), agents (29.3%), and Ho.Re.Ca. (20.4%) channels. Less frequent is the direct sales in the winery and the sale to wine bars and winehouse (12.8%). .

The questionnaire was divided 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. 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. 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 commercialized. Items introduced in the last section were constructed based on the works of Suárez-Ortega and Álamo-Vera (2005), Dhanaraj and Beamish (2003), Serra et al. (2012) in order to measure managers' perception of the barriers of exports (e.g. difficult access to credit, limited financial resources to support export activities, complex export documentation, different languages and cultures, limited information on foreign markets, shipping costs, trade barrier, etc.). More in detail, entrepreneurs were asked about their perception (positive or negative) with respect to the barriers of exports. Based on their answers, a dummy variable was built.

In order to answer to the purpose of this research, or rather to explain the main factors affecting the propensity to export of the Sicilian wineries a regression model is used. In particular, Likelihood ratio (LR) test allowed to choose a Log-linear model. From the questionnaire were identified 24 variables

related to the characteristics of the winery, the characteristics of the manager and his attitude and perception of the export activity. However, through the correlations analysis were excluded the collinear variables, that showed a high degree of correlation.

The estimated equation is as follows:

$$\ln(\text{EXP_SAL}_{it}) = \beta_0 + \beta_1 \text{EXP_WIN}_{it} + \beta_2 \text{NO_T_EMP}_{it} + \beta_3 \text{LEV_INN}_{it} + \beta_4 \text{FAIRE_TOT}_{it} + \beta_5 \text{AGE_MAN}_{it} + \beta_6 \text{LEV_EDU}_{it} + \beta_7 \text{PERC_BAR}_{it} \quad [1]$$

In particular, the measure used to evaluate the performance in overseas market is the value of export sales that for this analysis represent the dependent variables (EXP_SAL_{it}). We preferred use the total volume of exports, than the share of total sales, so that we do not lose the size effect especially in the presence of a marked heterogeneity of the wineries. The explanatory variables used to represent each potential determinant of export performance in Sicilian wineries are presented in Table 1. In equation 1, the subscript i indicates the individual number of the wineries considered in our sample and t represents the last fiscal year released (2012).

Based on the research objective and on the literature review we present following our hypothesis:

Hypothesis 1. Export propensity of the wineries is positively related with the experience in export activity (H_{1a}), number of employees (H_{1b}), rate of investment in advertising, expressed in terms of participation to the trade fairs, (H_{1c}), and level of innovation (H_{1d}).

Hypothesis 2. Export propensity of the wineries is negatively related to the Managers' age (H_{2a}) and positively related with the higher educational level (H_{2b}).

Hypothesis 3. Wineries managed by entrepreneurs who perceive negatively the export activities have a low propensity to export.

Table 1 – Variables used in the model

Variables	Label	Categories
Firms' characteristics:		
- Wineries export experience	EXP_WIN	Number of years of export activity
- Level innovation	LEV_INN	1= low innovation; 2= medium innovation; 3=high innovation
- Numbers of total employees	NO_T_EMP	Number of total employees
- Numbers of total faire	FAIRE_TOT	Number of domestic and international fairs
Managers' characteristics:		
- Age manager	AGE_MAN	Number of years of the entrepreneur
- Level of education	LEV_EDU	1= primary or lower secondary school; 2= upper secondary school; 3= university or post lauream
Perceived barriers to trade:		
- Perception of barriers	PERC_BAR	1= no negative perception; 0= negative perception

RESULTS AND DISCUSSION

The econometric analysis was carried out using an Ordinary Least Square (OLS) model to evaluate the influence of the main determinant on export performances of the Sicilian wineries. The results from the regression, obtained using the SPSS software -Version 17.0-, are presented in Table 2. As we can see, the model has got a reasonable explanatory power with a R^2 of 0.476, this means that 47.6% of the variation of export sales is explained by the explanatory variables introduced in the model. Most of the coefficients of the basic regression equation are statistically significant at level less than 5% and present, in the most cases, the expected sign.

The model shows that the most important factor that influences the sales in foreign markets of the wineries is the managers perception of the export barriers (management attitudes). As suggest our results, the lower is the negative perception of managers respect to the main export barriers, greater is the share of output sold abroad. Therefore, Hypothesis 3 is strongly supported by data. Our findings are in line with those revealed by Suárezs-Ortega and Álamo-Vera (2005) in the Spanish wine industry, according to which exist a positive influence of the perceived export advantage on export intention.

Table 2 – Results of the adopted model

<i>Dependent variable = Ln_EXP_SAL</i>				<i>R² = 0,476</i>	
Variable	Coefficients	Standard error	t - value	Student statistics	t VIF
CONST	5,694	1,112	5.122	0,000*	
EXP_WIN	0,026	0,010	2.754	0,007*	1,059
LEV_INN	0,489	0,232	2.110	0,038**	1,101
NO_T_EMP	0,011	0,005	2.036	0,045**	1,288
FAIRE_TOT	0,207	0,080	2.756	0,012**	1,310
AGE_MAN	0,000	0,014	-0.16	0,987	1,032
LEV_EDU	0,689	0,306	2.252	0,027**	1,055
PERC_BAR	1,308	0,344	3.807	0,000*	1,140

Notes: * significant at the 1%; ** significant at the 5%; *** significant at the 10%. Number of observations = 94.

Relevant factors that affect the propensity to export are the structural firm characteristics. In particular, the effect of the experience in the sales in foreign market on the propensity to export is, as expected, positive and significant. Consequently, also the Hypothesis 1a is supported. According to the results of Majocchi et al. (2005) experience can influence export performance because it gives the company more maturity in terms of management, international transaction, business partnership. Clear results also come from the relationship between fairs participation and export propensity. As expected, this relationship is positive and statistically significant. Therefore Hypothesis 1c is supported. This results show that the promotional activity of the wineries allows wineries to establish

and/or strengthen relations with foreign buyers competing to increase sales in foreign markets. Similar results are obtained by Fernandez Olmos (2011) in your investigation on the DOC Roja wineries in Spain. According to the Author exist a positive and significant relationship with the degree of internationalisation due to the spend heavily on advertising with the intention of increasing export sales. The model shows a positive relationship between export sales of Sicilian wineries and their level of innovation. Therefore, Hypothesis 1d is supported by data: the higher is the degree of innovation introduced in the winery in recent years (both as innovations of product and process), better is the export performance. Numerous empirical studies show, in fact, that technological resources confer to the firms a competitive advantage in terms both of costs, due to the development of new and more efficient process, and the differentiation, by means of innovation. Our results, are in line with those obtained by López Rodríguez and García Rodríguez (2005) and Roper and Love (2002) according to which, respectively, process and product innovations are the key factors for the generation of competitive advantage for firms. Other significant variable of the model is linked to the number of employees. According to others findings of empirical studies (Javalgi et al., 1998; Vermeulen, 2004; Suárez-Ortega and Álamo-Vera, 2005; Maurel, 2009; Serra et al., 2012), our model shows that the greater is the physical size of the winery, measured in terms of fix and seasonal employees, the greater are the sales in foreign markets. Consequently, hypothesis 1b is supported by data.

Among the managerial characteristics, only the coefficient of level education is positive and statistically significant, confirming Hypothesis 2b: indeed, the level of training affects export performance and its impact is slightly lower than the one that has been computed for experience abroad of the wineries. This result confirms, as other authors previously highlighted, that the greater is the level of training of manager, much higher is the performance in overseas market (Wieserma and Bantel, 1992; Tihanyi et al., 2000; Fernandez Olmos, 2011). On the contrary, the effect of the manager age on the export propensity is, as expected, negative although the related coefficient isn't statistically significant.

In order to verify the existence of collinearity, our model was subjected to the several diagnostic tests. In particular, we have analyzed the values of Tolerance and Variance Inflationary Factor (VIF) related to β parameters. The first has rated from 0,763 and 0,969 showing that the numerous correlations between the variable at issue and the other repressors are low. The values of VIF resulted in a range between 1,032 and 1,310 reveal that there are the presence of moderate collinearity between the explanatory variables of the model. In general, critical values that underlie a strong collinearity are comprised between 5 and 10.

CONCLUDING REMARKS

Internationalization strategies, such as export, are important tools for the firms to exploit new opportunity in foreign markets. The empirical analysis presented in this study contribute to a better understanding of the relationship between internal firms' characteristics and managerial characteristics on the export performance. In particular, to achieve the research objective the RBV of the firm approach has been used as theoretical framework.

The findings of our analysis suggest that the positive attitude shown by manager respect to export activity is the most important factor that improves the export propensity of wineries, providing it with greater capacity to enter and sell products in foreign markets. Concerning firms' characteristics influencing export behavior, experience of wineries in the sales in foreign markets, and firm size, measured in terms of employees' number, affect significantly the firm performance in export market. Important determinant is also the investment level in process and product innovation. This result shows that R&D investment intensifies the internationalization since the foreign markets contribute to the firm recovering its investment, or at least to doing so more quickly. Furthermore, the positive effect of investment in advertising and promotion confirms that wineries in this region can benefit from the participation in domestic and international wine fairs. Finally, also an high education level of the managers, influence positively the export performance, since it can create opportunity of exploring new international markets.

The present study represents the first contribution in the economic literature on export determinants of Sicilian wineries, however, the results must be viewed in light of the study's limitations. On one hand, our work is limited to a restricted geographical scope, and on the other hand, it's limited to a specific economic market. These limitations, maybe, do not permit the generalization of results in other areas and other economic sectors.

The results of this research, although not generalizable, show important implications especially for managers of wineries, which could provide useful information for the cellars management. These results, in fact, could help the managers to optimize the internal resources considering the importance that these have on export performance.

A higher exports experience, isn't a feature that young companies can have, besides not all the companies can boast a large number of employees. However, it's possible to recruit qualified staff capable of managing the relations with foreign customers and that has a lesser negative perception of exports barriers. In this sense, it may be advisable to set up programs that provide foreign language learning or an understanding of new technologies. Also it's possible too renew the entrepreneurial class and maintain an innovation constant level in order to satisfy the dynamic demand market.

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DEALING WITH THE NEED OF GREEK PORTS EXPANSION: A PUBLIC-PRIVATE PARTNERSHIP OPPORTUNITY?

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ABSTRACT

Greece, located at the eastern portion of the Mediterranean Sea (Med) and a country with an enormous number of islands, is a shipping superpower. The Med is amongst the world's busiest waterways. It provides access to the Black Sea and quite often it is characterized as the most important element of the transport chain between Asia and Europe. The Greek Prime-Minister himself has openly declared his strategic vision to transform the country into a major hub for Europe's commerce; numbers of port-visits in the country under discussion are extremely high and expectations are that with the upcoming recovery of the Greek economy they will further increase. However, the current infrastructures -especially those of Piraeus and Thessaloniki (the largest and busiest ports of the Hellenic Republic)- are clearly in need of expansion. This paper briefly examines the framework of Public-Private Partnerships (PPP) and suggests that the specific methodology can provide a solution to overcome the need of financing for the various urgently needed projects that will allow the introduction of new and improved services towards various types of ships. The obvious conclusion is that with the Greek economy still in recession, the necessary framework that will allow the commencing of the technical works, such as the expansion of berths and storage facilities and the interconnections with highways and rail-lines, can be found only through partnerships of the government controlled port-authorities and large in size constructing companies of the private sector. These partnerships should be considered as a win-win situation for all parties involved. They provide an ideal opportunity for expanding infrastructures and/or services towards shipping without adding more to the already enormous government-guaranteed debt.

Keywords: *Public - Private Partnership (PPP), maritime transport, Mediterranean Sea, ports expansion, infrastructures, contracting out, Greece, Piraeus, Thessalonica, Maritime Law, Crimean Peninsula.*

MARITIME TRANSPORT AND THE MEDITERRANEAN SEA

The key characteristic of the contemporary world is the interconnectedness among societies and people across the national boundaries of nation-states. This complex process is called globalization and it is a phenomenon with multi-level influences (P. Siousiouras & D. Dalaklis (a), 2009). It provides societies and/or individuals with enormous economic opportunities; it also enables the diffusion of technological or scientific knowledge and facilitates investments in international level. With oceans covering almost three-quarters of the earth's surface and with well over 80% of all international trade transported by sea (UNCTAD, 2013), maritime transport should be considered as the backbone of globalization and extremely vital for all "just-in-time economies", such as those of Europe and the United States (D. Dalaklis, 2012). Today, shipping is by far the most international of the world's industries, serving vast quantities of global trade. Each and every day, ships of different size and capabilities carry huge quantities of cargo cost effectively, cleanly and safely. It is important to note that the ownership and management chain surrounding any ship can embrace many countries. It is indicative that ships spend their economic life moving between different jurisdictions, often far from the country of registry.

The Mediterranean Sea (Med) is amongst the world's busiest waterways. For example, during the year 2006 (before the outbreak of the current global financial crisis), 15 per cent of global shipping activity by number of calls and 10 per cent by vessel deadweight tons (DWT) were noted in the wider region. The same year, 13.000 merchant ships made 252.000 calls at Mediterranean ports, totaling 3.8bn DWT. Every year the equivalent number is increased, no matter of the on-going global economic recession. Statistics also clearly indicate that at the same time around 10.000 (mainly large) vessels transited the area under discussion en-route between non-Mediterranean ports. Merchant vessels operating within and through the Mediterranean are getting larger and carrying more trade in larger parcels. Vessels transiting the Med average around 50.000 DWT and are (again, on average) over three times larger than those operating within the Mediterranean (REMPEC, 2008).

The Med's geo-economic significance is made clearly obvious by the fact that it is a common area for three different continents: Europe, Asia and Africa. Furthermore, it is necessary to note that there are two very important sea straits in its eastern basin: The first one is the Dardanelles, through which the Mediterranean Sea (and the Aegean Sea) communicate with the Black Sea and the various countries whose coastlines are located on the wider region of Black Sea; of course, for the latter the access to the open (warm) seas is secured. The second gate of interest is the Suez Canal. Subsequently, the following two basic axes with special importance for maritime transports are formed: a) Atlantic Ocean-Mediterranean Sea-Red Sea and b) Black Sea-Aegean Sea-Mediterranean Sea-Indian Ocean. As a result, the Mediterranean is often characterised as an extremely important element of the modern

maritime transport system and, above all, as the most important link of the transport chain between Asia and Europe (see figure 1)



Figure 1: Major transport routes and the role of the Mediterranean Sea

Source: J. P. Rodrigue, C. Comtois & B. Slack, *The Geography of Transport Systems*, Routledge, New York, 2009.

DEFINITION OF PPPS

A public-private partnership (PPP) is a government service or private business venture which is funded and operated through a partnership of government and one or more private sector companies. These schemes are sometimes referred to as PPP, P3 or even P³. In the last few years, public-private partnerships (henceforth PPPs) have gained importance as vehicles to finance public infrastructure across Europe. PPPs have developed from their traditional base in the transport sector to the areas of public buildings and equipment (i.e. schools, hospitals, prisons, etc) and the environment (i.e. water/waste treatment, waste management). Also, by comparing between the various European Union's (EU) countries, experience with PPPs has become more diversified through the years. Beyond the (leading) UK, some countries have developed and diversified their PPP markets extensively, such as France, Germany and Spain; others have clearly shown limited interest in the specific domain but have already started to firmly develop PPP programs. Still, there today many EU Member States who have only limited experience with PPPs (A. Kappeler & M. Nemoz, 2010).

While the term PPP has been in use since the 1990s, there is no single European model of a PPP. In some countries, the concept of a PPP equates only to a concession where the services provided under the concession are paid for by the public. In others, PPPs can include every type of outsourcing and joint venture between the public and private sectors. As a result, the recorded number of PPP projects may vary considerably across data sources. In its Green Paper on PPPs, the European Commission recognized that the following elements normally characterize a PPP (A. Kappeler & M. Nemoz, 2010):

- The relatively long duration of the relationship, involving cooperation between the public partner and the private partner on different aspects of a planned project (...);
- The method of funding the project, in part from the private sector, sometimes by means of complex arrangements between the various players (...);
- The important role of the economic operator, who participates at different stages in the project (design, completion, implementation, funding) (...);
- The distribution of risks between the public partner and the private partner, to whom the risks generally borne by the public sector are transferred (...).

ORIGIN AND PPPS PARADIGMS

Pressure to change the standard model of public procurement arose initially from concerns about the level of public debt, which grew rapidly during the macroeconomic dislocation of the 1970s and 1980s. As a response, governments sought to encourage private investment in infrastructure, initially on the basis of accounting fallacies arising from the fact that public accounts did not distinguish between recurrent and capital expenditures. Initially, most public-private partnerships were negotiated individually, as one-off deals, and much of this activity began in the early 1990s. The idea that private provision of infrastructure represented a way of providing infrastructure at no cost to the public has now been generally abandoned; however, interest in alternatives to the standard model of public procurement persisted. In particular, it has been argued that models involving an enhanced role for the private sector, with a single private-sector organization taking responsibility for most aspects of service provisions for a given project, could yield an improved allocation of risk, while maintaining public accountability for essential aspects of service provision. PPP involves a contract between a public sector authority and a private party, in which the private party provides a public service or project and assumes substantial financial, technical and operational risk in the project. In some types of PPP, the cost of using the service is borne exclusively by the users of the service and not by the taxpayer (J. Barlow, J. K. Roehrich & S. Wright, 2013).

From the historical point of view, it is interesting to note that during the year 1992, the Conservative government (of John Major) in the UK introduced the Private Finance Initiative (PFI), the first

systematic program aiming at encouraging public–private partnerships. This program focused heavily on reducing the Public Sector Borrowing Requirement, although, as already noted, the effect on public accounts was largely illusory. The succeeding government (of Tony Blair), which was elected in 1997, followed roughly the same path. The government made the necessary legal provisions and expanded the PFI initiative; but it also sought to shift the emphasis to the achievement of "value for money," mainly through an appropriate allocation of risk. However, it has since been found that many programs ran dramatically over budget and have not presented as value for money for the taxpayer with some projects costing more to cancel than to complete. A common problem with PPP projects is that private investors quite often obtained a rate of return that was higher than the government's bond rate, even though most or all of the income risk associated with the project was borne by the public sector (J. Barlow, J. K. Roehrich & S. Wright, 2010).

There are usually two fundamental drivers for PPPs. Firstly, PPPs are claimed to enable the public sector to harness the expertise and efficiencies that the private sector can bring to the delivery of certain facilities and services traditionally procured and delivered by the public sector. Secondly, a PPP is structured so that the public sector body seeking to make a capital investment does not incur any borrowing. Rather, the PPP borrowing is incurred by the private sector vehicle implementing the project and therefore, from the public sector's perspective, a PPP is an "off-balance sheet" method of financing the delivery of new or refurbished public sector assets. Typically, a private sector consortium forms a Special Purpose Company, called a "Special Purpose Vehicle" (SPV) to develop, build, maintain and operate the asset for the contracted period (J. Zheng, J. K. Roehrich, & M. A. Lewis, 2008).

In cases where the government has invested in the project, it is typically (but not always) allotted an equity share in the SPV (M. Zoro & P. Gasiorowski, 2008). The consortium is usually made up of a building contractor, a maintenance company and bank lender(s). It is the SPV that signs the contract with the government and with subcontractors to build the facility and then maintain it. In the infrastructure sector, complex arrangements and contracts that guarantee and secure the cash flows make PPP projects prime candidates for project financing. A typical PPP example would be a prison building, financed and constructed by a private developer and then leased to the prison authority, or directly to the government through the Department (Ministry) of Justice.

In summary, PPPs constitute long-term contracts of technical works construction or of services provision, with allocation of risks shared between the public sector and the private one; the main aim of this approach is to ensure beforehand the necessary financing of the scopes. The term "sponsored PPP" declares the PPP case, in which the cost of providing the service is jointly borne by the users of the service and the government through a capital subsidy, not wholly borne by the Public

Administration (administrative PPP). On the contrary, in the traditional type of public works contracts there is no allocation of risks and the private contractor gets the reward for the part of the technical works already completed during the execution of the contract, uniquely by the public contractor (K. Evangelatou, A. Maniatis & O. Manoliadis, 2013).

THE GREEK DIALECTIC RELATIONSHIP WITH SHIPPING

Greece is a maritime nation by tradition, as shipping is arguably the oldest form of occupation of the Greeks and has been a key element of the country's economic activity since ancient times. There are various explanations for this phenomenon. To begin with, the mountainous landscape of the mainland and the rather limited available farming area has enforced many people to look towards a different direction in order to cover their necessity of work/occupation. Furthermore, the numerous islands of Greece and the extended coastline provide another incentive for people to deal with the reaches of the sea: shipping and trade. The Hellenic Republic enjoys a very privileged geographical position. It is situated on the crossroads of various major sea lanes in the eastern Mediterranean (see figure 2) and with extremely large proximity to two other rather overpopulated continents: Asia and Africa. The Suez Canal and the Dardanelles Straits are two extremely important choke points for maritime traffic. They both gather a significant high number of ships, with the technical construction between Suez and Port Said steadily exceeding the number of 20.000 crossings per year.

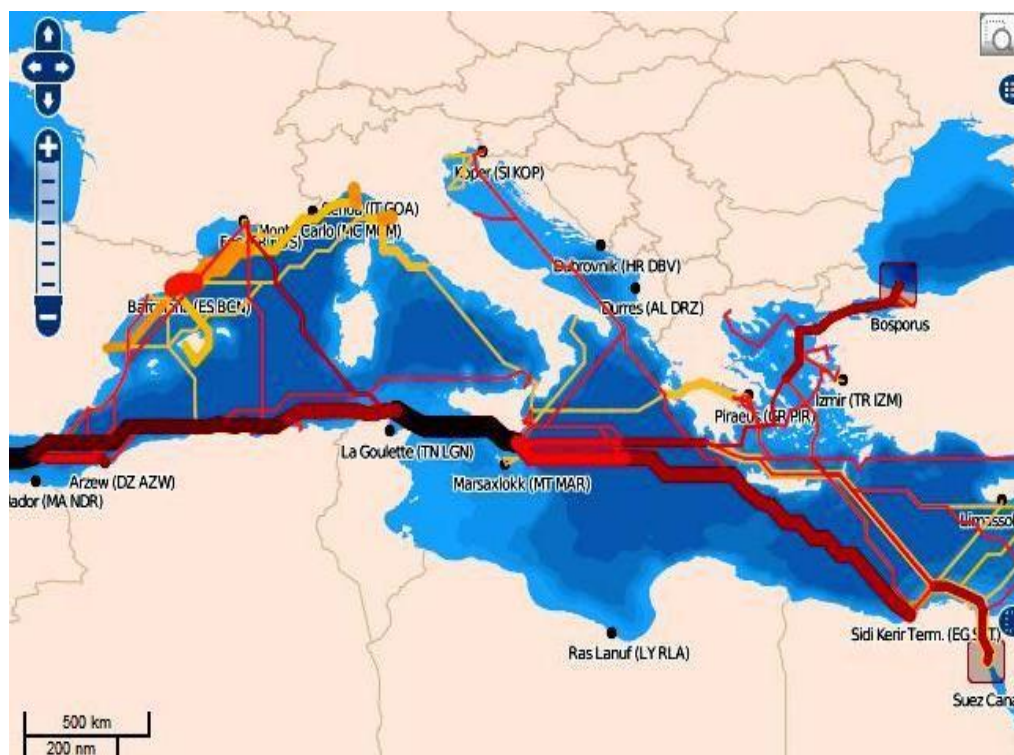


Figure 2: Major transport routes within the Mediterranean Sea

Source: www.rempec.org, February 2012.

Yellow lines refer solely to cargo and container ships, while the red mainly to tankers but also to all other types of ships. Additionally, the thickness of the line represents the number of ships following the specific route. Furthermore, there is the Corinth Canal (6 km long), which connects the Gulf of Corinth with the Saronic Gulf and shortens the sea voyage from the Adriatic Sea to the port of Piraeus by 325 km.

For example, in 2008, a total of 21.415 vessels passed through the canal and the revenues from the canal totaled \$5.381 billion. Although the current financial crisis and piracy activities in the Gulf of Aden has negatively impact the number of Suez crossings, since the second quarter of 2013 associated numbers are going up: EU's naval operation ATALANTA has clearly suppressed the Somali pirates' actions (D. Dalaklis, 2013). In any case, a considerable proportion of the world's energy resources - mainly oil and natural gas passes through the Mediterranean and also through the Aegean Sea (see also figure 2). It is not only those originating in the Persian Gulf; from this particular maritime corridor -either solely by oil tankers or through a combination of pipelines and medium or large tankers- that the entire trade of energy resources coming from the Caspian Sea and Russia is being transported (D. Dalaklis, P. Siousiouras & N. Nikitakos, 2009).

An additional equivalent of 20.05% of the world's tanker DWT is on order, with another 12.1% of bulk carriers also on order. Today, shipping is one of the country's most important industries. It accounts for 6% of GDP, employs approximately 160,000 people (an important portion of the total workforce). Earnings from shipping amounted to €15.4 billion in 2010, while between 2000 and 2010 Greek shipping contributed to the country output a total of €140 billion. A European Community Ship-owners' Association (ESCA) report for the years 2010-2011 emphasized that the Greek flag is the fifth-most-used internationally for shipping, while it ranks first in the EU (see table 1); the same ECSA report stressed the fact that there were approximately 750 Greek shipping companies in operation.

Year	2000	2001	2002	2003	2004	2005	2006-2008	2009	2010	2011
Global ranking	5th	5th	5 th	4th	3rd	5th	-	5th	6th	4th
"Exports" (US\$ million)	7,558.995	7,560.559	7,527.175	10,114.736	15,402.209	16,127.623	-	17,033.714	18,559.292	17,704.132
"Exports" (€ million)	8,172.559	8,432.670	7,957.654	8,934.660	12,382.636	12,949.869	-	12,213.786	13,976.558	12,710.859
"Exports" as %GDP	5.93	5.76	5.08	5.18	6.68	6.71	n/a	5.29	6.29	6.10

Table 1: Metrics of Greek shipping and its contribution to the country's GDP

Source: "ITC Trade Map: List of exporters for Sea Transport " and EUROSTAT (in Wikipedia).

GEOGRAPHY AND TRANSPORT SYSTEMS WITHIN GREECE

It was already pointed out that Greece is strategically located at the crossroads of Europe, Western Asia, and Africa. It shares land borders with Albania to the northwest, the Former Yugoslav Republic of Macedonia (FYROM) and Bulgaria to the north and finally Turkey to the northeast-east. The country consists of nine geographic regions: Macedonia, Central Greece, the Peloponnese, Thessaly, Epirus, the Aegean Islands (including the Dodecanese and Cyclades), Thrace, Crete, and the Ionian Islands. The Aegean Sea lies to the east of the mainland, the Ionian Sea to the west, and the Mediterranean Sea to the south. Greece consists of a mountainous, peninsular mainland jutting out into the sea at the southern end of the Balkans, ending at the Peloponnese peninsula (separated from the mainland by the canal of the Isthmus of Corinth). Due to its highly indented coastline and numerous islands, Greece has the 11th longest coastline in the world with a total of 13.676 km; its land boundary is 1.160 km. The country lies approximately between latitudes 34° and 42° N, and longitudes 19° and 30° E. Greece features a vast number of islands, between 1.200 and 6.000, depending on the definition, a large number of which are inhabited. Crete is the largest and most populous island; Euboea, separated from the mainland by the 60m-wide Euripus Strait, is the second largest, followed by Rhodes and Lesbos.

The Greek islands, all equipped with small or large ports, are traditionally grouped into the following clusters: The Argo-Saronic Islands in the Saronic gulf near Athens, the Cyclades, a large but dense collection occupying the central part of the Aegean Sea, the North Aegean islands, a loose grouping off the west coast of Turkey, the Dodecanese, another loose collection in the southeast between Crete and Turkey, the Sporades, a small tight group off the coast of northeast Euboea, and the Ionian Islands, located to the west of the mainland in the Ionian Sea. Eighty percent of Greece consists of mountains or hills, making the country one of the most mountainous in Europe. Large parts of Greece depend on a strong shipping industry for sustenance and growth. The Aegean and Ionian seas, with over 2.000 islands and islets spread around (as well as numerous dangerous rocks), could not be sustained and developed without the existence of a well organized and developed merchant navy and ferry services. Transport in Greece has undergone significant changes in the past two decades, vastly modernizing the country's infrastructure. Although ferry transport between islands remains the prominent method of transport between the nation's islands, improvements to the road infrastructure, rail, urban transport, and airports have all led to a vast improvement in transportation. These upgrades have played a key role in supporting Greece's economy, which in the past decade has come to rely heavily on the construction industry.

The Greek Prime-Minister himself has openly declared his strategic vision to transform the country into a major hub for Europe's commerce. It is true that Greece retains one of the leading places in

international shipping. The reciprocal relations between profits from maritime activities and national economy constitute merchant vessels as the fundamental factor and the means of development that are beyond the boundaries of the transport sector. On the other hand, there many important steps towards the transformation of the country into a vital center of European commerce, with the expansion of the current infrastructures in various ports standing out. Unfortunately, the lack of financing is the main obstacle for improving the quality of services; without a significant improvement there is no way to attract additional ships' visits in the Greek ports. Furthermore, several problems are currently encountered in short-distance navigation, in ocean-going navigation and also in passenger/tourist cruises that are taking place within the sea areas of the Hellenic Republic. Needless to mention, maritime policy decisions should be made by taking into account the possibility of maritime accidents, sea and coastal pollution and the congestion of marine waterways, especially in areas that present the greatest demand for access (D. Dalaklis, P. Siousiouras & N. Nikitakos, 2009).

The framework of Public-Private Partnerships (PPP) can provide a solution to overcome the need of financing for the various urgently needed projects that will allow the introduction of new and improved services towards various types of ships. The analysis that follows will not cover each and every Greek port available. Statistics clearly indicate that the two busiest ports of Greece are by far Piraeus and Thessaloniki; they will be the centre of attention. There are tremendous benefits in a PPP and these partnerships should be considered as a win-win situation for all parties involved. There is an obvious explanation: they provide an ideal opportunity for expanding infrastructures and/or services towards shipping without adding more to the already enormous government-guaranteed debt.

THE PORT OF PIRAEUS

A port is a location on a coast or shore containing one or more harbors where ships can dock and transfer people and/or cargo to or from land. Port locations are selected to optimize access to land and navigable water, for commercial demand, and for shelter from wind and waves. Since ports throughout history handled every kind of traffic, support and storage facilities vary widely. Associated piers, buildings and other infrastructures may extend for many miles and usually dominate the local economy, with impact up to the national level. Apart from the commercial activity, some ports might also have an important military role (naval bases). The Port of Piraeus, as the largest Greek seaport, is one of the largest ports in the Mediterranean Sea basin and one of the top ten container ports in Europe. The port is also a major employer in the area, with more than 1,300 employees who provide services to more than 24,000 ships every year. With a history dating from 1924 when major civil works started taking place, Piraeus Port today has a range of activities

concerning the Commercial and Central Ports, ship services and real estate development. The specific port connects continental Greece with the numerous islands of the; it is an international cruise center and a commercial hub for the Mediterranean, providing high quality services to ships of (almost) any type and size. Today, the government controlled Piraeus Port Authority (PPA SA) has a very important contribution towards the local and national economic growth and is further developed by upgrading both the infrastructure and the services provided. The Container Terminal of the Piraeus Port Authority began its operation in June 2010. With a projected annual capacity of 1.000.000 TEUs, it constitutes the main pier for freight activities of PPA SA. The Container Terminal has facilities and equipment of high standards and has the ability to offer advanced services in loading & offloading containers. There exist two platforms; the East one of 500m length and 18m depth and the West one of 320m length and 12m depth. Next to the station, the new waterside railway station of the Hellenic Railways Organization will operate, whose main railway line will link the length of the freight port of N. Konya with the new Freight Station of Intermodal Transport at Thriassio of Eleusina.

Piraeus is the largest port in Europe (and one of the largest in the world) concerning passenger traffic. It has a throughput volume of about 20 million passengers per annum (including the ferry traffic Salamis-Perama, which has a throughput volume of about 8 million passengers per year). It is the main link between the mainland and the Aegean islands and Crete, while also being the main sea gate of the European Union at its southeastern edge. The boundaries of the Main Port are the piers of Themistocles and Krakari. Furthermore, there is very large a cargo terminal; a car terminal is also included. Clearly, upgrades of the infrastructures are already taking place. For example, the completion of the new port-side railway station, as well as the connection with the G2 car terminal in July 2013. Future expansions of the Car Terminal are underway and necessary to complete in time - according to the 5-year investment plan of PPA SA- to ensure that the port will remain ahead of its competitors. However, in order to acquire/preserve the status of a central transshipment gateway for the whole Mediterranean region there is much more to be done, with interconnections to the national rail grid standing out. And in all these activities the role of financing is more than crucial.

THE PORT OF THESSALONIKI

The Port of Thessaloniki is one of the largest Greek seaports and one of the largest ports in the Aegean Sea basin, with a total annual traffic capacity of 16 million tonnes (7 million tonnes dry bulk and 9 million tonnes liquid bulk). As a free port, it also functions as a major gateway for the Balkan hinterland and south-eastern Europe. The port of Thessaloniki also contains the second largest container port in Greece, after the port of Piraeus. Containers are handled through a specially arranged area located in the western part of pier 6. The 550 m. long and 340 m. wide Container

Terminal can berth ships with a draught up to 12 m. The specific infrastructure is part of the Free Zone; it covers a surface area of 254,000 square meters, with an on-site storage capacity of 4,696 TEUs in ground slots. The Container Terminal was designed and created in accordance with state-of-the-art technologies and is equipped with modern container handling equipment. The terminal includes manned technical support facilities. It is also linked by a double track railway to the national railway networks.

The container terminal was under expansion, following an investment of around US\$600 million by the Hong Kong based company, Hutchison Port Holdings. The Hong Kong based company won the tender after surpassing a first offer made by COSCO Pacific, which offered around US\$500 million for the development of the container terminal. However, the impact of the global financial crisis is obvious: in 2009 Hutchinson didn't find the money to pay for the concession of the port and the project fell into troubles. Here lies an important PPP opportunity. Located in the north of Greece, the port of Thessaloniki is certainly interrelated with further economic development of the Balkan countries and their accession to the EU, especially in terms of transit cargo. Additionally, the port of Thessaloniki has one of the largest passenger terminals in the Aegean Sea basin that is now under improvement; another aim could be to turn Thessaloniki into a major tourist port for cruising in the eastern Mediterranean. Extremely important is also the oil and gas terminal. It has a total storage capacity of 500,000 cubic meters and an annual traffic capacity of 9,000,000 tons per year. Finally, the cargo terminal has a total storage area of approximately 1,000,000 square meters and specializes in the handling of wide cargo that ranges from metal products, ore, chemical products (i.e. chloroform, asphalt, chemicals and mineral oils), general cargoes, timber, bulk cargoes and food products. This terminal also serves as a major transshipment hub in the Aegean-Black Sea area being used by other Balkan countries such as Serbia, FYROM, Albania and Montenegro. However, major improvements are needed and again the question that arises is about financing in order to complete and/or upgrade the current infrastructures.

CONCLUSION: PPP CAN PROVIDE THE SOLUTION FOR EXPANSION

The contemporary world is well interconnected and there is an obvious trend towards economic globalization (P. Streeten, 2001). Clearly, the Mediterranean Sea and especially its eastern section, hold an important role within the wider context of international relations. There is a very simple explanation why: its key-role in the wider framework of the contemporary maritime traffic system. As already pointed out briefly, there are two important sea straits in the region: The first one is the Dardanelles, through which the Mediterranean Sea (and the Aegean Sea) communicate with the Black Sea and all the countries whose coasts are on the Black Sea, while for the latter the access to the open

(warm) seas is secured. The second gate under discussion is the Suez Canal, in Egypt. The specific technical infrastructure allows shipping to travel from the Mediterranean directly to the Indian Ocean (via the Red Sea and the Gulf of Aden). All these regions form in line a very important maritime corridor that provides the shortest connection between Europe and Asia. (P. Siousiouras & D. Dalaklis (b), 2009).

It was already pointed out that nearly four fifths of international trade is being conducted by sea. The configuration of the Earth facilitates sea transport since three quarters of the planet's surface is covered by sea or lakes. With the exception of the North and South poles, the transport of passengers and goods by sea-going vessels is possible to and from any part of the world. This fact by itself constitutes a comparative advantage for sea transport against air or land transport. Current numbers of port-visits in Greece are extremely high. First of all, there numerous island that take advantage of shipping in order to connect with the main land mass of the country. Furthermore, geography is favoring Greece; as the interconnection point of three different continents, it is very well situated to be a hub for international trade. Last but not least, the country's EU membership is a very valuable asset and Greece should aim to transform into the point of entry for all eastern European commerce transported by sea. However, more infrastructures (and therefore more money) are needed.

PPPs have gained importance as vehicles to finance public infrastructure across Europe in the past. However, from 1990 to 2009 nearly 1,400 PPP deals were signed within the EU, representing a capital value of approximately €260 billion. Since the onset of the financial crisis in 2008, estimates suggest that the number of PPP deals closed has fallen dramatically. Expectations are that with the recovery of the Greek economy port visits within the Hellenic Republic will rise. The current infrastructures, especially those of Piraeus and Thessaloniki (the largest and busiest ports of Greece), are in need of expansion. PPPs can provide the perfect tool for Greek port-authorities to expand their capabilities; both afore mentioned entities have retained their association with central government, since the Greek State owns 74% of Piraeus and Thessaloniki Port Authorities shares, both listed on the Athens Stock Exchange. Needless to mention, with the economy still in reception, the necessary investments are a very difficult task for the government. Partnerships with the private sector and joint schemes with capable constructing companies are an obvious opportunity and probably the best way out to get of the financial deadlock. Greece should grab the opportunity and pose as the main gate to serve the commerce of Asian countries. The joint venture with the Chinese company COSCO in the port of Piraeus should be vied as an interim steps and more efforts in the similar direction are needed.

Both cargo and cruise ships visits in large Greek ports are expected to rise in the near future. However, the most significant change in overall traffic patterns in the Mediterranean in the coming years will be the development of export routes for crude oil from the Caspian region, which is

currently shipped predominantly via Black Sea ports through the Bosphorus. If that is the case, high policy decision for traffic management in the Aegean Sea and especially in the vicinity of its choke point become a high priority in order to diminish the chance for a catastrophic accident to happen. Again, investments in high end technologies are needed. Even today, various efforts to improve navigation safety all around the Greek seas are currently in progress. For example, the government has launched an effort to provide reliable Vessel Traffic Services (VTS) and monitoring the various high density traffic areas of the Hellenic Republic. However, the Hellenic VTS can provide a helping hand for seafarers only in a small number of choke-points and cover a rather limited area; future expansion of the system in other busy locations is needed in the near future, with the port of Thessaloniki standing out. (D. Dalaklis, P. Sioussiouras & N. Nikitakos, 2009). In any case, the government should work along the private sector to create an added-value situation; at the same time PPPs can achieve introduction of the new navigation safety services with the minimal cost for the country.

Finally, as a general recommendation, the future associated procurement to create larger and with better capabilities harbors and ports within the Hellenic Republic should follow the partnership model and not the classical client-provider one, within higher costs are usually involved. In conclusion, PPP versions of expanding the infrastructures in the whole Greek maritime domain are attractive methods for technical works construction or services provision. It is a concrete tool/methodology, endowed with a lot of innovative regulations to ensure the successful outcome (Her Majesty's Stationery Office, 2000). However, in the long run, government and private partnerships should not be seen as a panacea; they should be introduced only in the case that they clearly add value to the effort. The obvious conclusion is that with the Greek economy still in recession, the necessary framework that will allow the commencing of the technical works can be found only through partnerships of the government controlled port-authorities and large in size constructing companies of the private sector. These partnerships should be considered as a win-win situation for all parties involved. They provide an ideal opportunity for expanding infrastructures and/or services towards shipping without adding more number to the already enormous government-guaranteed debt.

The current study becomes more important, on account of the very recent development in the Black Sea. The Crimean Peninsula, on a basis of a referendum, held in 16.03.2014, became a territory of the Russian Federation. This peaceful revolution of the majority of the inhabitants of the Peninsula, belonging to Ukraine, has not been officially recognized; but it has highlighted the strategic role of Russia. Last but not least, it has confirmed the multi-pole character of the current international stage, exemplified by commercial investments of China in the port of Piraeus and geopolitical changes of

status quo in favour of Russia. So, the expansion of Greek ports is potentially combined with the expansion of the Russian superpower, even against international law...

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INNOVATION IN FAMILY BUSINESSES: A CASE STUDY IN THE FOOD SECTOR

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ABSTRACT

The food sector is highly representative of the Italian economic context. Moreover, food products are seen as an excellence of Made in Italy, generating consistent levels of exports.

The research focuses on this field: it identifies which business model a medium-sized family firm in food sector could adopt in order to manage innovation strategy, also for the purpose of educating customers to appreciate more innovative products.

Among qualitative approach, we opted to observe a single case study, i.e. Eataly, which is an internationally successful food chain of large and medium-sized retail shops and restaurants specialising in high-quality Italian food, drink and wine, characterised by a strong policy of innovation.

The decision to manage its innovative policy internally makes Eataly an anti-model company. The commercial offer is highly innovative and competitive within its context: the “buy, eat, learn” combination cannot be found in any other business venture with the size and international expansion of Eataly. Highly innovative ideas are supported by traditions in the food and wine sector. Innovation and tradition are not opposites: on the contrary, they represent the cornerstones for achieving and maintaining a competitive advantage.

This study holds implications for the capabilities of the food sector in Italy, as a testimonial of Made in Italy around the world. In addition, it highlights the importance of innovation in terms of products and processes along the production and distribution chain.

Multiple case study method would be useful. Lastly, 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, as opposed to family members

Keywords: *family businesses; food sector; innovation; Eataly.*

INTRODUCTION

The *food sector* is highly representative of the Italian economic context, thanks to the richness of the territory, the traditions and the entrepreneurial attitudes of the economic operators. Moreover, food

products are seen as an illustration of the excellence of Made in Italy, generating consistent levels of exports.

There are a large number of family firms in the food sector, which shows that family businesses phenomenon also have an important place in this sphere. This supports international literature, which sees them as a source of growth, development and social & economic stability (Pistruì, 2002), as well as a dominant business model (Astrachan and Shanker, 2003; Claessens, Djankov and Lang, 2000; Faccio and Lang, 2002; Morck and Yeung, 2004).

This research fits into this area of study. It identifies which *business model* a medium-sized family firm in food sector could adopt in order to *manage innovation strategy*, also for the purpose of educating customers to appreciate more innovative products.

The treatise was carried out using the *qualitative method: the case study* analysed, namely Eataly, is an internationally-recognised food chain of large and medium-sized retail shops and restaurants specialising in high-quality Italian food, drinks and wines. It is characterised by a highly innovative business approach that has been handed down from generation to generation.

The *originality* of the paper consists both on the observed sector, which has always been fundamental to the development and growth of Italy, and on the choice of case study, which is an extreme, unique, representative, leading one. For these reasons, the paper is important and adds useful insights for the relevant literature.

This article is structured as follows: first, the research method is outlined; then, an analysis of the theoretical background to the innovation is provided, drawing particular attention to the main issues of our paper; in the fourth section, the findings of the case study and a discussion of the results are presented; and, finally, the conclusions and implications of the study are set out, along with the limitations of the research.

RESEARCH METHODOLOGY

As stated, the objective of this study is to verify whether or not a strategy of innovation in terms of products and processes might offer a competitive advantage to medium-sized family businesses operating in the food sector.

On the basis of this research objective, the following hypothesis has been developed:

HP: a medium-sized family firm in the food sector has to manage innovation strategy combining innovation and tradition values. This combination is suitable to improve competitive advantage, especially in a sector in which established food traditions and changing consumption patterns take place.

The research methodology was structured as follows:

a) The *first stage* was dedicated to a review of international literature dealing with the management of innovation in family businesses, as well as innovative policies in the food sector. It came to light that there was a lack of case study analyses that deal with the management of innovation by medium-sized family businesses in the food sector, through which an efficient and effective model for managing innovative strategies might be identified;

b) The *second stage* was conducted using the case study method, through a qualitative approach. The second stage is strongly connected to the first: the literature review highlights a series of points to be taken into account when selecting, and later analysing, the case. However, the analysis of the case variables, which is conducted through a combination of casual mechanisms, can help to contextualise the theoretical principles already noted (Sacchi, 2008).

Given its relevance, the second stage merits a series of in-depth analyses. *Family businesses* studies mainly used case study method (De Massis, Sharma, Chua, Chrisman and Kotlar, 2012): due to its heterogeneous nature originating from an intersection of family and business (Tagiuri and Davis, 1992; Chua, Chrisman, Steier and Rau, 2012), family business phenomenon requires a multiple theoretical perspective and levels of analysis: therefore, also case studies have to reflect this diversity allowing an advance in family business studies (De Massis and Kotlar, 2014).

Choosing the case study design, we decided to make an *explanatory case study* (Johansson, 2002; Kotlar and De Massis, 2013) that allows to understand how the investigated phenomenon takes place. We opted to observe a *single case study*, i.e. Eataly, which is an internationally successful food chain of large and medium-sized retail shops and restaurants specialising in high-quality Italian food, drink and wine, characterised by a strong policy of innovation with a combination of tradition and innovation that facilitates both the attainment and maintenance of the competitive advantage. Although several limitations of a single case study (De Massis and Kotlar, 2014), the case study method proved appropriate for this study for a number of reasons (Dana and Dana, 2005). Firstly, Eataly presents a series of product and process-related valuables for observation, the analysis of which requires the use of a multitude of data, which are generally inter-connected (Yin, 2003) and have to converge in a “triangulation fashion” (De Massis and Kotlar, 2014). Secondly, the boundaries between the contemporary phenomenon in question (innovation in a family business) and its context (i.e. the food sector) are not clear-cut: if this were not the case, the results yielded by the case study would not be significant (Yin, 1984). Thirdly, the Eataly case proved interesting despite its highly specific nature, since it yielded certain insights that would not have been provided by other business entities. Lastly, the decision to use a single case study, which is characterised by eclecticism and pragmatism (not an established model, but the choice of the appropriate research methodology) (Rolf, 2003) proved representative in relation to the target population (Gerring, 2007) inasmuch as Eataly is an extreme,

unique, representative, leading case (Patton, 1990; Stake, 1995; Yin, 2003). It is extreme, in that the innovative approach to products and processes is a vital philosophy that affects every functional area and hierarchical level. It is unique in its genre, on the strength of a commercial formula for which customers could purchase and eat high-quality food and have food-related education. It is representative, inasmuch as the company has demonstrated the extent to which the food market is changing and customers' increased interest in a high-quality food culture. And, lastly, it is a leading case, in that it has succeeded in skilfully managing the combination of tradition and innovation, both on the part of family members and of the staff operating in companies and at various hierarchical levels, modifying consumer perceptions with regard to their relationship with food.

Multiple information sources were called upon to conduct the case study (Eisenhardt, 1989): indeed, different potential qualitative and quantitative data sources should improve findings credibility (Patton, 1990). *Interview* was the primary data source in our case study, since this makes it possible to analyse a phenomenon at various levels (Alvesson, 2003; Eisenhardt and Graebner, 2007; Potter and Wetherell, 1987). The interview was of a semi-structured nature (Alvesson and Deetz, 2000; Corbetta, 2003), it was targeted and with rich articulated questions. In particular, we interviewed Nicola Farinetti (the son of the founder of Eataly Oscar Farinetti): he's the current Managing Director of Eataly and is directly involved in innovation-related decisions. The interview with Nicola Farinetti, which was of a qualitative nature, was prepared by three authors and was structured as follows. The interview was carried out by two of the authors of the research and lasted approximately two hours, during which the pre-prepared structure was followed. The interview results were then analysed by three authors autonomously, so that their results would not be influenced by each other's interpretations (Atkinson and Shaffir, 1998; Jönssön and Lukka, 2005). The authors then compared the results that they had each obtained.

Moreover, we used other *secondary sources*, such as: direct observations in Eataly retail shops and restaurants, during which we observed organisational life in the company and obtained rich information about several aspects of the business activities (Myers, 2013); non-participant observations in which informants were followed during casual meeting in Eataly; documentation taken from Eataly websites, as well as the results of interviews with Oscar Farinetti published on economic, financial and marketing magazines and books. Secondary information sources were combined with data drawn from the interview in a sort of "triangulation process" (Denzin and Lincoln, 1994; Jick, 1979; Pettigrew, 1990; Stake, 2013; Yin, 1984) by which adopting different angles to observe a phenomenon, improving findings validity and avoiding post hoc rationalization (De Massis and Kotlar, 2014).

We then systematically *analyzed qualitative data*, even if data collection and analysis occur simultaneously (Kotlar and De Massis, 2013) also making some on-going variations in our research design and identifying some new aspects to observe.

LITERATURE

Literature has developed a series of studies, which can be categorised according to different observation criteria:

- 1) The company's *approach to innovation*;
- 2) The *focus on innovation*.

The company's *approach to innovation* is influenced by several factors:

a) The *size* of the company: this variable influences the downward decisional power of a series of activities, including innovation management (Re, 2013; Re et al., 2014). Small-sized family businesses are characterised by a sort of centralisation of decision-making powers, also in relation to innovation-related decisions: the limited possibility of delegating downward decision-making powers therefore creates a limited tendency to innovate, even cancelling it out (Donchles and Frohlich, 1991). Medium-sized family businesses are characterised by some delegation of the decision-making powers: in particular, innovation-related decisions are generally delegated. As for large-sized family businesses, it is standard practice for decision-making powers, including management innovation, to be delegated. Moreover, the size variable impacts the financial possibilities of investing in innovation: it came to light that large food multinationals (like Nestlé and Unilever) are considered to be highly innovative (Weindlmaier, 2001), and generally include a functional area dedicated to innovation. In this context, investments in innovation are considered to offer a means of standing out from competitors, inasmuch as they allow for greater satisfaction of customer expectations (Nielsen, 2008). By contrast, small and medium-sized companies characteristically lack the staff and financial resources required for a focus on research and development (R&D) activities and this has a negative effect on their degree of future competitiveness (Weindlmaier, 2001).

b) The *economic sector* in which the company operates: literature draws a distinction between varying levels of innovation on the basis of different economic sectors. The level of know-how presented by the firms differs depending on the sector in which they operate, as do their interactions for the purpose of exchanging knowledge (Malerba, 2005; Pavitt, 1984). The economic sectors present varying degrees of propensity for innovation: in the highly innovative sectors, the innovation factor constitutes a vital element for maintaining a competitive advantage (Greve, 2007; Thompson, 1965); here, the tendency to innovate is so strong that innovation management involves a combination of internal and external

elements, although with a greater focus on the external approach. In other, more traditionalist sectors, one notes a certain reluctance to innovate.

c) The company's *strategic approach to environmental changes*: if an anticipatory strategic approach is adopted, the decision to outsource innovation activities is geared at preventing the environmental changes associated with changing customer tastes, preferences and market trends, and is closely connected to the size of the company and its operations. If, on the other hand, they a passive strategic approach is adopted, there is almost no internal and external innovation policy in place. In the case of an innovative strategic approach, the innovation policy is generally managed both internally and externally (Spano, 1997): this approach is highly effective if innovation is managed in a structural manner, allowing new ideas to be shaped into a highly innovative product proposal (Cassia et al., 2011; Rosenbusch, Brinckmann and Baush, 2009). Especially during periods of consumer crisis, only an organised, methodical and systematic innovation solution can ensure that the innovation factor, which is by its very nature uncertain, constitutes a targeted means of improving the company performance (Vilà, 2010);

About the *focus on innovation*, scholars distinguished between product and process (Schumpeter, 1934; Drucker 1954; Damanpour, 1991; Chen e Sawhney, 2010):

a) *Products*: efforts to innovate in the food sector can generate a new product (Salomo et al., 2007), an improved product, or rather reduced production costs, which provides a benefit for the consumer in terms of greater utility compared with existing products (Sabisch, 1991). Innovation can find concrete form in an improvement of the intrinsic qualities of the product, in modified packaging and in a reduced environmental impact (Pleschak and Sabisch 1996). Scholars have distinguished levels of product innovation on the basis of the following food categories, the production and commercialisation of which requires varying levels of know-how and technology (Smith, 2000): industrial food, which is distinguished by price over quality; alternative food, which features a green focus on ethical and social aspects, as in the case of organic foods, is high in quality, and is inspired by local specialties or slow food; and functional foods, with nutritional characteristics that influence the level of health of the individual, such as food enriched with active ingredients. Each of these categories offers varying levels of innovation, in terms of their production and/or commercialisation.

b) *Processes*: the innovation of a process involves either introducing a new operating method, or improving a method already in use in the production, commercial, administrative and managerial context (Tidd et al., 2001). Alternatively, process innovation can generate a new way of using a production factor, for the purpose of increasing production efficiency in terms of cost, quality and service (Giacosa, 2011 and 2012). In the food sector, process innovation is primarily understood in relation to production and commercial methods. In production terms, changes to processing lines

(Hauschildt, 1996), logistics, packaging, and preservation methods (Nielsen, 2008) can offer up benefits in terms of lower costs, higher productivity levels, product quality and customer satisfaction (Cavicchi, 2008; Pleschak and Sabisch, 1996). These benefits are interrelated, inasmuch as higher quality raw materials mean a higher quality finished product, which, in its turn, generates greater customer satisfaction. In commercial terms, innovation can relate to a series of variables in connection with the relationship between the company and its clientele, such as decisions relating to the market outlet, sales channels and the communication methods adopted.

Literature has also analysed the impact of product and process innovation on *consumer satisfaction*, which is influenced both by individual characteristics (Hall and Hall, 1990; Harrison and Huntington, 2000; Hoecklin, 1995; Peterson and Kern, 1996), and by perceptions of quality in objective and subjective terms (Lancaster, 1971).

The literature review brought to light a *lack* of analyses of innovation policies in medium-sized family firms in the food sector through the qualitative case study method, in order to identify an efficient and effective model for managing innovation in an internationally successful business venture. This study sets out to fill that gap and, in particular, to question whether or not, in the food sector, efficient innovation management represents a key factor for achieving a competitive advantage, and if innovation policies should be combined with traditional values.

CASE STUDY: EATALY

The founder and the history of Eataly

The history of Eataly is indisputably tied to the history of its *founder*, Oscar Farinetti (Sartorio, 2008; Farinetti, 2009). Born in 1954, Oscar Farinetti joined his father's business venture (UniEuro, that was a supermarket offering groceries and other items for the home)

The turning-point in his working life came when he felt the desire to sell goods displayed live, rather than continuing to sell household electrical appliances and computing goods. The sale of the brand UniEuro (which had a commercial chain across all of Italy) to the British Group DSG International in 2002 marked the beginning of the business venture Eataly, a place where Oscar Farinetti wanted to offer up "the very best of Italian gastronomy", fully aware of the richness and quality of the Italian food and wine culture.

The first Eataly store opened in 2007 in Turin, Italy. Eataly now has thirty stores in Italy, the United States, and in the Middle and Far East. Over the next three years, new points-of-sale are set to open in Los Angeles, Washington, Boston and New York (in the World Trade Centre), while there are already contracts in place for openings in Moscow, San Paolo and London. The company aims to achieve a

consolidated turnover in 2014 of around 400 million euro (excluding the franchisees) and an EBITDA of 75%. The family has expressed its intention to introduce Eataly to the stock exchange by 2017.

Innovation in Eataly

The nature of Eataly's innovation policy can be formulated through an analysis of:

- a) The products.
- b) The processes.

Product innovation in Eataly is geared at promoting the diffusion of "high-end foods" (or rather, high-quality Made in Italy wine, food and agricultural products) at *sustainable prices*. Quality comes before quantity, and the consumer is educated to take an informed, smart and careful approach to consumption, the nutritional values of foods and their health effects, prioritising spending on food over other categories of consumption.

The efforts to innovate result in both a greater variety of products, offering up a vast range of goods which are differentiated according to their product category, region of origin and price, and the continuous improvement of the quality of the existing products. Although the brand is already recognised for its quality, the family is committed to improving quality standards still further, both for the benefit of its clients, and to maintain a competitive advantage. An ongoing search for higher-quality raw materials and products goes hand in hand with the close attention it pays to the role of the intangible features of the product. What is more, the spirit of innovation can also be seen in the promotion of seasonal products: fruit and vegetables, in particular, are commercialised in accordance with their seasonality.

The immaterial attributes of food products intensify the consumer's emotions and satisfy a series of expectations and desires connected with treating oneself to the best. In addition, Eataly has invested a lot of effort in consumer *perception of pricing*. Eataly sets out both to convince the consumer of the intrinsic relationship between diet and health, stressing the value of what you eat, and to show that the price difference between a high-quality food and a standard one is not as big as they might think and that it is certainly lower in the wine and food sector than in other contexts.

The *target* market is fairly broad: it comprises all those consumers who accord considerable importance to the quality of what they eat, in full awareness of the repercussions this has on their quality of life. The spirit of Farinetti family is reflected in the identity of Carlo Petrini, the founder of *Slow Food*, an international not-for-profit association directed at the promotion of good, clean, fair food, or rather, a rival to fast food.

The interview with Nicola Farinetti revealed that the product innovation policy centres on a *product*

system which consists of both the tangible and intangible elements of a group of products. According to Eataly, the entire product system needs to be more competitive than that of competing firms, and not merely certain products on the production range. Innovation of the product system is geared at transforming the point-of-sale into a place where clients can at once:

a) *Buy*: clients can go to Eataly to do their shopping, as they have access to a vast range of high-quality, carefully selected products that respect the Slow Food philosophy. Clients can also take home a vast range of foods, or any of the numerous specialties prepared at the delicatessen. The guiding philosophy in selecting the products for sale is their seasonality, so as to improve the quality and authenticity of the products, at lower costs. In this light, Eataly's promotional message is "Let's wisen up! Products in season taste better and cost less";

b) *Eat*: Eataly is also a place for serving food, where customers can taste high-quality foods cooked directly on-site. The space is laid out appealingly according to thematic areas, so that clients can allow themselves to be drawn in by the culinary skills of the chefs and taste their delicacies. The setting is authoritative thanks to the quality of the foods supplied and the professionalism of the staff, but also informal, thanks to the family atmosphere of the various sections. The decision to cook the products on sale and sell the products that are served enables Eataly to increase the turnover of its raw materials, while avoiding unsold warehouse stock and being forced to throw products away;

c) *Learn*: even the educational side of the venture presents elements of innovation. In order to educate its customers about consuming healthy, authentic foods as part of a balanced diet, as well as to establish a relationship of trust with them, Eataly is also a place where customers can inform themselves through information panels and suggestions which describe and explain the origin of the products and how they are processed. There is also a sort of visual pathway dedicated to the seasonality of the products, through which customers can see which products are in season at the time of purchase or consumption, because foods that are in season are tastier, better and less expensive. "To satisfy your appetite, while learning", a series of themed events are also organised, with different target audiences and themes. These include courses in cooking, pastry-making, tastings and food education, dinners with a show, meetings with important chefs, with a range of target audiences and multiple themes. Lastly, customers can also freely consult books relating to the food sector. The philosophy is to establish the right attitude to food, through a communal act, that of eating. As we said, Eataly's didactic role is motivated by its desire to encourage the 90% of the population that still do not consume high-quality foods, to choose healthy, high-end food.

This philosophy, which combines purchasing with eating and learning, is not currently offered by any other Italian firm of the same scale as Eataly.

Process innovation in Eataly means either introducing a new operating method, improving upon a method already in use or creating a new means of using a production factor to improve production efficiency in terms of cost, quality and service.

In terms of production innovation, Eataly carefully monitors the *quality* of its products. The spirit of innovation in relation to high-quality food is geared at stressing the tangible features of the raw materials used or of the goods commercialised. For certain types of goods (such as premium wines), the objective is to create a good with exemplary and lasting organoleptic characteristics. Moreover, thanks to continuous research into new production technologies, product quality is constantly being improved. Close attention is paid to the raw materials used, as this determines the quality of the finished product: the quality of the raw materials is therefore fundamental for ensuring a high-quality finished product.

In order to guarantee an authoritative product all twelve months of the year, Eataly is engaged in a highly innovative project to optimise the commercial nature of the *national food chains*. This involves a number of agreements with the suppliers, in search of a series of values. Another highly innovative aspect is the organisation of products and services by *category*, which affects its supply operations and management of the commercial spaces. For certain product categories (such as fish, meat, fruit, vegetables, cold cuts, cheeses), responsibility lies with the “Categories”, i.e. the responsible of the various sectors. These managers have autonomy in relation to purchasing decisions and the management of their sector, although this must be in harmony with the Eataly philosophy. With regards to other product categories (such as preserved foods and drinks), this role is entrusted to young people whose area of specialisation enables them to evaluate, recognise and distinguish tastes and fragrances.

In terms of creative innovation, creative activities are primarily conducted *internally* and are managed in a streamlined manner, without the help of external consultants. “If an anti-model business venture such as Eataly does not have its own creative section, it is destined to not go far”. In this sense, it is the individuals that live the Eataly reality that best understand its unique features. Oscar Farinetti has always involved human capital at various hierarchical levels, and in various spheres, in the work of creating and diffusing this creative capital: the family is therefore not the only entity involved in generating innovation. Innovative efforts in the creative sphere are justified by the need to counteract high degrees of environmental variability, and the incessant competition on the food market, which render the commercial offer somewhat vulnerable. Eataly’s takes a very innovative approach to creative activity, which takes the form of a general *mind-set* involving all levels of the organisational structure, despite its basic nature, as well as every functional area. The *Farinetti family* are highly committed to creative activities. On the one hand stands Oscar Farinetti, the founder, who represents

the past and hence tradition, and who oversaw the creative activity for many years and, on the other, there is the new generation, namely Farinetti's children (Francesco, Nicola and Andrea Farinetti), who represent the future. Tradition constitutes a summation of the commercial and learning experiences acquired by Oscar Farinetti over the years in relation to Italian culinary traditions; this all comes together in an immense love of quality food, which is the inspiration behind all his professional activities. Farinetti's children combine an ongoing reference to their father's ideas, and new cutting-edge creative ideas dictated by new trends and technologies.

In terms of *communication innovation*, it is managed in a highly innovative, *multi-sensorial manner*. All business processes begin with communication and, in reverse, they are organised in coherence with that which has been communicated. "Eataly was created for this very reason, to describe an apple. Each and every thing we want to offer needs to be set out as a narrative description". If, first of all, Eataly is communicating the possibility of buying and eating high-quality foods at sustainable prices to a vast public, it is at the same time being innovative in its endeavour to teach its addressees about the cult of food and, in particular, about the producers and the production methods that they use. It also aims to guide its customers towards taking a healthy, knowledgeable approach to their diet. The spirit of its communications is therefore geared at bringing consumers closer to the brand: thanks to its authoritativeness, Eataly aims to achieve a relationship of trust with its clients, as the basis of a long-lasting relationship. Communications are therefore *not limited to describing a product*, so much as serving to *distinguish* that product from others, highlighting the absolute values and peripheral system of values of a brand.

Eataly's communication *philosophy* is to be clear, honest, easy to understand, expressing self-irony and the desire to hold a dialogue with clients and visitors, which never becomes tedious or bothersome. Even the *promotional channels* selected reflect this spirit of innovation. Eataly does not select typical communication tools, such as the television, since they are less directed at its target market. Instead, it privileges the following two communication channels:

- Newspapers, inasmuch as its target market is made up of informed consumers, who are generally educated and stay up-to-date by reading the newspaper, also as newspaper readers are deemed to be open to Eataly's message;
- Posters hanging in the stores. A successful promotional strategy is implemented directly in the stores themselves, where Eataly's management philosophy is communicated through a series of posters directed at clients, centring on themes which are repeated in the various publications: harmony, quality, passion, tradition.

In terms of *distribution innovation*, the distribution network comprises a *combination of privately-owned stores* (and not in franchising) so as to maintain control of the company brand. The distribution process

is managed in an innovative, streamlined manner by cutting out the intermediaries, for the purpose both of monitoring the product quality level and obtaining savings which benefit the consumer.

The distribution model adopted is innovative in that, in order to expand the target market and adapt to various contexts, Eataly is directed at *distribution structures of varying sizes*: on the one hand, large commercial spaces which represent the classic distribution model, where the “buy-eat-learn” combination is supported by the large scale of the space (like the first Eataly store opened in Turin or the one in New York); and, on the other, smaller stores located in city centres (like the first one opened in Milan), which adopt the classic distribution model in miniature. These two distribution models are replicated all over the world, depending on the place where they are opened and the target market.

Even the choice of *locations* of the Eataly stores is symptomatic of a counter-trend approach. The store assumes the character of a large, highly appealing cathedral where you can enjoy high-quality products in strategic locations. In order to strengthen the image of the brand, the stores are located in the so-called first tier cities circuit, which comprises important cities in Italy and abroad.

CONCLUSIONS, IMPLICATIONS AND LIMITATIONS

The decision to manage its innovative policy *internally*, without the help of external consultants, makes Eataly an anti-model company: it applies innovative ideas all the way along the production and distribution chain, as well as emphasising the ideas and incentives of its members of staff, both those that interact most closely with the client and the members of the creative team. The prevailing creativity that results is therefore incorporated both into new products and processes, and in the revisiting of existing ones.

The commercial offer is highly competitive within its context, so much so that Eataly can be described as unique in the world: the “*buy, eat, learn*” combination cannot be found in any other business venture with the size and international expansion of Eataly.

Thanks to analysis of the literature combined to innovation and agro-food sector, this paper adds some specific aspects related to the management of innovation applied to the food sector to the existing literature on innovation (product and process), which is crucial for the national and international economy.

Highly innovative ideas are supported by *traditions* in the food and wine sector, and by the commercial experience acquired. An attachment to tradition proves fruitful, in that it can be cleverly combined with *innovative approaches*, through a structure equipped to create a combination of traditional values, local characteristics, and the possibilities offered by modern techniques. While they would appear to stand in antithesis, innovation and tradition are in fact not opposites: on the contrary, they represent the cornerstones for achieving and maintaining a competitive advantage. Without such a combination, the

company risks either being highly innovative, while failing to cultivate the traditional values which brought it recognisability on the market, or else it finds itself clinging to the classical principles of its operations, without playing the continuous innovation card. The enrichment of the old through the new is a valuable move, and one that is instrumental in the race for success. In addition, the presence of several generations within the company represents a useful combination between tradition and innovation: on the one hand, the pragmatism and intuition of Oscar Farinetti and, on the other, the enthusiasm and optimism of Farinetti's children.

This study holds both theoretical and practical implications. In theoretical terms, the research highlights the importance of innovation in terms of products and processes along the production and distribution chain in the food sector. In practical terms, the paper highlights both the capabilities of the food sector in Italy, as a testimonial of Made in Italy around the world, and best practices that other firms operating in the food sector could take as example to be competitive.

Multiple case study method would be useful. Lastly, 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, as opposed to family members.

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DEVELOPMENT AND SUSTAINABLE TOURISM AS CHOICE FOR THE FUTURE: THE CITY OF VENICE

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ABSTRACT

The sustainability of development expressly covers the guide principles of the European Union and represents a ground to find solutions to deal with the complexity of the current socio-economical scenery. This principle is also valid for tourism, which itself becomes one of the key sectors to set up a strategy, leading to a sustainable development of the land. Sustainable tourism is a form of tourism which involves being conscious of the potential environmental, economic, and cultural impacts of tourism. Tourism finds in environmental, artistic and cultural factors of attractiveness the lever of its main competitiveness; the sustainability of its use can represent an extraordinary challenge for the general upgrading of the natural and urban environments on which tourism finds a fertile ground for its development. To reach this target, the correlation between the carrying capacity, which is the natural ability of an ecosystem to produce in a stable manner the necessary resources for the species that inhabit it, and the critical natural capital, which is the minimum necessary level for the biological reproducibility of the ecosystem, the amount of pollution and waste that the planet is able to withstand, should not be neglected. This paper sets as objective the analysis of the most critical aspects related to these topics and the proposal of a concrete model of a sustainable tourism consumption, competitive and upgrading for the territory, assessing the application to a concrete case: the city of Venice.

Keywords: *sustainable tourism, sustainable development, competitiveness, green economy, carrying capacity, strategic plan, Venice, urban implications.*

INTRODUCTION

The concept of sustainability derives from the scientific and natural literature, which defines sustainable management of a resource if, once its ability to regenerate is known, its exploitation does not exceed beyond a certain threshold (Lanza, 2006). Being sustainable, therefore, means being able to

live within the carrying capacity of the system which you are part of, i.e. not breaking the dynamic balances that maintain the life. In the literature, the theme of sustainability usually refers to the renewable natural resources; for exhaustible resources, rather than sustainability, it would be correct to talk about the times and conditions of the resource's optimal exploitation (Spangenberg & Valentin , 1999). To set up sustainable development strategies, it is necessary to decide what should be the level of protection afforded to the natural resources and whether there might be a form of compensation between the different types of capital. From the economical point of view, we progressively became aware of the fact that the global development considered in a classical sense (i.e. linked exclusively with the economic growth) would soon cause the collapse of the natural systems and has led to the conclusion that the development is real if only the quality of life improves in the long term, so it is not only about economy and environment, but also about social development. (Lindberg and Johnson , 1997). Therefore, a wider concept of sustainability arises, which implies the ability of a development process to sustain over time the reproduction of global capital composed of the environmental, economic and human/social capital (Lombardi, 2011).

For tourism , a sector of primary importance in our country, the debate about sustainability is recent, but if properly set, may account for the close relationship between the strategies for the sustainable development and the governance of complexity. In relation to the socio-environmental limits of a certain tourist resort, we identify the carrying capacity, which involves pervasively different aspects: economic, infrastructural, social, environmental, which can in turn give rise to different impacts.

Tourism should undertake the path of sustainability in a strong way, in order to safeguard these natural, environmental, artistic and cultural factors that form the basis of its prospects development. This applies particularly for Italy, which should do a sustainable tourism the main competitive levers of its country's system. Venice is a city that has, in addition to a large number of tourists, ecosystems and habitats of a certain fragility and where there is, at the same time, an artistic-cultural heritage of great cultural value. It should be able to promote processes of retraining and modernization which enables it to deal with the contradiction that the tourism, inevitably, brings with itself. The goal of this paper is to understand if the city is dealing with the phenomenon in a effective and sustainable way, assessing whether the actions taken so far can be considered truly effective and valid for purpose to pursuit of a sustainable tourism development. The considerations will be made by presenting the main features of the tourism demand and a focus on some aspects related to the carrying capacity and the pressure exerted by the tourism on the City

SUSTAINABILITY, A MULTIFACETED CONCEPT.

The first definition in temporal order of sustainable development was the one contained in the Brundtland report in 1987 and later retaken from the World Commission on Environment and Development (WCED), according to which: "The development is sustainable if it meets the needs of the present generations without compromising the possibility of the future generations to meet their needs." The central element of this definition is the need to search a equity of an intergenerational type: the future generations have the same rights of the present ones. In the second analysis, can be also seen a infragenerational equity, i.e. people belonging to different political, economic, social and geographical realities within the same generation have the same rights. This statement introduces the theme of sustainability between production factors. The production of goods and services of a country is made possible by the use of physical (capital represented by machines), human (labour force) and environmental production factors. The proportions of these factors depend on many aspects: the availability of certain technology, the development level of the country, the costs of various factors. Within this optical the concept of substitutability takes place, about which we can consider four positions:

- Very weak sustainability (VWS) (position of abundance)
- Weak sustainability (WS) (accommodating position)
- Strong sustainability (SS) (community position)
- Very strong sustainability (VSS) (radical position)

If for the proponents of the weak sustainability a growth without limits is admissible weak and in general the growth itself is considered as a positive factor, for the supporters of the strong sustainability the economic growth is seen as an element to curb and control. There is a point beyond which the industrial activities, pollution and other human activities, if carried out in a non-responsible way, can cause not remediable damage not only to the environment that surrounds us, but to the entire ecosystem (carrying capacity). The policies oriented to an environmental and territorial improvement have been done by man for man, in a long term vision. Here is, therefore, the need to guarantee conditions of human welfare (security, health, education, etc.)

SUSTAINABLE TOURISM

The tourism development often takes us in front of a paradox: on one hand can contribute to achieve socio-economic and cultural goals, economically justifying the conservation of natural and historical-cultural resources and make a place unique, on the other hand it can lead to their degradation and loss of attractiveness, if the use of resources is not adequately managed. The carrying capacity of a location was defined as: "the number of people bearable for an ecosystem, which is a set resources naturally presented in particular locations, before it deteriorates" (Gland, 1991). To achieve a point where you do not exceed the carrying capacity, we must come to a compromise between the intention to minimise the environmental damage and maximizing the use of the environment, therefore, as a resource. By analysing the tourism bearable capacity, it is possible to focus on different aspects: economic (potentiality and strategies to develop tourism market), the infrastructural (constraints to development connected to reduced receptivity or offer other services), social (compatibility of the tourism presence with the local population), environmental (resource consumption and pressure on land) (Spangenberg, J. H., 2000). Development policies oriented towards demand segments considered preferential for the offer should be defined, which try to promote a conscious behaviour from the tourists. To analyse the effects of tourism development on the social relationship between the visitors and residents, a scholar, G.V. Doxey (1975), offers an interesting contribution; he identifies a first phase (called euphoria phase), in which the few lucky tourists have peacefully entered the host society sharing lifestyle, a second one (apathy phase) in which there is already the conflict, the number of tourists grows and the two groups (tourists and residents) are dividing the existing infrastructures, despite, however, there is still a contact between them. Then there is a situation of separation (irritation phase) characterized by a local community numerically now lower than the one of the tourists. The latter get their own infrastructures and have contact with the residents through established channels only. In fourth time (phase antagonism) we see a reversal of roles as it ends up that the interests of the tourists dominate on those of the residents, who becomes at the service of tourists without no more than an own tradition. Some propose a situation that goes beyond the fifth phase, where there is no host society, nor it has ever existed. The reference, in this case, is the forms of "artificial tourism". The tourism system, presenting as a complex and cross phenomenon, does not make sufficient self-regulating market, so that the dynamics are controlled, but it requires a public intervention and a system of policies that controls the complexity and manages the equities. The different components presented in the destination must act in a logic of the system, identifying common goals to pursue, albeit there are a series of conditions and constraints of exogenous nature, which can heavily influence the construction and operation of the system itself. It is difficult to propose concrete models of sustainable tourism, which agrees the different actors of the supply and

the demand avoiding as much as possible the undermined interest of the parties. It is well known, in fact, that supply and demand tend to perpetuate actions aimed at the satisfaction of their own goals, but the important is to find a balance, a meeting point, which allows both parties to reach their own purposes, in mutual respect.

VENICE , THE STRATEGIC PLAN AND A MODEL FOR SUSTAINABLE TOURISM

The economic growth, translated also in a higher income per capita, has meant that a more and more increasing number of people have the possibility to spend a portion of their time and their income available in tourist activities. This fact has in fact placed under pressure several areas of the world and Italy, as Venice. The city, therefore, has accrued the awareness of the importance to develop a strategic plan that promotes processes of retraining and modernization in favour of a stronger and more adequate positioning of the Venetian system in the economic, social and territory processes of the North East and Europe. The purpose is to make a city characterized by high quality of life of its inhabitants (in its various aspects, relational, cultural, etc.) and its structure economic and environmental, but also to create a shared and participated process, whose purpose is to design, through a meeting point between public and private actors, future shared choices. The Veneto Region recognizes Venice and the lagoon as a tourist thematic and territorial system as territorial homogeneous terms of tourist types and specialized in terms of presence tourist resources, capable of standing the development and the promotion of an integrated range of large and consistent tourism products (Regional law development and sustainability of tourism in Veneto, 2013). The difficulty in creating a model of sustainable development for Venice lies in the complexity of the territory and in the correlation between its variables. A choice that can bring benefits and solve certain situations can rise to new problems or aggravate others already existing.

METHODOLOGY

To achieve the present goal, the official statistics have been analysed to assess the main actions and policies taken so far for the management of sustainable tourism in the city to determine whether they can be considered really effective and valid for the pursuit of a sustainable tourism development. The increase or decrease of the tourist flow (*stock*) and their distribution throughout the year will be evaluated, as well as the strategic plan that the city of Venice has prepared.

The city of Venice has, in fact, drawn up a strategic plan, "Strategic Plan Of Venice 2004-2014", i.e. a process of a programmatic elaboration oriented to generate those decisions and those actions that are crucial to realize the vision of the desired future from the main social and economic factors of the city.

It promotes processes of retraining and modernization in favour of a stronger and more adequate positioning of the Venetian system in the economic, social and territory processes of the North East and Europe. In its final form, the document is divided into three parts:

- Reading Guide: it presents the document highlighting the additions and changes made to the document after the update of some analysis, of the outcome of meetings with privileged actors of the local system and, more particularly, of the outcome of the Project Committees.
- Introduction: it includes the content of the project and draws all the characteristic points. In particular, it recalls the local experience about the strategic approach to the development issues, states the methodology adopted by relating it to the current complexity of the structure management of the local Venetian system, illustrates the points characterizing the project and the audit trails of the choices made.

The Strategic Plan of Venice 2004-2014: develops contents of the structural Conditions and the strategic Lines and the contents of the strategies and policies related to them.

Valentin and Spangenberg (1999) have formulated a framework formed by four dimensions thanks to which it is possible to organize the sustainability indicators of a given territory. As indices, in addition to the 3 Ps (people, profit, planet), the institutional perspective as focal vision has been included. The prism allows to establish some indicators of sustainability and standards for the planning and management of the local community (Cottrell & Cutumisu, 2006; Cottrell & Vaske, 2006; Cottrell, Vaske, & Shen, 2007; Cottrell, Vaske, Shen, & Ritter, 2007). The indicators are biophysical, social, management, as well as for the other conditions of general interest in relation to the issue reported (Miller, 2001).

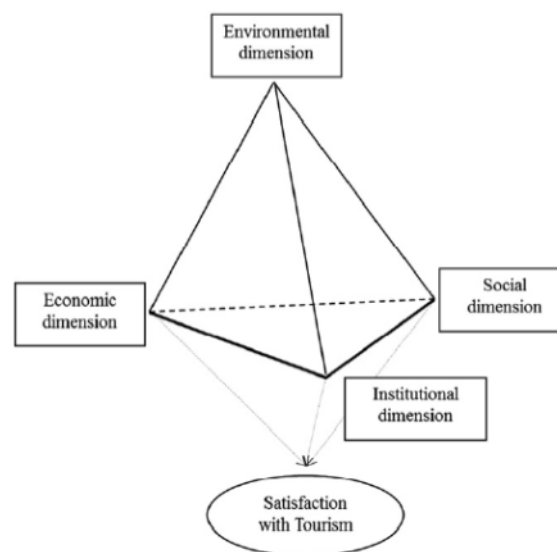


Figure 11. *THE SUSTAINABILITY'S PRISM - Spangenberg & Valentin, 1999*

RESULTS

After World War II the tourism phenomenon in Venice's historic centre has grown considerably:

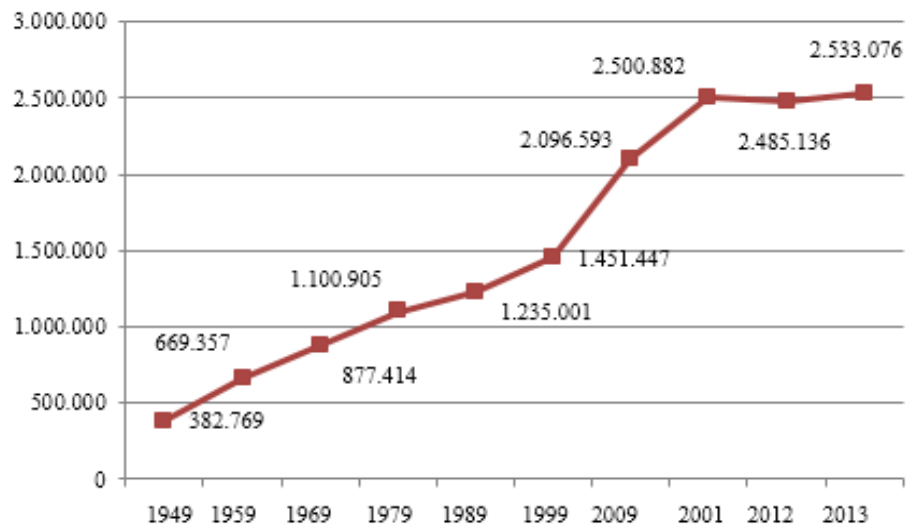


Figure 12. *Tourist arrivals in the historical center of Venice from 1949 to date*
Data Source: Web Site www.comune.venezia.it, Statistics and Research Section

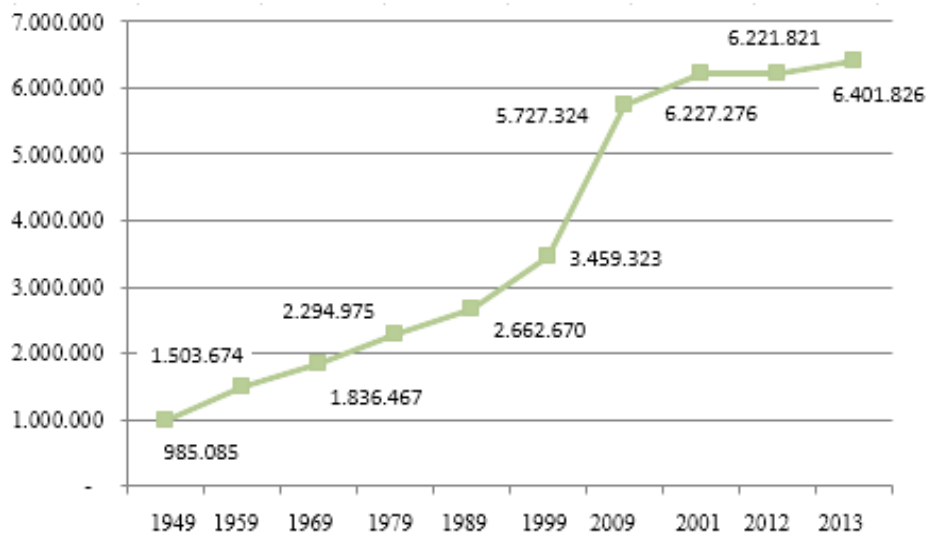


Figure 13. *Tourist attendance record in the historical center of Venice from 1949 to date*
Data Source: Web Site www.comune.venezia.it, Statistics and Research Section

The origin of the tourists coming to Veneto Region can count on 64.8% of foreigners (Statistical Report, 2013), while each 85% of foreigners visit Venice and only 15% of Italians (Tourism in the City of Venice, 2011), as reported in Table 1.

This means that the capital of the lagoon has an attraction capacity in the foreign market that is certainly superior to that perceived at a national level.

Nationality	Arrivals	Presences
Americans	498963	1051088
Italian	463055	1082744
French	314053	915769
English	246915	664332
Germans	201486	564936
Japanese	178681	270287
Chinese	162088	233898
Spanish	159008	363129
Brazilians	123210	232465
Australians	122937	284840
Russians	81698	190552
Indians	29177	58305

Table 7. *Elaborations Department Tourism on Apt Data, 2012*

The first foreign market in Venice was formed by U.S. tourists, who represent approximately 12.7% of tourists, followed by the French (11.1% of presences in 2012), the English and German (8.7% of presence in 2012) and by the Spanish (4.4% of presences in 2012). Compared to 2011, in 2012 a significant increase of arrivals from China, Russia and the UK (respectively 17.8%, 12.5% and 11.3%), while there has been a sharp decline in arrivals from Spain and Italy (respectively 20% and 11.6 %).

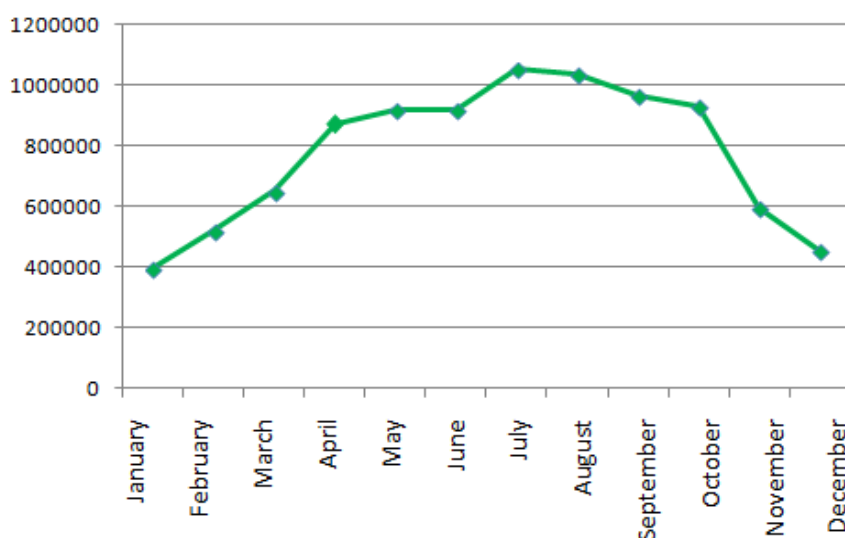


Figure 14. *Elaborations Department of Tourism on Apt Data, 2012*

In the solar year tourist flows appear to be very high in the spring and summer. The months in the year 2012 that have registered the increased number of tourists, were July and August, while the months with a smaller number of tourist presences were in the winter, especially in January and December.

The main effects that these tourism inflows cause to the City can be summarized as:

- Decrease of the ratio quality/price of the main products and services;
- Increase in the cost of living for residents;
- Concentration of the accommodation structures in the historic centre;
- Congestion of the area and public transportations.

The City has developed some tools to try to limit the phenomenon, for example, it is attempting to distribute events of particular tourism call throughout the year (to limit the overlap in the months of high season), and has created an ad hoc instrument: through the municipal portal *venice connected* you can book the means for public transport, parking lots, visits to museums, access to the Casino and taking advantage of several good discounts if you decide to book in a date considered "low affluence", as indicated by attached calendar.

Some other Italian cities (for eg Milan), provide the obligation to use this type of instrument to visit several attractions of particular art appeal, such as the Cenacolo Vinciano.

CONCLUSIONS

The city of Venice is a confirmed pole of tourist attraction internationally recognized. As shown, the high tourist flows throughout the year makes the land "consumption" extremely elevated. Therefore it is necessary to plan about sustainable policies in order the long period competitiveness, otherwise an over exploitation could cause environmental damages that can never be repaired.

However this setting cannot ignore that the tourism is a key economic sector for Italy and for Venice, not only from the point of view of the turnover *tout court* but, given the particular Italian economic situation, especially in the field of employment. Within this process, it is important to remind the need to combine housing and tourism, so as to ensure the liveability of the inhabitants of the city.

The tourism in Venice will develop and will be more sustainable at the same time only if a systemic view of the sector will be accrued and private intervention and entrepreneurship will operate in synergy with the public administration.

In particular, it would be desirable that the city increasingly develops measures that would allow a better distribution of tourism flows throughout the year, in order to reduce the excessive congestion in the centre of the City, especially during the summer months.

Finally, should not be underestimated that tourists arriving in Venice could also be potential visitors of the near local realities rich in history and culture (for example, the Venetian villas).

In recent years Venice, recognizing the level of pressure that the tourism causing to the territory and to its inhabitants, has attempted to invest in interventions that would allow a better management of the arrivals in town; anyway this does not seem to be sufficient to restore the balance. Sustainable tourism, if considered concrete cornerstone of policies and strategic choices of the City, will be an asset, particularly in the medium-long period.

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EFFECTS OF TRUST, SATISFACTION, ALTERNATIVE ATTRACTIVENESS AND RESISTANCE TO CHANGE ON ATTITUDINAL AND BEHAVIOURAL LOYALTY¹

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ABSTRACT

This study aims to explore effects of trust, satisfaction, alternative attractiveness and resistance to change on brand loyalty (attitudinal and behavioural) in the Turkish GSM sector. In this study commitment is referred to as attitudinal loyalty which leads to behavioural loyalty. Triangulation is chosen as a method of inquiry. A conceptual model was developed after literature review and exploratory interviews and piloted on a sample of 70 participants. Finally, a quantitative research was conducted on a sample of 505 mobile subscribers. Drop and collect and social media (Facebook) were used for data collection. After running exploratory factor analysis on the data and assessing factor structure, measurement model and structural model were tested by SEM. Results indicated that the proposed research model was acceptable in general. Trust and resistance to change were found to be positively associated with commitment while alternative attractiveness and satisfaction were not. Commitment was also found to be positively and significantly related to behavioural loyalty.

Keywords: *brand trust, brand satisfaction, alternative attractiveness, resistance to change, commitment, behavioural loyalty*

INTRODUCTION

Supporting the idea that economic reasons are not the only reasons for repeated purchase, but there is more behind consumer loyalty such as emotional attachment and social norm, this study mainly aims to explore the factors motivating consumers to maintain their relationships with their current service provider. As one of those industries facing high subscriber churn rate, GSM service providers are also in need of better retention strategies in order to develop and maintain good relationships with their subscribers. Therefore, it is essential to identify factors motivating the subscribers to develop positive attitude towards a GSM service provider. By identifying these factors, service providers can be able to

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achieve higher levels of brand loyalty. Brand loyalty has two sub-components, attitudinal and behavioural. In this study, attitudinal loyalty is referred to as brand commitment. There is a lack of studies that explore antecedents of brand commitment and test its effect on building customer behavioural loyalty. This study intends to bridge this gap by reviewing the related literature and providing findings from two-phased field study which was undertaken in a highly competitive market, Turkey. During last two years over 1.6 million subscribers have switched from one to another three global GSM operators (www.btk.gov.tr).

CONCEPTUAL FRAMEWORK

In earlier studies loyalty was regarded as repeated purchase only. Defining loyalty as “the biased behavioural response expressed towards a brand over time as a function of psychological processes” (Jacoby and Chestnut, 1978), later studies have come to the conclusion that loyalty should be handled as attitudinally and behaviourally (Enis and Paul, 1970; Mathieu and Zajac, 1990; Morgan and Hunt, 1994; Dick and Basu, 1994; Oliver, 1999; Chaudhuri and Holbrook, 2001; Uncles et al., 2003; Kim et al., 2008; Kimmel, 2010). Behavioural loyalty is considered to be defining loyalty in terms of repeated purchase (Enis and Paul, 1970; Chaudhuri and Holbrook, 2001; Kim et al. 2008). On the other hand, attitudinal loyalty is considered to be defining loyalty in terms of psychological factors such as preferences, intentions, commitment arising from these intentions, and value dimensions (Chaudhuri and Holbrook, 2001). Defining brand loyalty as a pattern of repeated purchase with a positive attitude towards the brand, Kimmel (2010) indicates that brand loyalty consists of two components as repeated purchase behaviour and commitment attributed to a strong attitude or liking for the brand.

Commitment is defined as pursuing a consistent line of activities in a sequence of varied situations (Becker, 1964) in sociology literature. Commitment is of the Social Exchange Theory (SET) origin (Cook and Emerson, 1978) which requires that something has to be given in return of something else. Supporting the aforementioned idea in the SET, commitment in marketing is defined as a consumer’s belief to maintain rather than terminate a relationship likely to provide him/her with functional and emotional benefits (Geyskens et al., 1996).

Commitment is usually subtyped as affective commitment, continuance (calculative) commitment and normative commitment (Allen and Meyer 1990). Affective commitment is related to emotional attachment of the customer to the service provider with a feeling of remaining in stable exchange relationships via social ties and intimate relations they create with the relationship partners (Geyskens et al., 1996). Calculative commitment on the other hand is concerned with the feeling of being locked into the service provider (Bansal et al., 2004) which arises from the evaluation over gains and losses that seem to occur in case of a termination of a relationship (Geyskens et al., 1996). Cost perception in

this commitment type may be arising from the costs related to money, time and/or effort. Last and least studied commitment type, normative commitment is referred to as a sense of obligation (Bansal et al., 2004) with a sense that consumers remain within a service provider because they feel this is the right thing to do (Hur et al., 2010). Allen and Meyer (1990) distinguished commitment types with a useful classification suggesting that affectively committed person remains because s/he wants to, calculatively committed person remains because s/he needs to and normatively committed person remains because s/he ought to.

METHODOLOGY

Although previous studies are primarily conducted on the commitment of employees in organizational behaviour, the concept of commitment can also be expanded to marketing by investigating the relationship between service provider and customer. Referring commitment to as attitudinal loyalty, this study aims to investigate brand commitment and its antecedents.

Research design

In this study, triangulation including relevant literature review, qualitative and quantitative phase is chosen as a method of inquiry. After reviewing literature, a conceptual model including service quality, involvement, switching costs, bonding, satisfaction, trust and alternative attractiveness as independent variables affecting commitment and loyalty was developed. Then ten semi-structured face-to-face exploratory interviews were conducted to clarify issues and test model validity. Interview results indicated that the model had validity, but two additional factors were also mentioned: brand image and resistance to change. However, service quality, switching costs, involvement, bonding and brand image were excluded from the model regarding nonresponse bias and simplicity in the model. The final research model is illustrated in the Figure-1.

Hypotheses developing and research model

Trust is a significant antecedent of commitment (Moorman et al. 1992; Morgan and Hunt, 1994) There is a plenty of studies indicating that trust is positively associated with affective commitment (De Ruyter and Wetzels, 1999; Bansal et al. 2004; Cater and Zabkar, 2009; Cater and Cater, 2010; Fullerton, 2011; Chang et al, 2012; Bloemer et al., 2013). In most studies, trust has been found to be negatively associated with calculative commitment (Geyskens et al. 1996; De Ruyter and Wetzels, 1999; Gounaris, 2005; Cater, 2007; Chang et al, 2012). However, in their study Cater and Cater (2010) divided calculative commitment as; positive calculative commitment suggesting the value-based one, and negative calculative commitment suggesting the feeling of being locked-in. Authors indicated that trust is positively associated with positive calculative commitment and negatively associated with negative calculative commitment. Therefore, it can be argued that subscribers who are calculatively

committed to a GSM service provider find it worth switching for cost perceptions on the condition that they have the feeling of trust. Lastly, normative commitment indicates that acceptability or non-acceptability of a switching behaviour (Bansal et al., 2004) influences customer's decision on the act of staying or leaving. Therefore, trust positively affects normative commitment that is self-based or socialization based feeling of obligation (Cater and Cater, 2010; Fullerton, 2011). Thus;

H1: Customer trust positively affects customer commitment to the service provider.

H1a: Customer trust positively affects customer affective commitment to the service provider.

H1b: Customer trust positively affects customer calculative commitment to the service provider.

H1c: Customer trust positively affects customer normative commitment to the service provider.

Satisfaction is considered as a significant antecedent of loyalty (Mittal et al., 1998; Mittal and Kamakura, 2001; Lin and Wang, 2006; Tung, 2010) and a primary driver of retention (Gustafsson et al., 2005). As Hennig-Thurau (2004) also indicated, commitment is influenced by customer satisfaction. And, satisfaction is found to be positively associated with affective commitment (Cater and Zabkar, 2009; Fullerton, 2011; Nusair et al, 2011). On calculative commitment, Cater and Zabkar (2009) and Nusair et al (2011) found negative effect of satisfaction whereas Wetzels et al. (1998) found positive effect. Based on a view that the customers feel a moral obligation to maintain their relationships with current providers so long as they are satisfied with the service offered (Cater and Zabkar, 2009), it may be supported that satisfaction positively influences normative commitment. Therefore;

H2: Customer satisfaction positively affects customer commitment to the service provider.

H2a: Customer satisfaction positively affects customer affective commitment to the service provider.

H2b: Customer satisfaction positively affects customer calculative commitment to the service provider.

H2c: Customer satisfaction positively affects customer normative commitment to the service provider.

Alternative Scarcity is often related to calculative commitment (Anderson and Weitz, 1992; Dwyer et al, 1987; Allen and Meyer, 1990; Morgan and Hunt, 1994; Bansal et al, 2004; Fullerton 2003; 2005; 2011). Regarding the fact that the more attractive the alternatives become, the less affectively and calculatively committed the consumers become. It can be argued that alternative attractiveness is negatively associated with affective and calculative commitment. Thus;

H3: Alternative attractiveness negatively affects customer commitment to the service provider.

H3a: Alternative attractiveness negatively affects customer affective commitment to the service provider.

H3b: Alternative attractiveness negatively affects customer calculative commitment to the service provider.

The relationship between alternative attractiveness and normative commitment is not tested in the literature reviewed. Therefore, this relationship is tested on a positive basis.

H3c: Alternative attractiveness positively affects customer normative commitment to the service provider.

Resistance to Change occurs when consumers have a feeling of being locked into relationships or inability to leave, and keep current relationships rather than making changes (Beatty et al, 2012). Beatty et al. (2012) found that resistance to change positively affects normative and calculative commitment and no relationship with affective commitment. It is hypothesized to see whether resistance to change is positively associated with affective and normative commitment. However, in the light of the exploratory interviews findings, the effect of resistance to change on calculative commitment is hypothesized negatively in this study. The reason for this is that during interviews, subject indicated that they disregard external factors that lock them in so long as they express self-resistance to terminate their relationship with current service provider. Thus;

H4: The more resistant the customer is towards changes, the more committed to the service provider s/he becomes.

H4a: The more resistant the customer is towards changes, the more affectively committed to the service provider s/he becomes.

H4b: The more resistant the customer is towards changes, the less calculatively committed to the service provider s/he becomes.

H4c: The more resistant the customer is towards changes, the more normatively committed to the service provider s/he becomes.

Dagger et al. (2011) found that commitment positively affects loyalty. Dick and Basu's (1994) point of view implies that loyalty consists of three dimensions: service retention, additional purchase of a service and positive word-of-mouth. From this point of view it has been concluded in many studies that there is a positive relationship between affective commitment and service retention (Garbarino and Johnson, 1999; Morgan and Hunt, 1994; Cater and Zabkar, 2009; Fullerton 2003, 2011;). On the other hand, calculative commitment is found to be positively associated with service retention in some studies (Cater and Zabkar, 2009; Hur et al. 2010; Fullerton, 2011). As another loyalty output, WOM is

found to be positively related to affective commitment while it is negatively related to calculative commitment (Nusair et al, 2011). On positive word-of-mouth basis Beatty et al. (2012), Hur et al. (2010) found positive effect of affective commitment on positive word-of-mouth. Thus;

H5: Attitudinal brand loyalty (brand commitment) positively affects behavioural loyalty.

H5a: Affective commitment positively affects behavioural loyalty.

H5b: Calculative commitment positively affects behavioural loyalty.

H5c: Normative commitment positively affects behavioural loyalty.

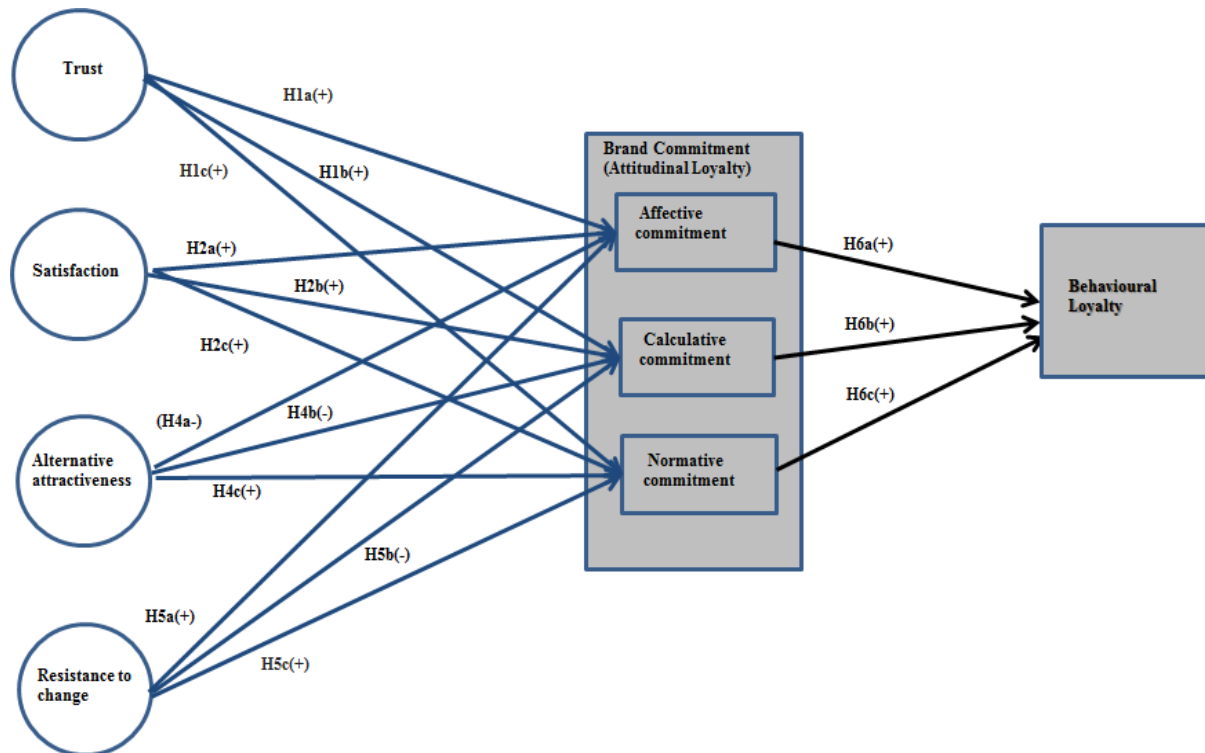


Figure 1. Final Research Model with Hypotheses

Sampling

When collecting qualitative data to delve into the understanding of loyalty among subscribers and factors motivating them to maintain their relationships with their GSM service providers, the participants were selected according to their gender, occupation and length of usage. Since these were exploratory interviews, they were kept short taking around 20 to 30 minutes. All interviews were audio taped and transcribed. Last phase of the study was to test the model with quantitative data obtained from the survey whose items were adapted and developed from both existing literature and exploratory interviews. Convenience sampling was chosen as a method of sampling for quantitative research phase. Data was collected from seven great municipalities in Turkey via drop and collect technique as well as a survey conducted on social media (Facebook) from mid-June, 2013 to the beginning of September, 2013. Sample profile of quantitative data is identified as young, single

professionals most of whom are between the age of 23-35 and having an undergraduate degree. Most of the participants prefer postpaid line to prepaid line paying for about 20\$ per month.

Content validity and pilot study

To assess content validity of the survey adapted from relevant literature and interviews conducted on ten people in the first phase of the study, two academics who are involved in the field were asked to evaluate the questionnaire form in terms of the extent to which the items, tasks or questions adequately represent the construct's domain. First evaluation required some translations to be revised and some of the constructs to be excluded from the questionnaire for minimizing non-response bias of the participants and simplifying the model. After ensuring validity evidence based on content, a pilot study was conducted on 70 participants to see how well the items were translated and how clear they were in the eyes of participants. Pilot study required some items to be revised as well as excluding some of them from the questionnaire. After incorporating pilot study findings, the final form of questionnaire was subjected to data collection which resulted in 505 usable responses.

Data analysis and findings

After purifying the measures with an initial exploratory factor analysis in SPSS by dropping some items causing low internal consistency and having low factor loadings or low correlations, final structure of the research model was achieved. Internal consistency reliability was ensured by testing Cronbach's alpha coefficients of constructs which were around the respectable value range of 0,70-0,80 (DeVellis, 2012:108). The item numbers and other relevant values are presented in the following Table-1.

Construct	Factor Loadings	Variance explained	Cronbach's alpha
Satisfaction; adapted from Hennig-Thurau, T. (2004) (4 items)	0,85 to 0,92	77%	$\alpha=0,90$
Alternative Attractiveness; adapted from Bansal et al. (2004) (4 items)	0,72 to 0,90	69%	$\alpha=0,85$
Trust; adapted from Morgan and Hunt (1994) and exploratory interviews (8 items)	0,67 to 0,88	62%	$\alpha=0,91$
Resistance to change; adapted from Oreg (2003) (7 items)	0,71 to 0,85	59%	$\alpha=0,89$
Commitment; adapted from Beatty et al. (2012) and exploratory interviews (7 items)	0,78 to 0,92	83%	$\alpha=0,84$
Behavioural loyalty; adapted from Zeithaml et al. (1996) and Beatty et al. (2012) (5 items)	0,74 to 0,90	68%	$\alpha=0,88$

Table 1. Findings of Exploratory Factor Analysis and Reliability Values of Constructs

Table 2 presents the correlations, means, and standard deviations for the constructs included in the final research model. Corresponding the construct's domain, having all constructs statistically significant correlation with behavioural loyalty is a considerable result. Regarding the fact that current research was conducted on such an industry like GSM industry where subscribers are expected to behave in a cost sensitive manner, having seen calculative commitment type with higher mean score than other two types is also another notable result.

Construct	1	2	3	4	5	6	7	8
1.Satisfaction								
2.Alternative attractiveness	-0,279**							
3.Trust	0,636**	-0,230**						
4.Resistance to change	0,232**	-0,042	0,316**					
5.Affective commitment	0,372**	-0,105*	0,497**	0,507**				
6.Calculative commitment	0,343**	-0,202**	0,435**	0,047	0,208**			
7.Normative commitment	0,256**	0,021	0,390**	0,611**	0,725**	0,191**		
8.Behavioural loyalty	0,577**	-0,329**	0,672**	0,313**	0,470**	0,500**	0,359**	
Mean	3,25	2,42	2,86	2,95	2,29	3,07	2,09	3,35
Standard Deviation	0,90	0,81	0,83	0,87	1,05	1,05	0,96	0,88

**significant at the 0.01 level; * significant at the 0.05 level. (N=505)

Table 2. *Correlations, Means, and Standard Deviations of Constructs*

After conducting exploratory factor analysis and refining the research model by excluding some of the items, final research model was subjected to further analysis on AMOS to test measurement model and structural model via Structural Equation Modeling. Having a χ^2/df ratio within acceptable limits of 2 and 5 (Marsh and Hocevar 1985) and IFI and CFI values are over 0,90 and RMSEA value lower than 0,06 (Hu and Bentler, 1999) fit values of measurement model ($\chi^2/df = 2,494$; RMSEA=0,054; CFI=0,93; IFI=0,93) indicated that the SEM procedure was appropriate for testing the proposed research model. Considering the acceptable fit values abovementioned, model fit values of structural model ($\chi^2/df = 2,917$; RMSEA=0,065; CFI=0,91; IFI=0,91) indicated an acceptable consistency.

Although direct effect of the four independent variables on behavioural loyalty are not hypothesized in the research model, their direct effect is included to the model as additional paths to see whether they have a direct effect or not.

According to the findings previously obtained from the analyses, supported and not supported hypotheses are summarized in the following Table 3. Ten out of the proposed fifteen hypotheses are supported while five of them are found to be statistically nonsignificant.

Hypothesized Paths		Proposed direction	Unstandardized Estimate	t value	Supported	
H1a	Satisfaction	Affective commitment	+	0,076	1,677	ns
H1b	Satisfaction	Calculative commitment	+	0,128	2,414*	Yes
H1c	Satisfaction	Normative commitment	+	0,002	0,038	ns
H2a	Alternative attractiveness	Affective commitment	-	0,018	0,345	ns
H2b	Alternative attractiveness	Calculative commitment	-	-0,098	-1,608	ns
H2c	Alternative attractiveness	Normative commitment	+	0,133	2,637*	Yes
H3a	Trust	Affective commitment	+	0,487	8,571**	Yes
H3b	Trust	Calculative commitment	+	0,591	8,738**	Yes
H3c	Trust	Normative commitment	+	0,344	6,698**	Yes
H4a	Resistance to change	Affective commitment	+	0,719	10,244**	Yes
H4b	Resistance to change	Calculative commitment	-	-0,122	-1,926**	Yes
H4c	Resistance to change	Normative commitment	+	1,003	12,862**	Yes
H5a	Affective commitment	Behavioural loyalty	+	0,092	2,48*	Yes
H5b	Calculative commitment	Behavioural loyalty	+	0,212	5,796**	Yes
H5c	Normative commitment	Behavioural loyalty	+	-0,004	-0,073	ns
Added paths						
	Satisfaction	Behavioural loyalty		0,167	5,293**	
	Alternative attractiveness	Behavioural loyalty		-0,149	-4,127**	
	Trust	Behavioural loyalty		0,359	6,381**	
	Resistance to change	Behavioural loyalty		0,076	0,917	

*p < .05. **p < .01; ns=statistically nonsignificant

Table 3. Results of Hypothesized Model

DISCUSSION

In accordance with the findings in previously mentioned studies in which trust is considered to be a significant variable that positively affects affective commitment quantitative research findings indicated that trust is positively related to affective commitment. Unlike other studies which did not link trust to calculative commitment (Cater and Zabkar, 2009) and some others which negatively related trust to calculative commitment (Gounaris, 2005; Geyskens et al. 1996; De Ruyter and Wetzels,

1999; Cater, 2007; Chang et al, 2012) quantitative research findings revealed that trust is positively associated with calculative commitment and brand trust is one of the most important staying reasons that calculatively attaches consumers to brands. Suggesting that trust is a significant prerequisite of both attitude and behaviour, findings also indicated that trust is also positively associated with behavioural loyalty.

Satisfaction has also been found to be positively associated with behavioural loyalty while its effect on affective and normative commitment has found to be statistically nonsignificant unlike what was anticipated. This is maybe because in such a context like GSM industry customer satisfaction is quite cost sensitive rather than emotional attachments or individual or social based norms.

Although previous studies support that alternative scarcity actually locks customers in their current service providers and makes them calculatively committed, findings in quantitative research did not relate alternative attractiveness to affective and calculative commitment but related it to normative commitment. Suggesting the construct's domain, alternative scarcity is negatively associated with behavioural loyalty: an increase on attractiveness of alternatives result in a decrease in behavioural intentions.

As a concept originating from organizational behaviour, resistance to change is also one of the most significant staying reasons in a service provider as indicated in exploratory interviews and supported in quantitative research findings. Unlike the findings in previous studies (Beatty et al., 2012) quantitative research findings support that resistance to change in service provider makes customers less calculatively committed while it increases their feeling of emotional attachment to their service provider. However, findings indicated that the effect of resistance to change on behavioural loyalty is not statistically significant. This is maybe because resistance to change is actually an attitudinal construct that may result in a behaviour arising unintentionally.

As suggested in the model, research findings in quantitative phase support that commitment is positively associated with behavioural loyalty. Affective and calculative commitment positively affect behavioural loyalty as indicated previously. However, findings indicated that normative commitment has statistically nonsignificant positive effect on behavioural loyalty.

CONCLUSION, IMPLICATIONS AND LIMITATIONS

This study provides important implications. As anticipated there are many factors leading customer loyalty. Although there are a plenty of factors affecting customer brand loyalty, this study mainly aims to offer an insight to the GSM industry.

While literature usually considers the concept of commitment as a distinct concept leading to loyalty, this study dealt with the concept as an attitudinal dimension of brand loyalty which leads to

behavioural loyalty as indicated in literature (Traylor, 1981; Assael, 1987; Kimmel, 2010). Based upon Fishbein and Ajzen's (1975) Theory of Reasoned Action which suggests that attitude arising from intentions leads to behaviour, this study argues that attitudinal loyalty (commitment) which is affected by several antecedents leads to behavioural loyalty.

According to the suggested model and hypotheses supported within sample at hand, commitment (attitudinal loyalty) has three sub constructs as affective, calculative and normative in the context of GSM industry and each of them affects behavioural loyalty differently while literature offers no consensus on the sub constructs of commitment.

Resistance to change which is considered to be one of the antecedents of attitudinal loyalty in this study is one of the least studied concepts in literature. It is also found to be reasonable to study this concept because marketing literature often deals with consumer resistance to new products (Oreg, 2003), often goods.

This study also has implications for practitioners by identifying main staying reasons of consumers in a service provider. Especially, in an industry like GSM industry, it is of great importance for a service provider to keep in mind the fact that most subscribers are prone to switch from one to another even though there is not much alternative. The churn rate between three GSM service providers is quite high according to the latest data obtained from Turkish Electronic Telecommunications Sector¹. Therefore, developing loyal customers is of high importance for companies operating in this industry. In order to develop loyal customers, they should first develop positive attitude among customers and convert their attitude into behaviour. To do this, they can use such tactics as frequency programs but loyalty programs are concerned to be relatively more important for developing loyalty among existing customers. When developing loyalty programs, they can integrate customers to the product and/or loyalty program development process since co-creation of value is supposed to be quite important in services (Kowalkowski et al., 2012; Grönroos, 2012). As supported in quantitative research and mentioned by participants in qualitative research, brand image, trust and resistance to change in service provider are main factors affecting subscriber loyalty. In this context, what GSM service providers need to establish is to determine things to build a positive image in consumer mind. Then, building trust and understanding what actually happens behind the seen; their thoughts of change, what prevents them from switching or encourages them to switch need to be considered carefully. Companies need to realize the fact that every step they take results in a positive or negative effect to their image on consumer mind. Results of this study also indicate that service providers should bear in mind the fact that subscribers not only switch from one service provider to another just because of

¹ http://eng.btk.gov.tr/kutuphane_ve_veribankasi/pazar_verileri/2013_Q2_ECM_MarketData.pdf Date of access: 01.10.2013

financial incentives or disincentives, but also because of such implicit psychological factors like trust and feeling of resistance towards switching behaviour.

Operating as a services company, these firms should not disregard their existing customers after, what Bejou and Palmer (1998) called as an initial “honeymoon” period of the relationship since long term relationship development requires an ongoing effort rather than temporary. They should take into account such strategies as value recovery and value added ones since permanent service failures may result in reduction in commitment and trust (Bejou and Palmer, 1998).

This empirical study is also confined by a few limitations caused by time, access, and financial constraints. These limitations are highlighted as follows: First of all only one industry, GSM service providers operating in Turkey is chosen to conduct the research on. This fact results in context limitation as it limits the findings within only this industry practices and impedes generalizability of the findings to other industries. Sampling method and the number of sample are the other limitations that need to be handled. Convenience sampling is chosen as a method of sampling regarding its advantages of reaching cheap and easy to find samples. However, what is found is limited within the sample that has been reached. As previously mentioned, there are many factors affecting brand loyalty but only four of them have been included in this study regarding such factors as non-response bias of participants, constraints mainly time and access.

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MODERATING VARIABLES OF CONSUMER PERCEPTION OF PACKAGING MATERIAL

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ABSTRACT

The main role of packaging is to contain and protect product, but packaging also plays an important marketing role. Packaging communicates various marketing messages to the consumer and replaces the sales person's communicational effort in the retail context. However, marketing aspects of packaging attracted relatively limited attention among academic researchers.

The aim of this study is to provide insight into the marketing role of packaging material, as one of packaging's communicative dimensions. The focus of this study was on investigating moderating variables to the perceptual process. In order to provide an overview of the mechanism behind the consumer perception of packaging material, an empirical research was conducted by using a computer assisted telephone interview on a sample of soft drinks consumers.

As an outcome of this study, a conceptual model of consumer perception of packaging was developed. As the model shows, there is a number of internal and external moderating variables which have an impact on the perception process. The model also confirmed the overall importance of packaging in the marketing perspective.

Keywords: *marketing role of packaging; packaging material perception; moderating variables; soft drinks*

INTRODUCTION

For centuries, packaging provided mankind with a means of storing and protecting various products of human effort, such as food and liquids. Furthermore, packaging made transportation of goods easier and safer, which added certain momentum to the development of trade. The first packages were crafted from various materials that were available in nature, such as big leaves, wood, fruit shells, or animal leather. The invention of pottery was probably the next step in the development of packaging and a major milestone in human history (Barnett and Hoopes, 1995). In the centuries to follow, other packaging materials were invented, such as glass, metal, paper, and various types of polymers.

While in the past the dominant purpose of packaging was to protect and contain the product, the development of trade and retail put new demands in front of packaging (Pilditch, 1973; Berger, 2005). With increased competition among producers and brands and proliferation of self-service within retail, packaging became a very important sales tool and even referred to as a 'silent salesman' (Dichter, 1957; Pilditch, 1973). With the salesperson missing in the retail environment, packaging assumed a role in communication and interaction with the consumer.

Although the marketing function of packaging seems to be widely recognized among practitioners, it received relatively limited attention among academic researchers (Underwood, 2003; Rundh, 2009; Kauppinen-Räsänen and Luomala, 2010). Therefore, the main aim of this study is to shed some light on the marketing aspects of packaging material, as one of the packaging variables. Commonly, packaging material is, primarily, a topic linked to production technology and technological aspects of packaging. However, it should also be considered as a packaging variable which has certain communicative value. Therefore, this study explores the mechanism behind the consumer perception of packaging material, as an element in the consumer-packaging interaction.

MARKETING PERSPECTIVE OF PACKAGING MATERIAL: A LITERATURE REVIEW

An overview of marketing function of packaging

Packaging contains and protects the product and could be considered as a 'medium between producer and consumer whose aim is to guarantee a product with fixed qualitative standards from the producer and at the same time offers to the consumer a product which corresponds to the illustrated standards' (Meroni, 2000). Packaging also plays an important role in product marketing and is sometimes referred to as the 'fifth P' by practitioners (Kotler and Keller, 2012).

In its marketing role, packaging is irreplaceable as a communicator of brand related messages. According to Fill (2013), packaging communicates through various dimensions, such as color and design. Underwood (2003) suggests that 'packaging communicates brand personality via structural and visual elements, including a combination of brand logo, colors, fonts, package materials, pictorials, product descriptions, shapes and other elements that provide rich brand associations'. The marketing aspect of packaging could be also approached from the perspective of design variables. As Sonsino (1990) suggests, packaging design variables are mainly: color, typography, pictures, shape, size, and material. Some authors discuss the variables of packaging design in two groups: graphic and structural elements (Hine, 1995; Underwood, 2003; Calver, 2004). Accordingly, graphic elements are color, typography and pictures, while the structural elements are shape, size, and material. All of the aforementioned elements are integral parts of packaging with a recognized marketing role and they

could be considered as communicative dimensions of packaging, which communicate specific brand messages to the consumer (Draskovic et al., 2011).

Consumer perception of packaging material

Similar to the overall treatment of marketing aspects of packaging by academic researchers, the research focusing on the consumer perception of packaging material is scarce and unsystematic. Besides occasional notes on the marketing aspects of packaging material from the pragmatic aspect in design related literature, there is a very limited number of published scientific studies. More than 60 years ago, Banks (1950) researched consumer preference and sales results in the case of two different packaging materials for two bakery products, but found no significant difference.

Brown (1958) explored whether consumers' product perception was influenced by different types of bread wrappers. He revealed that the type of material used for wrapping did influence perception of bread's freshness for both consumer groups – students, and housewives. Almost two decades later, Baker and McDaniel (1977) found that consumers preferred one potato chips packaging material over another due to packaging material image rather than packaging convenience. Their findings seem to be in a conflict with the more recent interpretation of consumer preferences which emphasizes packaging convenience as one of the most important feature due to the changing consumption habits (Oertel et al., 2002; Rexam, 2006, 2011).

More recently, Sheffield University Packaging Research Group (Glasspac, 2010 a, b) conducted a research study about consumer preferences towards various packaging materials for a sauce. The study reveals that glass is the most preferred type of packaging, while plastic bottles are considered easy to use, but also as messy and unhygienic. In addition, sauce sachets are considered unfavorable and messy, and plastic pots are perceived to be good for dipping and appropriate for fast food. The study clearly reveals that consumers have different perceptions towards different food product packaging materials.

The marketing role of packaging material received some attention for its more pragmatic aspects. Most commonly, there are occasional notes in packaging design and new product development related literature on the effects on consumer perception that a particular packaging material is supposed to have. Sauvage (1996) suggests that glass has a high-quality image in the consumer mind, metal packages have an old-fashioned image, and plastics have a low-quality image, especially for older consumers. According to Schoiswohl (2003), sparkling wine packed in a typical glass bottle communicates prestige, while plastic packaging evokes associations of convenience. Similarly, Groth (2006) states that polyethylene terephthalate (PET) packaging 'does not carry the same quality perception of glass' or that cardboard 'does not carry the same quality perception as some other materials'. Klimchuk and Krasovec (2006) emphasize the premium image of glass which 'with its

visual and tactile qualities [...] communicates a reliable and distinctive quality material'. Mooy and Robben (2002) suggest that 'the tactile sensation of the material of the product may give [an] impression of its quality'. Ellwood (2000) stresses the influence of packaging material on the brand personality link between brands and packaging material. What all of these practically oriented statements share in common is that they do not rely on the empirical research findings. Consequently, it could be concluded that these statements represent a common marketing belief about the communicational value of a particular packaging material based on past and current professional experience.

Framework for hypotheses development

As the literature review revealed, research on packaging material perception is scarce and non-systematic. Furthermore, this area also lacks in description of the packaging material perception mechanisms via appropriate marketing models. A recent qualitative exploratory study (Draskovic et al., 2009) indicated that consumers seem to be aware of the physical attributes and functionality of packaging materials (e.g. weight, rigidity, fragility, protective function, convenience) and they perceive differences in these attributes among various types of packaging materials. Yet, consumers seem to be less certain in cases of less obvious product material related characteristics (e.g. environment impact, recyclability). Consumers perceive that different packaging materials have different functional characteristics and, therefore, provide them with different benefits. Accordingly, hypothesis may be framed as:

H1: Consumers perceive functional differences among different packaging materials.

In order to obtain better understanding of the process behind consumer perception of packaging material, it is necessary to investigate possible moderating variables. As an appropriate starting point, constructive perception theory was selected (Michaels and Carello, 1981; Sternberg and Sternberg, 2012). Based on that theory, consumer perception is moderated by various factors, like stimulus characteristics, stimulus context, and situational variables (Biswas and Blair, 1991; Sheth et al., 1999; Palmer and O'Neil, 2003; Schiffman et al., 2008; Solomon, 2013). Depending on the origin, some of the moderating variables are internal and related to the consumer's personal attributes (e.g. age and culture) and internal psychological processes (e.g. stimuli interpretation and attitudes), while others are external and are reflections of physical and social environment and time (Solomon, 2013). The qualitative exploratory study by Draskovic et al. (2009) indicated that packaging material perception and preference differ depending on age, product category, place of consumption, and whether purchase and consumption are separated or connected. To test these statements, the following hypotheses are developed:

H2: The perception of packaging material is moderated by the consumer internal variables.

H3: The perception of packaging material is moderated by the consumer external variables.

Taking into consideration described hypotheses and principles of indirect or constructive perception theory, a preliminary conceptual model is developed (Figure 1).

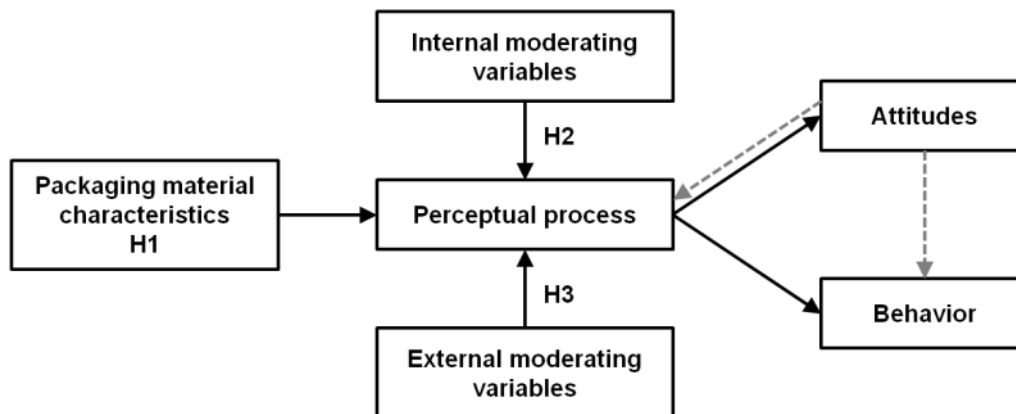


Figure 1. *THE INITIAL MODEL OF MODERATING VARIABLES INFLUENCING THE CONSUMER PERCEPTION OF PACKAGING MATERIAL*

RESEARCH STUDY DESIGN

The empirical research is based on the quantitative research methodology. The method selected for conducting the research was a computer assisted telephone survey (CATI). The research was conducted on a representative sample of Croatian frequent soft drinks consumers (N=847). In order to achieve better sample representativeness, a proportional stratified sampling was undertaken, since the findings from a stratified sample are usually more accurate than the findings from a simple random sample (Berenson et al., 2011). The statistical analysis of data was performed by using SPSS, and it was comprised of frequency analysis, cross-tabulation, and Pearson Chi-Square analysis.

The main goal of the primary research was to measure consumer preferences towards various packaging materials in different contexts. Therefore, consumer preferences were measured in different consumption and product category contexts in order to explore potential internal and external moderating variables.

DATA ANALYSIS AND FINDINGS

Comparison of characteristics of the sample and the population confirmed that the sample was representative. According to the collected data, consumers are aware of various packaging characteristics which could be related to the packaging material, such as usage convenience, protection from external influences, alteration of taste and smell, design, and transparency. Consumers also evaluated the level of importance for each packaging characteristic. According to the results, there are four groups of characteristics based on the level of importance (Table 1). The first

group with the most important characteristics of packaging includes characteristics related to the protective function of packaging in general (e.g. hygienic, healthy, protection from external influences, etc.). In the second group are characteristics related to the air-tightness of packaging material. The third group consists of characteristics which are related to packaging convenience, with the exclusion of the environmentally friendly characteristic. The fourth group, which is considered the least important, consists of characteristics related to the visual appearance of packaging. Consumers were also asked to relate packaging characteristics with the most common packaging materials used for soft drinks (e.g. glass, PET, carton, and can). As the Table 1 shows, glass is considered as a material that has most of the characteristics from the first three groups. As the only variation, participants consider that plastic preserves product quality and freshness better than glass. Plastic and carton achieved the best score among the third and fourth group of characteristics. Overall, can is not well perceived and preferences towards this type of packaging seem to be very low.

It is obvious from the research findings that consumers notice various characteristics related to various packaging materials. So, it could be concluded that research results support H1.

Packaging characteristics	Importance ponder	Packaging material (frequencies)				
		Glass bottle (%)	Plastic bottle (%)	Can (%)	Carton (%)	No answer (%)
Hygienic	4.7	67.9	47.2	8.9	19.5	4.0
To be healthy; not to contain hazardous ingredients that could affect health	4.7	74.3	23.0	3.6	18.7	6.5
To preserve product quality and freshness	4.7	71.9	91.4	11.2	19.2	4.4
Not to alter product's taste or smell	4.6	71.5	35.0	10.0	17.1	6.5
To protect from external influences	4.4	55.0	31.3	24.3	31.1	10.0
Not to influence product's level of carbonization	4.4	66.0	37.8	11.5	9.0	9.2
Convenient for handling	4.2	10.6	84.6	15.2	24.5	0.7
To be environmentally friendly; to be biodegradable or to be used for production of new packaging	4.2	52.2	33.9	17.6	63.5	2.5
Non-returnable packaging	4.1	5.2	90.3	61.9	70.6	0.2
Easy for carrying	3.9	2.3	85.4	21.7	39.4	0.2
To be appropriate for special occasions (ceremonies, parties, etc.)	3.8	33.5	71.8	13.1	30.6	3.3
Product in the package looks attractive for consumption, attractive for drinking	3.6	47.8	56.2	19.9	20.4	2.9
To be transparent, to be able to see the product during purchase	3.5	79.7	79.7	0.5	1.3	0.8
To be contemporary, modern packaging	3.3	17.1	64.0	20.4	31.3	5.1

Table 1. *Packaging characteristics and packaging materials (N=847)*

Findings from the study also revealed a relationship between preferences towards packaging materials and various consumer demographic and personal characteristics (Table 2, Table 3). Depending on the context, namely consumption situation/occasion and product category, a

statistically significant ($p \leq 0.05$) relationship between preferences towards packaging materials and consumers' region, age, town size, and level of education was found. In other words, these variables have moderating influence on consumer preferences towards various packaging materials. While the influence of region and town size could be associated with cultural influences, level of education is a category related to social class. The influence of age on packaging material perception could be explained through previous experience with different packaging materials. To conclude, primary research findings provided support for H2, pointing out age, gender, social class, and culture as internal moderation variables.

Consumption situation/occasion	Demographics	Pearson Chi-Square		
		Value	Degrees of freedom	Statistical significance (p)
At home	Gender	6,981	4	0.137
	Region*	115,924	20	0.000
	Town size	19,644	12	0.074
	Age	12,298	12	0.422
	Level of education*	32,045	12	0.001
	Employment	10,041	8	0.262
Special occasions	Gender	5,029	4	0.284
	Region*	72,897	20	0.000
	Town size*	24,769	12	0.016
	Age	14,087	12	0.295
	Level of education*	23,855	12	0.021
	Employment	12,722	8	0.122
Cafes, restaurants, etc.	Gender	3,412	4	0.491
	Region*	35,707	20	0.017
	Town size	16,596	12	0.165
	Age	19,848	12	0.070
	Level of education	15,805	12	0.200
	Employment	7,967	8	0.437
At work, in school	Gender	8,150	4	0.086
	Region*	86,395	20	0.000
	Town size*	25,735	12	0.012
	Age	23,078	12	0.027
	Level of education	9,136	12	0.691
	Employment	8,233	8	0.411
On a trip, during sport activity	Gender	4,055	4	0.399
	Region*	59,038	20	0.000
	Town size	7,265	12	0.840
	Age	9,181	12	0.687
	Level of education	9,315	12	0.676
	Employment	13,011	8	0.111
On the go	Gender	9,015	4	0.061
	Region*	49,742	20	0.000
	Town size*	26,530	12	0.009
	Age	8,645	12	0.733
	Level of education	7,201	12	0.844
	Employment	10,573	8	0.227

Table 2. RELATIONSHIP BETWEEN PREFERENCES TOWARDS PACKAGING MATERIALS AND CONSUMER DEMOGRAPHIC AND PERSONAL CHARACTERISTICS, BY CONSUMPTION SITUATION (N=847)

Product category	Demographics	Pearson Chi-Square		
		Value	Degrees of freedom	Statistical significance (p)
Fruit juices	Gender	2,094	4	0.718
	Region*	51,419	20	0.000
	Town size	5,608	12	0.935
	Age*	25,447	12	0.013
	Level of education	18,239	12	0.109
	Employment	2,502	8	0.962
Carbonated soft drinks	Gender	4,892	4	0.299
	Region*	50,215	20	0.000
	Town size*	22,419	12	0.033
	Age	7,809	12	0.800
	Level of education	14,543	12	0.267
	Employment	3,532	8	0.897
Carbonated water	Gender	2,812	4	0.590
	Region*	33,621	20	0.029
	Town size	19,300	12	0.082
	Age	9,696	12	0.619
	Level of education	10,741	12	0.551
	Employment	6,694	8	0.570
Non-carbonated water	Gender	1,052	3	0.789
	Region*	43,839	15	0.000
	Town size	12,203	9	0.202
	Age	14,428	9	0.108
	Level of education	7,554	9	0.580
	Employment	5,987	6	0.425

Table 3. *RELATIONSHIP BETWEEN PREFERENCES TOWARDS PACKAGING MATERIALS AND CONSUMER DEMOGRAPHIC AND PERSONAL CHARACTERISTICS, BY PRODUCT CATEGORY (N=847)*

The study results confirmed the existence of external variables influencing the consumer perception of packaging material. As the findings revealed, packaging material preferences vary between different consumption occasions (Table 4) and are also somewhat related to the product category (Table 5). Therefore, H3 received support, while consumption occasion and product category could be pointed out as external moderating factors.

Consumption situation/occasion	Packaging material (frequencies)				
	Glass bottle (%)	Plastic bottle (%)	Can (%)	Carton (%)	No answer (%)
At home	39.3	41.8	0.2	15.4	3.3
Special occasions (celebrations)	26.8	61.2	0.7	10.4	0.9
Café, restaurant, etc.	87.6	10.6	0.7	0.4	0.7
At work, in school	5.3	76.3	4.8	11.7	1.9
On a trip, during sport activity	0.4	82.3	6.6	9.8	0.9
On the go: walking, etc.	0.4	84.3	8.3	4.6	2.4

Table 4. PREFERENCE TOWARDS VARIOUS PACKAGING MATERIALS DEPENDING ON CONSUMPTION OCCASION

(N=847)

Product category	Packaging material (frequencies)				
	Glass bottle (%)	Plastic bottle (%)	Can (%)	Carton (%)	No answer (%)
Fruit juices	26.2	31.8	0.5	41.1	0.4
Carbonated soft drinks	25.9	68.9	2.3	2.1	0.8
Carbonated water	40.0	58.2	0.2	0.9	0.7
Non-carbonated water	19.7	77.8	0.0	1.2	1.3

Table 5. PREFERENCE TOWARDS VARIOUS PACKAGING MATERIALS DEPENDING ON PRODUCT CATEGORY

(N=847)

CONCLUSION

Packaging material consumer perception model

The main outcome of this study and contribution to the better understanding of marketing aspects of packaging is the model of moderating variables influencing the consumer perception of packaging material (Figure 2). Empirical research findings provided substantial support for the refinement of the initial model. With its comprehensive approach to the aspects of packaging material perception, the model of moderating variables influencing the consumer perception of packaging material provides insight into the complexity of the packaging perception process.

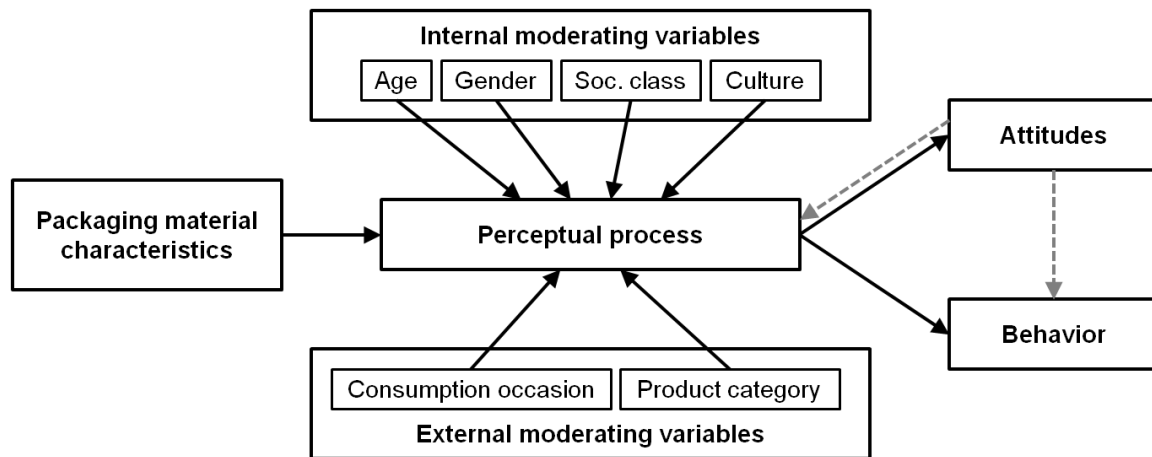


Figure 2: *THE MODEL OF MODERATING VARIABLES INFLUENCING THE CONSUMER PERCEPTION OF PACKAGING MATERIAL*

According to the developed model, the perceptual process itself is moderated by a number of variables. As the research revealed, there are two groups of variables – internal and external. Internal variables are personally related to the consumer and include age, gender, social class, and culture. On the other hand, external variables are related to the environment in which the consumer is exposed to the stimuli which originate from the packaging material. External variables consist of consumption occasion and product category. It should be noted that the research findings revealed these variables as the most significant. However, due to research limitations, it is possible that other variables were not revealed through the stages of primary research that could moderate the perceptual process. Their possible existence should be treated as a motivating factor for the further development of this model.

Research limitations and propositions for further research

This research has several limitations. First of all, this study focuses solely on soft drinks packaging. In order to improve the generalizability of the developed model and to achieve further insight about the moderating variables of packaging material perception, it would be advisable to repeat the research with different product segments (e.g. alcoholic beverages, packed food products).

The second limitation related to this study is that the primary research was staged in Croatia, which is considered an emerging country. Consequently, the findings could have certain country or culture related specifics. Despite certain beliefs among scholars that developing markets could be considered natural laboratories for theories testing, it would be beneficial to repeat research on packaging material perception in other countries with different socio-economic and demographic backgrounds (Dekimpe and Lehmann, 2004; Burgess and Steenkamp, 2006).

Finally, packaging material perception could be further explored and the model could be additionally tested using different research methodology. Consumer behavior and reactions to different packaging materials could be observed through laboratory tests or in a retail environment. Furthermore, packaging material perception could be further investigated by the application of qualitative case study methodology. Through the selection of product categories, producers, or distinctive brands, case studies could reveal the possible existence of a relationship between the packaging material choice and the market success of a particular product category or a brand.

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**WHAT FACTORS DO STUDENT CHOICE MODELS IDENTIFY AS
ASPECTS OF INFLUENCE OVER SCHOOL LEAVERS WHEN
SELECTING A UNIVERSITY IN LEBANON?**

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ABSTRACT

This paper addresses a key question that marketers in higher education in Lebanon face: what factors influence students when selecting a university. The purpose of this research is to identify the main student choice models that explain the reasons for university selection and to identify a matching model that can lead to an understanding of how students in Lebanon select a university. Students in Lebanon cope with a dynamic environment that is overwhelming affected by a number of factors, namely; political instability, religious rifts, clash of cultures, financial constraints, profound family governance, and aggressive university marketing programmes.

Parent literature revealed various elements of influence during the decision making process, these elements varied in different case studies around the world. The theoretical framework of Kotler and Fox (1995) Student Decision Making Process which describes stages of the decision making process that students undertake in selecting a university was deemed as the bases of choice modelling. This research compiles a catalogue of variables that are considered to be likely influences of this process. Variables are grouped into common segments, namely; family Influence, brand awareness, tuition costs, university characteristics and University marketing activities. The Combination model magnifies the dimensions of student university influence, Hossler's et al., (1999). It demonstrates that there are three segmentations of influence that lead students to make a decision on University selection. There are Econometrics influences, Sociological Influences and other factorial influences. By combining the literature variables and the combination model, it is suggested to add one more dimension to the model, which is marketing media influences & social media factors to help complete Hossler's et al., (1999) combination model. We refer to the enhance version of the combination model called the 'Total Model Approach' (TMA). By including these two dimensions, University Marketing programmes and Social Media Factors, a complete approach to the understanding of Lebanese students' decision making will have been reached.

Keywords: *Marketing of Higher Education, Student Choice Models, Student Decision Making, University Selection, Higher Education Institutions, Marketing, Lebanon.*

INTRODUCTION

Marketing of higher education emerged over time due to environmental changes, such as the elimination of government financial support of higher education and the rise of competitive student markets. Today, tremendous attention has shifted towards the area of marketing of higher education and student selection choices. For university marketing to be effective, an understanding of what drives students to select a university needs to be understood.

UNDERSTANDING STUDENT DECISIONS

For marketing of higher education to be effective it is necessary to understand the decision making process of the target market, which for this study is the high school student. One of the preferred ways to understand students' decisions in selecting a university is by revisiting the **Decision Making Process** (DMP) of Kotler and Fox, (1995). The world has recognized that student choices are multi influenced and there is a need to discover what the main influences are in the students' DMP, (Briggs and Wilson, 2007). The need, to understand the driving force behind influencing the student DMP (DMP) in choosing a university has become increasingly significant (Moogan et al., 1999; Dawes & Brown, 2003; Whitehead et al., 2006). Students show forms of consumer behaviour motives in their selection choices. Such motive influences can vary from their social class to their visual appearance while attending colleges (Hemsley-Brown 1999). The Kotler and Fox (1995) DMP model is comprised of five stages. If viewed through the lens of Moogan et al., (1999), it can be seen that they have modified the process to be presented as follows:

Stage 1: Problem Recognition (*Need Arousal*)

Stage 2: Information Search (*Information Gathering*)

Stage 3: Evaluation of Alternatives

Stage 4: Purchase Decision (*Decision + Decision Implementation*)

Stage 5: Post Purchase Behaviour

The five stage model of DMP can help universities understand how students behave and think during the different stages of university selection. The DMP model is also used to explore the views of students within the first few weeks of their arrival at a university. This approach helps researchers focus on students by recollecting the factors that influenced their decision making (Moogan et al., 1999; Brown et al., 2008). If the Kotler and Fox (1995) DMP Model, is viewed through the lens of Brown et al., (2008) the model helps immensely in learning the behaviour of students in how they

select a university. A strong correlation between course majors and career pathways is the foremost driver of student university selection (Brown et al., 2008). This student mind-set reinforces the value of 'unique decision' (Lewis and Morrison, 1975). A Portuguese study looking at how students source information (information gathering) when evaluating universities, discovered that the university webpage was the most popular source of information. Following this, students were influenced by current/former university students and finally university instructors. However, the study did not find that university open days were a source of information gathering. Contrariwise and in a different study, university promotional programs and university school visits were found an effective tool of promotion, (Simoes and Soares, 2010).

ORGANIZING UNIVERSITY ALTERNATIVES

The next stage of the DMP, 'Evaluation of Alternatives' involves gathering information on alternatives in the market and then narrowing them down. This DMP encompasses Successive Set, Total Set, Awareness Set (unawareness set), Consideration Set (infeasible set), Choice Set (Non-choice set), and Decision. This set process helps us evaluate how a student reaches their final decision based on a number of alternatives in the market place. This Sets system allows us to realize how a total number of university alternatives is systematically reduced to the one alternative that is decided upon, Kotler and Fox (1995). To understand the Successive sets in practice, a study in the US established that students during their final year of high school consider approximately four to five university alternatives during their DMP (Galotti and Mark, 1994). Students then choose one alternative in the choice set alternatives and that becomes their decision of university to attend. While students are evaluating universities, students will provide objective reasons to explain their choices. This method of objective reasoning is a way to describe the process of how they compare each university's characteristics through facilities, education, campus buildings and course programme (Hemsley-Brown, 1999).

SIGNIFICANT PEOPLE'S INFLUENCE ON STUDENTS

There are many people who influence a students' choice in selecting a preferred university. These parties are considered to be significant in the students' life and include their parents, friends, school teachers, university staff and faculty. The influence of these people occurs during the 'Evaluation of Alternative' stage and continues until the 'Decision' has been executed. These people possess influencer roles of influence, initiator, influencer, decider, purchaser and user. The student is guaranteed to be the user however other roles may be held by others. A parent may play a role ie 'Purchaser', friends 'influencer', or even an admissions councillor may have a role, (Kotler and Fox

1995). In China parents who are concerned with their children's higher education, commit themselves to providing the best education they can (Lee and Morrish, 2012). There are certain groups of people that might influence a student when considering evaluation of university alternatives. However, universities have to ask themselves, do they need to also influence these significant groups, especially when a potential student seeks their advice during the 'Evaluation of Alternatives' stage of the DMP (Gibbs & Knapp, 2002). The degree of parents' influence over student decision making can be seen in Haynes et al., (2013), who reviewed literature from eleven various studies. Haynes et al (2013) concluded that parents hold a substantial degree of guidance over their children because of their experience through their social, cultural, economic, network support, and their future expectations. A UK study on high school students' university selection revealed that family and friends prejudices of certain universities were passed onto students. This favours Kotler and Fox's model "Influences on the College-bound student" (Hemsley and Brown, 1999). While a study in the US on high school students in South-Eastern Minnesota recognized that during their final year of high school, students acquire information about universities from parents/guardians, friends, materials in the guidance centre, college brochures and finally college admissions representatives (Galotti and Mark, 1994).

STUDENT CHOICE MODELS OF HIGHER EDUCATION

A study on year 12 high school students in Belgium, investigated the DMP of students' in relation to career aspiration in their selection of higher education. It was discovered that when students begin their DMP at the beginning of their final year at high school, orientation and broad exploration are important factors in the initial stage of the DMP. If a student identifies early on their future career pathway, selecting a university is decided upon earlier in the DMP. As the high school year nears the end, students that are career path undecided, begin in-depth exploration of alternatives in the direction of future career decisional status (Germeijs and Verschueren, 2006). Another study on year 12 high school students in Romania, discovered that students do apply Kotler's and Fox's (1995) 'DMP', because the nature of university selection is a highly-complex decision (Bacila, 2008). This study identified that students gather information in highly-complex decision processes, through friends, faculties, web sites and brochures. However, students avoided gathering information from newspapers, telephone, parents and radio. If we approach Kotler and Fox (1995) DMP, through the lens of Bacila, (2008), "word of mouth" communication is of extreme importance, current faculty students' opinions are taken seriously by year 12 students. Recommendations that arose from this research were; university websites must be easy to find, reliable, fast to connect, and meet information requirements of potential students.

The greatest importance of university selection saw 'job opportunities' the highest at a staggering 94%, followed by the 'institution's reputation' rated second at 91% and thirdly 'tuition fee' as 58% as of importance. Bacila (2008) concluded the education and image of the university the most important factors that influence a student's decision. A study by Johnson (2010) proposed the factors that influence a student's selection choice of universities are divided into two categories. The first category being people and personal contact such as parents, family, friends and personal campus contact interaction. The second category was social media such as Facebook, Twitter, YouTube and University websites. Communication through new social media are leading the way of reaching students over the traditional communication media outlets such as brochures and college fairs (Marklein, 2009). A study conducted on university students in the United States, discovered that the perception that social media communication will be of greater influence than that of people and personal contact, was found not to be the case. It was discovered during a students' DMP that the interaction of people and personnel on campus was seen as a vital source of information and influence than social media alone. Students favoured interacting with faculty staff and parents as the main source of influence than that of other sources of information and influence (Johnston, 2010). Higher education markets have become increasingly competitive and institutions have been forced to compete for students in the recruitment markets. A wise way to get a grasp of how these recruitment markets operate is to get an insight of how new students experience the DMP. Maringe, (2006) uses the term *consumerist*, in arguing that the introduction of student fees, has led potential applicants of Higher Education to be view as consumers rather than just education seekers. In marketing terms, for Maringe to use the term consumerist shows there is a major shift of perception from the traditional prospective university students. This is related to outcome, students perceive their education as a trade-off which should lead to future economic benefit and/or a potential career position. Outcome achievement, position universities as a gateway to students' future, therefore where you go may tell you what you become and will carry on in post graduate life (Maringe, 2006). If a university can identify the motives in choosing a university by potential students, it enables the university to prepare the correct position sought by these consumerists. This is considered to be a growing area of research because of the marketing conditions and environment. Conditions related to university self-reliance, environmental changes and the increasing levels of new entries into the market. The most preferred model that Maringe (2006) describes the student personality and subjective judgment in university selection is Kotler and Fox's (1995) The DMP. To be able to understand the behaviour of applicants during the DMP, Maringe (2006) argues that *Buying behaviour* helps a university understand the stages that parents and students go through during the DMP. The stages are; Pre-search behaviour, Search Behaviour, Application Stage and Choice decision Registration. If a university is able to grasp how

students and their parents behave and feel at each stage, it allows them to organize and be prepared for changes. The UK research that Maringe (2006) conducted, showed that education outcome was the most important factor in student's choice of major, followed by location and reputation. The author's findings strengthened his argument that career opportunity was the number one factor when students choose their major of study. The author reports that students are more likely to choose a university based on the image of the major that will lead to their career outcome after leaving the university. Fees were considered to be a secondary factor. In relation to tuition fees, and if they play a major role in student choice of university, Maringe (2006) argues strongly that it does play a role but not the major factor in university choice. When considering how to promote universities, the author argues there needs to be a review of university promotional tools and messages. Maringe (2006) suggests traditional promotional tools such as websites are not meeting the required information search by applicants because this channel is considered unreliable enough, misleading and inadequate. A better method of promotion needs to be designed to influence student choices in the DMP. If a university can recognize how students behave in the DMP, it will facilitate an institution positioning strategy that will help in the targeting process. Major importance is given by Petruzzellis and Romanazzi (2010) in understanding the students' DMP in the purchase behaviour. A study on Italian university students identified that perception was the greatest factor in the DMP. There was a better success outcome in building strong value perceptions through inter-personal interactions and development of trust than through atmosphere related ones such as association with a specific course and feelings. Students are now very much proactive choosers, and are increasingly involved in working out the expected rates of return on their investment that they made in selecting their major and university. This is a direct indication of students' choice behaviour showcasing the increasing consumerism in higher education choice. To maximize their potential of student intake, it is essential that universities focus their attention on tailoring courses and majors that will lead to desired careers, while also paying attention to price related information (Petruzzellis and Romanazzi, 2010). Another approach to understanding student choices and university selection is through preferences, this is due because students consider several influences during the process of selecting a university. Influences identified are personal preference, parents, university entrance exam scores, university ranking, advisors, and friends. Personal preference is considered the most influential factor in university selection; students rely heavily on their foresight because of the outcome desired (Yamamoto, 2006). According to Soutar and Turner (2002, p. 40) prospective university students consider the following general preference criteria when determining which university to select; 1) The type of course that they want to enrol (Computing, Law, Medicine), 2) The academic reputation of the institution (very good, sound or

poor), 3) The campus atmosphere (quiet or lively), 4) The quality of teaching staff (average or above average), 5) The type of university (old or modern, traditional or technological).

However, some personal preference should also be considered such as distance from home (including time taken to reach the university, access to public transportation, parking availability), what their family thinks about each university, (whether it is held in good or poor esteem) and which university their friends want to attend? In determining which preferences are most important to a potential student, it seems that these attributes cannot all be reached; therefore a trade-off process is undertaken by the student to rank the level of important. When the trade-off process is acknowledged by universities, a marketing formulation can be strategized to appeal to the high-school market. In a previous study of preference selection processes of high-school students, Hooley and Lynch (1981) identified six attributes that students consider to be university preference variables. They are; *course suitability, university location, academic reputation, distance from home, type of university (modern/old), and advice from parents and teachers*. The study concluded that course suitability was the most important attribute in determining the choice of university. This analysis is called the Adaptive Conjoint Analysis (ACA) (Hooley and Lynch, 1981). Another study using the Adaptive Conjoint Analysis (ACA) undertook research to see which preferences students in Western Australian consider to be the most vital when determining their university selection. This study used 10 preferences rather than 6 like Hooley and Lynch (1981), and found 'course suitability' to be the most important preference attribute, with academic reputation, job prospects and teaching quality following subsequently (Soutar and Turner, 2002). However, a UK study applied a different approach to understanding students' choices of universities. The study focused on using the Geography, Earth and Environmental Sciences (GEES) method which perceived students' choices to be influenced via four persuasive ways. It is assumed that students will enter a line of education study while in high school, and this is called 'choice trajectory', which defines a line of specialization students prepare for. The next method of understanding student choices is through the 'Expectation Framework', which identifies a pressure of influential dominance by family members and social class over student university selection. The third method of student choice understanding is student 'interest' in the curriculum subject. Many students seek a degree in a major for a matter of interest or passion. The last method for understanding student choices is through career opportunities and income benefits. Students often think about their future aspirations and potential monetary benefits after completing a university degree (Trend, 2009). Another approach to understanding student choices and university selection is through the physical nature of the university and in particular its facilities and situation factors. A university's facilities may play an important role in the mind of students whose primary concern lies with the attributes of the university. A study on the selection of UK universities focused on whether students perceived the

university's facilities as a crucial concern in decision-making. It was discovered that during a student's assessment of the viability of a university, the qualities, types of facilities and education program were not a driving force. A small percentage of students considered the institute's facilities to be a deciding factor in whether they attended this university. Such students were clustered in areas of study such as hospitality, medicine and electronic engineering. Another recent study conducted in the UAE on the reasons why international students (living with their family as expats) prefer to study in the gulf state found that there were two major factors of significance. The first factor of influence was the country's 'Attractiveness', while the second focused on the 'Convenience' of staying in the UAE and selecting to study there. The study found that students wanting to continue their education in the UAE were for a number of social and educational reasons. The UAE is considered to have a safe and secure country environment where students prefer to stay close to family and friends. It has a familiar culture and lifestyle and international students feel comfortable studying there than other countries. Secondly, the degrees offered in the UAE were of the same level as Western countries, and finding work while studying part-time was available and convenient (Wilkins et al., 2012b).

DECISION MAKING COMBINATION MODELS

A study to conceptualize the DMP through student-choice models was undertaken by Vrontis et al., (2007). A number of models were purposively selected to help develop a contemporary higher education student-choice model for developed countries. As exemplified, these models attempted to help researchers understand how students strive to satisfy their need for higher education. The models that formed part of this study for understanding the effects of student behaviour during the DMP were;

- 1- Econometric Model (Hossler et al., 1999b; Manski & Wise, 1983),
- 2- Status-Attainment Model (Sewell & Shah, 1978)
- 3- Combine Models as proposed by Hossler et al., (1999),

The combined models Vrontis et al., (2007, pp. 981) identified were:

- 3a- The Jackson Model (1982) , 3b- The Chapman Model (1994) and 3c- The Hanson & Litten Model (1982).

By using all of these models, Vrontis et al., (2007) combined many of these variables and applied them to Hanson & Litten Model (1982) five stage process 'The Preliminary Integrated Generic Higher Education Student Choice Model' to explain how the student university selection process is influenced by multiple dimensions. These dimensions include; student characteristics, high school characteristics, influencers/media used, personal attributes, environment, college characteristics, college actions and finally public policy. This model led to the development of the 'Contemporary

Higher Education Student-Choice Model for Developed Countries'. Vrontis et al., (2007) concluded that using a traditional student marketing method was out dated and ineffective, rather HEI's must adopt comprehensive marketing approaches that reflect a market understanding of students. This approach should be at all levels of the university. This can only be done by understanding how students perceive an HEI. Getting to know what students seek from a university and their programs, will in turn help universities prepare their educational products in reflection with what the student market is demanding. To understand a student, Vrontis et al., (2007) explains there are multifaceted determinants such as individual and environmental that shape a student's worldly perception of HEI's. An ethnic study conducted in the UK looked at three different student choice models to determine whether ethnic students wanted to continue their education or stay in the work force (Ivy, 2010). The three models were: 1) *Economic models of student choice* (Bishop, 1977; Manski and Wise, 1983; Chapman, 1984; Kohn et al., 1976); 2) *Sociological models of student choice*. (Kotler and Fox 1995); 3) *Information process models of student choice*. (Hossler et al., 1999; Chapman, 1984; Hossler and Gallagher, 1987).

- 1) *Economic models of student choice* :
- 2) *Sociological models of student choice*:
- 3) *Information process models of student choice*:

The outcome of using the three choice models on ethnic students in choosing a UK university discovered that each ethnic minority had different factors that influenced their decision to attend a university. However, all ethnic groups had a unanimous motivator - *the student's career* as the most important factor in deciding on a university. The influence of the *family* was most important among Pakistani and African students. While Indian and Asian students were most strongly associated with *academic* and *social* motivators (Ivy, 2010). A similar Ethnic study determining how African students make choices in relation to selecting a university in the UK, found the main factors of influence were economic constraints and cultural boundaries imposed upon students. The study showed that African students' choices in the UK can be predicted along socio-economic, cultural and ethnic lines (Maringe and Cater, 2007). Chung et al., (2009) discovered that international students from Singapore and Malaysia selected country university destinations such as New Zealand based on cultural values. If the host country's values were similar or complimented the home country's values then that country's education destination became part of the student's university selection DMP. Cultural value impact on international student's intended choice of international tertiary education and their preferred sources of information for university enrolment were discovered.

LEBANESE CONTEXT

Competition for students in Lebanon is quite aggressive; some universities are using appraisal programs and international accreditation measures to differentiate themselves from others. The recognition of quality performance in university education is considered a valuable tool for student enrolment. If a university is able to provide best practice levels for student satisfaction, it will allow the university to compete vigorously for the best quality students available in the market (Nasser et al., 2008). Comparable to other countries first impressions last forever, and students in Lebanon are normally exposed to administrative offices first (Abouchedid and Nasser, 2002). These offices are divided into the registration and admissions departments, and are considered the pinnacle part of front office service experience. Due to heavy bureaucracy in all public institutions in Lebanon, students prefer to stay away from the National University, and opt out to private modern Western style service. If a private institute is considered to be a replica of the same bureaucracy in its administrative offices, it can have a severe consequence on its reputation and students may reconsider enrolling. A study conducted on student choices in Lebanon by Abou-Nassif (2011), focused on the DMP of high school students during their final year of school. This study focused on the student choice before the decision was executed. It was predicted that students are affected by multi-dimensional factors such as parental influence, friends, religion, income or socio-economic status, location, cost of tuition and finally gender. Abou-Nassif's study employed the Hossler-Gallagher Model (1987) to his research. This model illustrates that a student goes through a process in deciding upon which university to select. Stage one is the predisposition where a student decides if furthering their education at a university level is viable or not. The next stage is the search of which universities are viable alternatives and the final stage is the decision execution of choice of university. Abou-Nassif's study focused on the final decision-making stage which is choice where his research surveyed Lebanese high school students. To understand the student DMP, models were used to understand how students arrive at their decision; these models focused on the type of influence that affects the decision. They are the econometric model, sociological model, and the combined models. Abou-Nassif (2011) took the combined model from Hossler et al., (1989) work paper, and refined it to include the following seven factors of influence: parents and friends, religion, tuition fees, parental income, family residence location, and gender. Using self-reported ranking of the factors Abou-Nassif study on Lebanese high school students was able to predict a hierarchy of the most influential variables on Lebanese students. They included parents, family income, tuition fees, friends, location, religion and gender respectively.

Whilst this study in context structure and approach is very similar to current research, two major differences distinguish this research from Abou-Nassif's. The two major differences are: 1- Impact of

marketing programs on student decision making, 2- The effect of social media on student decision-making. With these two components not being included, a proposed model for the study on Lebanese students is presented below.

EXPLANATION OF THE PROPOSED 'TOTAL CHOICE APPROACH' MODEL

As observed from Hossler's et al., (1999) Combination Model, which includes (Econometric variables), (Sociological variables) and the (Plus variables) that shape how students are influenced to select a university, Abou-Nassif study on Lebanese high school students did not include two major components of influence in the model. The first, university marketing programmes as suggested by Hanson and Litten (1982) and secondly, social media as recommended by Johnson (2010). When the Combined model was first introduced, no such thing as the internet or electronic social media existed. Therefore, to have a total understanding of how students are affected during their DMP, two dimensions need to be added to the combination model. For the first dimension, during the early 1970's, Krachenberg (1972) began promoting the notion of Higher Education marketing in a bid to adopt a dynamic and multifaceted system to the university setting. The benefits for universities included identifying markets and dividing them into segments of consumers to measure their size and attractiveness. The reason for a vigorous and multifaceted marketing scheme means that universities can target different market segmentations; such as new students, past students, governments at all levels (municipal, state, and national), the public and organizations that can benefit from a university. These days' different tools can be adopted to promote universities in creative and effective approaches, and when this technique is taken there is subsequent influence on students. The second dimension is social media as Johnston (2010) suggested, Facebook, Twitter, YouTube and university websites are a new method for communication. Through social media students are accessing more information faster than that of the traditional methods. We live in a fast technological era and students demand information now and must have information readily available. Therefore it is imperative that the social media component is adapted to the combination model.

Below is an illustration of the Total Choice Approach with includes the combination model with additional components: University Marketing Activities and Social Media.

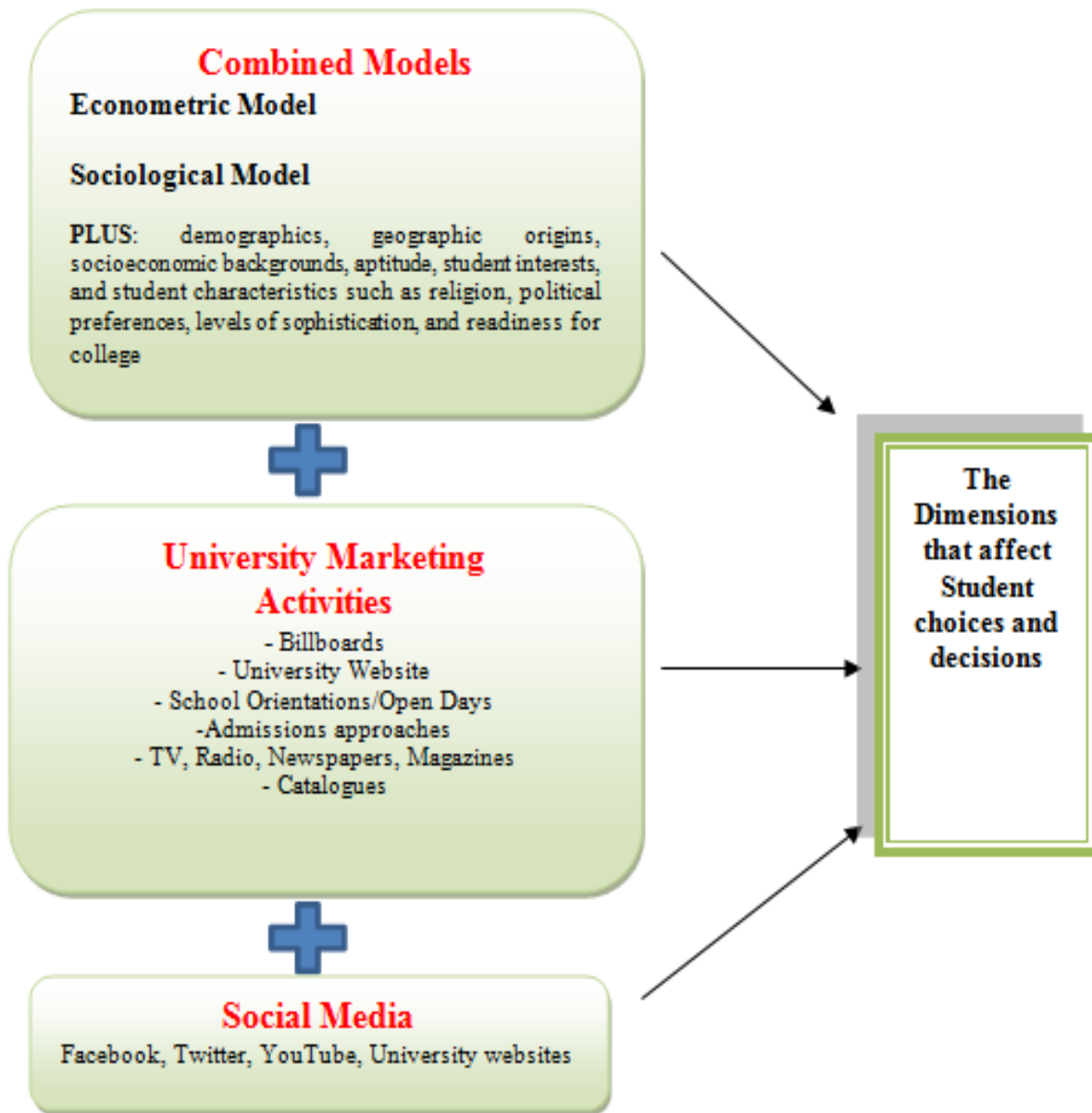


Figure 1 – Total Choice Approach

MAIN FINDINGS, CONCLUSIONS AND IMPLICATIONS TO THEORY AND PRACTICE

Marketing of Higher Education has slowly developed into a tool to help build Total Institutions. The reliance on easy funding is part of the past, and trending self-reliant institutions are now a must for survival. Attaining this goal properly relies on the understanding of how students decide upon a university. Students will undergo a DMP that will lead them to a university of choice. The factors that shape this DMP are multifaceted since many students rely on direction and advice in making the right choice. This direction is derived from their environment, family and friends, their ambition, universities attributes and the student's personality and attitude. Various student decision making

models take acute perspectives in dissecting the student DMP, this focus sheds light to which factors of influence produce a serious effect on university selection. However, these models are narrowly focused, whereas the Vrontis et al., (2007) produced an all-embracing generic view on student DMP.

In this paper we examined a number of student choice models, this analysis led us to concentrate on the Hossler's et al., (1999) Combination Model. For Lebanon, an Arab culture with European standards of education and social developmental needs, the current Hossler's et al., (1999) requires additional dimensions, as the current model is outdated and does not cope with the pressures of modern technological advancements. This gap has led to the development of the Total Choice Approach. This model takes into consideration a traditional society with advanced education institutions and caters for the modern perception of students and how advertising and social media is an integral part of their decision-making.

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FORECASTING BEHAVIOUR OF FINANCIAL ANALYSTS IN OPEN COMPETITION AND IN PRIVATE

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ABSTRACT

There has been a long and ongoing discussion in the literature about the influence of the design of incentive schemes for forecasters and, more specifically, influence factors like consensus-seeking, competition and publicly stated and private (non-public) forecasts. This report presents preliminary findings from experiments with financial analysts' stock price predictions in open competition and private settings, including the research process and a summary of the results. The experiments with financial analysts comprised a pilot and a main run.

The analysis indicated that even for professional financial analysts who usually describe themselves as rather rational persons, decisions about investments or stock price recommendations are not always very consistent and, amongst other factors, are influenced by emotional factors and intuition. Slightly different settings and ways to frame the questions have had considerable impact on the decisions made by analysts. The collected data support, to some extent, the idea that the incentives for analysts and public competitions might influence financial analysts, and this might lead, in some cases, to a reduced quality of recommendations. In the private setting, there is a considerably higher likelihood that an analyst is going to change the recommendations or target price. Further research might help to gain a more holistic understanding of the decision-making process and to create an explanatory schema.

Keywords: *Behavioural and experimental economics, Decision analysis, Stock price predictions, Analyst forecasts, Heuristics and biases, Uncertainty*

INTRODUCTION

There is a long and ongoing discussion in the literature about the influence of the design of incentive schemes for forecasters (Osband 1989) and, more specifically, influence factors like consensus-seeking, competition and publicly stated and private (non-public) forecasts (Batchelor & Dua 1992; Lichtendahl et al. 2013; Ottaviani & Sørensen 2006; Marinovic & Ottaviani 2013). This is particularly relevant for financial analysts when incentives (Aiolfi et al. 2009; Beyer & Guttman 2011) and conflicts of interest may influence the publicly stated forecasts (Bolliger 2004; Bolliger 2004; Lin & McNichols 1998; Stanzel 2007). This report presents preliminary findings from experiments with financial analysts' stock price

predictions, including the research process and a summary of the results. The objectives of the study were to assess the effect of publication pressure and group dynamics on stock price predictions, to assess whether a difference exists between non-public and published recommendations and to identify the underlying key mechanisms of the decision-making process. This paper presents some preliminary results of the analysis of the analysts' recommendations from an online decision-making experiment. Besides these analysts, there have also been laypeople and other financial professionals involved in the experiment (Endress 2013; Endress & Gear 2013). However, this report focuses on some of the aspects of the recommendations from professional financial analysts.

EXPERIMENT DESIGN AND METHODOLOGY

Mixed Methods

The combination of quantitative and qualitative approaches and the triangulation of both promises to create a holistic understanding of the decision-making process of these analysts associated with a 'pragmatic perspective where designs and methods are selected on "what works" for answering the stated research questions' (Plano & Badiie 2010, p. 279). In the event that the research questions consist of confirmatory and explanatory questions, mixed methods becomes appropriate (Teddlie & Tashakkori 2009). The data for this research will be gathered primarily from two sources: a controlled (private) experiment and interviews. These data will be supplemented by (open) data from financial data providers (in particular from Bloomberg).

Conducted Experiments

The experiments comprised a pilot and a main run. The pilot run was performed with three financial analysts. The main run was performed with five financial analysts. The financial analysts are highly qualified professionals and were purposefully selected from different financial services companies according to their formal qualification, business experience and active coverage of the various companies. The recommendations of the analysts were benchmarked with actual market prices as well as with their open recommendations as published on Bloomberg, over five weeks in the pilot run and 10 weeks in the main experiment. Each participant in the experiment was asked to provide an estimation of the movement (up or down) twice a week for three-month future periods for each of four shares as well as to enter a stock price prediction for a three-month period. Additionally, all participants were interviewed after the experiment to gain a deeper understanding of the underlying decision making process.

PILOT RUN DESIGN AND FINDINGS

Design of the Pilot Run

The analysts were asked to fill out an online form twice a week. There was a Friday and a Sunday query round. The online form for every round was available and open to enter data for two days. All participants were invited to participate in every round with an email, which included a direct link to the online form. There was a reminder email sent roughly a half day before the closing of the respective query round, in case the questionnaire was not filled in. All financial analysts participated voluntarily, and there were no incentives for them for making correct predictions. All analysts received the assurance that they stayed anonymous during the experiment and that they were not mentioned in the compiled reports from the experiment.

The shares of the main run were selected from four different companies in four different sectors: consumer goods (Adidas), chemical industry (BASF), utilities (RWE) and industry (ThyssenKrupp). Each participant was asked to provide an estimation of the movement (up or down) over a three-month period for every share as well as to enter a stock price prediction (in percentage form, either up or down) for a three-month period. The market environment had no clear direction during the relevant period for the pilot run. The DAX, the main German stock index, lost about 3% from the beginning of February until the end of June. The different stocks also had different price movements during the examination period (see Figure 1). For instance, while one stock (Adidas) was quite constant during that period, two others (BASF and RWE) started out well but lost in the second half, and one stock (ThyssenKrupp) performed poorly and lost more than 40% of its market value.

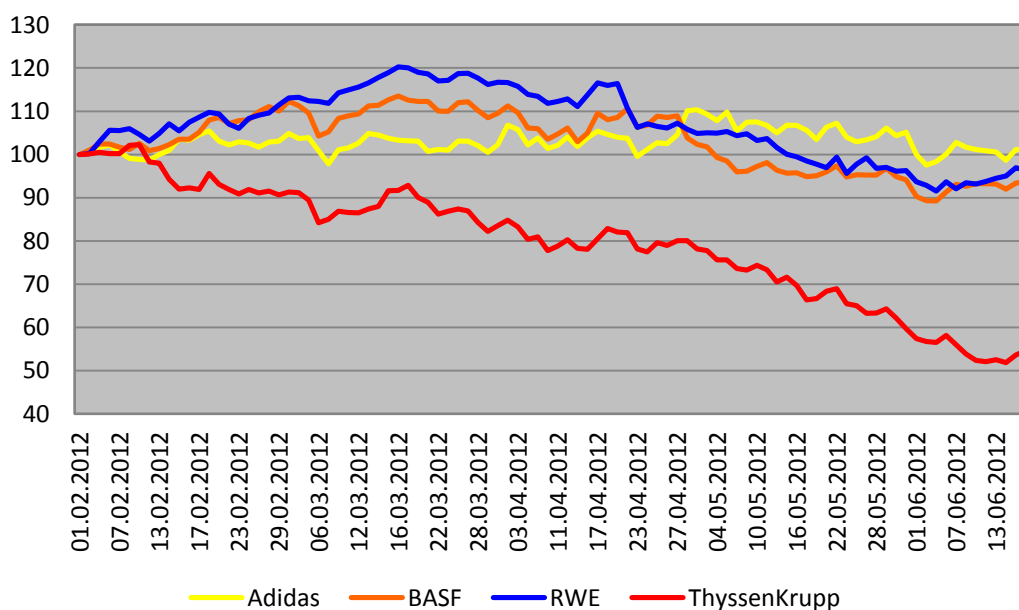


Figure 1: Stock price movement for the relevant examination period of the pilot run

Results and Findings from the Pilot Run

The financial analysts provided 15 correct answers from 40 measurements in private—that is, the pilot run of the experiment. Compared with the open data published on Bloomberg, that is exactly the same number of correct answers. However, the target price accuracy was considerably higher in the private setting. All analysts had a higher target price accuracy in the experiment compared with their open price targets published on Bloomberg. Table 1 shows the deviation from the target price estimation to the actual market price after the three month period..

	Experiment (Private) Target Price Accuracy	Bloomberg (Open/Public) Target Price Accuracy
Adidas	7.94%	8.55%
BASF	13.41%	17.80%
RWE	14.51%	23.11%
ThyssenKrupp	54.49%	65.20%
Average	22.23%	28.67%

Table 1. *Analysts' Private and Open Target Price Accuracy from the Pilot Run*

Moreover, it could be observed that financial analysts are more optimistic in the open setting compared with the private experiment. The analysts provided 30 buy recommendations in the open setting compared with only 25 in private. It was also found that experts were more likely to change their recommendations in the private setting. While the analysts did not change their open recommendations on Bloomberg during the five-week period of the pilot run, there were nine changes of recommendation in the private setting. Only one expert did not change his recommendation during the experiment.

MAIN RUN DESIGN AND FINDINGS

Design and Market Environment of the Main Run

The design and approach of the main experiment was principally similar to the design of the pilot run. There were just a few changes in terms of an enhanced online questionnaire, more interview questions and that they were asked to enter the target price not as the total amount in euros but as change in percent.

The shares of the main run were selected from five different companies in five different sectors: consumer goods (Adidas, Bloomberg code: ADS GY Equity), construction (HeidelbergCement, Bloomberg code: HEI GY Equity), utilities (RWE, Bloomberg code: RWE GY Equity), technology

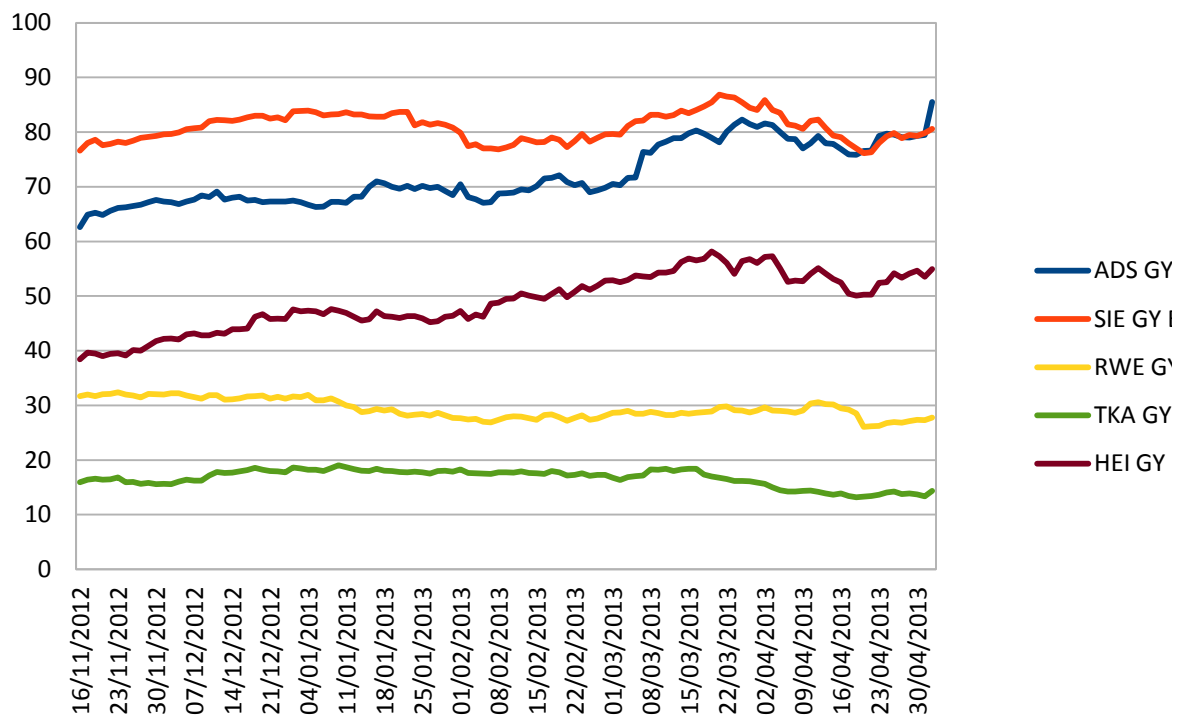


Figure 2: Stock price movement for the relevant examination period

(Siemens, Bloomberg code: SIE GY Equity) and industry (ThyssenKrupp, Bloomberg code: TKA GY Equity). Each participant was asked to provide an estimation of the movement (up or down) over a one-week, one-month and three-month period for every share as well as to enter a stock price prediction (in percentage, either up or down) for a three-month period. There was a quite bullish market condition in the relevant period of the main run. The DAX index went up about 17% during the examination period. Still, the different stocks had different price movements during the examination period (see Figure 2); while some stocks went mostly up (Adidas +36.56%, HeidelbergCement +43.04%), others went down (RWE -12.4%, ThyssenKrupp -8.67%) and one share showed a sideward tendency and no clear direction (Siemens +5.18%).

Results and Findings from the Main Run

The financial analysts provided 60 correct answers from 90 measurements (10 measurements from the overall 100 measures were missing) in private—that is, the anonymously given estimates during the main run of the experiment. Compared with the open data published on Bloomberg, this is a considerably lower number of correct answers. Seventy-six of the answers were from the open 100 measurements on Bloomberg. Similar to the findings from the pilot run, the target price accuracy was considerably higher in the private setting. The overall higher target price accuracy was higher in the

experiment compared with their open price targets published on Bloomberg. However, in contrasting the findings from the pilot run, not all analysts' target price estimations were more accurate.

	Experiment (Private) Target Price Accuracy	Bloomberg (Open/Public) Target Price Accuracy
Adidas	6.60%	8.03%
HeidelbergCement	5.17%	6.34%
RWE	15.31%	4.58%
Siemens	7.95%	27.70%
ThyssenKrupp	18.41%	11.21%
Average	11.07%	11.57%

Table 8. *Analysts' Private and Open Target Price Accuracy from the Main Experiment*

During the main experiment, it could be observed that financial analysts were slightly less optimistic in the open setting compared with the private experiment. The analysts provided 60% (60) buy/avoid and 40% (40) sell recommendations in the open setting, compared with only 62.2% (56) and 37.8% (34) sell recommendations in private (10 missing private measurements have been excluded). However, this difference is very small and possibly affected by the news flow and situation with Siemens (e.g., Höhler 2013; Rubenfeld 2013) and ThyssenKrupp (e.g., Ott 2012; Sheahan 2013) involved in issues with very negative sentiment. Regulatory issues, particularly the changes in German energy policy, provided also a quite negative sentiment for RWE (Eckl-Dorna 2013), which might have influenced the public perception of the company. It is still possible that this market environment had an influence on the results. Further research is needed to test the hypothesis of overoptimistic public recommendations of financial analysts.

The main experiment indicated that experts were more likely to change recommendations in the private setting. While the analysts did not change their open recommendations on Bloomberg during the 10-week period of the main experiment, there were six changes of recommendations in the private setting. Additionally, there was only one change in target price on Bloomberg, but there were 70 changes in price target in the private setting. In addition, 26 missing private measurements have been excluded, and the target price was unchanged only four times. Obviously, the analysts were much more likely to change their opinions in the anonymous setting. That might have contributed to the higher price target accuracy.

Some of the preliminary findings from the interviews are that almost all professionals mentioned that they are very interested in the markets and see it even as a hobby. Most of them trade shares themselves on a private account. One analyst stated: "I trade stocks myself. That is probably the

strongest argument. It's a hobby of mine. I read a lot that has to do with or could have to do with it" or "It manifests itself first of all that I also investing my private money in stocks, that is also in single instruments and also that I inform myself just before I do that. This is on the one hand, of course, a pure financial investment, but on the other side also interesting. In a sense it is also a hobby." When answering the question as to how they made their decision, the professionals still referred to intuition and gut feelings. They included answers such as the following: "Frequently market climate and intuition and gut feeling, probably even more than valuation, although I know the valuation and ratings of companies that I do not cover as well." But it seems that gut feelings are not the same for professionals, besides similar initial classifications, who described a quite different decision approach. When asked to describe the intuition and gut feelings, they answered as follows: "[It] has a lot to do with the development of the stock in the last few days and how I generally estimate the market. So for example, I guess the market is not so great, and the stock previously went very well, then I guess it's not quite good, it's probably going down" or "Yes, more like the general market sentiment, the news flow, macro but also micro, so to speak, and how I perceive it, so that's not carefully analyzed but rather the current mood."

RECOMMENDATIONS FOR FURTHER RESEARCH

The data gained from the conducted experiments has not been completely examined. There are still unanswered questions that might be addressed with further analysis of the data from the pilot and the main run. Moreover, the analysis of the conducted interviews is not completed at this point. A triangulation of the quantitative data from the experiments with the supplementing interviews might provide some more insights in the decision-making process of the individuals. Nevertheless, it might be useful to conduct further experiments with other market conditions, different stocks, and variations of the questionnaire design. With more data, it might be possible to gain a better understanding of questions like the following: Are financial analysts consistently overly optimistic with their forecasts of covered stocks? Or are analysts better than laypeople in bull markets but lose that advantage in bear markets? This could not be fully addressed with the conducted experiments. Additionally, the data from the in-depth interviews might provide some more information about the factors influencing the underlying decision-making process.

CONCLUSION

The analysis indicated that even for professional financial analysts that usually describe themselves as rather rational persons, decisions about investments or stock price recommendations are not always very consistent and, amongst other factors, are influenced by emotional factors. Slightly different

settings and ways to frame the questions have considerable impact on the decisions made. The collected data supports, to some extent, the idea that the incentives for analysts and public competitions might induce financial analysts to report strategically (Lichtendahl et al. 2013), and that might lead, in some cases, to a reduced quality of recommendations. There are indications that anonymously given forecasts might be better because analysts do not incur any peer pressure or incentives and there is no need to justify any changes in their opinions, but this was only found with the target price predictions. Still, there were not always better results with the anonymous/private setting. While the pilot run has provided some indications that there is a higher tendency to change non-public recommendations, there was no indication that this higher amount of changes increased the quality of the forecasts. In the main run, it was found that there was not only a higher rate of recommendation change activity but that the public recommendations actually have been considerably better than the private ones.

A completely different result has been found with the target prices. There was a much higher change activity amongst these prices. The analysts provided, in almost every round, new target prices. In this case, the private estimations of target prices have led to considerably higher accuracy of target price forecasts for most stocks. That might be partly explained by the significantly higher amount of changes of price recommendations. Further research might help to gain a more holistic understanding of the decision-making process and to create an explanatory schema.

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COMPARING FACTORS AFFECTING INTER AND INTRA-CITY TRAVEL MODE CHOICE: CASE OF UNIVERSITY STUDENTS

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ABSTRACT

With the enabling factors by globalization, people are traveling more than ever. Especially, young are traveling alone or their peers more freely, easily and inexpensively. Indeed, Richards and Wilson (2003) report that around one-fifth of all travels in the world are made by youngsters. Increasing number of transportation options and at the same time decreasing travel prices requires travel companies to understand university students' travel behavior and affecting factors to better serve this special group of travelers. Even though there are studies available regarding the travel mode choice in some extend, there are gaps remain in the literature about factors affecting travel mode choice and in the university student sub-market. In order to help close this gap, an extensive study has been undertaken among university students. Part of this extensive study delves with the factors affecting travel mode choice inter and intra-city. A survey developed from the existing literature along with exploratory qualitative interviews, were conducted in class environment with university students in five universities in five cities in Turkey. Exploratory factor analysis results indicated two main factors: Primary (price, safety, speed and comfort) and Secondary (feeling free, reducing stress, environmental concerns, prestige and status). These two factors affecting inter and intra-city travel mode choice are considered similarly, but students weighed more importance to primary factors than secondary ones. Moreover, findings suggest that students consider both factors more important when traveling intra-city than inter-city.

Keywords: *Travel Mode Choice, Students, Inter-City, Intra-City, Turkey*

INTRODUCTION

Economic, psychological and social factors affect customers' preferences almost every decision about the consumption of goods and services. Travel market is a part of service industry in which decisions are made by customers considering many factors. Indeed, in many travel choice studies undertaken with general public, the unit of analysis is the individual. In the literature, studies treat mode choice as

an application of consumer choice theory grounded in the notion that people choose among alternatives to maximize personal utility or net benefit to themselves. Although student travel market worth millions of dollars business, it has not been researched sufficiently (Chadee and Cutler, 1996). In general, little is known about the travel preferences of university students (Shoham, Schrage, and van Eeden, 2004) and factors affecting these preferences.

An extensive literature review on university student's travel mode choice shows that previous studies have focused on four main areas. They can be classified as students' travel motives and their influence on travel decisions (Kim and Jogaratnam, 2002; Klenosky 2002; Smeaton et al. 1998); associations between motivation and related variables (Josiam et al. 1999); travel patterns and favored activities (Carr 2002, Hsu, and Sung 1997, Field 1999, Kim and Jogaratnam 2003, Michael, Armstrong, and King 2003, Shoham, Schrage, and van Eeden 2004); travel satisfaction (Babin and Kim 2001, Bai *et al.* 2004). In general, studies conclude that student travelers present a profitable market with different needs and desires. This market also has different patterns of travel and motivation. Therefore, further research in this market should be undertaken with a multi-dimensional perspective (Kim, Oh, Jogaratnam, 2007) including factors affecting travel mode choice.

In order to fill above mention gap in the literature, an extensive study exploring university student's travel mode choice in general and factors affecting inter and intra-city travel mode choices has been undertaken. This paper specifically emphasizes and reports on factors affecting inter and intra-city travel choices. Furthermore, it compares the importance of factors in deciding between two different travel types.

LITERATURE REVIEW ON STUDENT TRAVEL

It has been suggested that people not only use a travel mode because it provides them with the quickest, easiest and cheapest way to get to their destination, they also make a choice of mode based on feelings of excitement and pleasure (Ellaway et al., 2003; Sandqvist, 1997; Steg *et al.*, 2001). University students are a social group that tends to have unique and complex travel behavior. With considerable freedom in the campus environment students are essentially autonomous in their decision making relating to their daily activities with minimal control from the university authorities and their parents. They live, study, socialize with their peers; thus decisions on daily activities of one student are regularly affected by his or her friends. At their age they are open-minded and receptive to new ideas from colleagues with various backgrounds and mixed interests. All these factors cause university students to have complicated daily schedules, resulting in complex travel patterns (Limanond, Butsingkorn, Chermkhunthod, 2011).

According to Richards and Wilson's (2003) report, around one-fifth of all tourism journeys in the world are made by young people aged 15–25 years, among which students account for a big percentage. The experiences of young travelers today also provide an important basis for their travel decisions later in life. Because of students' increasing numbers, and their increasing disposable income and mobility nowadays, the student segment is an attractive one to travel and tourism marketers, and hence, warrants further research (Hobson and Josiam, 1992; Chadee and Cutler, 1996; Sung and Hsu, 1996; Josiam et al., 1998; Field, 1999; Bai *et al.*, 2004).

To understand the university student's travel behavior, it is necessary to analyze the decision-making process and factors affecting each step of the process. According to widely used models of the consumer decision-making process (Engel et al., 1978; Howard and Sheth, 1969; Moutinho, 1987), customers are motivated by particular needs and desires leading to search for information, the evaluation of alternative and the choice of product. Moreover, the individual decision will be influenced by a range of personal, social, market, economic and cultural factors (Xu, Morgan and Song, 2009). Selecting the travel mode choice from which customers derive the greatest utility (or satisfaction) is subject to time and money budget constraints. Also decisions about travel modes are affected by the level-of-service that is a function of the time, cost, comfort, and other attributes of the mode used and of the route traveled (Adler and Ben-Akiva 1979).

In their study Aarts, Verplanken and Knippenberg (1997) focused on travel mode choice behavior in order to test theoretical propositions as to habitual decision making. Specifically, they explored the role of habit in information processing underlying daily travel mode choices. In the study of Hunecke *et al.* (2001) the Schwartz norm activation model (Schwartz, 1977) was applied to a special kind of environmental behavior, namely travel mode behavior. Travel mode choice has become an important topic within the research of environmentally relevant behavior. The objective of Limanond, Butsingkorn, Chermkhunthod (2011) is to investigate the travel patterns of university students with a case study of a rural university in Thailand. Their study aimed to examine various aspects of travel behavior including trip generation, mode split, travel distance, and travel time. Lastly, Ewing, Schroerer, and Greene's (2004) study is the first to examine the relationship between mode of travel to school and the full range of factors that might affect mode choice.

As can be seen from this short literature review, there is no study that has investigated factors affecting inter and intra-city travel mode choice in a single study. Also, there is no study that compares the importance of factors that play role in deciding travel mode choice in two different travel types. Therefore, this study aims to explore these two understudied areas together.

METHODOLOGY AND FINDINGS

In order to achieve aforementioned goals, a survey developed from the literature and findings of ten exploratory interviews was conducted in five universities in five cities in Turkey namely Istanbul, Ankara, Konya, Kutahya and Eskisehir. Total 400 questionnaires were distributed and applied in a classroom environment, but 377 usable returns were received. Data was subjected to statistical analysis namely, paired sample t-tests, exploratory factor analysis, ANOVA, and independent samples t-tests. As can be seen in Table-1, respondents are almost evenly distributed in gender and family car ownership.

	N	%
Gender		
<i>Female</i>	192	50.9
<i>Male</i>	185	49.1
Having driver license		
<i>Yes</i>	168	44.6
<i>No</i>	209	55.4
Family car ownership		
<i>Yes</i>	194	51.5
<i>No</i>	183	48.5
University type		
<i>Public</i>	234	62.1
<i>Private</i>	143	37.9
Personal Income and/or Allowances		
<i>Below 200 Euros</i>	160	42.4
<i>200 – 400 Euros</i>	175	46.4
<i>Above 400 Euros</i>	42	11.2
Family Income		
<i>Below 400 Euros</i>	41	10.9
<i>400 – 800 Euros</i>	104	27.6
<i>801 – 1200 Euros</i>	90	23.9
<i>1201 – 1600 Euros</i>	39	10.3
<i>Above 1600 Euros</i>	103	27.3

Table 1. Sample Characteristics

Around 45 percent has a driver license and two-thirds are studying in public universities. Almost 90 percent of the respondents have an income or allowances below 400 Euros per month. Lastly, family income figures indicate that only ten percent of the students come from the poorest families in Turkey. On the other hand, 27 percent of university students are coming from higher income families.

Eight factors were identified from the literature and exploratory interviews. Mean scores and paired sample t-test results are shown in Table-2. As can be seen in the table, means scores are higher in all eight factors in intra-city travels. In other words, students consider these eight factors more seriously when they decide their travel modes on intra-city than inter-city travels. In order to see whether there are statistically meaningful mean differences, paired-sample t-tests were utilized. Results indicate that there are significant differences in five factors, but environmental concerns, feeling free and reducing stress factors are not statistically significant.

Factors	Travel Type	Mean	t scores	Sig. (2-tailed)
Price	Inter-city	3.94	-3.886	0.001
	Intra-city	4.10		
Safety	Inter-city	4.07	-5.908	0.001
	Intra-city	4.34		
Comfort	Inter-city	3.80	-9.243	0.001
	Intra-city	4.22		
Speed	Inter-city	4.04	-2.373	0.018
	Intra-city	4.14		
Prestige and Status	Inter-city	2.90	-6.146	0.001
	Intra-city	3.19		
Environmental concerns	Inter-city	3.29	-0.14	0.889
	Intra-city	3.30		
Feeling free	Inter-city	3.29	-1.146	0.252
	Intra-city	3.35		
Reducing stress	Inter-city	2.99	-0.89	0.374
	Intra-city	3.04		

Table 2. Comparing factors affecting inter and intra city travels and t-tests

In order to reduce the list of factors to the basic dimensions, the data was subjected to two exploratory factor analysis by using Principal Component Analysis Extraction Method with Promax Rotation. The first one presented in Table-3 shows the results of the inter-city travel factors and the second one is the results of the intra-city travel factors. As Table-3 and 4 indicate, all statistics are supporting the use of factor analysis that reduced the number of reasons from eight to two. KMO test scores are also at the high end of the scale indicating that sampling is adequate. The Chi-square score of Bartlett's test of sphericity are quite high with very high level of significance. Also, Cronbach's Alpha scores indicating reliability of the measurement scales are above the acceptable percentage. Even though the total variances explained by the two components (65% and 59%, respectively) seem low, Hair et al. (1995) argue that it is common for social scientists to consider a solution which accounts for 60% or even in some cases even less of the total variance a satisfactory solution.

Components	Individual items	Loadings	
Primary $\alpha = 0.58$	<i>Safety</i>	0.780	
	<i>Price</i>	0.733	
	<i>Speed</i>	0.705	
	<i>Comfort</i>	0.575	
Secondary $\alpha = 0.79$	<i>Feeling free</i>	0.899	
	<i>Reducing stress</i>	0.865	
	<i>Environmental concerns</i>	0.655	
	<i>Prestige and status</i>	0.560	
	Eigenvalues	2.07	3.02
Variance explained (%)		27.2	37.8
KMO= 0.750; Chi-Square = 667; sig. = 0,0001			

Table-3. Factor Analysis for Inter-City Travel

Exploratory factor analysis results grouped eight factors under two components for both travel types as can be seen in Tables 3 and 4. They are named as primary and secondary components. Hair *et al* (1995) argue that naming of the components is not scientific and it is usually left to the researcher's subjectivity. However, the factor loadings indicating the correlation of each variable and component can provide some bases since the higher the factor loading, the more representative of the component is the variable. Primary components are safety, price, speed, and comfort. Items in this component represent economic factors and comfort issues. That is why they are named as primary factors. Secondary components are feeling free, reducing stress, environmental concerns, and prestige and status. Items in this component are related with the travel mode choice indirectly and called as secondary.

Components	Individual items	Loadings	
Primary $\alpha = 0.67$	<i>Safety</i>	0.762	
	<i>Price</i>	0.554	
	<i>Speed</i>	0.720	
	<i>Comfort</i>	0.736	
Secondary $\alpha = 0.82$	<i>Feeling free</i>	0.870	
	<i>Reducing stress</i>	0.843	
	<i>Environmental concerns</i>	0.758	
	<i>Prestige and status</i>	0.646	
	Eigenvalues	1.32	3.39
Variance explained (%)		16.5	42.3
KMO= 0.795; Chi-Square = 808; sig. = 0,0001			

Table 4. Factor Analysis for Intra-City Travel

In the light of exploratory factor analysis, eight factors were merged in two components and paired-sample t-tests were run to explore whether the importance of factors in deciding travel mode choice differ statistically or not. As can be seen in Table 5, results indicate that there are statistically meaningful differences between the means of primary and secondary components affecting inter and intra-city travel mode choices. It is clear from the results that when university students make a choice on travel modes, they take this issue seriously regardless of it is a short or a long one. However, when they travel inter-city, they could accept that this journey would take relatively less time and they give less importance to primary and/or secondary factors.

Travel Type and Components	Mean	t scores	Sig.
Intra-City Travel - Primary	4,19	9.08	0.001
Inter-City Travel - Primary	3,94		
Intra-City Travel - Secondary	3,23	3.05	0.002
Inter-City Travel - Secondary	3,12		

Table 5. Paired sample statistics and t-tests

Several more analysis were run to see whether variables presented in Table-1 make a difference in the importance of components affecting travel mode choice. Results of independent samples t-tests (having a driver license, car ownership, and university type) and ANOVA tests (personal income and family income), reveal no statistically significant differences, except gender. Table-6 shows results of the t-test about gender. As can be seen in the table, females statistically give more weight to components in deciding which travel mode to choose than males in all factors, except the secondary components in inter-city travel.

Factors	Mean	Std.Dev.	t scores	Sig.
Intra-City Travel – Primary	Female	4,27	2,54	0.012
	Male	4,12		
Inter-City Travel – Primary	Female	3.32	2,19	0.029
	Male	3.10		
Intra-City Travel – Secondary	Female	4.03	3.07	0.002
	Male	3.84		
Inter-City Travel – Secondary	Female	3.18	1.26	0.21
	Male	3.06		

Table 6. Independent sample statistics and t-tests

CONCLUSION AND DISCUSSION

There are millions of university students in the world. Even though the number is vast, there are neither enough studies related to the student's travel preferences nor factors that affect travel mode choice in different travel types. After exhaustive literature review, it was clear that there need to be more studies undertaken in this important market. After identifying these gaps, an extensive research project was undertaken in which these findings are a part. Integrating exploratory interview findings with the existing literature resulted eight factors along with traveler characteristics that play role in the choice of travel mode. Eight factors were subjected to exploratory factor analysis which reduced these factors to two main components, namely primary and secondary. Further statistical analyses indicate that there are meaningful differences between the means of primary and secondary components affecting inter and intra-city travel mode choices. Analysis also illustrate that university students give serious consideration to factors affecting travel mode and travel type.

The findings have important implications for theory and practice. For theory, there is a need for further studies which will take multi-disciplinary approach to the area. Also there is a need for cross-cultural studies as each society has its own values affecting the decision making process. This research has taken the consumer's perspective, but also it may be studied from suppliers and policy makers perspectives. Since travelling will be more and more with increasing globalization and new technologies, suppliers and policy makers will need more information about the customers of this industry. These types of studies may provide much needed information to all parties that have a stake in this field to make effective and optimal decisions. Similar studies on sub-market (e.g. elderly or handicapped) could supply very important and valuable information to policy makers which in turn they could use to organize government future policies in the travel sector to have the best outcome for whole society.

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ACCOUNTING REGULATION OF OUTSOURCING ARRANGEMENTS AND PUBLIC PRIVATE PARTNERSHIPS UNDER IFRIC 4 ADOPTION

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ABSTRACT

The aim of paper: The objective of the present paper intends to pursue is to analyze the impact and scope of IFRIC 4 accounting changes, in relation to concession services in enterprises and service dealerships public works in Italy through a first organic literature survey on the subject (Laghi, 2010, Head, Georgiou, 2011; Campra, 2012; Braja, Campra, Esposito, Ricci, 2013).

Research methodology: The methodology of this research is theoretical and empirical (Yin, 1984, 1995, 2000), based on the systematization of theories with empirical verification of the evolution of business models analyzed, up to outline possible future situations. We propose to improve a theoretical framework on PPP and service for outsourcing arrangements and evolution in the Italian, European and international comparisons.

Expected results: This scientific investigation can be regarded as a starting point to develop new lines of research and future research on PPP falling within the IFRIC 4 application, including through international comparisons, analyzing business models and specific economic sectors of public interest.

Keywords: *IFRIC 4; IFRIC 12; PPP; outsourcing arrangements; telecommunication contracts; accounting regulation*

INTRODUCTION

The objective of the present paper intends to pursue is to analyze the impact and scope of IFRIC 4 accounting changes, in relation to concession services in enterprises in Italy through a first organic literature survey on the subject (Laghi, 2010, Head, Georgiou, 2011). The paper also aims:

- (i) to analyze and systematize the clarification provided by IFRIC 4 (Heald, Georgiou) and IFRIC 12 (Laghi, 2010; Campra, 2012: 2675), in relation to service concession for concession operators providing a public service;

- (ii) to determine to what extent IFRIC 4 helped to improve the order and to simplify the conceptual vagueness and chaos of definitions applying to the different forms of PPPs and SCAs under IFRIC 4 and IFRIC 12 adoption too. How much evidence does currently exist in the literature subsequent to the introduction of IFRIC 4.

The proposed systematization of business literature, even in the presence of a weak and not systemic defense of the doctrine on the subject, would make it possible, to highlight in a systematic manner the weaknesses linked to the application of contractual PPPs and SCAs in Italy, detected by different scholars with regard to the adoption of IFRIC 4.

The methodology of this research is theoretical and empirical (Yin, 1984, 1995, 2000), based on the systematization of theories, like starting point to with empirical verification on the evolution of business models to analyze, up to outline possible future situations. We propose to improve a theoretical framework on service for outsourcing arrangements and evolution in the Italian, European and international comparisons.

This scientific investigation can be regarded as a starting point to develop new lines of research and future research on PPP falling within the IFRIC 4 application, including through international comparisons, analyzing business models and specific economic sectors of public interest.

METHODOLOGY

The research methodology is both theoretical and empirical:

- Theoretical framework of Outsourcing Arrangements and telecommunication contracts and its evolutionary path in the Italian, European and international context. Review of literature;
- Significant analysis of literature through a survey process according to the different applications of IFRIC 4 and the interpretive positions by various organizations (World Bank, OECD, the IASB, EFRAG, Eurostat, OIC, AVLP, Court of Auditors);
- Analysis of development applicative models based on differentiating variables, highlighted by the empirical analysis (case method. Triangulation: sources, methods, results);
- Case studies (Yin, 1984, 1995), "testing", new areas of investigation.

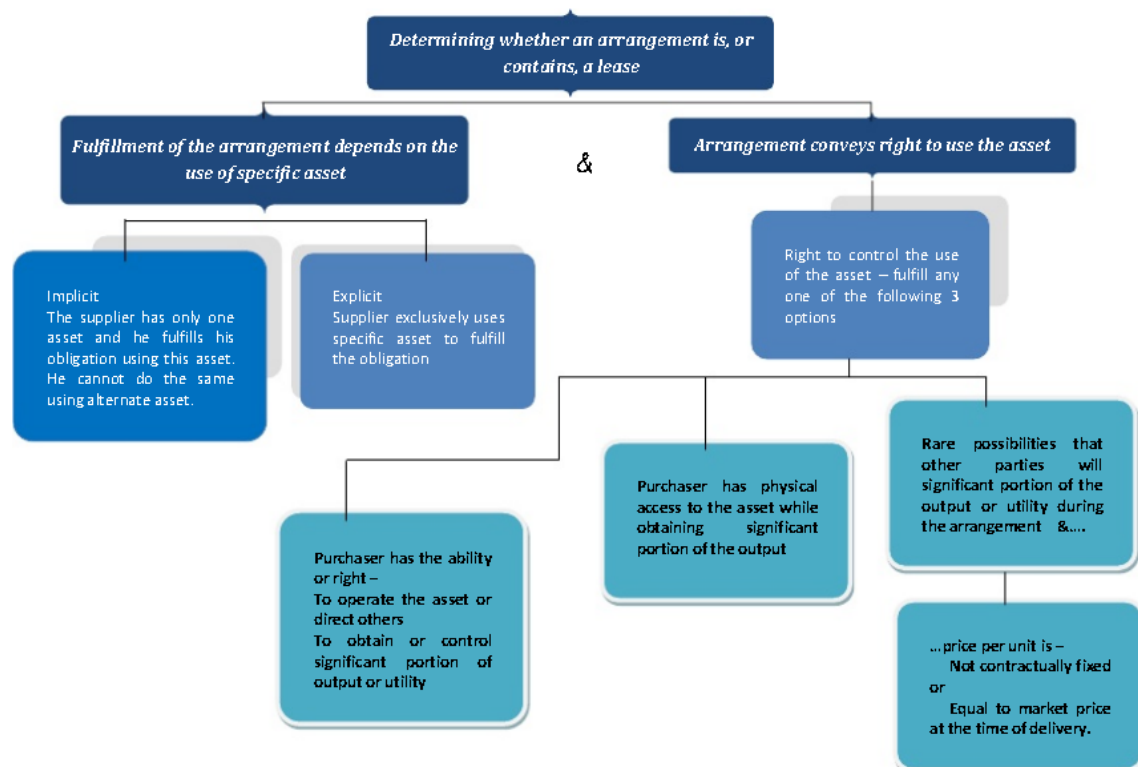
IFRIC 4

IFRIC 4 addresses the problem of outsourcing arrangements and telecommunication contracts which are legally not a lease, but which involve obtaining the use of an asset in exchange for payment (Cook, 2009; Venter, Tomes, 2006; Coetzee, Schumlian, 2008; Heald, Georgiou, 2011). The interpretation requires that such arrangements are accounted for in accordance with IAS 17 where certain specified conditions are met. In fact, an entity may enter into an arrangement, comprising a transaction or a

series of related transactions, which do not take the legal form of a lease but conveys a right to use an asset (eg. an item of property, plant and equipment) in return for a payment or series of payments. Examples of arrangements in which an entity (the supplier) may convey such a right to use an asset to another entity (the purchaser), often together with related services, include :

- outsourcing arrangements (eg the outsourcing of the data processing functions of an entity;
- agreements in the telecommunications industry , in which suppliers of network capacity (network capacity) enter into contracts to provide purchasers with rights to capacity ;
- contracts "take or pay " and similar contracts , in which purchasers must make specified payments regardless of whether they take delivery of products or services agreed upon (for example, a contract "take or pay " to acquire substantially all of the production of a generator of electricity of a supplier).

IFRIC 4 – DETERMINING WHETHER AN ARRANGEMENT IS LEASE



In some arrangements, the underlying asset that is the subject of the lease is a portion of a larger asset. IFRIC 4 does not address how to determine when a portion of a larger asset is itself the underlying asset for the purposes of IAS 17.

However, arrangements in which the underlying asset would represent a unit of account in accordance with IAS 16 or IAS 38 are within the scope of this interpretation.

IFRIC 12

IFRIC 12 in spite of IFRIC 4, gives guidance on the accounting by operators for Service Concession Arrangements (SCAs) between a public body and a private company, it does not specify the accounting by grantors, and provides for the concession assets, once verified some objective and subjective conditions (Laghi, 2010: 127), an alternative way to recognize them. In fact, infrastructure within the scope of this Interpretation shall not be recognised as property, plant and equipment of the operator because the contractual service arrangement does not convey the right to control the use of the public service infrastructure to the operator. Infrastructure shall not be recognized as material activity (highways, water supply, etc.), but as a right to charge users (intangible asset); or a right to receive consideration from the grantor for utilities paid (financial assets); or a mixed method, forked method (Campra, 2011; Braja, Campra, Esposito, Ricci, 2013). The agreements regulating the different concession services in the recurring form of PPP (Parker, Gould, 1999; Pisani, 2001; Grimsey, Lewis, 2005; Guthrie, 2005), fall within the scope of IFRIC 12 (Campra, 2012: 2675) and the different accounting treatment of the operator's rights on infrastructure, depending on the different tasks of control and regulation to be provided to the public on behalf of the public sector in accordance with the terms specified in the contract for a specified period of time (Hall, 2008), and on the identification and detection of the party on whom demand risk stays (Campra, Faraudello, Malfatti, Passarani, 2011).

The accounting treatment of "Service Concession Arrangements" (SCA), ruled by IFRIC 12, represents one of the most significant and emblematic cases of the application of the principle of the prevalence of substance over form (Meyer, 1976; Shere, 1986; Adwinckle, 1987), to highlight "typical light and shade" of a principle which is the basis of IAS/IFRS accounting model (Laghi, Giornetti, 2009; Laghi, 2010). It is a significant case because it falls within the definition perimeter of the concession services (SCA), all forms of public-private partnership and Project financing, particularly focused and copiously considered and debated in the business literature over the past fifteen years (Vecchi, Amatucci, 2008). Service Concession Arrangements" (SCAs) refer to those forms of PPP projects through which a public sector entity (grantor), entrusts to a private sector entity (operator), the concession to construct or to operate a public work or infrastructure, in order to perform a public service in the public interest, upon consideration, and resulting in deep functional privatization processes (Pivato, 1958; Amaduzzi, 1978: 227; Caramiello, 1988: 546; De Robertis, 1992; Guatri, 1992: 498; Kunz, 1997; Perfolini, 1999; Dell'Atti, 2001; Rijna, 2010). The operator's consideration may consist in a right to charge users of the public services (intangible asset), or in an unconditional contractual right to receive cash or another financial asset (financial asset) from or at the direction of the grantor for the construction services (Campra, 2011; Laghi, 2010).

The discipline of IFRIC 12 is essential and also constitutes an "emblematic" case, even if it is partial and partially satisfactory, for the application of the principle of prevalence of the substance over form (Laghi, 2010), since all aspects determining the accounting treatment of "service concession arrangements" (SCA), starting from the same definition of the scope of IFRIC 12, ending with the accounting models to be used for the purpose from the representation of the effects of SCA are "filled" by the continuous research of the representation in the "economic substance" (Heald, Georgiou, 2011), regardless of the legal form they are regulated the transfer of risk and responsibility for the realisation of the works or services under concession and the management of public services or in the public interest. The continuous research of the economic substance of the SCA, becomes a crucial condition for achieving the reliability of financial information and to avoid errors and distortions in relevant economic and financial communications (Braja, Campa, Esposito, Ricci, 2013).

The interpretation of IFRIC 12 also allows researchers to avoid confusion in the classification, measurement, and detection of SCAs involving public and private entities such as outsourcing contracts, contracts of network capacity, take-or-pay contracts, ruled instead by IFRIC 4 (Treasury, 2008; Heald, Georgiou, 2010; Laghi, 2010: 6); or even errors in classification of PPP, where the prevalence of economic substance is entirely public, as in the case study, and then can be traced in the discipline of IAS 20.

Among other positive aspects of IFRIC 12, there is the attempt to improve the budgetary information for investors, clarifying the nature and risks of the ASC, object recognition and measurement.

IFRIC 4, IFRIC 12, THE AREAS OF APPLICATIONS

The interpretation of IFRIC 12 also allows researchers to avoid confusion in the classification, measurement, and detection of SCAs involving public and private entities such as outsourcing contracts, contracts of network capacity, take-or-pay contracts, ruled instead by IFRIC 4 (Treasury, 2008; Heald, Georgiou, 2010; Laghi, 2010: 6); or even errors in classification of PPP, where the prevalence of economic substance is entirely public, as in the case study, and then can be traced in the discipline of IAS 20.

IFRIC 4, do not apply to agreements, which:

- a) containing leases excluded from the scope of IAS 17;
- b) b) arrangements for concession services from public to private that fall within the scope IFRIC 12 Service Concession.

The issues addressed by ' IFRIC 4 are:

- how to determine whether an arrangement is, or contains, a lease as defined in IAS17;
- should be carried out when the assessment or a reassessment of whether an arrangement is, or contains, a lease ;
- whether an arrangement is, or contains, a lease, how the payments for the lease should be separated from payments for any other elements in the arrangement.

IFRIC 4: DETERMINING WHETHER AN ARRANGEMENT IS, OR CONTAINS, A LEASE

Determining whether an arrangement is, or contains, a lease shall be based on the substance of the arrangement and requires an assessment if :

- the fulfillment of the agreement depends on the use of a specific asset or more assets (the assets);
- the arrangement conveys a right to use the asset.

The fulfillment of the agreement depends on the use of a specific asset. Although a specific asset may be explicitly identified in an arrangement, it is not the subject of a lease if fulfillment of the arrangement is not dependent on the use of the specified asset. For example, if the supplier is obliged to deliver a specified quantity of goods or services and has the right and ability to provide those goods or services using other assets not specified in the agreement, then fulfillment of the agreement does not depend on specified asset and the agreement does not contain a lease. A warranty obligation that permits or requires the substitution of the same or similar assets when the specified asset is not operating properly does not preclude lease treatment. In addition, a contractual provision (contingent or otherwise) permitting or requiring the supplier to substitute other assets for any reason on or after the specified date does not preclude lease treatment before the date of substitution. An asset has been implicitly specified if, for example, the supplier owns or leases only one asset with which to fulfill the obligation and it is not economically feasible or practicable for the supplier to fulfill its obligation through the use of activity alternatives.

An arrangement conveys the right to use the asset if the arrangement conveys to the purchaser the right to control the use of the underlying asset. The right to control the use of the underlying asset is conveyed if any one of the following conditions is satisfied :

- the purchaser has the ability or right to operate the asset or direct others to operate in a manner it determines while obtaining or controlling more than an insignificant amount of the output or other utility of the asset;
- the purchaser has the ability or right to control physical access to the underlying asset while obtaining or controlling more than an insignificant amount of the output or other utility of the asset;

- the facts and circumstances indicate that it is remote that one or more parties other than the purchaser will take more than an insignificant amount of the output or other utility that will be produced or generated by the asset during the period of the agreement, and the price that the purchaser will pay for the output is neither contractually fixed per unit of output nor equal to the market price per unit of output current at the time of distribution of production.

The verification of whether an arrangement contains a lease shall be made at the inception, on the earlier of the date of the agreement and the date of commitment by the parties to the principal terms of the agreement, based on all the facts and circumstances. A reassessment of whether the arrangement contains a lease shall be made after the beginning of the same only in the event that any one of the following conditions:

- a) there is a change in contractual terms, unless the change only the renewal or extension of the agreement;
- b) a renewal option is exercised or an extension is agreed by the parties to the agreement, unless the term of the renewal or extension had initially been included in the lease term in accordance with paragraph 4 of IAS 17.
- c) there is a change in the determination of whether fulfillment is dependent on a specified asset;
- d) there is a substantial change to the asset, for example a substantial physical change to property, plant or equipment.

A reassessment of an arrangement shall be based on the facts and circumstances as of the date of the inspection, including the remaining term of the agreement. Changes in estimate (for example, the estimated amount of output to be delivered to the purchaser or other potential purchasers) would not trigger a reassessment.

IFRC 4 AND IAS 17: IF AN ARRANGEMENT CONTAINS A LEASE

If an arrangement contains a lease, the parties to the agreement must apply the provisions of IAS 17 to the lease element of the agreement, unless exempted from those requirements in accordance with paragraph 2 of IAS 17. Accordingly, if an arrangement contains a lease, that lease shall be classified as a finance lease or an operating lease in accordance with paragraphs 7 to 19 of IAS 17. Other elements of the arrangement not within the scope of IAS 17 shall be accounted for in accordance with other Standards. In application of the provisions of IAS 17, payments and other consideration required by the arrangement shall be separated at the inception of the agreement or upon a reassessment of the arrangement into those for the lease and those for other elements on the basis of relevant fair value (fair values).

The minimum lease payments for the lease as defined in paragraph 4 of IAS 17 include only payments for the lease (i.e. the right to use the asset) and exclude payments for other elements in the arrangement (e.g. for services and the cost of inputs). In some cases, separating the payments for the lease from payments for other elements in the arrangement will require the purchaser to use an estimation technique. For example, a purchaser may estimate the lease payments by reference to a lease agreement for a comparable asset that contains no other elements, or by estimating the payments for other elements in the arrangement by reference to comparable agreements and then deducting these payments from total payments under the arrangement.

If a purchaser concludes that it is impracticable to separate the payments reliably, it shall:

- in the case of a finance lease, recognize an asset and a liability at an amount equal to the fair value (fair value) of the underlying asset. Subsequently the liability shall be reduced as payments are made and shall recognize an imputed finance charge on the liability recognized using the marginal interest rate of the purchaser;
- in the case of an operating lease, treat all payments under the arrangement as lease payments for the purposes of compliance with the disclosure requirements of IAS 17.

IFRIC 12 AND IFRIC 4: SOME EVIDENCE FROM ITALY

From the empirical analysis conducted on the financial statements of listed Italian companies under IFRIC 4 and IFRIC 12 adoption, we have reorganized the classification of enterprises in different sectors, according to economic activity, mainly focusing on IFRIC 4 adoption. In particular, we first created three macro-sectors that are related to the type of output produced. The economic sectors analyzed, are:

- Transport;
- Energy;
- Water.

The Italian companies under IFRIC 12 adoption, consist of n. 28 listed groups, of these, the Italian companies under IFRIC 4 never investigated in the literature are 4. They are represented in the table below and in the following economic sectors (according to information from Borsa Italiana website – www.borsaitaliana.it):

Table 1: Italian Listed Companies under IFRIC 12 and IFRIC 4 Adoption

Listed Companies	Economic Sector
A2A	Energy
Acea	Energy
Acegas	APS Energy
Acque	Potabili Water
ACS	AGAM Energy
Aeroporto di	Firenze Transport
Ascopiave	Energy
Astaldi	Transport
Atlantia	Transport
Autostrada	To-Mi Transport
Autostrade	Meridionali Transport
Edison	Enel Energy
Eni	Energy
Enia	(*) Energy
Ferrovie Nord Milano	Gas Energy
Plus	Gemina Transport
Hera	Energy Transport
Impregilo	Iride Energy
(*)	Transport
Mediterranea delle Acque	SAT Energy
Save	SIAS Water Transport
Snam Rete Gas	Terna Transport
Terni Energia	Transport Energy
	Energy

(*) on 1 July 2010 ENIA S.p.A was merged by incorporation in IRIDE S.p.A. resulting in IREN S.p.A.

The companies in each macro-sector can be further subdivided according to the production process adopted.

Below, we present information contained in the consolidated reports on the IFRIC 4 adoption:

- ASTALDI GROUP:** "In this context, contract, Codelco, will deliver cutting waste mining promising to buy the amount of copper and molybdenum extracted thus ensuring the recovery of its investment during the period of ownership. In the light of what is expressed in the preceding paragraphs, the Company considered that the contractual terms of the Agreement constitute, in accordance with IFRIC 4, a lease agreement and then proceeded to the accounting records to that effect. "
- EDISON GROUP:** " IFRIC 4: "The decrease in net debt (1,271 million euro), reflects, in addition to the aforementioned sale of Edipower, the combined effect of the following factors:

 - capital investments for the year (459 million euro);
 - payment of direct taxes (190 million euro);
 - net advances paid for the activation of take or pay clauses in natural gas procurement contracts (18 million euro).

- **TERNI ENERGIA GROUP:** *"The revenues related to energy efficiency with public and / or private respectively fall within the scope of IFRIC 12 and IFRIC 4. These types of contracts are composed of two elements:*

- The first part of a contract (the increased efficiency) originates, in turn, two types of revenue:

o The first is equal to the fair value of the canon of energy efficiency (calculated as the present value of expected cash flows using market parameters faced by municipalities to achieve medium to long term).

o The second, caused by the apparent misalignment between the time the costs for carrying out the activity and recovery in fifteen years (or for years of term of contract) of its revenue each year generates a financial asset.

This Financial activities and related economic components operational and financial fifteen years are determined in compliance with the matters described in the document "Application no. 3 OIC - IFRIC 12 Service Concession Arrangements" in the chapter on financial asset model and the combined provisions of IAS 17 and IFRIC 4 for contracts with private entities."

- **SNAI GROUP:** IFRIC 4: "Leasing

The definition of a contract as a lease (or contains a lease) is based on the substance of the arrangement of whether the fulfillment of the agreement depends on the use of one or more specific activities or if and the arrangement conveys a right to use the asset. A review is done after the commencement of the contract only if one of the following conditions:

1) there is a change in contractual terms, other than a renewal or extension of the contract;

2) a renewal option is exercised or extension granted, unless the term of the renewal or extension was initially included in the lease term;

3) there is a change in the condition according to which fulfillment is dependent on a specified asset;

4) there is a substantial change.

Where it is subject to a review for scenarios 1, 3 or 4 above, lease accounting commence or cease from the date on which the circumstances that gave rise to the review. Where it is subject to a review for scenario 2 above, lease accounting commences or ceases on the date of renewal or extension.

For arrangements entered into prior to January 1, 2005, the date of inception is deemed to January 1, 2005 in accordance with the transitional requirements of IFRIC 4. "

CONCLUSION

The interpretative usefulness of IFRIC 4 is essential in order to avoid confusion in the activity of classification, measurement and recognition of ASCs involving public sector entities and private sector entities, such as outsourcing contracts, contracts of network capacity, take-or-pay agreements, all

regulated instead by IFRIC 4 (Laghi 2010: 6), or even errors in the PPP framework, where the prevalence of economic substance is entirely public, as in the selected case study, and then having reference to the discipline of IAS 20 .

However, several authors in the literature reveal that the centrality of the interpretative complexity is an effect and not just source of greater needs of public finance (Laghi, 2010).

Our empirical investigation, underline the evidence of a scarce use of IFRIC 4 guidelines after its IFRIC 4 adoption from the Italian listed companies, in spite of literature treatment on the accounting regulation on outsourcing arrangements and telecommunication contracts.

It seems, in addition, that the alleged confusion of the adoption of IFRIC 12 and IFRIC 4, nothing has been found in the selected sample into the analysis. Poor, inadequate and it is also the accounting information in the financial statements of the company, which adopt IFRIC 4.

The present investigation, therefore, makes it necessary, in order to refute or confirm the low adoption of IFRIC 4, also in other European countries by companies operating in the same areas and are characterized by the same dimensional characteristics and technical-productive.

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THE MARKETING STRATEGY AS A DIFFERENTIATING FACTOR IN THE PROVISION OF ARCHITECTURAL SERVICES

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ABSTRACT

The authors investigated how the implementation of a marketing strategy plan brings value to the architectural firm so as to assist in differentiating and competitive advantages. The subjective nature of the topic and the lack of studies in the study area, specifically in the Portuguese context, led to the choice of a qualitative approach through semi-structured interviews, complemented with secondary sources. The state of architecture in Portugal was analyzed from the potential clients, clients and architectural firm's point of view, with focus on the demand and the consumption behavior of these services. The interviews provided an understanding of whether architectural services firms use a formal marketing plan to guide their activity or another medium. The study indicated that the poor activity of Portuguese companies may be due to a lack of awareness of this kind of service from the consumer perspective and lack of, in most companies investigated, of integrated marketing strategy including differentiation strategies, customer orientation, long-term relationship and communication. The results of the study outlined strategic possibilities for the companies and managerial implications are discussed.

Keywords: *Architectural Service Companies, Customer Orientation, Relationship Marketing, Customization, Marketing Strategies directed to Architectural Services Firms.*

INTRODUCTION

Many service firms, and in particular architectural companies, do not understand the importance of establishing a marketing plan as they often receive orders as a result of referrals based on the quality services provided to their customers. However, reputation is not enough to communicate all important messages about their skills and quality of work (Kolleeny and Linn, 2002). With increasing competition from high quality companies nationally or even internationally firms must now recognize that often professional services and their marketing strategies require an individualized approach by applying traditional marketing with the respective adaptations to this type of services environment (Kotler *et al.*,

2010). Morgan *et al.*, (1994) argue the priority of customer’s orientation, while being consumer with specific needs, personalities and motivations. Other authors (McDonald and Madhavaram, 2007) refer to the importance of internal and external relationships as factors that influence a successful marketing project. Additionally, it is necessary to realize the importance of the degree of customization, standardization, differentiation, specialization and diversification in architectural services and how these strategies bring competitive advantage to the company. Finally, it is essential to analyze marketing practices developed by companies.

Given the importance of the construction and architecture sectors for Portuguese domestic economy (INCI, 2012) and the need for a paradigm shift to overcome the current financial crisis, this study sets forth to answer a set of questions to understand the adequate way to go forward. For this, it is necessary to assess whether the problem is a lack of understanding of the role of architecture, the inadequacy of the value of the provided services to the financial availability from people or if they are related to the lack of promotion of the work.

METHODOLOGY

Given the exploratory nature and the purpose of this study, two important themes were identified (see figure 1).

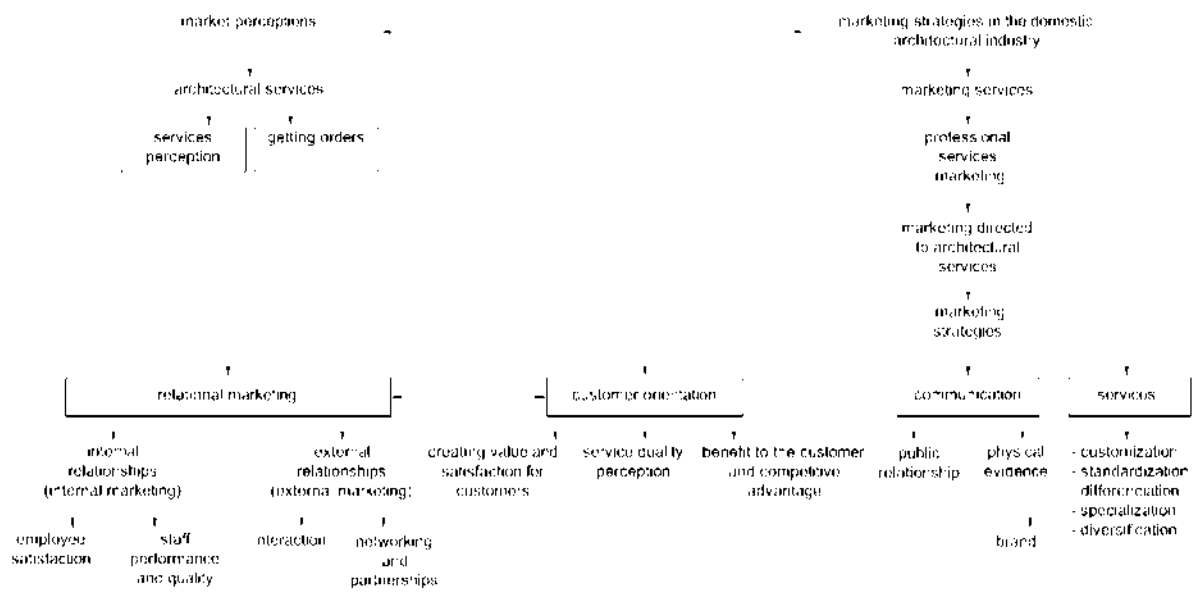


Figure 15. *framework for analysis*

The first theme focus on the analysis of market perceptions. In order to understand the state of Portuguese architecture industry, customers, potential customers and corporate managers perceptions are analyzed. This helps to understand the demand, buying behavior and motivations of each stakeholder.

The second theme corresponds to the actual marketing strategies in the domestic architectural industry. Issues as customer perceptions, implementation of marketing programmes, as well as how the sector is responding to the lack of demand are analyzed.

The literature review provided some analysis categories that, according to several authors, are related to these two themes mentioned above. Given the role and status of architecture in Portugal, as well as the main forms of attracting business and buying behavior, the analysis of market perceptions of these architectural services is essential. Regarding the architectural firms marketing strategies, it was possible to identify five important categories for its success: strategies and practices of services, customer orientation, relationship marketing, marketing directed to architectural service firms and communication.

The subjective nature of the topic and the lack of studies in the area (Morgan *et al.*, 1994) led to a qualitative approach. A qualitative research provides a depth understanding of motivations and feelings of people and companies (McDaniel and Gates, 2003), and allows exploring and contextualizing the demand in the architectural sector, especially the low demand, shading light on the offering conception. An exploratory research was developed, based on a combination of specific collected primary data and secondary sources. Initially, secondary sources were examined, including literature sources and statistics. These data allowed the researcher to clarify the research problem, assisting in the construction and selection of investigation paths. Subsequently, in a second phase, primary data were collected through in-depth interviews, semi-structured, directed to three groups: representatives of Portuguese architecture firms, people who have already acquired architectural services and people who have never bought architectural services. In the first group, the goal was to determine if companies apply marketing strategies and, if so, how these influence their activity. In turn, the second group interviews aimed to understand their experience and get their opinion regarding these kind of services, enabling the establishment of patterns of demand and purchase behaviors, and identifying some of the contracted firms marketing strategies perceived by customers. Finally, the opinions of people who have never requested architectural services were inquired, to shade some light on the reason for the little demand on these kind of services.

To facilitate data collection and in order to define a similar structure on the different interviews, there were outlined three scripts/guidelines for the three groups of participants, respectively. In the first phase of interviews, pre-tests were made. Then we proceeded to prior appointment of interviews via email, in which it was sent a document with an introduction on the theme, objectives of the study, and an explanation of how the interview would take place.

In order that the respondents feel as comfortable as possible, the interviews were personally conducted. in a place designated by them. Most of the participants participated in their residence (customers and

non-customers) and work place (architectural firms). All the interviews were recorded, with the respondent's permission, which ensures greater accuracy in report writing, and during its implementation notes were collected to verify that the questions were answered and also to enrich the analysis (Opdenakker, 2006). The interviews were considered completed when the theoretical saturation point was hit, that is at the moment the collection of information as brought additional knowledge to the research questions (Mack *et al.*, 2005).

After the interviews, and with the use of audio recordings the material was transcribed and saved in written documentation, which facilitated ~~their~~ interpretation (Flick *et al.*, 2004). After, the information was organized by analysis categories (presented above) in accordance with the identified patterns and, considering that the purpose of the study is to understand the experiences and opinions of respondents, it was held an interpretation and analysis of the collected data. Finally, the referred data were discussed.

EMPIRICAL STUDY

The representatives of architectural Portuguese firms, clients and non-clients interviewed were selected non-randomly and for convenience, in view of their profile and willingness to participate in the study. Concerning sampling of customers, subjects were selected who had experience with different projects typologies in different companies, Relating to the surveys of architectural firms interviews, firms from different towns were collected so as to obtain a broad perspective.

It was carried out a total of 24 semi-structured interviews to: six representatives of architectural Portuguese firms were interviewed (6 men and 1 woman), seven customers who have already acquired architectural services (6 women and 1 man), and eleven consumers who have never benefited from architectural services (7 women and 4 men). Data was collected in Portugal in 2013, between January to February. Relating to standard sampling protocol and so as ~~In order~~ to make people and businesses feel more comfortable to talk about their experiences and opinions, the name of the respondents and companies remained anonymous.

RESULTS

Architectural services and buying behavior

The results indicated that the acquisition of architectural services is not a common practice for Portuguese consumers. One obvious gap is the lack of knowledge on this activity, namely on the importance of architecture in people's life and the perception of an elitist service only accessible to some people. In addition, people are not aware of the work that has been developed in this sector in Portugal and this is due to the lack of promotion in the area. This explains also the fact that the supplier

selection is made according to the advises of friends and acquaintances, that is, the potential customers contact architectural firms through referrals from people who have purchased such services, becoming professional experience of such firms for a second place.

Services strategies and practices and customer orientation

In general firms do not differentiate themselves from competition in the. However, they claim to be customer-oriented, since they consider customers as coauthors of the service in order to meet their needs. However, this point of view was not confirmed in its whole from customer's side, because each customer has needs and different personalities and the project typology varies. Thus, it is sometimes difficult for firms to consider all these specifics variables, because the customized services require more time and represent a higher risk of error. Results indicated that customers of standardized services are more satisfied, however, this kind of services corresponds to a niche market. In fact, customized services represent a large share of market of architectural services.

Relationship marketing

The importance of building long-term relationships with customers has also been identified by firms, but according to customers, it does not always happen. Results indicated that not all the customers of architectural services maintain contact with the firm or have been following the development of its work. This shows a lack of communication, disclosure, constituting a clear short-term relationship.

Communication

Results found that companies are far short of what could be their opportunity. They normally do not have a budget for advertising investment, limited only to seize opportunities and requests for publication. As for exploiting the potential of free media, including internet, they do it according to their availability, without great concern to retain customers and keep them updated. This happens because there is not a person responsible for it and from the area.

Marketing directed to architectural services firms

The research determined that marketing strategies are a differentiating factor in the provision of architectural services in the Portuguese market. Through this study, it was possible to justify its importance as an activity dynamo, and realize that marketing is still an area that needs to be explored in the field of architecture in Portugal.

CONCLUSION

The research provides insights of academic interest for the professional sector and information on the perception of customers and non-customers about this activity, the customers experience, their main goals and needs and, finally, data on the marketing strategies adopted by architectural firms. However, this study was based on a qualitative research, making it difficult to generalize data.

It was possible to identify the reasons why the acquisition of architectural services is not a common practice for Portuguese people. One clear gap is the lack of awareness of general public regarding the importance of architecture in their life and poor knowledge of what this activity consists, being considered only accessible to some people. In addition, people are not informed of the work that has been developed in this sector in Portugal and this is due to reduced disclosure in the area. This also justifies the fact that the buying behavior is made from circle of friends and acquaintances, that is, potential clients contact architectural firms through referrals from people who have purchased such services, and only after they get concerned with professional experience.

Companies, in turn, do not seek to differentiate from the competition and position itself in the market to attract potential customers. However, affirm to be customer oriented, that are considered coauthors of service, towards satisfy needs. One problem was that in this sector each customer has different needs and personalities and the type of project varies. Thus, it is difficult sometimes for the companies consider all of these specifics because the customized services require more time and have a higher probability of error. Customers of standardized services are the most satisfied; however, this kind of services corresponds to a niche market. In fact, the customized services represent a large slice of market demand for architectural services.

The importance of cultivating long-term relationships with customers has also been identified by companies, but it was found, from customer's point of view, that does not always happen. That it, not all persons who acquired architectural services maintain contact with the company or have been following the development of its work. This shows a lack of communication, disclosure, clearly constitutes a relationship in the short term.

According to David Koren (2008) marketing in architectural firms relationship is everything. He states that "Relationships will influence the way that others perceive the individual architect and the firm. It is important that a natural affinity between the architect and the prospective client be developed that helps the client to like and trust the firm. Without this it is unlikely that the firm will prevail in the competitive situation" (p177). Long-term relationship dissatisfaction may also signal the misunderstanding about how importance a customer actually is in Portuguese management culture. According to a cooperative study done by Ad Capita Executive Search, a leading Portugal executive search firm and member of the INAC world-wide network with the Cranfield School of Management there is the lack of proper emphasis on customer importance (Bennett and Brewster, 2002). The data was collected from 130 foreign senior managers working at either the board level or senior professionals in Portugal and 34 Portuguese senior managers. Three fourth of the foreign managers reported that businesses and service providers do not devote themselves to provide an excellent service or even a better service. This would seem to be a condition that would result in a high chance that

consumers will not be satisfied clients. This possible customer dissatisfaction has a high probability that a lack of repeat business could result in firm instability.

Finally, the main strategy, present in everything previously stated, communication. In this field it was found that companies are far short of what could be their potential and do not generally have a budget for advertising. As for exploiting the potential of free media, including the internet, they do it according to their availability without great concern on retain customers and keep them updated. This happens because there is not one person on the area responsible for the marketing activities.

Thus, by way of conclusion, we can say that marketing strategies are a differentiating factor in the provision of architectural services in the Portuguese market. Through this study it was possible to justify the importance of marketing as a facilitator of the activity, and find that it is still an area that needs to be explored in the field of Portuguese architecture.

MANAGEMENT CONTRIBUTIONS

The first recommendation to architectural firms, in particular to Portuguese government and the Associations in the field, is the fight against this activity depreciation. One of the strategies consist in raising people awareness and educating about its importance, not only in terms of functionality as well as aesthetic , well-being , spatiality , among others. For this, it is suggested the dissemination of practical cases and explanation of the choices made, taking into account the specific client, luminosity issues, spatial organization, budget, that is a kind of documentary that explains the importance of this activity and explains in what consists. Additionally, an overview of the current crisis and the lack of orders, calls for an architecture accessible to all, in order to guarantee the quality of all the designed spaces, providing welfare to people. Finally, the role of the architect is fundamental. It is important to clarify their activity, as something that fits the space and the specific desires of the client, in a language accessible to all people.

Besides the importance of communicating and educating consumers, another recommendation focus on customer orientation. Companies need to take into account the project typology in question, because, as already mentioned, the needs and goals of customers are different. While the goal of a housing project has to be comfortable for the person who will live there, the design of a commercial typology should attract people to enter and purchase there. At this point, the role of company employees is of utmost importance and should all be oriented to customer satisfaction. Finally, they must ensure that all clients' needs and objectives are met, at different levels, such as aesthetics, maintenance, durability, and especially functionality.

In this context, management of relationships is an essential tool for customer loyalty, as well as in the demand for repeat business or new projects via recommendation. Thus, it is important to

cultivate long-term relationships before, during and after service provision, using direct contact or through various communication strategies as mentioned above, for example, sending newsletters. However, one should not neglect the external relations through business partnerships, which are important sources in the detection of market opportunities, while serving as a complement of supplying architectural services. However, it must ensure that the partner companies are governed by the same principles and defend the same values, to avoid the risk of harming each other.

Teece (2010) in discussing business models and innovative strategy states that to improve a service company's performance, at least two aspects of management strategies should be implemented. The first aspect is big picture management strategy, business mode and to survive in a highly competitive market there needs to be a dynamic business model that can keep the company in a top competitive position. He states that this is a model that reflects a profound insight of customers' behavior, competitors' movement, technological opportunities and logic of organization. What clients want or how they want and pay for a company's product has to reflect on the model. How the competitors satisfy or do not satisfy customers' needs has to also incorporate into the model for a more precise response to customers' needs and a better customers' satisfaction. In addition to big picture strategy the firm needs a focus-problem management strategy and to provide a better service and retain a good long term relationship with customers, service companies need to, at least, do three things. Teece outlines these as: (1) Companies have to set their services (providing to customers) as their profit strategy. Not only will the strategy push the companies to try to provide a better customer service, but also change and build the companies' culture to be more dynamic and energetic and indirectly provide an initiation of price war insulation; (2) Companies need to consider how to provide an efficient and effective way for customers to provide feedback recognizing that a proactive strategy is another good tactic for a service firm to get instant feedback on the relationship; and (3) need to keep tracking performance.

With these focus-problem strategies, the actions will not only address the customer-related problems, but have the potential to increase companies' reliability which is considered as the most important aspect among service quality criteria used for judging service quality, according to Academy of Management Executive at Kenan-Flagler business school (Berry, Parasuraman, & Zeithaml, 1994) and (Koren, 2008). With the implementation of both macro and micro management strategies, the companies can attract more new customers as well as create more repetitions of business transactions among existing clients. While addressing this firm's need to continue to external relations through business partnership to determine market opportunities and assure that other components, or branches, of the firm adhere to same principles and values, to avoid the risk of conflicting with one other.

Another recommendation is communication strategies. According to Berry (1994) Generally, almost all of the service products, especially architecture, are considered as a visual art. Therefore, these goods normally require a special approach such as professional photograph and quality three-dimensional simulations to individually portray both unique function and aesthetic beauty of each pieces. As the product needs the professional photograph to depict its quality, a service company desires the best method to reach out potential customers and gain public recognition and it can do by integrated media approach so both print and digital are equally important. He also states that it is important for the company to continuously run an ads campaign at least from three to six months in order to gain the expected recognition. Moreover, it is crucial for the company to assess the ads efficiency and effectiveness through benchmarking before and after the campaign. Berry stresses that the key to success for is not just a well-organized approach and excellent ads, but also the consistency. This consistence can be related to follow up and assessment of print media's feedback as well as consistency in actively updating the online platforms will increase website's reliability which make customers feel the urge to revisit and, later on, make them feel loyal to the site.

Participation in fairs works mainly in the beginning of an internationalization process, as a way for companies to be present in a new market, are also important. In particular, companies that hold capacity and skills that can be shared, should bet on conferences as speakers, as a way to demonstrate knowledge to the target audience.

Another communication strategy is the focus on physical evidence, that is all documents that are produced by the company, such as portfolios of work done, letterheads, envelopes, sheets of drawings and written documents of the projects, formatting mail, among others. These documents require financial investment, and should have good graphic presentation and must be designed according to the image of the company. The investment in merchandising, such as pens, notebooks, or other creative and appealing elements, can also be encompassed in physical evidence and as a way of disseminating brand identity. It also may be included the preparation of a creative Christmas card, or, for example, a postcard from the company's anniversary celebration, a date shared with customers and all the people associated with the company. These elements can be produced and sent in digital format (email) and / or in physical format (post office).

Physical space, is also important because it can influence opinion about their work. In this sense, companies may choose spaces that represent their way of thinking architecture or transmitting sensations to clients, including professionalism, trust, among others.

Finally, firm's values, ideas and philosophies, which will be present in all physical evidence, must be communicated and consistent with brand image.

Thus, an integrated marketing plan seems to be essential and a good guide for every company that work in competitive markets and seek to develop a quality offer. All staff in the company, and especially the administration, should be aware and involved in marketing strategies. Finally, given the customized nature of architectural services, it seems also important the inclusion of a marketing subject in architecture degrees.

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CAN CSR REALLY CONTRIBUTE TO BRAND EQUITY? A FOCUS ON SOCIETAL COMMUNICATION

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ABSTRACT

Previous research on corporate social responsibility generally focused on western countries. Studies conducted in non-Western countries have been far fewer. The present study aims to investigate the effect of the firm's societal communication on brand attitude and customer based brand equity in a non Western-developing country, Tunisia. The effect of individual moderator variables including religiosity, skepticism and consumer social consciousness is tested.

An experiment was performed among students manipulating three communication axes and two brands. Results show a significant effect of brand attitude on brand equity, but no impact of the societal communication on consumer brand attitude. Religiosity, and consumer social consciousness partially moderate the effect of societal communication on brand attitude, but no moderator effect is observed for skepticism.

Keywords: *societal communication, brand attitude, consumer based brand equity, experimental study, religiosity, consumer consciousness, skepticism, developing countries, ANOVA*

INTRODUCTION

The increasing interest in corporate social responsibility (CSR) issues, particularly in Western countries, has given rise to a new form of communication called "societal communication" (Berens and Popma, 2014). The term "societal" refers to social and environmental dimensions of communication (Gabriel, 2003), the most communicated areas of CSR. Societal communication represents a valuable strategic asset for companies by bringing meaning to their brands, establishing their legitimacy (Suchman, 1995; Gabriel, 2003) and developing their brand equity (Keller, 1993). Therefore, it comes as no surprise that several international brands in industrialized countries are increasingly incorporating CSR dimension in their communication strategy (IKEA, Ben & Jerry's) (Benoît-Moreau and Parguel, 2007).

The relationship between company social commitments and consumers responses toward the company and its products has been widely explored (Mohr and Webb, 2005, Becker-Olsen *et al.* 2006, Brown and Dacin, 1997; Swaen and Vanhamme, 2004; Tian *et al.*, 2011). Findings mainly show a positive effect. Only a handful of studies have been conducted at a brand level (Benoît-Moreau and Parguel, 2007, 2011). There can be no doubt that brands play an important role in the firm's marketing strategy and in consumer behavior. A positive consumer attitude toward the brand and a strong brand equity (Keller, 1993) may increase the effectiveness of marketing tools, facilitate brand extensions and strengthen the brand in the marketplace (Benoît-Moreau and Parguel, 2007).

Moreover, it should be noted that the implementation of CSR as a strategic orientation of the company depends largely on economic, historical, and cultural contexts. In this sense, the practice of CSR in emerging markets is less developed than in industrialized countries. This can be explained by the limited availability of economic and social information, the multiplicity of opportunities for abuse, the low degree of freedom of expression, and the difference in degree of the consumer's social sensitivity¹ (Dober and Halme, 2009). Studies in developing countries' context need to be developed (Tian *et al.*, 2011; Ali *et al.*, 2010).

In Tunisia, and since the popular uprising of the 14th January 2011 which marked the end of 23 years of dictatorship, several companies have shown a growing interest in socially responsible actions and communicated their societal commitment (Orange , UBCI, Délice-Danone, Total). In this context, it would be interesting to consider the following research question: Does societal communication add value to the brand? What is the impact of societal communication on consumers' brand attitude and on brand equity?

The purpose of this research study is to test the effect of societal communication on consumers' brand attitude and on the consumer-based brand equity. More specifically, it aims to examine:

- the impact of societal communication on consumers' attitude toward the brand;
- the impact of brand attitude on brand equity;
- the moderating effect of consumer's individual variables (skepticism, social consciousness and religiosity) on the relationship between societal communication and brand attitude.

To meet these objectives, we conducted a between-subjects experimentation on 300 students, in which we tested several company brand communications for two brands. The following section reviews the literature on the concepts of CSR and societal communication. The conceptual framework, the experimental methodology and the findings are then presented. Finally the implications and limitations of the research are discussed.

CSR AND SOCIETAL COMMUNICATION

Today, companies can no longer ignore the social and environmental impacts of their activities. The evolution of their legal context and the consumers' increasing societal consciousness have led firms to seriously consider environmental and social involvement (François-Lecompte and Roberts, 2006; Lantos, 2001) and to communicate about their societal commitment. Societal communication can take different forms from simple information about social and environmental actions to repositioning brands around the firm social engagement. According to Benoît-Moreau *et al.* (2010), the term "societal communication" refers to all forms of communication activities which deliver messages about environmental, social or societal engagements of an organization (company, brand). These engagements can take different forms such as donation, marketing expertise, human capital (for volunteering) or R&D dedicated to these causes (Benoît-Moreau and Parguel, 2007 ; François-Lecompte and Roberts, 2006).

Some studies show that consumers develop negative reactions (attitude, purchase intention) to companies that commit irresponsible acts (Mohr and Webb, 2005). However, the positive effect of firm societal involvement is more controversial. The effect of damaging actions on the consumer attitudes and evaluations is stronger than that of positive ones (Sen and Bhattacharya, 2001; Brown and Dacin, 1997). Communicating the firm's social engagements may influence the valuation of the company (Tian *et al.* , 2011; Creyer and Ross, 1997), the consumers' attitudes toward the company and its products (Sen and Bhattacharya, 2001; Brown and Dacin, 1997), their purchase intentions (Mohr and Webb, 2005; McDonald and Lai, 2011) , and their trust in the firm (Swean and Vanhamne, 2004).

Several variables can moderate the effect of CSR communication on consumer responses. These variables can be related to the company such as CSR activities' choice (Sen and Bhattacharya, 2001), perceived motivation of the company for these causes (proactive vs. reactive) (Becker-Olsen *et al.*, 2006) or the value of the donation (Dirk *et al.*, 2010). They may also be related to the consumer, such as personal support for the CSR issues (Sen and Bhattacharya, 2001) or beliefs about the CSR (Mohr and Webb, 2005). Although brands represent a real asset to the firm, the available literature on the effect of CSR communication at the brand level is limited.

SOCIETAL COMMUNICATION, BRAND ATTITUDE AND BRAND EQUITY: CONCEPTUAL FRAMEWORK

Brand is an intangible asset and its value reflects its ability to influence consumer's behavior (Barwise, 1993). Thus, the brand has value only if it occupies an important place in the consumer's mind. The concept of brand equity expresses the strength of the brand (Keller, 1993). Farquhar (1990) defines it as "the added value that a brand brings to a product". Brand equity can be considered from a cognitive

point of view as "the differential effect of brand knowledge on consumer response to the mix of the brand" (Keller, 1993). Knowledge and awareness of the brand, brand associations as well as brand loyalty are among the main sources of brand equity formation (Keller, 1993; Yoo and Donthu, 2001).

Brand attitude and brand equity

Attitude is a learned predisposition to respond to an object or class of objects in a consistently favorable or unfavorable way (Fishbein and Azjen, 1975). Lutz (1991) found that the attitude acts as a "filter" for how an individual perceives objects. Apart from the considered definition, researchers recognize the cognitive dimension of attitude, i.e. the ability to predict or influence beliefs that a person has about a product or a brand. This cognitive dimension includes notoriety related to the brand and acts as a link between attitude and brand equity. Indeed, notoriety of the brand and associations largely determine brand equity (Keller, 1993) and are to a large extent shaped by consumer brand mental representations. Baldinger and Rubinson (1996) found that two thirds of the brands considered in their research had market share increases when the attitude toward these brands becomes more positive. Furthermore, Dyson *et al.* (1996) found that consumer's statements about brand value were largely determined by their attitude toward the brand.

H1 –Attitude toward the brand has a positive effect on the brand equity. The more the brand attitude is strong the more the brand equity is high.

Some studies established that a company's CSR policy has a positive and significant influence on consumers' attitude toward the company or the brands it offers (Lombard and Louis, 2014 ; Mohr and Webb, 2005; Tian *et al.*, 2011). Ailawadi *et al.* (2014) identified a direct effect of CSR perceptions on consumers' attitude toward a store. This effect is generally positive and attitude plays a mediating role in the relationship between CSR perceptions and behavioral loyalty. The impact of social information on consumers' attitude was confirmed by some researchers: Swaen and Vanhamme (2004, 2005) and Folkes and Kamins (1999) found that negative social information degrades the consumer's attitude toward the company and its products. On the other hand, Sheinin and Biehal (1999) found that corporate advertising focusing on a firm's competencies and its environmental protection activities positively impacted consumers' attitudes toward the firm and to its product brands. Benoît-Moreau and Parguel (2011) found that environmental communication positively influences the strength and "favourability" of environmental associations to the brand, and therefore, enhances brand equity. On the cognitive level, the information provided by the societal communication can be the source of new beliefs and memory representations of the brand, or strengthens the representations already present in memory. Attitude can be considered as the result of cognitive and affective experiences of brands and their communication;

H2: Societal communication has a positive effect on brand attitude. The presence versus absence of societal communication improves brand attitude.

Moderator effect of individual variables

In the present research, we investigate the moderating effect of certain individual variables (social consciousness, skepticism and religiosity) on the relationship between social communication and attitude toward the brand.

Social consciousness

Social consciousness is the propensity for the consumers to “purchase goods and services which they perceive to have a positive impact on the environment, or uses their purchasing power to express current social concerns” (Roberts, 1995, p 98). Social consumer consciousness has often been seen considered as a moderator of the effect of societal marketing on the firm or brand evaluation (Sen and Bhattacharya, 2001; Aouina Mejri and Bhatli, 2014), or on the intention to endeavor a responsible behavior (Mohr *et al.*, 2001; François-Lecompte and Roberts, 2006). People who have a high level of social consciousness change their attitudes and behaviors toward brands in order to achieve an ideal of improving society. In this framework, we can assume that the communication of societal information has a greater effect for people sensitive and conscious about societal problems (Hoeffler and Keller, 2002).

H3: Social consciousness positively moderates the effect of societal communication on consumer brand attitude.

Skepticism

Skepticism is considered as a possible cognitive response to marketing actions. Obermiller and Spangenberg (1998) define skepticism toward advertising as the general tendency toward disbelief of advertising claims. It is considered as a general trait that varies across individuals and is related to general persuadability. Obermiller and Spangenberg (1998, p. 164) note that “if consumers are predisposed to not believe in advertising, a key route to persuasion is closed”. Companies try to develop a positive attitude toward their brands by means of communication campaigns. Mayer *et al.* (1993) reported that several studies in the United States have suggested that a large number of consumers are skeptical of environmental allegations. When consumers believe that an environmental claim is misleading, a decrease in their evaluations of the company’s products may be observed (Chen, 2010; Berens and Popma, 2014). High skeptic consumers could wonder about the motives behind the company’s environmental claim and perceive manipulative intent, which may lead to

resistance to persuasion (Campbell, 1995; Benoît-Moreau and Parguel, 2007). This could deteriorate attitudes toward the company and its brands. Given that skepticism is a cognitive response to marketing actions, we can assume that societal communication in the presence of skepticism would generate less favorable consumer attitudes toward the brand:

H4- Consumer skepticism negatively moderates the effect of societal communication on consumer brand attitude.

Religiosity

The influence of religious beliefs on the individual and social behavior is widely discussed in the academic research (Hirschman, 1983; Sandickci and Rice, 2011). The degree of religiosity plays an important role in the lives of individuals and influences the formation of beliefs, knowledge and attitudes. McDaniel and Burnett (1990) show that religious commitment, measured by cognitive religiosity and behavioral religiosity, influence important evaluation criteria. Religiosity helps the individual to rationalize ethical behavior and influence its ethical position (Magill, 1992; Giorgi and Marsh, 1990). Religious consumers tend to be less materialistic (Burroughs and Rindfleisch, 2002). Indeed, religiosity preaches the idea of modesty and collectivism and encourages being selfless and offering assistance to the needy (O'Cass *et al.*, 2013). We can therefore assume that the consumer's degree of religiosity is likely to increase the effect of societal communication on his/her attitude toward the brand:

H5- Religiosity positively moderates the effect of societal communication on the consumer brand attitude.

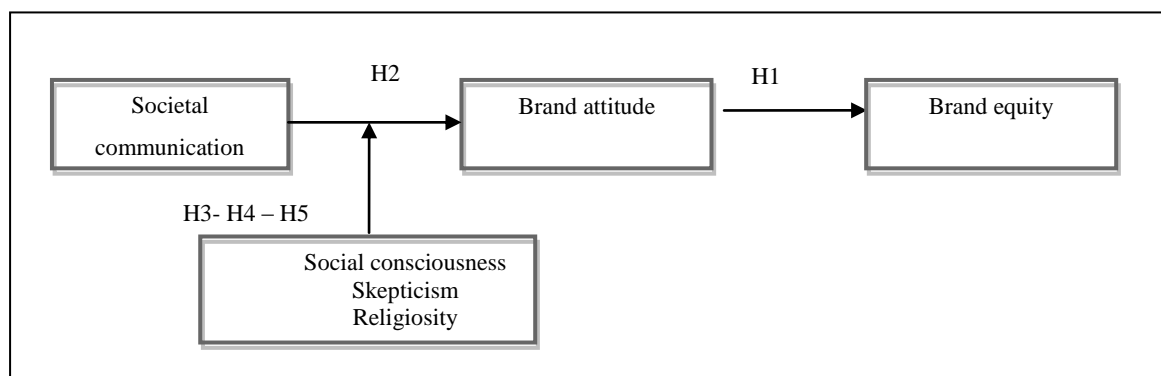


Figure 1- the conceptual model

METHODOLOGY

The experimentation

To test the effect of societal communication on consumer attitude and brand equity, we conducted a between-subjects design experimentation on 300 Tunisian university students with subjects randomly

selected to each treatment (50 students per treatment). A 3 x 2 design experiment (table 1) crosses three communication axes: neutral axis for control group and two forms of societal communication (social versus environmental) (Pontier and Sirieix, 2003), and two brands: “*La Rose Blanche*” and “*Carrefour*”. To ensure external validity, we chose two brands of two different industries “*La Rose Blanche*” represents the agro-food industry and Carrefour supermarkets represents the distribution industry. Both brands are well-known by Tunisian population and therefore by our students sample.

			Brands	
			<i>La Rose Blanche</i>	<i>Carrefour</i>
Communication axis	Group 1	Social	Treatment 1	Treatment 4
	Group 2	Environnemental	Treatment 2	Treatment 5
	Groupe 3 (control)	Neutral	Treatment 3	Treatment 6

Table 1- Factorial design of the experimentation

The experimentation stimulus is a color print of the website home page of each of the two brands (*La Rose Blanche* and *Carrefour*). For the control group, the homepage is not modified. It presents the logo of the brand and a description of the company’s activities. To test the effect of the presence of a societal communication on attitudes, we added to the homepage print an information block (text) describing two forms of societal communication, social and environmental (one homepage with social communication and one homepage with environmental communication). We did not add images illustrating social or environmental action to avoid the bias resulting from the choice of the image. To collect data we used a face to face questionnaire. The questionnaire was pretested on 25 students

Variables measures

The constructs are measured with Likert 7-point scales, all borrowed from the literature. The factorial and reliability analysis led on scales showed good reliability: brand attitude scale (Baggozi, 1978, three items, one dimension, $\alpha=0.86$), customer-based brand equity (Yoo and Donthu, 2001, four items, one dimension, $\alpha=0.86$), skepticism (Mohr *et al.*, 1998, four items, one dimension, $\alpha=0.66$), religiosity (Worthington *et al.*, 2003, two dimensions, three items for spiritual religiosity, $\alpha=0.86$ and four items for behavioral religiosity, $\alpha=0.82$). For the social consciousness scale, we only borrowed two dimensions (environmental and CSR performance) from the Web *et al.* (2008) scale, since the third dimension (recycling structures) is unusual in the Tunisian context. Factorial analysis resulted in four dimensions: “Environmental consciousness” (three items, $\alpha=0.83$), “Consciousness of helping people in difficulty” (two items, $\alpha=0.86$), “Consciousness of company serving the community” (three items, $\alpha=0.86$), and “Consciousness of company HR management” (two items, $\alpha=0.73$). Each construct is measured by the mean scores of its items.

RESULTS

Effect of brand attitude on customer-based brand equity

Results of the linear regression performed to test the effect of brand attitude on brand equity indicate a significant and positive effect, thus supporting H1. The coefficient of determination is $R^2=0.36$ ($F = 173$, $p = 0.000$) and the standardized regression coefficient is $\beta = 0.607$ ($p < 0.01$). The more the attitude is strong, the more the brand equity is high.

Effect of societal communication on brand attitude

A one way ANOVA was performed to test the effect of societal communication (three modalities: the two forms of societal communication and control group) on brand attitude. The equality of variances condition was checked. Results (table 2) show no significant effect of societal communication on brand attitude. H2 is not supported for each of the two brands: societal communication has no direct effect on brand attitude. Table 3 presents the mean scores of brand attitude and brand equity variables. As it is shown in the table, the mean scores do not vary enough to induce significant effect.

		df	F	Sig	
Effect of societal communication on brand attitude	<i>Rose blanche</i>	2	1,452	0,238	NS
	<i>Carrefour</i>	2	0,564	0,570	NS
Effect of societal communication on brand equity	<i>Rose blanche</i>	2	1,383	0,254	NS
	<i>Carrefour</i>	2	0,745	0,477	NS

Table 2- *Effect of societal communication on brand attitude: ANOVA results*

			Brand	Brand equity
Neural communication (control group)	<i>La Rose Blanche</i>	Mean score	4,80	3,89
	<i>Carrefour</i>	Mean score	5,02	3,50
Social	La Rose Blanche	Mean score	4,76	4,25
	Carrefour	Mean score	4,87	3,7
Environnemental	La Rose Blanche	Mean score	5,10	4,18
	Carrefour	Mean score	4,97	3,82

Table 3- *Mean scores for Brand attitude and Brand equity variables*

Moderator effects of social consciousness, religiosity and skepticism

Analysis of covariance (ANCOVA) was performed to test the moderator effect of individual variables on the relationship between societal communication (independent variable) and brand attitude (dependant variable). Dealing with the variable "*skepticism*", no moderator effect was observed. H4 cannot thus be supported. Societal communication does not influence the brand attitude whatever the level of consumer skepticism. Concerning the variable "*social consciousness*", results are divergent depending on the brand and the variable dimension (table 4). For example, regarding the brand *La*

Rose Blanche, three of the four dimensions of social consciousness have a moderating effect on the impact of societal communication on brand attitude: "Consciousness of helping people in difficulty", "Consciousness of company HR management" and "Environmental consciousness". However, regarding *Carrefour* brand, only the dimension «Consciousness of company HR management» moderates the effect of societal communication on brand attitude. Hypothesis H3 cannot be rejected, it is partially supported.

Mixed results are observed with respect to the variable "*Religiosity*". Table 5 shows no moderating effect of religiosity for the brand *La Rose Blanche*. In contrast, religiosity moderates the effect of societal communication on brand attitude in the case of the brand *Carrefour*. We cannot reject H5, it is partially supported. The positive sign of β indicates that religiosity positively moderates the effect of societal communication on brand attitude.

	Interaction between independent variable and	F	Sig	β	effect
<i>Rose blanche</i>					
SC I- Consciousness of company helping people in difficulty	Axis* SC I [axis=S] * SC I [axis=E] * SC I [axe=NI] * SC I	2,263	0,084 0,078 0,062 0,771	0,161 0,248	S**S ** S** NS
SC II: Consciousness of company serving the	Axis * SCII	2,095	0,103		NS
SC III : Consciousness of company HR Management	Axe * SCIII [axe=S] * SCIII [axis=E] * SCIII [axe=NI] * SCIII	4,128	0,008 0,064 0,194 0,888	0,205 0,211	S* S** NS S*
SC IV : Environmental consciousness	Axis * SCIV [axis=S] * SC IV [axis=E] * SCIV	0,668	0,050 0,666 0,037	0,244	S* NS S*
<i>Carrefour</i>					
SCI	Axis * SCI	0,933	0,427		NS
SCII	Axis * SCII	0,618	0,604		NS
SCIII	Axis * SCIII [axis=S] * SCIII [axis=E] * SCIII	2,675	0,050 0,006 0,727	0,283	S* S* NS
SCIV	Axe * SCIV	1,234	0,300		NS

NB : Axis S social communication axis, E : Environnemental communication axis, N: neutral axis (control group) - (*) sig 5% (**) sig 10% NS : non significatif

Table 4- Moderator effect of social consciousness, ANCOVA results

	Interaction between independent variable and	F	Sig	β	conclusion
<i>Rose Blanche</i>	Axis * Religiosité I	0,393	0,758		NS
<i>Carrefour</i>	Axis * Religiosity I	5,102	0,002	0,331	S*
	[axis=S] * Religiosity I		0,007		S*
	[axis=E] * Religiosity I		0,103		NS
	[axis=N] * Religiosity I		0,024		S*
<i>Rose blanche</i>	Axis * Religiosity II	2,028	0,113		NS
<i>Carrefour</i>	Axis * Religiosity II	2,832	0,040	0,245	S*
	[axis=S] * Religiosity II		0,017		S*
	[axis=E] * Religiosity II		0,143		NS
	[axis=N] * Religiosity II		0,497		NS

Axis S : Social communication axis

Religiosity I : piritual religiosity

Axis E : Environnemental communication axis

Religiosity II :Behavioural Religiosity

Axis N: Neutral communication axis (control group)

N S: non signifactive moderator effect

effect

S: significative moderator effect

(*) sig 5% ; (**) sig 10%

Table 5: *Moderator effect of Religiosity – ANCOVA results*

DISCUSSION AND CONCLUSION

The present research investigates the role of societal communication in brand attitude formation and brand equity building. In an-experimental study, subjects were exposed to one of six versions of a “brand presentation” printed webpage, varying across two brands (*La rose Blanche* and *Carrefour*) and three communication axes (social / environmental communication versus neutral for the control group). The effect of individual moderating variables is also tested.

Findings underline the positive role of brand attitude in brand equity building in a context of societal communication. In line with Dyson *et al.* (1996) and Baldinger and Rubinson (1996), our research confirms that the ways on which a consumer thinks and feels about a brand determines its value to its owner. This implies that any changes in the components of the marketing mix such as communication, changes consumer attitudes toward the brand, its mental representations, and consequently influences brand equity. Nevertheless, surprisingly, a significant direct relationship between societal communication and brand attitude cannot be established. Several explanations can be proposed. The first relates to the cultural context of the study. Indeed, in developing countries, such as Tunisia, corporate social responsibility is not yet well developed. Furthermore, CSR faces several constraints including legal, economic, institutional and business practices (Dober and Halme, 2009; Jamali and Mirshak, 2007). Consumerism, which heavily contributed to the emergence of CSR in developing countries, is another recent phenomenon in emerging countries which “is marked by immature conceptions” (Yan and She, 2011, p. 254). This may result in a lack of sensitivity and

interest of consumers for sustainable development and CSR. The significant moderator effect of consumer social consciousness on societal communication impact enlightens this relation and reinforces our first explanation. Maignan (2001), Mohr and Webb (2005) and Sen and Bhattacharya (2001) point out that the impact of CSR on consumer attitudes must be considered in a contextual framework by industrial and demographic specificity countries.

Another explanation may be linked to our methodological choices: The website printed copy stimulus used in this research may not be sufficient to induce a change in consumer response. We just used text description of societal corporate commitment, without images. A third explanation may be the possible existence of a mediating variable which is not considered in this study, such as the consumer perception of CSR.

Finally, the results provided evidence that the impact of societal communication on consumer brand attitude can be moderated by individual variables: consumer social consciousness and religiosity. Nevertheless, this moderation varies with the considered brand and the dimensions of the variable.

The degree of consumer skepticism, contrary to our prediction did not moderate the social communication and brand attitude relationship. According to El Akremi (2004), it is sometimes difficult to highlight moderating effects due to their low impact on how they are supposed to moderate. Furthermore, and contrary to the Western consumers, Tunisian consumers may be still asking for advertising and publicity as symbols of an envied and desired Western way of life (Üstüner and Holt, 2010). Then, they may present a relatively homogenous low level of skepticism. Finally, the use of Western originated scales to measure moderating variables may explain the inconsistency of results. The low reliability index value for the skepticism scale ($\alpha = 0.66$) could be such an example of the lack of adequateness of these scales.

At the managerial level, our research, highlights the fact that improving consumer brand attitude leads to an increase in brand value. Otherwise, companies deciding to communicate their social or environmental engagement in order to improve their brand attitude and brand value have to do it, not only via their website, but in a visible way, using diverse communication media for a greater impact. Some limitations should be mentioned in this research. A sample of students has the advantage of uniformity, but may not represent the entire Tunisian population. Instruments for measuring concepts, particularly social consciousness and skepticism may not match the experience and cultural context of the Tunisian consumer. The absence of specific measurement scales adapted to emerging countries may explain some results.

Some future research paths can be suggested. It would be interesting to conduct this study on brands of different product categories: utilitarian, hedonic or luxury products. The degree of involvement of consumers toward products may explain some results, and may moderate the effect of social

communication on the attitude or brand equity. A mediating variable, between social communication and attitude can be introduced in the model framework, like perception of the CSR communication or brand associations and brand image. A consciousness social scale adapted to the Arab Muslim and/or emerging countries will help improve the measure of this individual character. Furthermore, a replication of this study to other developing countries context will allow comparing, and may be explaining some results.

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ENTREPRENEURIAL INTENTION IN UNIVERSITY STUDENTS

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ABSTRACT

This research aim to analyse the entrepreneurial intentions of university students to know the factors that influence this behaviour, for this Theory of Planned Behaviour (TPB) of Ajzen is used as a theoretical basis, where Attitude Towards Behaviour, Subjective Norm and Perceived Behavioural Control have an influence on Entrepreneurial Intention; adding to this, the impact of University Education in Entrepreneurship. To validate the proposed model, a study with 245 university students was conducted. The findings of this study confirm that Attitude Towards Behaviour and Perceived Behavioural Control have a positive influence on Entrepreneurial Intention, where the impact of Attitude Towards Behaviour is greater. Subjective Norm has no direct influence on the Entrepreneurial Intention, however there is an indirect influence through Attitude Towards Behaviour and Perceived Behavioural Control. Additionally, University Entrepreneurship Education shows a significant relationship only with Perceived Behavioral Control, i.e., the better the University Education in Entrepreneurship, the better the Perceived Behavioral Control, which leads to increase the Entrepreneurial Intention. Finally, gender did not significantly influence on the model as to indicate that the model is different for men and women.

Keywords: *Entrepreneurship, Education, Attitude, Subjective Norm.*

INTRODUCTION

Currently, people believe it is necessary to have more entrepreneurship to achieve higher levels of economic growth. In fact, empirical researchers support the idea of positive links between business or entrepreneurship activity and inexpensive results as innovation and bigger growth (Van Praag & Versloot, 2007; Oosterbeek et al., 2010). If we consider the previously mentioned idea, it is interesting to analyse the behaviour of these people: the entrepreneurs.

The image of the entrepreneurs has been addressed from several points of view and fields of knowledge where there is no common term to refer to the entrepreneurial concept (Alonso Nuez & Galve Górriz, 2008). Nonetheless, there are lots of definitions in history about the entrepreneurs, the same as behaviours that are assigned to these individuals. Among these behaviours we can mention the

generation of business, identification of business opportunities, the opening and management or the maintenance of the same (Yurrebaso Macho, 2012). It is said that businesses that are initiated by entrepreneurs with university education have a propensity to have a more meaningful impact in the economic growth (Robinson & Sexton, 1994), and to produce a higher number of jobs than those created by people without university studies (Dietrich, 1999). For this reason and in the academic area, there appears to be a growing interest towards entrepreneurship and towards all acts that contribute to encourage and promote the generation of companies, such as researches about explanatory factors in the training of entrepreneurial intention (Krueger & Brazeal, 1994; Krueger & Carsrud, 1993; Liñán & Chen, 2009; Shapero & Sokol, 1982; Veciana, Aponte, & Urbano, 2005).

According to the theory, intentions are a central aspect to understanding the process of starting a business and can be conceived as the first step to the generation of a new company. This is explained because the process of identification of opportunities is clearly intentional. In this way, the intention becomes a key aspect to understanding the entire process of start a business (Krueger 1993).

The reason for studying university students is that they have obtained characteristics that are especially positive in the direction of the entrepreneurial option, considering that in this phase the individual is in a good position to develop their professional career and therefore, more willing to accept some changes (Liñán, 2004). In fact, as it is mentioned in the Global Entrepreneurship Monitor (GEM) reports, to have a higher level of education is related to a higher tendency to create companies starting from the detection of an opportunity instead of starting a business motivated by necessity.

That is the reason why the aim of this study is to analyse the entrepreneurial intentions in university students from Chile, in order to understand the factors that have an important influence on the intention of creating a company.

LITERATURE REVIEW

Education in entrepreneurship

According to Karatko (2005) we cannot continue asking if education in entrepreneurship is important. In fact, this area of study has been studied in universities for more than 70 years. In accordance with Bell et al. (2004) in USA, entrepreneurship was recognized as a discipline only 40 years after and between the 70's and the 80's, lots of these programs were established in American universities. At the beginning of the 21st Century, there were more than 500 programs of this discipline in the country. Based on these arguments, it is revealed that there are 2 main factors that can help to explain the appearance and significance of education in entrepreneurship: the small and medium enterprises are carrying out a very important role in the economy, and there is the need of providing the necessary tools to create and develop businesses for the entrepreneur candidates (Giacomin et al., 2010).

In the measuring of the 2012 cycle of the GEM in Chile, 25% of the new entrepreneurs were professionals with university degree (lots of them, also with a postgraduate study). However, according to Poblete & Amoros (2013), education in entrepreneurship is not well assessed. In fact, only 59% of the experts consider that training in administration and commercial management of companies provides an adequate and qualified expertise to create new companies and to make existing companies grow, whereas the remaining percentage has a negative opinion about it.

As stated by Hills (1988), the aim of education programs in entrepreneurship is to encourage desirability in the entrepreneur (the wish of having an entrepreneurial career) as well as the feasibility (to have the necessary skills and knowledge to create and manage a company) in the entrepreneurial initiative. In addition to the behaviors of entrepreneur it is possible to add the identification of business opportunities, the creation of businesses and the opening and management of the business (Yurrebaso Macho, 2012). These behaviors are encouraged in the entrepreneurship programs along with promoting attitudes, capacities and tools to increase their chance of success. The previously mentioned objectives are related with the Shapero & Sokol model (1982) that points out that the intention to start a business is determined by the desirability and feasibility of carrying out the entrepreneurial initiative.

Entrepreneurial intentions

According to Krueger et al. (2000) the entrepreneurs are distinguished by their way of thinking that emphasizes the opportunities over the threats. In effect, the process of identification of opportunities is clearly intentional; therefore, the intentions can be conceived as the first step to create a new company. Thus, this intention becomes a key point to understand the entire process of entrepreneurship (Krueger 1993). The intentions of starting a business stand out from the attitudes towards entrepreneurship because not all individuals who desire to begin a business actually do it; as an example, people interested in beginning a business do not do it because of the negative understanding of entrepreneurship in their social environment (Giacomin et al., 2010). Additionally, to initiate a business without the proper knowledge involves a great risk, even if the person has strong entrepreneurial intentions. In fact, Krueger and Brazeal (1994) say that people are not entrepreneurs since birth but they become entrepreneurs.

In accordance with Ajzen (1991), intentions appears as the best indicator of the planned behavior; in addition, to create companies requires time and involves great planning. Consequently, entrepreneurial behavior is a type of planned behavior to which models of intentions are ideally convenient given that they can help explain and predict this entrepreneurial behavior (Krueger et al., 2000).

The two models that have been used in most of the studies of entrepreneurial intentions are the Business Event Model (Shapero & Sokol, 1982) and the Theory of Planned Behaviour of Ajzen (1987,

1991). These two models are very similar and both suggest that the intentions to initiate a business are, mainly, a function of attitude towards the creation of a business (Krueger et al. 2000).

The Business Event Model (Shapero & Sokol, 1982) explains that the decision to initiate an entrepreneurial activity requires a pre-existent belief that this activity is ideal and viable, a personal tendency to act on the opportunities and some kind of precipitant factor. The Theory of Planned Behaviour of Ajzen (1991) allows to interpret the intention of starting a business when it is conditioned by the result that the entrepreneur hopes to achieve, the expectations in their surroundings about their behaviour and the perception that the entrepreneur has of their capacity to control and achieve the results of their entrepreneurial action. This theory tries to predict and explain human behaviour with a focus on the intention of individuals to act as stated by a conduct given in the long-term, which makes this theory applicable to the creation of companies (Krueger et al., 2000).

The Theory of Planned Behaviour postulates the existence of three main elements that guide human behaviour: (1) *Attitudes towards behaviour*, (2) *Subjective Norms* and (3) *Perceived Behavioural Control*. This group of elements, according to Krueger et al. (2000) manages to explain even 60% or more of the deviation in the intentions. These intentions can predict 30% or more of the deviation in the objective behaviour when this model is applied.

Attitude towards Behaviour (AB) measures the positive or negative valuation of the person towards the result of the behaviour, in this case, the personal valuation towards starting a business. *Subjective Norm* (SN) shows the perception that people in the individual's surrounding would approve or reject the decision, in this case, of becoming an entrepreneur. The *Perceived Behavioral Control* (PBC) refers to the ease or difficulty perceived by the individual to control behaviour, in this case, of starting a business.

According to Sanchez (2013) students that have participated in programs of education in entrepreneurship have increased their competencies and intentions towards self-employment. In contrast, other studies have not proven to show that education in entrepreneurship has any positive impact on the entrepreneurial intentions (Gouveia et al., 2008); and even more importantly, some studies have shown evidence of negative effects (Fayolle & Gailly, 2009; Oosterbeek et al., 2010; von Graevenitz, Harhoff, & Weber, 2010).

OBJECTIVES

The aim of this investigation is to analyse the entrepreneurial intentions of university students to know the factors that influence this behaviour, for this the Theory of Planned Behaviour (TPB) of Ajzen is used as a theoretical basis.

The hypothesis to be evaluated from the model, shown in Table 1, are applied in studies investigating entrepreneurial intentions by using Ajzen TPB. In addition, it has been proposed to include a variable

representing university teaching applied to entrepreneurship, in order to analyze the influence of entrepreneurial education on student's attitudes and perceptions of control towards entrepreneurial intention.

Hypothesis	Description
H1: AC \rightarrow IE	Attitude Toward the Behavior positively influences Entrepreneurial Intention.
H2: CPC \rightarrow IE	Perceived Behavioral Control positively influences Entrepreneurial Intention.
H3: NS \rightarrow IE	Subjective Norm positively influences Entrepreneurial Intention.
H4: NS \rightarrow AC	Subjective Norm positively influences the Attitude Toward the Behavior.
H5: NS \rightarrow CPC	Subjective Norm positively influences Perceived Behavioral Control.
H6: EUE \rightarrow AC	University Education in Entrepreneurship positively influences the Attitude Toward the Behavior.
H7: EUE \rightarrow CPC	University Education in Entrepreneurship positively influences Perceived Behavioral Control.

Table 9. *Hypothesis of the study.*

METHODOLOGY

The data used for the realization of this study were obtained through surveys applied to students of the Ingeniería Comercial program of the Departamento de Industrias of Universidad Técnica Federico Santa María, early in the first half of 2013. The information was obtained through an online questionnaire that was sent to student's institutional emails. After discarding incomplete responses, a sample size of 245 completed surveys was obtained.

In the following figure, we can find the path analysis using PLS method, also the figure shows the hypothesis evaluated from the structural model and the measurement model used for each theoretical construct of the structural model. All the indicators of the measurement model are reflective nature.

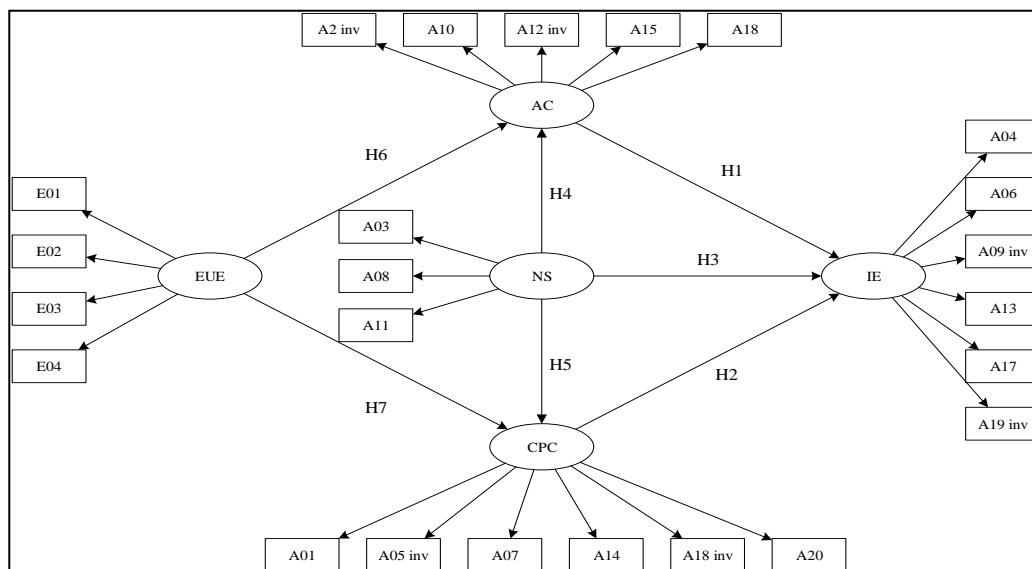


Figure 16. *Entrepreneurial Intention Model*

The figure above shows the constructs: *University Education in Entrepreneurship (EUE)*, *Subjective Norm (NS)*, *Attitude Toward the Behavior (AC)*, *Perceived Behavioral Control (CPC)* and *Intention Entrepreneurship (IE)*.

RESULTS

Survey respondents considered 51% males as well as 71% of people between 21 and 24 years old. Regarding their working situation, 69.9% of them are studying and 25% are studying and working at the same time. Additionally, 29.4% of the students have had some independent working experience (self-employment). 67.8% of the survey respondents have an entrepreneurial role model and in the case of the students who decide to create a company, 42% of them prefer a big company, 46% a medium company and 11% want a small company. In general, students tend to agree more on following a professional career as entrepreneurs (5.32 points out of 7) than developing a professional activity in a private company (4.93 points out of 7). In addition, students declare themselves indifferent to work for an NGO or any other non-profitable organization and they are not willing to work in the public administration.

Model results are shown in Figure 2. By using Hair et al. (2011) criteria to evaluate the R^2 determination coefficient that indicates a 0,75 for substantial, 0,50 for moderate and 0,25 for weak, an excellent predictive accuracy to explain *Entrepreneurial Intention (IE)* was found ($R^2 = 0,742$). No signs of collinearity in any of the model cases were reported ($VIF < 5$).

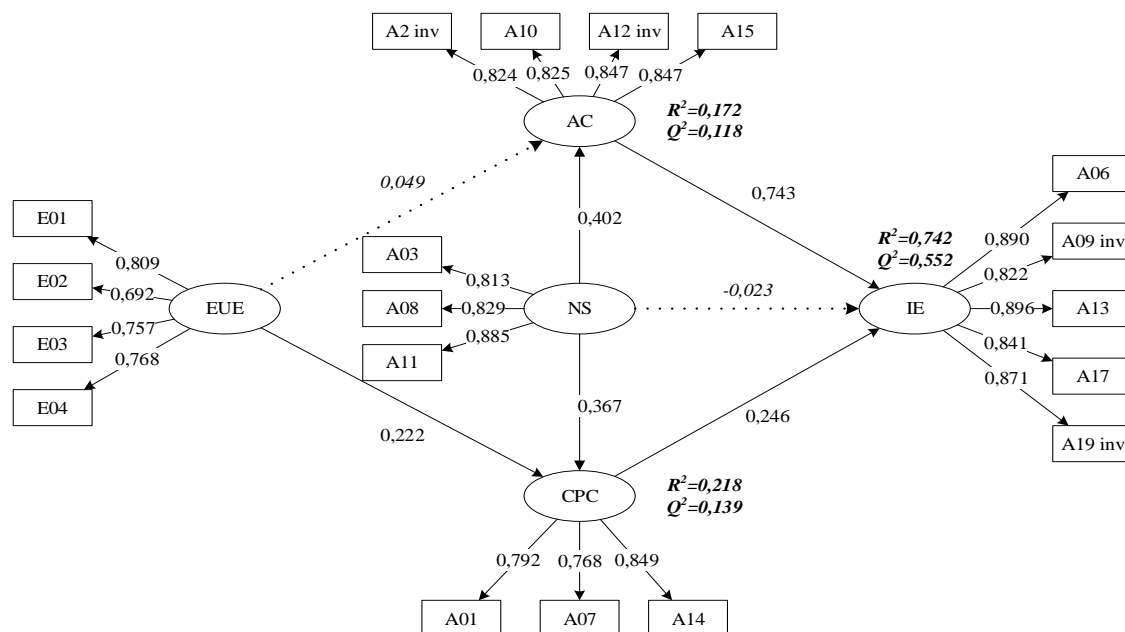


Figure 17. Results of Entrepreneurial Intention Model based on PLS-SEM

Once the statistical significance is determined, it is important to analyse the path coefficients to establish the relevance of these meaningful connections between the latent variables. It is relevant to

point out the great influence of *Attitude towards Behaviour* over *Entrepreneurial Intention* ($\beta = 0,743$) followed by *Perceived Behavioral Control* ($\beta = 0.246$) and therefore, accepting hypothesis 1 and 2. The *Subjective Norm* has a direct negative impact ($\beta = -0,023$) over the *Entrepreneurial Intention*. This implies that hypothesis 3 is rejected while it has an indirect positive influence through *Attitude towards Behaviour* ($\beta = 0.402$) and *Perceived Behavioral Control* ($\beta = 0.367$) by accepting hypothesis 4 and 5. The variable of *University Education in Entrepreneurship* only achieves to significantly explain *Perceived Behavioral Control* ($\beta = 0.049$), accepting hypothesis 6. On the other hand, *University Education in Entrepreneurship* has no significant relationship with *Attitude towards Behaviour* (which rejects hypothesis 7).

Relaciones	Indirect effects	Total effect	Significance level	p-value
AC →IE	-	0.7435	***	0.000
CPC →IE	-	0.2459	***	0.000
EUE →AC	-	0.0492	n/s	0.281
EUE →CPC	-	0.2224	***	0.000
EUE →IE	0.0816	0.0913	*	0.065
NS →AC	-	0.4022	***	0.000
NS →CPC	-	0.3672	***	0.000
NS →IE	0.3893	0.3666	***	0.000

Table 10. Results of the Entrepreneurial Intention Model. Note: *** $p < .001$, ** $p < .01$, * $p < .05$.

Descriptive analysis of Entrepreneurial Intention Model by gender

The following table shows descriptive statistics of the constructs of the *Entrepreneurial Intention* classified according to *Gender*.

Statistic		Gender	
		Male	Female
IE	Sample size	125	120
	Mean	5.34	4.99
	Median	5.61	5.20
	Standard deviation	1.41	1.42
AC	Mean	6.03	5.71
	Median	6.48	6.12
	Standard deviation	1.23	1.26
CPC	Mean	5.01	4.87
	Median	5.01	4.87
	Standard deviation	1.02	.95
EUE	Mean	4.10	4.29
	Median	4.16	4.31
	Standard deviation	1.26	1.20
NS	Mean	6.03	5.92
	Median	6.30	6.28
	Standard deviation	1.06	1.06

Table 11. Descriptive analysis of Entrepreneurial Intention Model by gender.

It can be observed that male students obtained higher scores than their female counterparts in almost every construct of the model with the exception of the perception on *University Education in Entrepreneurship*. In general, the higher scores were in *Attitude towards Behaviour* and *Subjective Norm* and the lower scores were in *University Education in Entrepreneurship* and in *Perceived Behavioral Control*. The *Entrepreneurial Intention* reached a score close to 5, which indicates that in general, students tend to lean slightly towards this behaviour. The next step was to make a statistic test to compare if these two groups are similar between them. For the gender category, the invalid hypothesis was rejected for the latent variables *Attitude towards Behaviour* and *Entrepreneurial Intention*. For this reason, the groups are different between them only for these two cases, in which male students have higher *Entrepreneurial Intention* in comparison with their female counterparts (median of 5.61 vs 5.20), along with owning a higher *Attitude towards Behaviour* of starting a business (median of 6.48 vs 6.12). Nevertheless, gender did not significantly influence on the model as to indicate that the model is different for men and women.

DISCUSSION

This research confirm that *Attitude Towards Behaviour* and *Perceived Behavioral Control* have a direct and positive influence in *Entrepreneurial Intentions* ($R^2 = 0,742$). The greater impact on *Entrepreneurial Intentions* is generated by *Attitude Towards Behaviour* ($\beta = 0,743$), followed by *Perceived Behavioral Control* ($\beta = 0,246$). *University Education in Entrepreneurship* shows a significant relationship only with *Perceived Behavioral Control* ($\beta = 0,222$), namely, the better the *University Education in Entrepreneurship*, the better the *Perceived Behavioral Control*, which leads to increase the *Entrepreneurial Intention*. *Subjective Norm* has no direct influence on *Entrepreneurial Intention*, however there is an indirect influence through *Attitude Towards Behaviour* ($\beta = 0,402$) and *Perceived Behavioural Control* ($\beta = 0,367$). Thus the perception of approval or rejection from other people does not have an influence to the idea that the individual has a higher or lower intention of starting a business, but these perceptions are expressed in the positive or negative valuation towards behaviour and in the degree of perceived difficulty of control of it. On the other side, gender did not significantly influence on the model as to indicate that the model is different for men and women, however, by carrying out an univariate analysis of latent variables of the model, male students exhibit higher entrepreneurial intentions and higher attitudes towards the behaviour to start a business. Finally, some evidence was found regarding the influence of *University Education in Entrepreneurship* on *Entrepreneurial Intention* through *Perceived Behavioural Control*. However, the evidence also shows that *University Education in Entrepreneurship* does not affect the most important variable that allows the *Entrepreneurial Intentions* of the students to be explained: *Attitude Towards Behaviour*.

The practical implications of this study are that *Attitude Towards Behaviour* of starting a business should be encouraged given that these are the ones with bigger impact on student's *Entrepreneurial Intention*; and that the quality of *University Education in Entrepreneurship* should be improved as it generates an indirect positive impact on the intention of starting a business. As a recommendation, it is suggested to encourage students to start a business is a desirable, interesting and satisfying professional career, especially to female students as they obtained a lower score in attitudes towards starting a business and entrepreneurial intentions. In addition, it is suggested that this encouragement should be applied not only through compulsory and elective entrepreneurship courses but also through extracurricular events such as motivational speeches with entrepreneurs and workshops that teach new skills and useful methodologies to start a business.

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A NEW ACTOR IN THE DEVELOPMENT OF SOCIAL INNOVATION: THE CASE OF TRENTORISE

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ABSTRACT

In the current scenario, an increasing importance of social innovation is emerging, especially in front of this situation of crisis. For its close link with the local area in which it takes place, social innovation is deeply rooted in the overall system, and thus involves the action of many different actors. These parties should work synergistically to support social innovation and this requires an actor that play the role of intermediary, connecting demand, supply and all the parties: the *innovation catalyst*.

However, in spite of the existence of this kind of actors in practice, their role hasn't been formally included yet within the existing models of social innovation. To fill this literature gap, our work has been developed focusing on TrentoRise, an Italian *innovation catalyst* based in the Trentino Region, a case of excellence as innovation ecosystem. Applying a fresh and innovative framework, the Social Innovation Pyramid, the aim of this study is to understand the role that an innovation catalyst covers and the key features it has.

Based on a single case study, the analysis shows that an *innovation catalyst* is fundamental in developing an healthy and functioning innovation ecosystem and it should be included within the existing innovation models. Moreover, our results are useful in understanding how to replicate the model in other areas, helping at the same time regional policy makers to adapt it according to the characteristics of their own districts.

Keywords: *innovation catalyst, intermediary, innovation, social innovation, innovation ecosystem, Trentino, Triple Helix, Social Innovation Pyramid*

INTRODUCTION

One of the pressing needs of our society is the increasing urge of enhancing innovation, most of all for the unprecedented and unexpected social crisis we are facing. Enhancing innovation means developing a network of public and private institutions, within which production, diffusion and application of new knowledge and technology takes place (Erikson et al., 2002; Vrontis and Thrassou, 2013). In this context, the concept of social innovation is becoming more and more prominent; in

particular, it is a form of innovation that explicitly aims for the social and public good (Harris and Albury, 2009). As defined by OECD (2010), social innovation seeks new answers to social problems, through new services, new labor market integration processes, new competencies, new jobs and new forms of participation. The biggest difference with economic innovation is that instead of introducing new types of production or exploiting new markets in themselves, social innovation aims at satisfying new needs not provided for by the market, or creating innovative ways to include people in the workforce, giving them a place and a role in the production.

Several models were developed to enhance innovation. One of the most cited is the Triple Helix Model (Etzkowitz and Leydesdorff, 2000), that considers the dynamic interplay of firms, Universities and the public actor. This model has been improved by Carayannis and Campbell (2009; 2010), who moved towards a Quadruple Helix Model and then a Quintuple Helix Model, to better capture all the roles involved within an innovation ecosystem.

These models are highly useful in capturing the complex interplay of involved roles within an innovation ecosystem. But, according to the literature on the topic of social innovation and analyzing these existent models, it emerges the lack of an actor that could play as intermediary among all the involved actors, as a sort of *innovation catalyst*. None of these models actually foresee an actor that plays as a pivot in guiding the action of all other actors. This gap is the starting point of the present work, aimed at investigating the usefulness of developing a new model in which the central role is covered by the innovation catalyst, as a specific actor that could foster the enhancement of social innovation. This kind of actor, in fact, becomes fundamental because the direct and indirect actors of innovation are highly different among each other and this diversity could prevent them from collaborate with ease. Thus, the need for intermediaries that can create the necessary link between the involved actors is widely felt. In fact, there is a notable absence of intermediaries able to connect demand and supply and to find the right organizational forms to put the innovation into practice (NESTA, 2007; Westley and Antadze 2010).

As it plays the unique role of combining actors' objectives, facilitating the interaction and collaboration between them and protecting, at the same time, the whole ecosystem the *innovation catalyst* can meet this need.

In this sense, the aim of this paper is to understand the role that an innovation catalyst covers and the key features it has. More specifically, the paper investigates the following research questions: *how the innovation catalyst may foster social innovation in an innovation ecosystem (RQ 1)? how the innovation catalyst should operate (RQ 2)?*

To answer the research questions, the paper focuses on Trento Rise, the most important example of innovation catalyst in Italy. TrentoRise is based in the Trentino Region, an area that in the last years

has become one of the best examples of virtuous and innovative ecosystem, a centre of excellence in Italy and Europe, in particular in ICT technologies.

To deeply analyzed this topic, between January and February 2014 face-to-face interviews with manager that cover top positions inside all the actors that are present in this innovation ecosystem have been carried out. At the same time primary and secondary sourced documents regarding the organization have been used.

Thus, this paper enriches the stream of literature on innovation models and ecosystem, on social innovation and, at the same time on intermediaries in the innovation process. The new actor we propose it is able to promote and foster social innovation in a innovation ecosystem through stimulating close cooperation and synergy between all the actors. This is the main contribution of the paper because there are many practical examples in the world, but very few studies analyze them and none provides an overview of these topics in order to highlight the role covered by the innovation catalyst and the key features that should have.

The remainder of the paper is organized as follows: in the next two sections a theoretical overview of the academic literature on social innovation is outlined, along with a description of those models developed to analyze the phenomenon. Afterwards, results of the analysis is presented, putting in evidence the main features of a successful *innovation catalyst*. Finally, in the conclusions sections our findings is discussed and managerial implication for policy makers and future line of research is proposed.

SOCIAL INNOVATION

Among the first definitions of social innovation, is worth noticed the one coined in 2000 from the Local Economic and Employment Development Committee (LEED) of the OECD, in the framework of its Forum on Social Innovation (FSI). This was a multi-stakeholder forum, created with the main objective of facilitating international dissemination and transferring best policies and practices in social innovation. The definition they came up with, has its focus in the concepts of change, organizational change and changes in financing, and relationship, with stakeholders and territories. Basically, social innovation aims at finding new answers to social problems. This can happen mostly in two ways: by identifying and delivering new services that improve the quality of life of individuals and communities, and by identifying and implementing new labor market integration processes, new competencies, new jobs, and new forms of participation, to contribute improving the position of individuals in the workforce (OECD, 2010).

The need for social innovation arises from many social challenges that are resistant to conventional approaches to solving them. Social innovation means new responses to those needs and challenges, not only with its outcomes, but also with the processes it implements.

In the OECD definition a strong link between social innovation and local development is evidenced. Social innovation is a way to improve individuals and communities welfare, and explicit reference is made to new relationship with territories.

Many contributions on the topic focused on the boundaries and overlaps between social innovation and other related concepts. For example the term is often used interchangeably with “social entrepreneurship”. Even though the terms have much in common, social entrepreneurship refers to an entrepreneurial activity run for the achievement of a social mission. The emphasis on profitability is what differentiate it from social innovation. Social innovation does not necessarily involve a commercial interest nor an entrepreneurial activity, though it does not preclude such interest (Westley and Antadze 2010). The field of social innovation is wider as it transcends sectors, level of analysis, and method to discover the processes that produce lasting impact. It is correct to say that social innovation aims at modify the overall system in which social entrepreneurship can take form, creating the right framework and the strategy in which it can develop and operate (Phills *et al.*, 2008).

Also, the differences between business innovation and social innovation have been deeply investigated (Mulgan, 2006; Pol and Ville, 2009; OECD, 2010). The main difference lies in the fact that business innovation aims at introducing new types of production or exploiting new markets in themselves, while social innovation is completely driven by the goals of public good. However, it has to be noticed that this view is not shared by all the scholars (Kuznets, 1974; Pol and Ville, 2009). Somehow it could be argued that also business innovations generate benefits not only to the innovator, but also to other parties such as consumers and competitors, through a process that they called *innovation spillover*. From this perspective the concept of social innovation adds nothing to what we already know about innovation in itself and is too vague ever to be useful. Nevertheless, the key aspect is the way in which social innovations benefit human beings. The implied idea within this concept is that social innovation has the potential to improve either quality or quantity of life (Pol and Ville, 2009).

HOW TO FOSTER SOCIAL INNOVATION IN AN INNOVATION ECOSYSTEM

Innovation is something really difficult to capture and appreciate in its all complexity and it is unpredictable because it is linked to creativity (Bresciani, 2010; Bresciani et al., 2013). Being innovative means having the ability to analyze the shortcomings of the present, but above all, to imagine the challenges of the future (Heunks, 1998; Bresciani and Ferraris, 2012). Ideas growth, refining and

enrichment happen with various contributions, through circulation and, certainly, an open culture to innovation, inclined to see change as an opportunity rather than a threat that helps increasing the inclination to innovation (Chesbrough, 2003; Vrontis et al., 2012). Moreover, an innovation process cannot be engineered, designed from the top or planned at table, it is only possible increase the probability that the innovation happens. This probability tends to increase in societies where there is a greater inclination to innovation (Krause, 2004). If an innovation cannot be engineered, it is fundamental to implement an innovation ecosystem that makes it permanent, stable and self-generating, to increase the likelihood that it emerges (Adner and Kapoor, 2010).

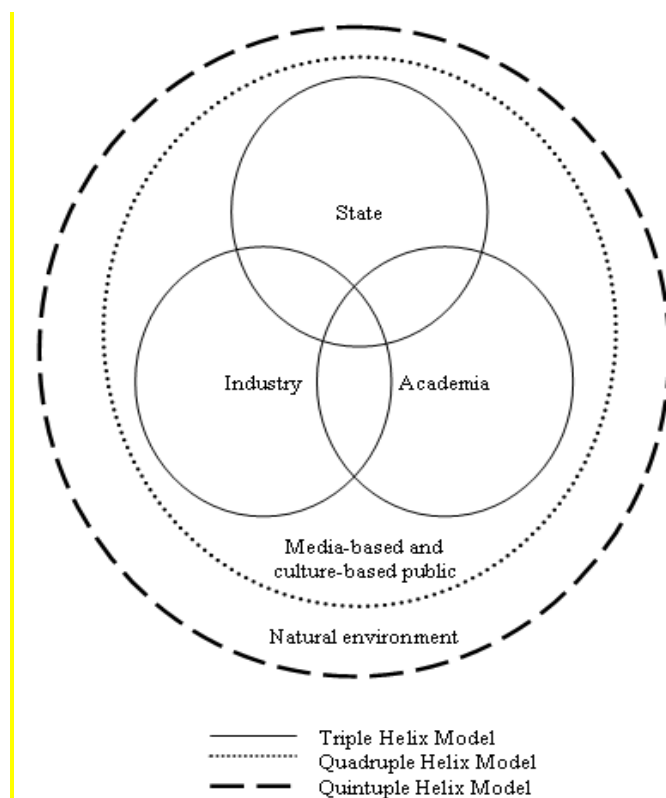
Within this ecosystem several actors are involved in social innovation processes, and many studies are aimed at analyzing their roles. In their contribution on scaling-up processes, Westley and Antadze (2010) identified the dynamics that affect the relationship between the supply and demand for social innovation, underlying the role played by the different actors. First, the vulnerable group, or the intractable social issue, that demand social innovation for its breakthrough. In response to this demand, the socio-entrepreneurial organizations strive to attenuate their needs. On the other hand, this supply cannot be financed by the users themselves, but a source of financing is needed and it can come from governments or charitable foundation, or both. The success of grant proposals depends not only on the evident needs of the vulnerable client group, but also on the skills of the grant writers in mediating such needs so as to fit the priorities of government programs. These priorities are highly affected by news media or research units that set the agenda for the government with respect to a particular vulnerable group or issue. This underline how social innovation requires a variety of actors, working in concert or separately. Thus, innovation processes are interactive. They can be better studied intellectually by specifying the actors and the linkages between those (Cooke et al., 1997). This study can be done using those models developed to explain how innovation comes out from the interaction of different parties. In this sense the Triple Helix Model, as developed and described by Etzkowitz and Leydesdorff (2000), is an important landmark within this field of study. It has been advocated as a useful method for fostering entrepreneurship and growth, 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 university, industry and government to generate new institutional and social formats for the production, transfer and application of knowledge (Ranga and Etzkowitz, 2013). As the authors stated, the relationship between the three actors span networks that enable and constrain flux of communication. Within this model, all the actors should have the same weight in the relations system, as together they generate a knowledge

infrastructure in terms of overlapping institutional spheres, with each taking the role of the other and with hybrid organizations emerging at the interfaces (Etzkowitz and Leydesdorff, 2000).

The Triple Helix model have been further widened, with the adjunction of elements that were supposed to better complete the framework from which innovation can come out. To this end, Carayannis and Campbell (2009) added the element of the public as a fourth helix, more precisely identified as the “media-based and culture-based public”. The authors justify the introduction of this helix explaining how both culture and values and the way in which reality is constructed and communicated by the media, highly influence every national innovation system. Public discourses transported through and interpreted by the media, are crucial for a society to assign top priorities to innovation and knowledge.

Afterwards, the same authors kept enriching the model adding a fifth helix that links to the established model, the role of the “natural environment or natural environments of society” (Carayannis and Campbell, 2010). With this configuration, the renewed Quintuple Helix model became an analytical framework for sustainable development and social ecology and outlines what sustainable development might means and implies for eco-innovation and eco-entrepreneurship, in the current scenario.

Figure 1: The evolution of helices models



Source: adapted from Carayannis and Campbell (2010)

Apart from the academic literature, a new managerial model has been proposed by Giunchiglia (2013). He moved a step away from the helices structure, proposing an innovative framework to analyze the involved actors under a pyramidal perspective that better suits the peculiarities of social innovation. In its Social Innovation Pyramid, actors are distributed among the top and the bottom (see Figure 2). At the top, the first actor is the citizen, or the whole society in a wider perspective with the final purpose of improving their quality of life. At the top of the pyramid an important role is also played by firms that create an innovation of service and product in a B2C business model, and by the Public Administration (PA) as buyer and main user of new products or services, making the creation, the bootstrap and evolution easier. This also facilitates the environment sustainability in a long time perspective because of being itself the main user and creator, laying the foundation for the future increase of private participation.

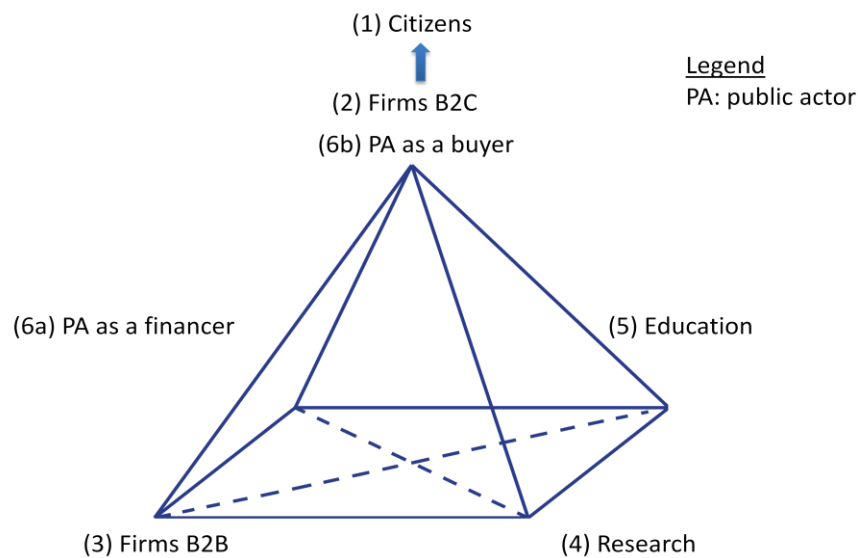


Figure 2: The Social Innovation Pyramid

Source: adapted from Giunchiglia (2013)

Other actors are involved at the bottom of the pyramid: a) firms which provide technological innovation, either as services or products to other firms in a B2B business model; b) the research system that provide *know-how* and skills to those firms; c) training and high training systems, which provide new personnel and transfer knowledge on a big scale, either to firms or research system and; d) the public actor that plays a role of financier. These are the direct stakeholders of innovation, while the indirect one are the political and the social parties system and the private lenders, including Venture Capitalists.

Giunchiglia (2013) highlights that the direct and indirect stakeholders of innovation are not sufficient to create an innovation ecosystem because of their diversity that prevents them from collaborate with

ease, in particular under three important dimensions: roles and responsibilities, objectives, and time.

Concerning the first dimension, research produces new knowledge and new researchers while training institutions must transfer skills; service companies (such as those that provide energy, mobility, connectivity) and the public actor provides services, while companies provide new technology systems. As for the second, researchers have the objective of expanding human knowledge, educators training students to quality, companies generating profit, the public actor providing the best services at the lowest possible cost. Finally, about the third dimension, it is clear that three years in research is a short period (just need to build a new skill), for training one year is often the minimum unit to measure the results, for companies the basic unit of time is the month because they have to pay monthly salaries. This diversity of roles, responsibilities and time frames makes the collaboration between the actors of the innovation ecosystem more difficult.

This overview evidenced the wide range of actors that social innovation requires. What emerges, however, is a lack of a certain kind of intermediary that in some way act as a link between all the different actors involved. In this sense social innovation can be seen as the result of a combination of “bees” and “trees” (NESTA, 2007). The first are small organizations, individuals and groups who have new ideas, the second are big organizations such as government or big companies which are generally poor at creativity but good in implementation and which have the resilience, roots and scale to make things happen.

The problem in this picture is how to connect bees and trees.

This need is also highlighted by OECD (2010) that in developing policy recommendations express the need for intermediaries as their absence in the social field is seen as a key reason why too few innovations succeed.

The solution is the creation of a convergent interaction among the different actors, aimed at producing concrete results, safeguarding both the specificity of each component and the diversity inherent in the ecosystem. It is needed, in other words, a component that promotes and accelerates the process of creating innovation, and these are the premises from which the *innovation catalyst* can arise.

Even if the literature review highlights the need for this kind of actor, the analysis of the existing models shows that an innovation catalyst is not foreseen by none of them. Nevertheless, our study on Trentino innovation ecosystem led us to conclude that in some cases, the innovation catalyst actually plays a pivotal role in fostering the enhancement of social innovation.

Thus, in this paper, we highlight the importance and the relevance of this missing actor and the key features it should have in order to fully satisfy his role of fostering social innovation within the ecosystem.

METHOD

This paper emanates from an extensive study of the Trentino's innovation ecosystem sponsored by the University of Trento. Subsequently, these data, analyzed here for the case study, are utilized to explore the two research question, "*how the innovation catalyst may foster social innovation in an innovation ecosystem (RQ 1)*" and "*how the innovation catalyst should operate (RQ 2)*".

The case is an effective illustration of one organization's approach to managing multi-actor in an innovation ecosystem in order to foster social innovation. The case study (Yin, 2003; Eisenhardt, 1989) is not meant to be generalizable, but rather it is utilized here to inform theoretical development of the roles, tasks and benefits of a catalyst within an innovation ecosystem. The case site was chosen for both convenience (as mentioned the ecosystem had been studied previously) and as an exemplar case for exploring how one particular intermediate helps to manage the relationships between different actors with the final aim at fostering innovation.

The case study approach is useful in such exploratory modes of research and can provide detailed understanding of particular situations which may then be utilized inductively to create better theory, in this case how to a innovation catalyst can foster social innovation. Moreover, a case study methodology is appropriate when researching a 'how' or 'why' question about a contemporary set of events, over which the investigator has little or no control (Johnson, 2008). In this case an explorative approach has been adopted, the study has been based on the single-case (holistic) model (Yin, 2003), and the single innovation catalyst has been considered as the unit of analysis.

The data utilized in the case study of TrentoRise consisted of detailed interviews with actors from the Trentino ecosystems. In total, for this aspect of data collection 22 interviews lasting 2 hours on average were conducted. Other data for the case study consisted of primary and secondary sourced documents that the author had access to when studying the organization.

The organization studied, TrentoRise is the *innovation catalyst* in the Trentino ecosystem. It is a fully operational institution merging the ICT branch of the largest research institution in Trento - Fondazione Bruno Kessler - with the Department of Information Engineering and Computer Science (DISI) of the University of Trento, in a wide spectrum of scientific areas and human sciences. Its main goal is to play the unique role of combining all the actors' objectives, facilitate the interaction and collaboration between them and protect the whole ecosystem. To do that, it develops skills and relationships with the territory but also with Europe operating in a global perspective. In fact, it is a core partner of the European Institute of Technology (EIT) ICT Labs (the European answer to MIT) and part of EIT ICT Labs Italy. This means great advantages in terms of support, prestige, research project coordination and networking.

TrentoRise provides therefore an effective and almost ideal instrument to support the integration of education, research and business dimensions; in fact, its mission is to "act as an intermediary between research, education and business actively fostering social innovation through ICT". TrentoRise aims at promoting research to drive the internationalization and innovation of the territory and at becoming one of the leading hubs in ICT sector in Europe. Its activities are developed to: a) promote business development through innovation projects that meet societal needs; b) promote scientific research that creates added value for people, the market and the society at large; c) promote new business creation, fostering highly innovative startups in the ICT sector and d) attract highly motivated students by launching initiatives in the field of higher education offering not only academic but also entrepreneurial education.

TOOLS, ACTIVITIES AND FLAGSHIP PROJECTS OF THE INNOVATION CATALYST: THE CASE OF TRENTORISE

In this section we propose a deeply investigation of the case study (TrentoRise) thanks to the information collected through interviews and documents, highlighting the tools and the activities used by promoting social innovation within the innovation ecosystem and the main flagship projects carried out by the catalyst.

In the Italian contest an excellent example of innovative ecosystem has grown in the Trentino Region, an area that in the last years has become one of the most important and virtuous centre of excellence in Italy and Europe in particular in the field of ICT technologies. Trentino is, along with South Tyrol, one of the two provinces which make up the region of Trentino-Alto Adige/Südtirol, which is designated an autonomous region under the Italian Constitution. The province covers an area of around 20,000 km², with a total population of 0.5 million people. This "small" territory have "big" numbers over the EU average, such as: 2.19% of GDP invested in R&D activities (Italy: 1,27; EU27: 2,02); 6,1 Employed in R&D every 1000 inhabitants (Italy: 3,8; EU27: 5,1); 1 University, 12 public Research Centers and 6 Industrial Research Centers (Istat, 2013);

Within this ecosystem, the involved actors are: University of Trento (in particular the ICT Branch), the Bruno Kessler and the Edmund Mach Foundation (public research centers), Telecom and Microsoft among private research centers, the Public Administration of Trentino (PAT), indigenous firms and the citizens.

In this ecosystem, in order to promote social innovation, the results of our analysis show that Trento Rise uses different tools such as Pre-commercial procurement (PCP) and "Trentino as a Lab" (TasLab), it proposes several activities and, at the same time, it coordinates several projects on the territory. This

highlights how TrentoRise is actively involved in all the projects and initiatives within the Trentino Region.

In particular, the main instrument used by TrentoRise in order to foster innovation is the PCP. PCP is a process empowering public authorities to buy the technologically innovative solutions that fit their needs. Public procurers act as first buyers who share with suppliers the benefits and risks of pulling technology from early stage research to pre-commercial products. It focuses on domains where no commercial solutions exist yet on the market. PCP is in essence a mutual learning process for the procurers, users and the suppliers to get firm confirmation both about the functional needs on the demand side and the capabilities and limitations of new technological developments on the supply side when it comes to tackling a concrete public sector problem (European Commission, 2008).

First-buyer involvement in the early phases of industry R&D delivers better products at lower costs. Moreover, PCP dramatically reduces the risks and the cost of failure at deployment stage both for procurers and for suppliers. Putting several suppliers in competition in developing solutions at the pre-commercial stage ensure healthy competition and contributes to ultimately get the best product at a favorable price. PCP can also attract venture capitalists looking for promising opportunities offered by SMEs involved in such projects. In addition, pre-commercial procurement shortens the time-to-market by better aligning product developments with customer needs and it enables to create long lasting growth and jobs and new sectors of industrial leadership through planned innovation of public services.

Another tool that TrentoRise uses to foster social innovation is "Trentino as a Lab" (TasLab), that enable the area in testing solutions before going to market and produce advantages both for company and territory. Users are able to participate in user-experience research activities, as well as participatory design activities. Citizens' participation in the "laboratory" is gamified, in order to ensure long term commitment, community building, and trust among the members of the community. This is also useful for attracting enterprises in co-location centers in order to develop R&D programs and to create synergy with research and education areas but also in discovering co-financing and IPR Sharing.

Moreover, TrentoRise promotes several other activities in society for the growth of the collective consciousness, such as: a) ICT Days: annual event for the sharing and the development of awareness by the population and the major stakeholders of innovation, about the process of social change and its proactive management; b) Territorial Seminars: decentralized intermediate events for the growth of awareness by the population, about the process of social change and its proactive management; c) Social Innovation Laboratories (SIL): work roundtables with the main stakeholder groups for the proactive management of social change; d) TEDx: international event of global significance for raising

awareness of the most innovative ideas developed on a national and international reference topic "quality of life" and the "social innovation".

Finally, three main flagship projects are active now in Trentino thanks to the TrentoRise coordination: Open Data Project in Trentino, Big Data Project and Smart Campus. These projects are done in collaboration with public and private partners to make Trentino an intelligent and competitive territory with high potential and an excellent quality of life.

Regarding the first project, the Autonomous Province of Trento, TrentoRise and other business actors (Informatica Trentina S.p.a., SpazioDati S.r.l.) and research institutions (Università di Trento and Fondazione Bruno Kessler) endorse the "Open Data Project in Trentino". It aims at publishing data withheld by all the department of the Province for generating accountability, transparency and foster economic growth, as expressed in the guidelines for the reuse of public data official document. At the same time, the team focused at the creation of the "Data as a Culture" through educative actions both inside and outside the authorities involved. An example is the "School of Data" organized by Fondazione Bruno Kessler and Open Knowledge Foundation with the purpose of disseminate tools and best practices for the re-use of data.

Regarding the second project, Big Data Project aims at developing a platform for delivering advanced services to a wide range of users and applications. The platform consolidates all the knowledge currently produced in Trentino by public and private bodies with the purpose of promoting services, research and development, enabling a better quality of life to the citizens.

Regarding the third project, Smart Campus aims at empowering citizens of a smart city with a more active role in designing, developing and delivering the services they want and like. Trento becomes a true "smart city" where students, researchers, and institutions interact to each other and where Smart Campus becomes a lab and a community at the same time. The lab builds a social and technical environment for collaborative service design and personalized service delivery. The community is composed of all the students, researchers and staff who use the services and collaborate in their creation.

The above mentioned activities and projects are all in line with the findings of Almirall et al. (2014) in their study of open innovation in an innovative ecosystem and in smart cities.

DISCUSSION: OUTLINING THE INNOVATION CATALYST

The process of innovation requires to be continually fed by new ideas, new knowledge and new projects, also from a sustainable perspective that aims to improve society for the future generations (Chesbrough et al., 2006; Bresciani, 2009; Thrassou et al., 2014). In this context, the presence of an

innovation catalyst that attracts each stakeholder, putting them together, leaving them unchanged, and bootstrapping new initiatives is crucial.

The analysis of the case study shows that an *innovation catalyst* must be an agile structure, it should not be afraid of the risk, but it should be guided by the ideas and results-oriented. Another interesting result is the organizational structure and the employee of the catalyst. In fact, TrentoRise is not based on hierarchy, it has a lean and simple structure and it hires qualified personnel (20% of its employees have a PhD) or experienced manager in the key positions of the organization. Moreover, from the interview it clearly emerges that an innovation catalyst should have a strong link with the territory in which it operates, but at the same time it should be open to the world, because the change is global. In short, *innovation catalyst* must act in a *glocal* perspective which is the basis of creation and functioning of ecosystems of successful innovation. Only in this way it will have the flexibility to manage and anticipate the change.

Another fact that clearly emerges from our analysis is that an innovation catalyst should operate mainly, if not exclusively, through public-private partnerships. It should work only for completed projects, always within a guarantee of sustainability of the exploitation of the results once the project is finished.

Finally, it is crucial that the various collaborations must be enabled via incentives. As it makes no sense to impose innovation from the top, the project activities aimed at increasing the probability of generating innovation cannot be imposed. Only those who see in the initiative a chance to return, measured according to its own value chain, will tend to participate. This is also the way to ensure the sustainability of medium to long term, even after the end of the project.

Another interesting result coming from the interviews is that TrentoRise is similar to other organizations in the world such as the Defense Advanced Research Projects Agency (DARPA) in the Silicon Valley and VINNOVA in Sweden. In fact, in the Silicon Valley, DARPA, despite being officially based in Arlington (Virginia), has played a crucial role in the birth and development of the region. Founded in 1958 as a response to the Soviet Sputnik, DARPA is an agency of the Department of Defense in charge of the development of new technologies for military use. The first beneficiaries of the substantial funding provided by the federal government were companies such as Fairchild, and universities like Stanford: the backbone of the Silicon Valley. DARPA has not only acted as lender, but as a real *innovation catalyst*, working alongside the biggest companies such as Intel, and top universities like Berkeley, Caltech, UCLA.

VINNOVA, instead, is the Sweden agency of innovation, aims at strengthening the capacity of innovation, supporting the sustainable growth and benefiting society. VINNOVA invests every year about 2 billion SEK (200 million euro), and it can count on two hundred employees. It mainly

promotes collaboration between businesses, universities, research centers and the public sector, encouraging greater use of research, making long-term investments and creating catalytic meeting places.

In conclusion, the people we interviewed clearly show how other similar innovation catalyst have played a fundamental role in foster innovation in other prestigious ecosystem in the world and they compare the role of these with the role of TrentoRise in the Trentino Region.

However, obviously TrentoRise differs from these larger catalysts mainly because it operates in a smaller ecosystem. Here, the key fact is that every innovation catalyst must be adapted and be functional to the ecosystem in which it operates.

CONCLUSION

This paper highlights the basis for the successful implementation of social innovation in a ecosystem. In this paper we refer to social innovation and we underline the fundamental role of the *innovation catalyst* in fostering the development of innovation ecosystems. Thus, this paper fits in a literature and research gap because mainstream models of innovation such as the Triple Helix Model and subsequent developments do not provide the innovation catalyst. Highlighting the existence, the role, the activities and the features of this new actor allow us to fill this gap in the literature and, at the same time to align theory with practice.

In order to do that, we analyze the Trentino Region, a centre of excellence in Italy and Europe that in the last years become a virtuous example of innovation ecosystem. The wide range of the stakeholders involved in the ecosystem and their diversity suggest the need of an *innovation catalyst* that activate a permanent process of innovation through close cooperation and synergy between all the actors. In Trentino this role is covered by TrentoRise, an example of *innovation catalyst* that improves the quality of the relationships between the actors, favorites innovation development and protects the entire ecosystem.

Therefore, the analysis we have developed provides answer to our research questions. The Trentino's example shows that an healthy ecosystem may be developed when all the actors' objectives are aligned and when a new actor, the *innovation catalyst*, plays the role of intermediary facilitating interaction and collaboration between the actors and ensuring that every component will maintain its specificity and autonomy.

The main instrument used by TrentoRise in order to foster innovation is the PCP). First results in this territory are positive. Eight PCP tenders already in execution phase, seven PCP tenders launched (some of which have value of more than 4 million euro singularly), 5 EIT ICT Lab projects in execution and 6 Industrial research centers (and additional 9 start up) currently co-located with TrentoRise. But,

through the interviews we have carried on, it clearly emerges that an innovation catalyst is fundamental for each of the actors involved in the ecosystem and this is also demonstrated by the fact that TrentoRise is actively involved in all the projects and initiatives within the Trentino Region.

This organization gives the organizational and financial support, increase the trust in the partners cooperation leading to lower transaction costs and push the innovation creation and sharing across all the members within the ecosystem (citizens included).

Trentino as a Lab (TasLab) and the other activities carried on by Trento Rise on the territory reach the attention of Italian and European governments and citizens showing that in order to foster social innovation in a contemporary society an actor that works as a catalyst/intermediary is fundamental. Also the aforementioned flagship projects allow a small city like Trento to cover the first positions in the Italian Smart City ranking (Smart City Index, 2014).

Positive evidences are therefore linked with the development of the territory. Thus, Trentino has numbers over the EU average such as: 2.19% of GDP invested in R&D activities, 6.1 Employed in R&D every 1000 inhabitants, 1 University, 12 public Research Centers and 6 Industrial Research Centers. It is, also, the region with the lowest unemployment rate in Italy, 5% for the total population, 12.5% for the young people, while the average in the rest of Italy is more than 40 per cent. Furthermore, it is the first Region in Italy for citizens quality of life. This data shows how the region becomes one of the most innovative in Italy and it becomes a node of an important European ICT Network. Moreover, the direct and indirect data showed how an innovation catalyst has a positive role in order to develop innovation within an ecosystem (RQ 1).

Also, the analyzed case allows to outline some key features that *innovation catalyst* should have: TrentoRise is not based on hierarchy, it has a lean and simple structure and it hires qualified personnel (20% of its employees have a PhD) or experienced manager. TrentoRise has a strong connection with local area and all local actors, but at the same time, it is global oriented, attracting firms, venture capital, business experts and qualified researchers. Also, TrentoRise co-operates mainly through public-private partnership with territorial research centres, which are founders with small and big firms operating on territory (or with those that have opened labs within TrentoRise structures) and its purpose is the innovation of local society, generating new forms of innovation obtained by increasing the existing ones. Following this case study, all these features should be held by a successful innovation catalyst (RQ 2).

Summarizing, the main goal of TrentoRise is the contribution in identifying the innovation boundaries and in maintaining the ecosystem in good health, supporting the interaction between the single components. Thus, the district is the place that offers a solid basis for the firms in order to maintain the competitive advantage achieved through innovation in a long time. The District also contributes to

realize positive network externality for small and medium firms (Becchetti et al., 2007), to train and attract big multinational enterprise and to maintain a high level of innovation content in the offering. So, this paper have some contributions both for academic and for policy makers. From the academic point of view, it enriches the existing innovation models and it propose a new actor that play a unique role within the ecosystem fostering social innovation. From the second point of view, a deeper knowledge on this topic allow us to understand how to develop scalability strategies and to replicate the model in other areas helping regional policy makers to develop similar model according to the characteristics of districts. In fact, our case study suggests how an *innovation catalyst* is important and its key role in developing an healthy and functioning ecosystem for innovation.

The major limitation of this work is that the analysis presented has been developed only on one case of *innovation catalyst* and the Trentino ecosystem is smaller than others. Moreover, Trentino is a Special administrative region, where 90% of the taxes remain on the territory and are not redistributed to the national level. However, TrentoRise is the most important example of innovation catalyst in the Italian context so we decided to focus on it as we still are in an initial stage of our research. This offers an avenue for future research. On the one hand the focus of the analysis can be broadened to other countries, even to investigate if country differences are evincible. On the other hand, additional investigation on the topic will allow the definition and the development of a brand new model of Social Innovation, hinging on the role of innovation catalyst.

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BRAND LOYALTY IN CONSUMER DURABLE GOODS

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ABSTRACT

The aim of this research is to explore how loyal are consumers when replacing (i.e. how often they repurchase) a durable good and whether brand repurchase relates to replacement trigger, age of a replaced good, market importance of a replaced brand in the moment of replacement, or psychographic profile of a consumer. Data was collected as a part of a larger study on consumer durables and disposal behaviour in an online survey. Overall, results show low loyalty and low or unpredicted influence of observed variables which implies that future research should give more emphasis to study effects of loyalty efforts in the area of consumer durable goods. Results also show that the main replacement trigger is lag in technology. Brand managers of consumer durable should therefore be aware of a very brand switching nature of their consumers and take it into consideration when deciding whether to increase their efforts directed to brand relationship building or redirect it in other more fruitful direction, possibly stronger research and development. Apart from extending research to other product categories, spill over effects between product categories but within a brand should also be taken into consideration in the future studies.

Keywords: *brand repurchase, brand switch, loyalty, durable goods, replacement, TV, replacement triggers, failure, technological development*

INTRODUCTION

It's a proven fact that it costs many times as much to bring in a new customer than it is to retain the existing one (Krishnan and Hari, 2011). Therefore it is the aim of marketers to achieve loyalty by creating brand relationships (Tsotsou, 2013; Huang et al., 2014) and achieving customer satisfaction (Curtis et al., 2011). However, while the importance of loyalty has been heavily studied in the fast moving consumer goods and services, it is much less explored in the field of durable goods (cf. Curtis et al., 2011). On the other hand, according to Che and Seetharaman (2009), it is especially critical to understand and manage brand loyalty in durable goods industries as they display large profit margins but long replacement cycles. While there is a general agreement that satisfaction is the main driver of consumer loyalty, loyalty can be easily disrupted due to marketing activities like price cuts

(Suh and Yi, 2012), and in long replacement cycles with new market entrants (Lam et al., 2010), and technological breakthroughs (Islam and Maede, 2000).

Most previous research on consumer durables loyalty explores relationship between satisfaction and loyalty and certain moderators in this relationship (Homburg and Giering, 2001) or how an introduction of a new brand influences present brands' loyalty (Lam et al., 2010). Research however, skips studying loyalty from the position of replacement point, what leads to it and how that influences repurchase. Furthermore, loyalty is at least a two-dimensional concept, consisting of attitudinal and behavioural component (Jacoby and Kyner, 1973), or a four dimensional concept consisting of: cognitive, affective, conative and action loyalty, which develop hierarchically. Action loyalty is defined as an act of repurchase and as such is often explored through repurchase intentions (Jones and Taylor, 2007, Bloemer and Odekerken-Schröder, 2007), whereas research rarely tracks real behavior.

It is therefore the aim of this research to explore real repurchase behaviour in the moment of replacement to discover how loyal are consumers when replacing (i.e. how often they repurchase) a durable good and whether brand repurchase relates to replacement trigger, age of a replaced good, market importance of a replaced brand in the moment of replacement, or psychographic profile of a consumer. By fulfilling this aim, this study sets itself on a journey to explore how lucrative it is to invest in creating consumer-brand relationship and activities related to achieving consumer loyalty.

PREVIOUS RESEARCH

2.1. Brand repurchase rates of durable goods

Repurchase of durable goods is often studied for the cars as a product category (e.g. Bayus, 1992; Che and Seetharaman, 2009). Che and Seetharaman (2009) discovered rather high levels of repurchase for three studied car brands ranging from what they refer to as low 35% to high 63% repurchase. However, not all durable goods can expect such high repurchase rates. An important distinction should be made between low and high involvement durable goods. While generally, speaking, low involvement goods are those bought frequently and with a minimum of thought and effort because they do not have great impact on the consumer's lifestyle (Kautish, 2011), low involvement durable goods are bought less frequently, but still lack high perceived personal relevance or importance to the customer (Homburg and Giering, 2001). While, for its public consumption and symbolic utility which contributes to one's identity building (Yoo et al., 2006), cars belong to high involvement durable goods. On the other hand home appliances such as refrigerators, as well as privately used consumer electronics like personal computer and TVs mainly fall into low involvement utilitarian durable goods category. Almost by definition low involvement, utilitarian durable goods imply lower levels of brand

repurchase. For example, Lin et al. (2000) in a study on refrigerator brands in Taiwan discovered repurchase rates ranging from 30%-46%.

2.2. Influence of replacement triggers on brand repurchase

Previous research on brand repurchase vs. brand switching directly explored what motivates consumers to be satisfied and loyal. Krishnan and Hari (2011) discovered 14 components for durable brand satisfaction i.e. repair, overall quality, product compatibility, competitive price, worthiness, reliability, usage experience, after sales service, responsiveness, customer service, loyalty programs, warranty, pre-sales and sales person's behaviour. Obviously, due to bond between satisfaction and loyalty (Curtis et al., 2011) and loyalty and repurchase (Oliver, 1999), these factors inevitably lead to brand repurchase as well. Along these lines, Lin et al. (2000) discovered that brand repurchase or brand switching is to a great extent related to very similar criteria, but ease of use, speed of repairs and quality are the most important.

Unlike previous research which investigated satisfaction with the current units and how it leads to repurchase, in this research it is the idea to explore whether replacement triggers can determine brand repurchase (regardless of satisfaction with the current unit). According to Bayus (1988), there are two main types of replacements triggers for a durable good: forced replacements (replacement of a failed unit) and unforced replacements (discretionary replacements of a working unit). Previous research discovered that consumers replace working units for a variety of reasons, including: product features and technology advancements (Islam and Maede, 2000), marketers' efforts with emphasis on price modification (Lee et al. 2006), trade-in or buyback campaigns (Aras et al., 2011), promotions (Bruce et al., 2005) and new brand (often with better identity fit) entry (Lam et al 2010).

Although, no previous research analysed replacement triggers' influence on repurchase, several assumptions can be drawn. Firstly, product failure as a replacement trigger is most likely to lead to brand switching in case failure occurred prematurely. On the other hand, in case product lifetime exceeded its expectancy; brand switching as well as brand repurchase can happen. That is while, consumer is most likely to be happy with the original brand, over the years market usually changed and it is likely that the old brand left the market. Hence opposite forces influence consumers, making brand repurchase more likely in the case the original brand is still an important market player. Secondly, obsolescence as a replacement trigger is less obvious predictor of brand repurchase vs. brand switching. If observed in combination with a how important a brand of a replaced brand in the moment of replacement still is, some assumptions can be proposed. That is, in case the original brand is an important market player in the moment of replacement, brand repurchase is a likely outcome.

2.3. Influence of consumer psychographics and brand age on brand repurchase

It is also the idea of this research to explore whether consumer psychographic profile can determine brand switching as opposed to brand repurchase. As Lam et al. (2010) discuss, literature on brand switching focuses on functional benefits as the reason for switching ignoring sociopsychological benefits (customer-brand identification and perceived value) which are according to them equally strong in predicting customer loyalty. Kim et al. (2001) suggest that consumer price sensitivity and technology sensitivity. i.e. innovativeness are important factors that influence consumer buying behaviour in a way that those with high innovativeness will more frequently replace a durable good as opposed to those of high price sensitivity who are more likely to wait for a good deal. Put in the context of brand repurchase, it can be assumed that consumer displaying either high price sensitivity or high innovativeness will be more drawn to competitors activities (in the former case technological advancements and in the later promotional sales) and thus less likely to repurchase a brand.

METHODS

3.1. Object of the study, procedure and sampling

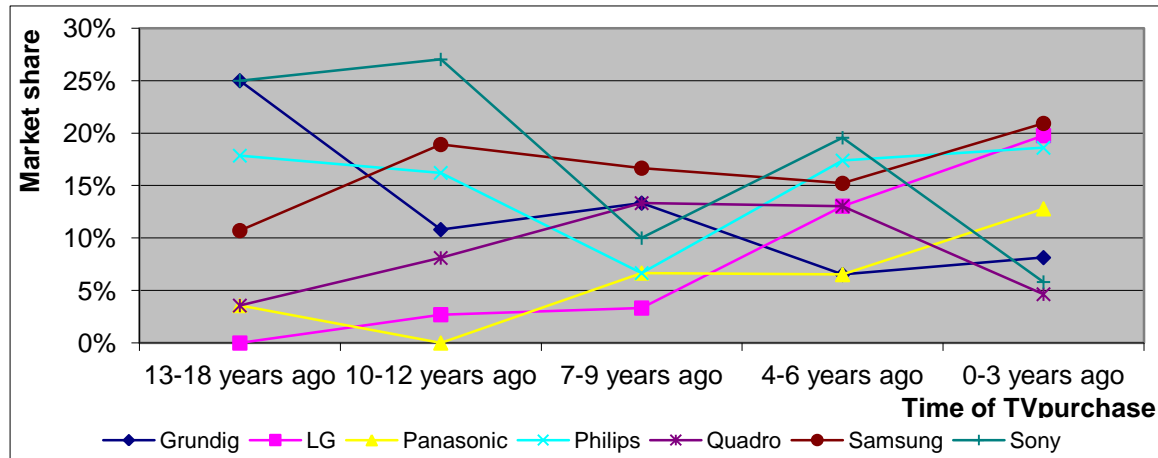
According to Krishnan and Hari (2011) consumer durables can be divided into white goods (e.g. refrigerators), brown goods (e.g. mixers) and consumer electronics (e.g. TVs). In this study TVs are chosen as unit of analysis since they constitute a highly branded product category with a very limited no-name portion of the market. Furthermore, it is a product category which has in the past decade experienced a technology switch (from CRT to LCD technology and from analogue to digital transmission) with radical improvements in functional and design features pushing many consumers to an unforced replacement decision.

Data was collected as a part of a larger study on consumer durables and disposal behaviour (cf. Sinha Khetriwal and First, 2012). Study was conducted in Croatia in 2011 by applying a snowball sampling method. The self-administered questionnaire was designed online at Survey monkey research platform. In total 219 households were included in the study of which 174 replaced a TV and of those only 107 knew brand of the replaced TV and brand of the replacement TV. Therefore, 107 observations could be kept for this analysis.

2.4. Measures

There were six main variables measured in this research. Firstly, brand repurchase was measured with two direct open-ended questions on the brand of the former and the current TV. Secondly, the age of a replaced TV was also measured with an open-ended question. Thirdly, the importance of a replaced brand in the moment of replacement was measured so that all purchases captured in this research

were grouped in three year periods, and for each period, the most important brands were identified. All brands that in a certain period of time held more than 10% of market share were considered still important market players. Graph 1 displays brand distribution over time and as can be seen TV market changed. While 13-18 years ago two dominant brands were Sony and Grundig, they are currently among the least favourite ones. On the other hand, while LG was non-existent 13-18 years ago, it is almost the most frequently bought TV nowadays.



Graph 1. Brand market share within a sample across the years

Thirdly, replacement triggers were measured with a 5 point Likert scale type of question offering ten reasons for replacement of a TV previously mentioned in literature: product failure, inferiorities due to technological developments (functional and aesthetical inferiority, dated CRT technology, incompatibility with gadgets like DVD and game consoles, and incompatibility with digital signal and HD broadcast), two types of sales promotions (old for new and cheaper prices), and other reasons (intention to give away a current TV, move to a new house, and unintended replacement of a TV caused by an awarded TV). The results were coded so that one main reason per consumer was identified. In most cases only one reason was given the highest importance in Likert scale, whereas for few cases in which more reasons were given the highest importance, the reason with higher weight was assigned. The highest weight was given to failure, followed by technological inferiority, sales promotions, and finally other reasons.

Fourthly, psychographic variables, i.e. price sensitivity and innovativeness were operationalised using established 5-point Likert scales by Goldsmith et al. (2005) adapted to the object of the study as depicted in table 1. Although Cronbach alpha of Price sensitivity is somewhat below recommended value of .7 (Nunnally 1978), this construct is still taken for further analysis but interpreted with caution.

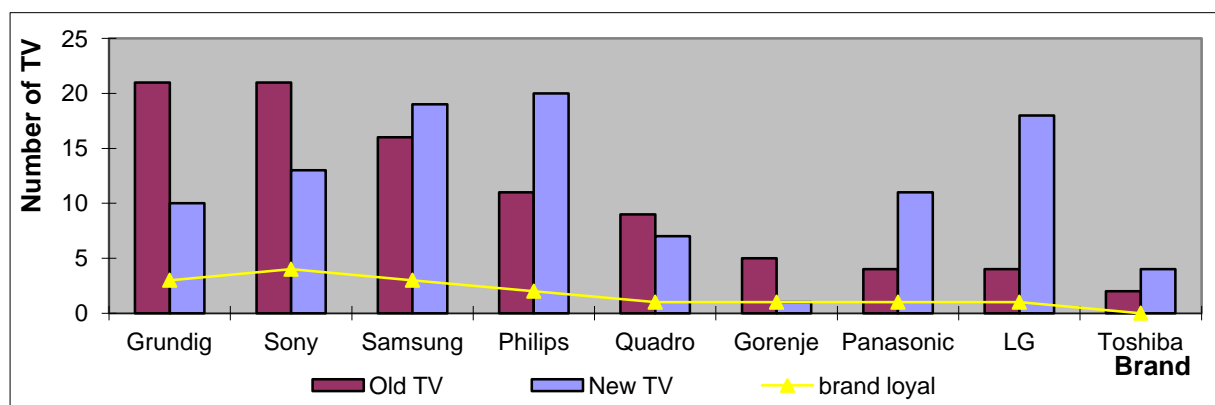
Variables	Items	Cronbach alpha
Price Sensitivity	<ol style="list-style-type: none"> 1. We are less willing to replace a TV if we think that prices will come down. 2. We don't mind paying more to try out new technology. 3. Really good TV is worth paying a lot of money for. 	.610
Innovativeness	<ol style="list-style-type: none"> 1. We are among the last in our circle of friends to replace our old TV 2. Compared to our friends, we do little shopping for new electronic gadgets. 3. We know more about new electronic gadgets before others. 	.727

Table 1. Construct operationalization

RESULTS

4.1. Brand repurchase rates

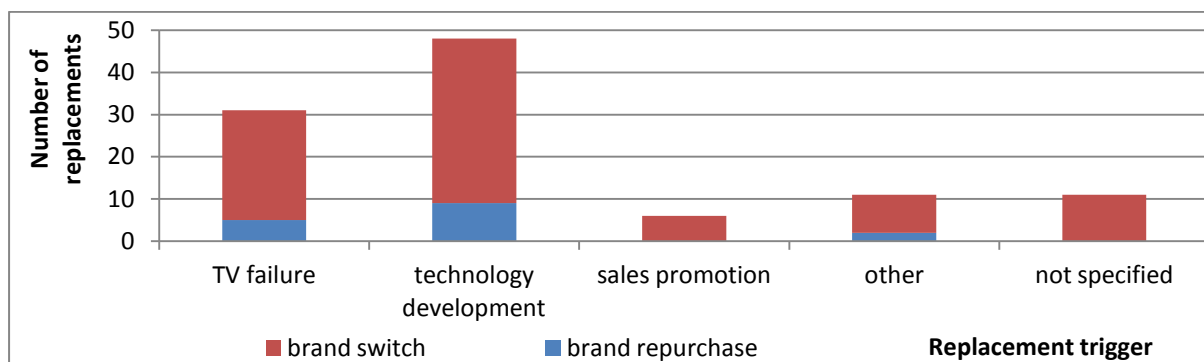
Graph 2 presents brand frequency purchase for old and new TVs as well as brand repurchase. Brands that were mentioned at least 4 times either as a new TV or as an old TV are presented in the graph. Among the most mentioned brands (11 - 21 mentions) for old TVs are Grundig, Sony, Samsung and Philips. Their repurchase rates vary from 14% to 19%. For all other brands number are too small to calculate stable repurchase statistics, but the graph shows they are small as well. Interestingly, even though Philips and Samsung appear in large enough numbers among old and new TVs and even though they were brands with a respectful market share over the studied years (see graph 1), results show that repurchase of those brands is as low as of Grundig and Sony, brands whose market presence drastically fell. These results further strengthen the conclusion that loyalty for TVs is rather small even in the case of long-lasting, market share wise important brands.



Graph 2. Brand repurchase across brands

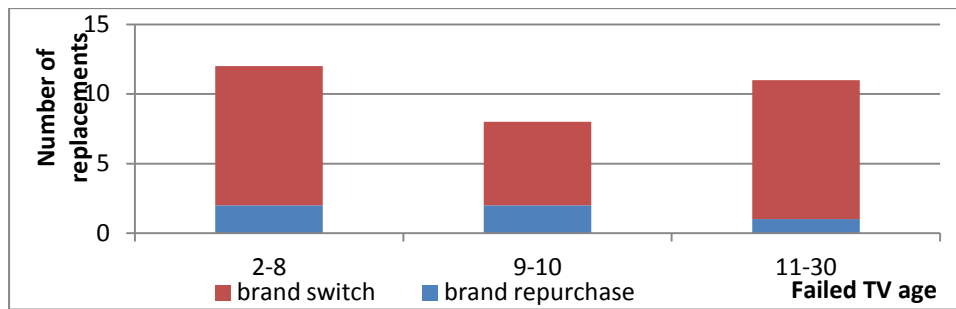
4.2. Replacement triggers as potential predictors of brand repurchase

There were three main reasons for TV replacement: product failure, developments in technology landscape and sales promotions. The most common replacement trigger was technological developments, followed by a TV failure as graph 3 demonstrates. The next two columns in the graph in terms of importance represent replacements due to unexplained reasons, and replacements triggered by other reasons (giving away a current TV, move to a new house, awarded TV). Replacement was triggered by sales promotion for only a very small percentage of the sample. This might be explained in light of durable goods being purchased in a well-planned and non-impulsive manner. Although TVs replaced for that reason all fall into brand switch category, Likelihood ratio (alternative to χ^2 test used when some tested groups contain less than 5 observations) statistically confirms at $p=.19$ level there are no significant differences in terms of brand repurchase related to replacement triggers.



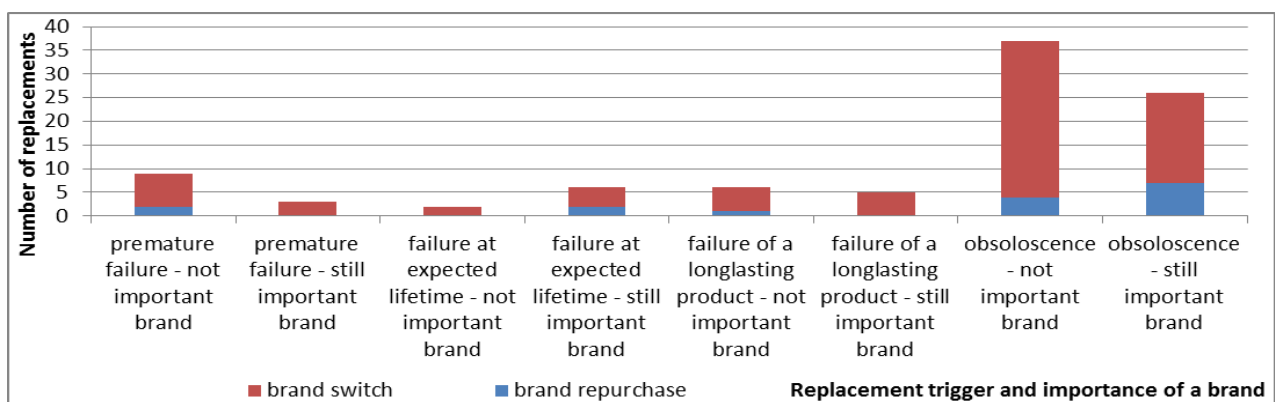
Graph 3. Brand replacement and replacement triggers

To further test the assumptions previously presented in relation to brand triggers, moderating variables were introduced into the analysis. Failure as a replacement reason was combined with the age of a TV, so that three situations were obtained: replacements of prematurely failed TVs (2-8 years old TVs), TVs failed at the expected time of replacement (9-10 years old TVs) and long-lasting TVs (more than 10 years old TVs). Such cut-off points were defined since data show that TVs are replaced on average when they reach 9.6 years of age ($sd=5.1$). Likelihood ratio at $p=.64$ level also confirms no significant differences in terms of brand repurchase related to premature TV failure as can be seen in graph 4. An additional analysis related to TV age has been conducted with all replaced units to check whether there are differences in terms of how old was a replaced TV at the point of replacement and whether that influenced brand repurchase. Age of TV was divided to five groups (2-4, 5-8, 9-10, 11-17 and 20-30). Likelihood ratio at $p=.52$ level confirms no significant differences in terms of brand repurchase related to age of a replaced TV.



Graph 4. Brand repurchase and premature TV failure

Unforced replacements (obsolescence due to sales promotions, technological developments or other reasons) were combined with whether at the time of replacement the brand of their original TV was one of the important market players (that is whether it was bought by more than 10% of all the respondents participating in the survey who replaced a TV in the same period of time (see graph 1)). Likelihood ratio confirms significant difference in that respect (however, only at $p=.10$ level), so that repurchase occurs in 26% of replacement if the brand is still dominant brand whereas it occurs in only 10% of time if the brand is not an important brand any more. The same analysis has also been conducted for cases of TV failure. Although there are too few cases to perform statistically sound analysis and draw firm conclusions, results indicate that the predicted behaviour does not occur. That is, those who should be the least likely to repurchase a brand (those whose TVs prematurely failed and were of a marketwise non-important brand), repurchased it more often than all other consumers whose TVs failed. Graph 5 shows results of failed and obsolete TV replacements related to whether repurchase occurred in case of brand being still an important market player.

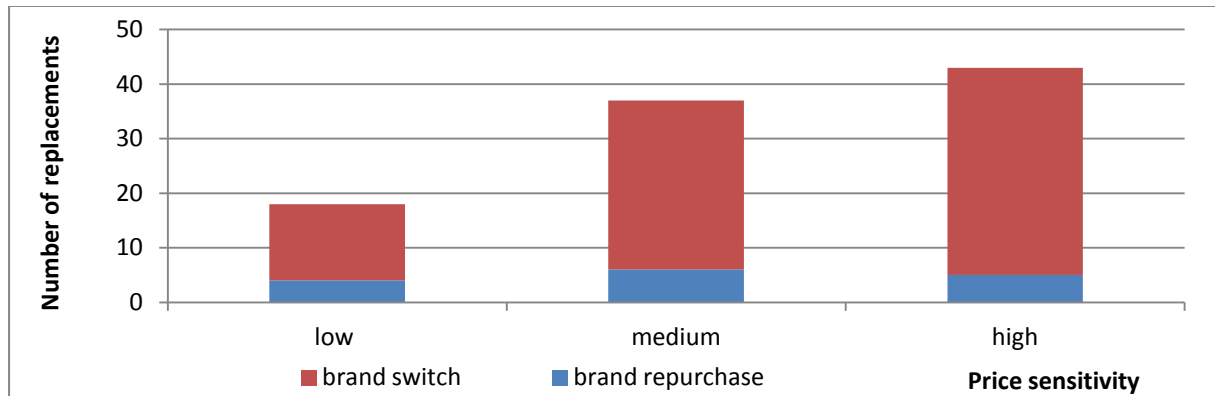


Graph 5. Brand repurchase, replacement triggers, market importance of replaced brand and time of TV failure

4.3. Psychographic profile as potential predictor of brand repurchase

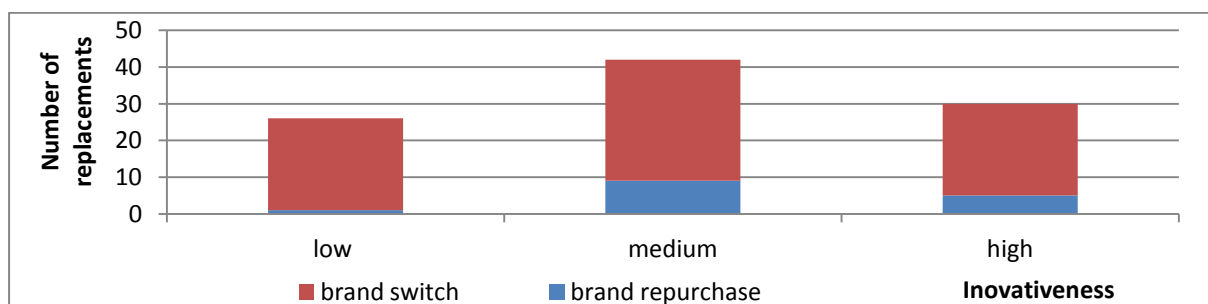
Final analysis that was conducted was to check whether consumer psychographic profiles including price sensitivity and innovativeness influence brand repurchase. A consumer displays either one of

the sensitivities should be more drawn to market changes (technological advancement or promotional sales) and thus less likely to stick with a relationship developed with a brand. Although both of these sensitivities were measured on a five point Likert scale, due to uniformity of results presentation, 3 levels of sensitivity were calculated: low (1-2.33 on a Likert scale), medium (2.66-3.33), and high (3.66-5).



Graph 5. Brand repurchase and price sensitivity

Although graph 6 indicates higher brand loyalty at low sensitivity levels, Likelihood ratio at $p=.57$ level proves there are no statistically significant differences in terms of brand repurchase related to consumer price sensitivity, meaning that price sensitive and price insensitive consumers display similar levels of brand repurchase. On the other hand, Likelihood ratio for innovativeness and brand repurchase at $p=.09$ confirms there is a significant differences in terms of brand repurchase related to consumer innovativeness so that those with low innovativeness disclose low brand repurchase of only 4%, whereas those with medium and high innovativeness disclose repurchase of 21% and 16% respectively (graph 7).



Graph 7. Brand repurchase and innovativeness

DISCUSSION AND CONCLUSION

It was the aim of this research to discover how loyal consumers are to their durable good brands and whether durable good replacement triggers, as well as age of a durable good, market importance of a replaced brand in the moment of replacement and consumer psychographic profile influence brand repurchase. Design of the study was set so that actual durable good replacement was examined. Although repurchase is not a condition enough to claim loyalty (Jacoby and Kyner 1973), real loyalty without repurchase does not exist. Therefore, this research set itself to explore real behavioural data on repurchase rather than cognitive assumptions of respondents related to various types of loyalty.

Overall, results showed a very weak repurchase rates ranging from 14%-19% across the most important TV brands. Those repurchase rates can be labelled very small and imply low loyalty for the studied durable good. A similar analysis conducted by Lin et al. (2000) on refrigerator brands (also a low involvement, utilitarian durable good) discovered repurchase rates much higher ranging from 30%-46%, although declared as only moderate by the authors. Low repurchase rates in the present study are unexpected and shed new light on importance of loyalty in durable goods.

Examining whether repurchase, although small, occurs in certain situations more often than in others showed only some weak differences. No relationship was found between different replacement triggers. Since this research was pioneering in examining replacement triggers as predictor of repurchase, results cannot be compared to previous research. Results were further refined so that two moderators were introduced. Firstly, moderating TV failure as replacement trigger with failed TV age again revealed no significant relationship. It was expected that premature failure would result in brand switch, but even in those instances there was a small portion of consumers (as in the other groups) who were loyal to a "failing" brand. Although, such results do not directly examine relationship between satisfaction and loyalty, they should be taken into account in that sense as well. If a TV failed prematurely, it probably implies certain level of customer dissatisfaction; however, unlike a lot of previous research (Curtis et al., 2011; Homburg and Giering, 2001), this research revealed no relationship of dissatisfaction and loyalty. Secondly, moderating market importance of a brand of a replaced TV in the moment of replacement for the non-failing TVs revealed a weakly significant relationship, so that important brands were more often repurchased than non-important brands. Such a relationship was not found among TVs that failed. These results imply that if no disappointment happened with the previous TV brand, it will be more likely repurchase only if it plays a major role in the current market, implying that technological advancements play more important role than the brand itself.

Furthermore, no relationship was found between TV age and brand repurchase results are opposite from those by Bayus (1992) whose data showed mild positive relationship in all studied product

categories including TVs in a way that owners of older durable goods tend to be more brand loyal. The discrepancy between present results and those by Bayus might be ascribed by consumer behaviour shift over the past 20 years. That is, consumers used to value durable goods that endure, whereas today value shifts towards those goods that impress with ever new cutting edge technological solutions. Furthermore, with a more turbulent market, brand preference shifts easier with many new market entrants (Lam et al., 2010).

Finally, while consumer price sensitivity did not influence repurchase, innovativeness seems to be a weak predictor of repurchase, so that moderately and highly innovative consumers tend to repurchase brands more often than non-innovative consumers. Previous research by Kim et al. (2001) only studied influence of price sensitivity and innovativeness on replacement frequency. However, reasoning presented in this paper led to an assumption that in the context of brand repurchase, price sensitive and innovative consumers display higher brand switching behaviour. Therefore, again, previous results do not give support to the results of the present study neither for price sensitivity nor for innovativeness.

Overall low loyalty and low or unpredicted influence of observed variables imply that future research should give more emphasis to study effects of loyalty efforts in the area of consumer durable goods. Brand managers of consumer durable goods should be aware of a very brand switching nature of their consumers and take it into consideration when deciding whether to increase their efforts directed to brand relationship building (as current efforts do not yield satisfactory results) or redirect it in another more fruitful direction, possibly stronger research and development (since technological development is the most common replacement trigger). These results; however, do not neglect importance of branding. Although technological developments seem to be the most lucrative direction of investments, global brands are dominantly purchased. This indicates that for a durable good producer to even enter the consideration set of a consumer, its brand should be developed. What these results put a question mark on for further studies, is whether investing in brand relationships when it comes to consumer durables pays off.

This research has several limitations. Firstly, as an exploratory study, this research is conducted on a rather small amount of respondents; therefore, the results should be taken as initial indications for the future studies. Research further, looked at only the replacement of TVs. Apart from extending research to other product categories, it is also important to take into consideration that durable goods brands normally encompass more than one product category and therefore such spill over effects between product categories but within a brand should also be taken into consideration in the future studies.

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FIRM VALUE CREATION AND VIABILITY BETWEEN PRODUCT AND PROCESS INNOVATION

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ABSTRACT

The role and characteristics of the innovation process have undergone changes throughout the history of industrial capitalism. In the contest of an emerging systemic complexity, technological innovation is able to generate a positive impact on the economic performances of companies by improving their internal efficiency, which allows to increase the market competitiveness. Innovation is, in fact, the leverage to gain competitive advantages that are the source of value creation and sustainable growth, to preserve and celebrate as one of the key components of the intangible assets of companies. Starting from Schumpeter's process of creative destruction, which considers innovation as "the engine of economic development" and "a continuous process of change and accumulation of knowledge", the present paper analyzes the variables at the center of innovation studies, the innovative approach and the impact of technological positioning as early-mover or follower in the market.

Peculiarities will be described related to the definition of the project portfolio mix, the process of designing and developing of a new product, as well as the relationship between innovation and competitive advantage.

Further attention will be placed on the targets of innovation and on the factors, objective and context, which hinder the willingness by the entrepreneur to 'break' the stationary balance by introducing new combinations production factors as an essential condition for the maintenance of competitive advantage and the creation of value.

The research approach is based on the qualitative method. The data retrieval was carried out through secondary sources.

Keywords: *Technological innovation, Path-breaking, Radical innovation, Incremental innovation, Architectural innovation, Modular innovation, Demand pull, Technology push.*

INTRODUCTION

The crucial function carried out by technological innovation on productivity, economic growth and the standard of living of an economic system, is widely recognized by economists, corporatists and institutions.

This topic has always been at the center of economic theories starting from the studies of Schumpeter (1942), who pointed out how innovations have revolutionized the economic structure over time through the drastic selective process by which many companies disappear, were born or reinforced. The ability to innovate is, in fact, the key driver of competition that creates not only a competitive advantage for the enterprise, but also contributes to annihilate the competition. Schumpeter (1942), in this sense, considers “this process of creative destruction” as a fatal event which is “the cornerstone of capitalism”, that will take effect for decades or centuries.

Product innovation and process is considered “the winning of the competition between the industrial enterprises” which contribute to its growth directly and indirectly (Pininfarina, 2008). What emerges at the heart of this vision is the crucial role played by the entrepreneur who, favoring technological innovation, organizational change of the production structure, changing the basis of the resources and competencies of the enterprise, the conquest of new sources of supply, the diffusion of new products, the exploitation of new areas / markets, promotes the “creative destruction” without which the firm would be bound to succumb (Schumpeter, 2010).

The objective of the research is, therefore, based on the strengths and weaknesses emerging from the analysis of the international literature on the topic under analysis.

The article has the following structure. After the introduction, section two provides a literature review about innovation. Section three describes the research approach. Section four presents findings and discussion. Section five presents the conclusions, limitations of the study and suggests future research.

LITERATURE REVIEW

The Schumpeterian theory, evolving over time, gave birth to two strands of thought: paleo-Schumpeterian and neo-Schumpeterian that differ according to the interpretation given to the concept of technological change. If in the mainstream paleo-Schumpeterian technological change is still considered an exogenous variable to the business system, within the neo-Schumpeterian strand, however, there seems to be an endogenous phenomenon and therefore predictable and manageable (Ciappei, 2010).

The variables that are the focus of studies about innovation and that firms have an incentive to learn and manage in order to benefit from are:

- the object of change;
- the dimension of innovation;
- the source of innovation, here understood as the “organizational place” in which a new idea is also formed on the basis of the relationship between those who give life to innovation and those who benefit economically from it.

One of the first variables at the center of innovation studies is the object of the innovation itself. Starting from 60's, the hypothesis that innovation evolves in relation to the stage of development (in terms of size) and industry made its way in the world (Utterback and Abernathy, 1975). As proposed by Joseph Schumpeter in the Theory of Economic Development of 1934, product innovations include the introduction of a new good or a service on the market, or the qualitative development of an existing product, while process innovations consists in the introduction of a new method of production or distribution to improve its efficiency and effectiveness.

Another variable included in the innovations studies is about its dimension, which, depending on the intensity and extent of innovativeness, induces to distinguish between incremental and radical innovations in technology (Cafferata, 1995).

Incremental innovations, which tend to characterize the low and medium technology sectors, consist of frequent and continuous improvement or adaptation of existing products or processes to changing consumer tastes in order to create value. The process of incremental innovation stops when the marginal cost of the development potential exceeds the marginal revenue that can be expected. The radical innovations, in contrast, resulting in a significant change in the business model, require new resources and new skills (marketing, organizational and technological) (Silvestrelli, 2004; Schilling, 2009). Often they lead to the creation of new firms, especially in the form of spin-offs, or develop new market segments. They stem from a deliberate as well as irregular research and development implemented by businesses and / or research institutions outside (Burgelman, 1983; Ettlie *et al.*, 1984; Dewar and Dutton, 1986). They are often stimulated by technological progress and therefore are more frequent in highly dynamic sectors. Considering its radical nature, this type of innovation is strictly linked to risk propensity by the entrepreneur, requiring investments and resources whose expected return depends on the risk of the project of a new product, in terms of technology and market (Ferrata, 1989).

Alongside the traditional distinction, Henderson and Clark (1990), in classifying the types of product innovations, introduce the categories of innovation and modular architectural innovation.

The modular innovation involves changes of one or more components of the product, without substantial changes to the general configuration of the system, to the procedure of integration of the same components and to the logics of use of the product.

An architectural innovation consists of making changes to the overall structure of the system or the way in which the components interact with each other (Schilling, 2009). The intensity of the change depends on the level of creativity and knowledge that management has in being able to perceive and satisfy the latent and disregarded needs of the market.

Nevertheless, to redesign the architecture of a product is very complex because it must be supported by significant (substantial) investments having to reconfigure the production process. However, business and industry, in becoming mature, tend to fossilize around specific product architectures (Verganti, 2004). The introduction of architectural innovations is particularly common in firms that use Internet-based technologies, as changes are stimulated especially in the bonds (links) between the component parts of the product, rather than on each of them (Henderson and Clark, 1990).

While the modular innovations are mainly related to the knowledge and referable to the specific component object of the change, the use of architectural innovations requires a broad knowledge of the system and the mechanisms that govern the interactions between its components (Parente, 2008).

Privileging the cognitive aspect, the innovations can finally be divided into competence enhancing and competence destroying. In the first case, the system of pre-existing knowledge, resources and expertise of an enterprise is strengthened, while in the second case innovations make them inadequate, obsolete or even destroy them (Tushman and Anderson, 1986; Schilling, 2009).

The last variable in the center of innovation studies, is the pursuit of its sources whose knowledge allows to better understand the dynamics and those involved in its process of innovation, as well as to manage privileged relationships with owners of strategic resources for innovation.

The literature (Schmookler, 1966; Mansfield, 1968; Pavitt, 1971), offered two different models to explain the origin of innovation: the approach "demand pull" and the "technology push".

According to the first approach, the main cause of a technological change is given by the recognition given by firms of unmet needs in the market. To meet these demands, businesses plan a process of research and development of a new product or a new technology, which will lead to the creation of an innovation. Consequently, the variables that determine the development rate and the direction of the technological innovation are the expected level of demand and profitability.

This approach has been challenged by those who support the approach "technology push" (Dosi, 1982; Nelson and Winter, 1982). It is said that sometimes some technological changes are in no way related to changes in the market and the strategies of firms, but they rather determine them. Therefore, the scientific-technological environment creates new technologies in an autonomous and independent way from the trend of the market.

It is important to highlight that in the event technology push, typical of radical innovations, the risk associated with the creation of the market that will absorb the innovation falls on the innovative company, while in "demand pull", peculiar example of incremental innovation, this risk is borne by the user undertaking (Buttà, 2004).

Over time, the dichotomy between the two models has diminished considering the interdependencies that link the scientific and economic world (Guatri *et al.*, 1999).

A further contribution to the understanding of the sources of innovation is given by the model of Von Hippel (1988) who sees the process of innovation as an activity performed by different actors: not only the manufacturer but also the user and the supplier.

This line of research reflects the evolution of the industrial system towards forms of cooperation between firms.

The company that innovates needs to access various sources of new knowledge generated through different learning processes:

- learning by doing. It is the knowledge, skills and production techniques that developed by the manufacturer or supplier of components during the implementation of design and manufacturing, both allow to reduce the cost of labor per unit of product and to improve the quality of the output (Arrow, 1962);
- learning by using: accumulated knowledge in the use of plants, equipment or products. The relevance of this mode of learning grows by stressing the phenomena of division of innovative labor between economic entities. The benefits and productivity deriving from “learning by doing” and “learning by using” are meaningful only when considered cumulatively;
- learning by searching: knowledge developed through the deliberate search for new solutions to product or process (Cohen and Levinthal, 1990);
- learning by interacting: the knowledge developed through the systemic interactions between a multitude of actors, public and private, involved in the process of innovation and diffusion, which in addition to being sources of information are equipped with skills, knowledge, abilities, and different resources (Lundvall, 1985; 1988).

Although for years the technology has been regarded as subsidiary to the business strategy, many companies have gradually redefined their priorities by integrating business strategy and technology strategy.

Formulating a technological strategy means to identify, as part of its business areas, the degree of strategic importance to each product-market combination, the role played by technological leverage in the competition, the degree of maturity of the technology and the future trend.

In relation to the current competitive and technological market environment, it is necessary to evaluate each product-market combination, its own wealth of know-how, scientific-technological, and to define its strategic objectives with regard to the following factors:

- technological positioning, depth and breadth of the portfolio projects: Choosing a technological positioning strategy as early-mover or follower;
- mode of innovation: innovation is less and less the result of activities completely within the company. The transition from being self-sufficient to the use of external sources, makes the company

face decisions about which sources to activate and how to adjust and use relationships with the outside world.

Adopting a leadership strategy is to attribute an offensive role to technological innovation. A technology leader or first-mover is that company which profits from an innovation first (Lieberman and Montgomery, 1988).

Being able to launch first an innovation requires massive investments in research and development and the inclusion in its own portfolio of breakthrough projects, i.e. researches on technologies that are at the technological frontier. It also means establishing relationships and communication with the scientific system and the lead users. It is also necessary that this commitment is ongoing, as the research is time-consuming and a complex system of skills, not acquirable in the short term.

The high cost and the high risk, for highly uncertain outcomes of the research, that this type of strategy involves, is compensated in part by the opportunity to exploit, in the case of launch of a radical innovation, a period of monopoly power. The pioneer enjoys the benefits of learning in advance about the product, and the possibility of exploiting, in terms of production, experience curves before imitators. He may enjoy the reputation as an innovator in the eyes of the customer and occupy the first distribution channels.

The choice of a leadership strategy requires organizational skills and management of complex research and development activity. Often only large companies, well positioned for competitiveness on an international level are able to bear the burden of the "pioneer". Moreover, this strategy is typically adopted by companies operating in science – based sectors, in which the primary competitive leverage is given by the scientific-technological innovation (Pavitt, 1984).

However, following a strategy of fast second, which is that of an imitator, may have some advantages, whether it is adopted by small businesses or it is intentionally undertaken by large firms.

In the case of small firms, adopting a strategy of follower is often an obvious choice because of the lack of financial resources or professional, however, in large organizations can be the result of a deliberate choice.

If the concept "early- mover" is related to technological positioning, to the advanced research projects and product innovation, the Time Based Competition shifts the focus to all kinds of project and also innovation process. Unlike the strategy of technological leadership, the Time based Competition involves the design and all the functions, and affects the scientific, technological and organizational competences.

Finding the "time to market" as a competitive factor has helped to reduce the life cycle of the products and thus increase the number of new models on the market. Then the time has become a new and forceful metric to evaluate the performance of the company.

The advantages of reduction of the “time to market” are both economic and technological:

- quick patent coverage for its innovative products;
- possibility of a late entry to the market;
- ability to seize opportunities and reduce risks;
- increase in productivity.

A decision that companies need to take, in relation to internal technological assets, concerns the extent of the commitment to innovation, defining strategic areas in terms of combinations of products / markets and the competitive modes, deepening two themes: the specification of the strategic areas in order to focus the financial and human resources on related and synergistic initiatives, and the choice of the number as well as the type of innovation projects of the product and / or process to be kept in the portfolio (Cooper and Edgett, 2010). So it is viable to manage the portfolio in order to: avoid an inefficient allocation of resources, enhance the business strategy, balance risks and innovative efforts (Cooper *et al.*, 1999).

The differentiation of the demand, the internationalization of supply and the need to respond to different market segments, customizing its supply, have led many companies to expand its product range. In addition, changes in the buying patterns or lifestyles of customers, the fast technological changes and the continued pursuit of competition lead firms to constantly renew the product range.

From the point of view of design, this strategic choice involves the management of a technology portfolio consisting of a large number and a wide mix of projects that are classified, according to their degree of complexity in (Wheelwright and Clark, 1992; Schilling, 2009):

- research projects or advanced development projects;
- breakthrough;
- projects 'platform' or the new generation;
- derivative projects.

The definition of the mix of project portfolio requires a careful analysis of the impact on the competitive advantage from each of them. The company must be able to balance the portfolio in order to ensure the fulfillment of the demand in the short term, with the development of incremental innovations, maintaining the market position in the long term, through the introduction of new generations of products.

This choice can have different strategic goals: improving the quality of the product in respect to the previous generation, adapting to new regulations, seizing the opportunity to incorporate materials or innovative components, responding to the moves of the competition or to enter new markets.

The inherent complexity in innovation is becoming less and less approachable on the basis of the available resources of a single firm. Therefore, a choice that is part of the technological strategy

depends on the degree of outsourcing of innovative design activity considering three important dimensions:

- type of entities which the exchange takes place with;
- content of the interaction with the outside world;
- type of mechanism governing the transaction.

The choice to seek outside resources must be based on evaluation of cost-effectiveness or the recognition of the superiority of the supplier in a given domain of expertise of the product or process. The partnership between manufacturer and supplier can provide different degrees of involvement in the design process:

- the design, considered strategic and therefore not decentralized remains within the company producing the final product but the supplier is involved in the preliminary stages;
- the design is done through a process of collaborative creation that involves a structured client and suppliers (co-design) incorporated in a context of "division of innovative labor", in which "learning processes by interaction" are activated (Lipparini, 1998);
- the design of a component is fully entrusted to the supplier.

Most of the innovative ideas do not always turn into successful innovations, and among those that succeed, only a few yield a return of an appropriate market to investments (Schilling, 2009).

Management for the evaluation and selection of projects to be funded uses a combination of qualitative and quantitative methods .

The most common quantitative used methods are the net present value (NPV), the internal rate of return (IRR) or real options. The first two allow both to calculate the returns of a project, taking into account the loss of value of money over time, and the risk. The quality of results is affected, however, by the reliability of the initial estimates of the cash flows that are often unreliable. Both of them provide financial estimates that can facilitate strategic planning and support decision makers in choosing among alternative investment options. They tend, however, to penalize high-risk projects or long-term, and not to seize the strategic importance of the project of which it is difficult to make an estimate of the cash flows.

For the evaluation of projects the method of real options is widely spread among companies. It considers the strategic implications in the long term even though many decisions do not reflect the strict assumptions of the mechanisms of financial markets from which the model derives.

Since many projects can not be assessed in quantitative terms, it is necessary to use quality evaluation tools. These tools can range from brainstorming to informal discussions, up to very structured approaches.

The qualitative method commonly used, consists of the preparation of a screening – question which acts as a guide the function of guide for a complete analysis of the project. Management can build also a map of the projects on the basis of two variables, the intensity change of the product and the intensity change of the process, to build a balanced portfolio and establish an appropriate allocation of resources.

With the technique of Q-sort, that is, qualitative selection, projects are classified according to a predetermined set of parameters.

Finally, there are evaluation techniques that translate qualitative assessments into quantitative parameters such as the method of conjoint analysis that allows us to estimate the value that customers give to certain factors of choice (Schilling, 2009).

RESEARCH APPROACH

The qualitative research approach is in nature Myers (2013) based on an analysis of the literature on the topic of innovation acquired Yin (1994) through the following secondary sources as below written:

- scientific books;
- articles (international literature);
- documents;
- databases (particularly, EBSCO and Google scholar);
- websites.

Findings and discussion

The paper provides a theoretical framework of systematized innovation.

The literature provides many opportunities for discussion on the reasons why firms tend to innovate. The current global context characterized by a continuous and rapid evolution , in which the timing margins tend to shrink more and more, attributed to innovative processes and their diffusion, a crucial role in determining the competitive advantage of the enterprise. Although most of the innovative ideas that may result from the creativity of one or more actors in the system, it turns into innovative products, businesses that show a high propensity to do so, by introducing new products or innovating the production process have suffered to a lesser extent the crisis in perspective and show a greater ability to deal with the growing competitive challenges.

As a working paper, the research about such subject is going ahead the conceptualization of strengths and weaknesses of the literature analyzed. In such a direction, the research work is aimed to provide an empirical analysis in order to obtain empirical evidences supporting the theoretical analysis.

Such analysis will explore the enterprises operating in the sector of plastic material that, although long-term neglected and under-evaluated in the current context, marked by a heavy economic-financial crisis, is able to offer a relevant contribute to raise not only the manufacturing industry but also the Italian and European economic system. Such sector presents, in fact, an elevated innovation rate allowing to the entire chain to face the challenges of the present economies and societies.

CONCLUSION

The innovation, through the combination of creative ideas, resources and skills is able to generate greater prosperity for the market by developing new products and services, a higher level of quality of output, and lower procurement costs, as well as more and complete information on the products and services available. So it is considered important to involve different stakeholders in this process, such as universities, laboratories and public research institutions, private foundations and research centers, producers of complementary goods, competitors, and in particular both customers in order to effectively respond to their expectations in terms of priority of needs, and suppliers through forms of collaboration that enable to reduce the cost of designing new products, a high level of quality and adequate development in time.

Unfortunately, due to the severe economic conditions seen in terms of levels of growth content and low propensity for public investment, innovation within SMEs, which made up the vast majority of the Italian production, is constrained by the inability to dispose of adequate resources. It is important, therefore, to do "team" through forms of interaction between public research facilities and SMEs towards applied research topics that are of real interest to manufacturing companies. The theoretical relevance of the subject is confirmed by the importance that innovation, which manifests itself in a growing number of sectors that make up the current economic environment.

In light of the considerations made, what has emerged in paper is that, in order to be a successful innovator is not enough to have a technology but needing to have key complementary resources and be able to defend itself from its competitors through the use of a strategy to protect innovation.

In the present case of examination, however, by dealing with the topic only from the point of life quality has an obvious limitation since that is not supported by an adequate quantitative analysis. Therefore, a future research and complement the analysis of the literature through the empirical evidence.

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DEFINITION OF A MAP OF INDICATORS ORIENTED TO ANALYSIS, IMPLEMENTATION, MONITORING AND CONTROL OF CORPORATE SOCIAL RESPONSIBILITY LEVEL IN A REGIONAL CONTEXT

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ABSTRACT

Corporate Social Responsibility (CSR) is a current topic in strategic management of organizations. Companies know that working in a socially responsible way could provide many benefits. This way, some years ago, organizations are introducing practices on economic, social and environmental dimensions making evidence of the concern on these topics. A difficult question is to know the level of awareness on CSR by the groups of interests. It is not possible to measure the exact point of CSR in a company but it is possible to define the perceptions on CSR from people involved in the managerial activity. In this sense, the paper starts with a measurement scale on CSR, obtained from a high sample of Extremadura managers. The paper is developed in a regional context and the research has provided interesting results for this context and their companies. We can know how actions could be worked in order to be socially responsible. At this moment, we have to note the importance of disclosure of information; companies must disclosure what they are doing, how they are working, in order to help to another companies. In this sense, following the standard of *Global Reporting Initiative*, we have defined a map of indicators for each component of the measurement scale, in order to help the analysis, implementation, monitoring and control of CSR in this context.

Keywords: *Corporate Social Responsibility, measurement scale, regional context, indicators, Global Reporting Initiative.*

INTRODUCTION

We base this study on the strategy of Corporate Social Responsibility (CSR) that a few years ago come rushing business. At first, large ones, in which the implementation and monitoring of CSR is easier and then small and medium-sized (SMEs), which have ventured on this path towards sustainability. On the support of Green Paper from the European Commission (2001), Promoting a European Framework for Corporate Social Responsibility, it is considered "voluntary integration by companies

of social and environmental concerns in their operations trade and their relationships with their partners". Recently, this definition has been renewed pointing "the responsibility of enterprises for their impact on society" and making explicit reference to the need for collaboration with stakeholders to "integrate social, environmental and ethical concerns, respect for human rights and consumer concerns into their business operations and core strategy" (European Commission, 2011:7).

The academic world has been very prolific in this regard, offering numerous contributions that have consolidated a very solid framework of study. Thus, the contribution of Carroll (1979) suggests that CSR encompasses the economic, legal, ethical and philanthropic expectations that society has of organizations in general. Later, Carroll and Bucholtz (2003) pointed out that businesses have to get a profit, obey the law, be ethical and behave as good members of society. Yelkikalan and Köse (2012) point out that organizations design their activities to meet the needs of the community in which they operate and while they are developing these activities use the resources of the social structure in which they are located.

We cannot say that the economic and financial crisis that is surrounding us has been a reason to abandon the treatment and study of CSR, rather the contrary, fundamentals to overcome crisis can be found on CSR. Thus, we find that the classical literature on CSR has been considerably extended with the prospect of this concept in the context of economic and financial crisis being experienced in recent years (King, 2002; Muller and Kräussl, 2011, Perez-Ruiz and Rodriguez del Bosque, 2012; Yelkikalan and Köse, 2012; Miras, 2013). In this sense, Barton (2001) suggested that managers of organizations must be able to recognize, anticipate, manage, and formally prepare for a crisis. In the same way, King (2002) indicated that when a crisis occurs, the organization must have formal guidelines and procedures to communicate, both internally and externally.

By the European Union have also made contributions in this line. So, very recently, Baldassarre Report (European Parliament, 2013) on Social Responsibility of Businesses: responsible and transparent business behavior and sustainable growth, stresses that the current global economic crisis was originated in fundamental errors (transparency, accountability, responsibility) as well as a short-term view. In response, the EU is strongly in favor of CSR and sees that it, if applied correctly, and if it is practiced for all businesses and not just large, can contribute greatly to restore lost confidence needed to sustainable economic recovery.

Given the current situation, companies have been forced to develop different identities as corporate citizens and CSR has become a key issue (Werther and Chandler, 2005). The organization that can respond to the market and the needs and concerns of society will incorporate CSR into their business strategy in various ways (McWilliams *et al.*, 2006): as a way to gain legitimacy (Werther and Chandler,

2005), for a better risk management (Husted, 2005; Orlitzky and Benjamin, 2001; Story and Price, 2006) and as a way to gain market share (Werther and Chandler, 2005).

Between the possible ways to gain market share, we have to mention the innovation capacity held in companies, as well as finding a good performance, which certainly will lead to a greater competitive success for companies. In this sense, Howitt Report (European Parliament, 2013) notes that, especially in times of crisis, companies operating under the principles of CSR should help to develop innovative capabilities of its region through the implementation of innovative technological solutions and respectful with the environment, in addition to carrying out new investments and its modernization. It also emphasizes that the integration of environmental issues such as biodiversity, climate change, resource efficiency and environmental health for business operations provides potential to promote a sustainable recovery, that is to say, it encourages and highlights the CSR and innovation relationship. Similarly, related to business performance and competitive success of enterprises, especially SMEs, the Howitt Report (European Parliament, 2013) states that CSR actions not only benefit society as a whole, but help companies to compete and be economically viable in the long term. The report warns that smaller companies can be sustainable even with minimal management and without increasing their costs due to the fact that CSR can be taken in the way they operate and compete in markets on the basis of an informal approach and even intuitive. It also notes the positive link between companies implementing CSR and the achievement of better results when they come out of the crisis by supporting the concept of "responsible competitiveness".

Based on the above arguments we undertake the development of a regional research project entitled "Diagnosis of Social Responsibility as a factor of innovation and development in Extremadura" from 2007 to 2010. In this project, developed in a moment of full crisis, we made an approach to a large group of Extremadura businessmen, from which some really good results were obtained (Sánchez-Hernández and Gallardo -Vázquez, 2012; Sánchez- Hernández et al., 2012; Gallardo-Vázquez et al., 2013; Gallardo-Vázquez and Sánchez- Hernández, 2012, 2014a, b).

From measurement scales finally validated, i.e., those composed of items that have supported the perceptions from managers, and based on the G3 and G4 Guidelines from the Global Reporting Initiative, as well as in the document entitled Standards Information on Corporate Social Responsibility (SAABA, 2010), the aim of this paper focuses on designing a map of CSR indicators that is practical to the business and present a potential real involvement in the business network.

The paper is divided into the following sections. First, after this introduction, CSR is addressed in the regional context of Extremadura and we offer the measurement and validated scale of CSR. The following section provides a map of indicators oriented to the analysis, implementation, monitoring

and control of the level of CSR in Extremadura companies. Last section contains the conclusions of the paper.

CORPORATE SOCIAL RESPONSIBILITY IN THE CONTEXT OF EXTREMADURA

As discussed, previous research has enabled us to diagnose the state of CSR in a regional context, watching who the exercise of this business strategy determines a source of sustainable competitive advantage, a greater competitive success for businesses, more innovation, and as improved business performance. It is no coincidence that those companies that have begun the journey of CSR obtain this number of benefits. The literature has long been pointing out such advantages for companies that decide to undertake socially responsible actions.

Current studies indicate numerous benefits derived from the adoption of socially responsible actions, defined in all areas of the organizations (Stevens et al., 2005), human resources (Glavas and Piderit, 2009), financial (Brammer and Millington, 2008), commercial (Luo and Bhattacharya, 2006), and so on. Between these benefits, we can mention, in particular, the obtaining of competitive advantages (Greening and Turban, 2000), i.e., the theory says that those companies that perform socially responsible actions are the most competitive, which shows the growing importance to the economy and organizations in general (Chang, 2011; Boulouta and Pitelis, 2013). If this is so, it is necessary to explain the causality between this new variable of business management, CSR, and the classic goal in a company to be competitive.

While the theory was given at this, three or four years ago many case studies were not on literature, that clearly put out the connection between what is indicated in academia scope and what is deducted from the practice area. In this line, the authors were able to infer, with a high degree of reliability, how important is the exercise of CSR for companies in Extremadura (Gallardo-Vázquez and Sánchez-Hernández, 2014a, b; Sánchez-Hernández and Gallardo-Vázquez, 2012).

We highlight the large number of small and medium enterprises (SMEs) in the world, which we have a great strategic value for each country and region, determining a significant part of the economic growth (Preuss and Perschke, 2010). These companies are the largest contributor to the economy of the regions, are the major contributors, but are also those that have more difficult to undertake CSR, being perhaps that should receive the best support and advice to continue an optimum performance.

Measurement validated scale of Corporate Social Responsibility for a regional context

In order to achieve a measurement validated scale explanatory of perceptions of Extremadura entrepreneurs, and based on previous work we carried out the definition of own scale, tailored to the characteristics of the context of study. So, we started from the contributions of Turker (2009), Lu et al.

(2012) and Pérez and Rodríguez del Bosque (2013), from which we defined the own which were later subjected to the corresponding study of validity and reliability were defined.

The result, of great value in the research field, is the definition of a validated measurement scale for the context of study and which is currently undergoing treatment in other regional contexts belonging to countries other than Spain, so able to draw conclusions and make comparisons to contribute to the literature. With this measurement scale we completed an important process, putting us in line with Abbott and Monsen (1979), Quazi and O'Brien (2000), Maignan and Ferrell (2000), Turker (2009) and Clarkson et al. (2008) who had already contributed to the CSR literature with different scales.

Validation of the measurement scale of CSR in Extremadura has been obtained from a debugging process of indicators based on the PLS methodology, with the conclusion of a set of defined items considered to measure the constituent constructs of CSR (Table 1).

Table 1: Scale validated for orientation to CSR

MEASUREMENT VALIDATED SCALE FOR THE ORIENTATITION TO CORPORATE SOCIAL RESPONSIBILITY IN EXTREMADURA
<p>SOCIAL DIMENSIÓN</p> <p>S.3. We are aware of the employees' quality of life</p> <p>S.5. Employees compensation is related to their skills and their results</p> <p>S.7. We are committed to job creation (fellowships, creation of job opportunities in the firm, ...)</p> <p>S.8. We foster our employees' training and development</p> <p>S.9. We have human resource policies aimed at facilitating the conciliation of employees' professional and personal lives</p> <p>S.10. Employees' initiatives are taken seriously into account in management decisions</p> <p>S.11. Equal opportunities exist for all employees</p> <p>S.14. We have dynamic mechanisms of dialogue with employees</p> <p>S.15. We are aware of the importance of pension plans for employees</p>
<p>ECONOMIC DIMENSIÓN</p> <p>E.16. We take particular concern to offer high quality products and/or services to our customers</p> <p>E.17. Our products and/or services satisfy national and international quality standards</p> <p>E.18. We are characterized as having the best quality-to-price ratio</p> <p>E.20. We provide our customers with accurate and complete information about our products and/or services</p> <p>E.21. Respect for consumer rights is a management priority</p>
<p>ENVIRONMENTAL DIMENSIÓN</p> <p>M.27. We are able to minimize our environmental impact</p>

M.28. We use consumables, goods to process, and/or processed goods of low environmental impact
M.29. We take energy savings into account in order to improve our levels of efficiency
M.30. We attach high value to the introduction of alternative sources of energy
M.32. We are aware of the relevance of firms' planning their investments to reduce the environmental impact that they generate
M.33. We are in favour of reductions in gas emissions and in the production of wastes, and in favour of recycling materials
M.34. We have a positive predisposition to the use, purchase, or production of environmentally friendly goods
M.35. We value the use of recyclable containers and packaging

Map of indicators oriented to analysis, implementation, monitoring and control of CSR level in Extremaduran companies

Once measurement scale for CSR was validated, we believe it is necessary to identify some indicators for each one of the scale items to collect possible socially responsible actions to be undertaken by companies. As we have already mentioned, for the development of this part of the paper we have relied on the G3 and G4 (Guidelines of the Global Reporting Initiative, 2006, 2013) as well as in the document entitled Standards Information on Corporate Social Responsibility (SAABA, 2010). From both sources we have defined the indicators at this time are linking CSR orientation with competitive success in the Extremaduran business network.

This selection of items, which has been motive of an empirical analysis in the previous sections, must be interpreted correctly. Items that have been validated report on which aspects of CSR are correlated with competitive success in Extremadura companies currently without prejudice that may be enhanced other aspects in coming years and come to join the causal effect observed in the early to project completion. That is to say, we have carried out a research marked by the situation which should be completed by later studies that analyze the same reality to achieve structural information of CSR of Extremadura company.

SOCIAL INDICATORS

EMPLOYEES' QUALITY OF LIFE			
INDICATOR	DEFINICIÓN	CÁLCULATION	REFERENCE IN G3 (GRI)
Value of contracts	Permanent employees	Percentage of permanent employees to total (Number of employees with permanent contracts in force and	LA1

		full time/ /Number of employees) x 100	
Representation of work health and safety committees	Employees who are represented to help monitor and advise on health and safety at work	Percentage of total workforce represented	LA6
Absenteeism	Days lost by unjustifiable causes	(Number of lost days due to absenteeism during the period/ Number of days worked by all employees during the same period) x 200.000	LA7
Employee Turnover	Employees who leave the organization (layoffs, voluntary redundancies)	Percentage de rotation (Number of employees who leave their jobs in the year/Total employees at the beginning of year) x 100	LA2
Seniority	Year tenure of employees in the company	Sum of all years spent by all employees / Total Number employees	
Employees covered by collective agreement	Employees who fall under each type of agreement	Percentage of employees covered by collective bargaining agreements	LA4
Social benefits for provided to full-time employees	Social aspects involving some benefit for employees	Amount of benefits	LA3
Accident and illness at work	Days lost due to occupational accidents and diseases	(Number of days lost/Total hours worked) x 200.000 (The factor 200,000 is the result of 50 work weeks of 40 hours per 100 employees)	LA7
COMPENSATION – COMPETENCE RATIO AND PERFORMANCE			
Variable remuneration	Existence and importance of pay linked to skills and performance of each employee	(Total variable remuneration for the period / Total remuneration for the period) x 100	
People with variable	Volume of employees	(Employees with variable	

remuneration in the company	with variable remuneration	remuneration / media template in the period) x 100	
CREATION OF EMPLOYEEMENT			
Employees	Increase in number of employees	(Number of employees with contract in force at end of year – Number of employees existing contract at the beginning of the period) / Number of employees with contract in force at beginning of year	LA2
Work in practice or creation of scholarship	Creating jobs or employment practices scholarships	Number of people in the exercise	
TRAINING AND PROFESSIONAL DEVELOPMENT			
Education and training in prevention and control of risks	Defined programs for education, training, counseling, prevention and control potential risks to workers	Number of programs dedicated to this purpose	LA8
Training of employees	Training received by employees	Number of hours of training received during the year / Number of employees with current contract	LA10 HR3
Expenditure on training per employee broken down by employee category	Amount in training and staff development per employee	Total amount of annual expenditure on training and development courses / Number of employees with current contract	HR3
Effort in training and development	Amount in training and staff development	Total amount of annual expenditure on training and development courses / Annual turnover	
Management skills to promote employability	Training received continuous development and growth of certain management skills	Number of hours of training received in such skills programs / number of employees who receive them	LA11
CONCILIACIÓN			
Flexible labor policies	Initiatives and projects	Number of proposed initiatives	

	promoting labor flexibility	throughout the year	
Family conciliation	Access to family reconciliation measures	Number of employees accessing reconciliation measures / Total number of employees	
PARTICIPACIÓN			
Involvement in the management	Number of employees involved and participatory	Employees with active participation on committees, commissions or improvement groups / total number of employees	
Participation in meetings	Percentage of employees who meet the commitment of attending meetings	(Number of employees attending meetings / Number of employees summoned to meetings) x 100	
Suggestions submitted	Percentage of employees who raise suggestions outside formal channels of participation	(Number of employees who have suggestions / media template period) x 100	
EQUAL OPPORTUNITIES			
Gender distribution in the template	Women in the workforce	Percentage of women related to total employees (Number of women/Number of employees) x 100	LA2, LA13
Gender distribution in the Management	Female presence in Management	Number of women in the Management / Total number of members in the Management	
Equal opportunities	Ratio of base salaries of men and women by employee category	Percentage of women salaries related to men (Base salaries of women/Base salaries of men) by category x 100	LA14
Non-discrimination	Incidents of discrimination and actions taken	Total number of incidents of discrimination and actions taken	HR4
INTERNAL COMMUNICATION			
Circular Issued	Volume of written information issued	Number of circulars issued periodically by traditional or	

		electronic means	
Meetings	Volume of meetings	Number of meetings celebrated in the period	

ECONOMIC INDICATORS

QUALITY OF PRODUCTS AND / OR SERVICES			
Customer satisfaction	Practices of customer loyalty including the results of satisfaction surveys	Number of practices for customer satisfaction and loyalty	PR5
COMPLIANCE WITH NATIONAL AND INTERNATIONAL QUALITY STANDARDS			
Effort to meet quality standards	Initiatives to meet quality standards	Number of programs or processes for quality certification	
Quality Standard	Compliance with quality standards	Number of quality standards with which the company complies	
PRICE LEVELS IN RELATION TO QUALITY OFFERED			
Quality-Price Ratio	Initiatives to reduce prices without lowering quality standards	Number of initiatives underway to reduce prices while maintaining quality to keep prices or increasing the quality	
COMPLETE INFORMATION ABOUT PRODUCT AND / OR SERVICES			
Labelling of products and services	Information about products and services that are required by existing procedures	Number of products and services that meet the regulations on labeling / Number of products and services subjected to regulation on labeling	PR3
Marketing communications	Incidents of non-compliance with regulations concerning marketing communications, including advertising, promotion and sponsorship	Total number of incidents of non-compliance with regulations regarding communication	PR7
RESPECT FOR CONSUMERS RIGHTS			
Non-compliance with	Incidents of non-	Number of incidents derived of	PR2

regulations concerning customer	compliance with regulations concerning any aspect of customer	non-compliance with legal regulations resulting in a fine, penalty or reprimand	
Anti-competitive behavior	Total number of actions for monopoly practices and anti-competitive and results	Total number of actions	S07
Standards compliance	Monetary value of significant fines and penalties and total number of non-monetary sanctions for noncompliance with laws and regulations	<ul style="list-style-type: none"> - Amount of sanctions - Number of non-monetary sanctions 	S08

ENVIRONMENTAL INDICATORS

MINIMIZE ENVIRONMENTAL IMPACT			
Improvement initiatives of environmental impacts	Initiatives to improve the environmental impacts of products and services, and extent of impact mitigation	Number of initiatives	EN26
Environmental impact of transporting people, goods and products	Significant environmental impacts of transporting products and other goods and materials used for the organization's activities, as well as the transport of personnel	Amount environmental impacts produced	EN29
Emission of substances destroying the ozone layer, by weight	Total Emissions of substances that can destroy the ozone layer	Sum of emissions of substances that destroy the ozone layer in tons of CO2 equivalent	EN19
USE OF PROCUREMENT OF LOW ENVIRONMENTAL IMPACT			
Materials used	Materials used by weight or volume	Amount of different types of materials used	EN1

Reuse of waste	Percentage of materials used that are recycled input materials	$(\text{Amount of materials recycled} / \text{Amount of used materials}) \times 100$	EN2
ENERGY SAVING			
Power consumption	Direct energy consumption expressed in gigajoules (GJ)	GJ of energy consumed	EN3
Energy saving	Energy saved due to conservation and efficiency improvements	Amount of energy savings	EN5
Initiatives in energy consumption	Initiatives to reduce energy consumption and reductions achieved through these initiatives	Number of initiatives	EN6
INTRODUCTION OF ALTERNATIVE ENERGY SOURCES			
Alternative energy	Use of alternative energy	$(\text{Provision of alternative energy} / \text{Total energy supply}) \times 100$	
Efforts to introduce alternative energy	Actions and projects involving the introduction of some alternative energy source	Number of initiatives underway to introduce alternative energy	
INVESTMENT TO ENVIRONMENTAL IMPROVEMENT			
Environmental costs and investments	Breakdown by type of total environmental protection expenditures and investments	Percentage of environmental expenditures and investments to total $(\text{Amount of environmental expenditures and investments} / \text{Amount of expenditures and total investment}) \times 100$	EN30
GAS EMISSIONS REDUCTION, RECYCLING AND WASTE MATERIALS			
Generation of waste	Waste generated, hazardous and non-hazardous	Tons of waste generated	EN22
Waste managed	Waste managed on	Percentage of waste managed on	EN10

	total waste generated	generated (Tons of waste managed/Tons of waste generated) x 100	
Sewage	Total water dumping by quality and destination	Cubic meters of wastewater discharged	EN21
Pollutants	Total direct and indirect emissions of Greenhouse Gases (GG)	Sum of direct and indirect GG in tons of CO ₂ equivalent	EN16
USE OR PRODUCTION OF ORGANIC ARTICLES			
Ecological provisioning	Existence of ecological factors of production	(Procurement of ecological products / Total supplies) x 100	
Organic production	Organic products finished	(Volume of organic products / Total of products offered) x 100	
USE OF RECYCLED PACKAGING			
Products sold and recovered packaging	Percentage of products sold and their packaging materials that are reclaimed at the end of its useful life by product category	(Products sold and recovered packaging / Total product sales) x 100	EN27

CONCLUSIONS

This research has been concluded with the proposed CSR indicators that are related to competitive success in the current context of the Extremadura company. Such indicators allow entrepreneurship in Extremadura know the level of CSR in Extremadura companies after the implementation of this strategy, track that level and be able to check every so often.

The definition of the indicators provided has not been easy. The reason is the novelty of the subject and the lack of generalizable evidence on it. It has become necessary to make an effort to adapt to reality other standardized scales validated for this case.

It has sought to develop a set of indicators of a general nature for a first application in companies with the prospect of its implementation and monitoring enable over time the definition of other indicators that could provide more and better volume of information. In this sense, we must enhance disclosure and transparency with which it is performed, aspects inherent to the CSR itself because working

responsibly means taking full transparency and disclose all actions that companies are doing. From these indicators companies can determine more specifically what the contributions made in the line of each of the items validated for the three dimensions of the CSR: social, economic and environmental.

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COMPANIES' PERFORMANCE AND THE GREEN ECONOMY IN THE WINE SECTOR

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ABSTRACT

The wine sector is one of the most representative of both Italy and other foreign countries thanks to the richness of fine wines and a combination of know-how, craftsmanship and traditions held by Italian producers. Therefore, the wine sector represents a key factor for attracting tourism, due to a wine tourism phenomenon which involves both a niche of experts persons and tourists in general.

Our research goals are twofold. The first is to examine the impact of wine consumption trend on Italian and foreign wine companies in terms of economic performance. The second goal is to identify the most relevant green concepts for the wine industry with regard to addressing environmental challenges.

We formulated two research hypotheses correlated to the above goals. The objective of the research was identified through an analysis of the national and international literature on the research topic. In addition, a quantitative and qualitative survey was conducted in order to achieved to research objectives.

It emerged that Italian wine consumption trend negatively impacted on core business performance, while not on the return on equity; despite the world consumption crisis, global wine consumption is kept to a similar extent in pre-crisis period and foreign companies in the sample have obtained an increase in economic performance. In addition, the tendency towards a green economy is also involving the wine sector, due to companies' susceptibility to a greater focus on the environment.

The implications of this study are related to the potential of the wine sector in Italy and in other foreign countries. This sector represents an interesting field of action for related companies in terms of turnover and profitability.

In order to overcome the limitations of the present research, it would be interesting to compare the potential and dynamics of wine consumption on performance with that of other economic sectors, which are also representative of a country economy. Furthermore, some suitable econometric models would be usefull to carry out a simulation on the impact of a series of external and internal variables of the wine market on the performance.

Keywords: *wine sector; Italian wine companies; foreign wine companies; performance; green economy.*

INTRODUCTION

The wine sector is one of the most representative of both Italy and other foreign countries thanks to the variety of fine wines and a combination of know-how, craftsmanship and traditions held by Italian producers. The wine sector is composed of three different groups:

- companies that produce grapes, and then produce and commercialize wine;
- companies that produce and commercialize wine, buying grapes from external suppliers;
- companies that commercialize wine, which is purchased from external supplier.

Wine is a typical export product when the country's product is recognized for its high quality, tradition or competitiveness in terms of quality/price. Therefore, each market is split into domestic and foreign: domestic markets refer to those who live or operate in that country and tourists, while foreign customers are those outside of the country.

This means that the wine sector represents a key factor for attracting tourism, due to wine tourism which involves both experts and tourists in general.

Our research goals are twofold. The first is to examine the impact of the wine consumption trend on Italian and foreign wine companies in terms of economic performance. The second goal is to identify the most relevant green concepts for the wine industry with regard to addressing environmental challenges.

This analysis is placed within our wider study focusing on business opportunities of Italian companies, for which wine can represent an important turnover source (Giacosa, Giovando and Mazzoleni, 2014). It emerged that Italy is the second largest wine producer in the world, after France, thanks to the varied territory, the favorable climate, and the experience and entrepreneurship of the companies.

This study is motivated by observing the profound changes that have taken place in the wine market over the last 20 years in Italy and abroad. The context has been characterized by recent and profound changes in wine consumption, creating new business prospects for wine companies. While wine was considered a local product without much potential for investments and exports until the 1970s, subsequently a following for quality wine has developed. Investments from family firms and big groups in Italian and foreign market increased the scope of the wine sector. In such a context, business opportunities for wine companies become notable. In addition, the movement towards a green economy is interesting in the wine sector for understanding whether wine companies are susceptible to a greater focus on the environment.

LITERATURE

The wine sector has been considered for its ability to attract tourism, and representing a business opportunity for wine companies (Marks, 2011; Ritchie, 2009) due to a “wine tourism phenomenon” attracting expert persons (Clemente-Ricolfea et al., 2012; Groves and Belk, 1998). In attracting tourism, wine sector has a positive impact on regional competitiveness and its drivers (Jaffe and Nebenzahl, 2008; Viassone, 2009; Vrontis and Viassone, 2013; Zanni, 2004). Wine tourism also effects accelerated change both in terms of sales and production, as a consequence of constantly changing geography in the wine sector (Rossi et al., 2012).

The literature focused on the different types of companies operating in the wine sector, classifying them as:

- bigger companies operating in a global level (Rossi, 2008; Wittwer et al., 2003; Zanni, 2004);
- medium and small-sized companies (Holden and Weber, 1994; Beverland and Lockshin, 2001).

In addition, the wine market has been differentiated in old markets and new markets, such as Chinese and Russian, which are seeing increasing growth in wine consumption (Anderson and Wittwer, 2013). By observing the business model of the companies in the wine sector, they have been classified in two groups: the first one is composed of medium and large wine companies operating in a global market; the second group is composed of smaller companies operating in a niche market and with a modest or insistent internationalization process, which needs network models of organization to increase competitive advantage (Aldrich and Zimmer, 1986; Birley, 1985; Aldrich, Reese and Dubuni 1989; Ohmae, 1989; Brown and Butler, 1995).

In addition, some studies made a comparison between business opportunities in agriculture and manufacturing sectors. The manufacturing sector represents a driving force of the Italian economy. The importance of wine sector (belonging to the agriculture sector) has become clear for the Italian economy, thanks to its ability to increase revenue over the time considered (from 2007 to 2012), in contrast to the manufacturing sector (Giacosa, Giovando and Mazzoleni, 2014).

Several scholars observed performance in wine sector (Heijbroek, 2003; Coelho and Rastoin, 2004 and 2006). In particular, some studies investigate wine performance and show an improvement in some countries, such as French wine companies (Amadiou and Viviani, 2010; Viviani 2009), Greek companies (Venieris, 1989), South African firms (Esterhuizen and van Rooyen, 2006) or Spanish (Suàrez-Ortega and Valamo-Vera, 2005).

Other studies observed the impact of economics and economic sociology on performance, by assessing the role of local inter-firm networks in innovation dynamics and economic performance in a cluster of cooperatives (Chiffolleau et al., 2007).

Several studies focused on the trend of alcohol consumption in different parts of the world,

identifying the relevant economic, social, religious and cultural factors that impact on wine consumption (Trach, 2013; Gillespie, 2005; Thach and Olsen, 2005). Several differences emerged between countries (Trevisan et al., 2011; Thach and Olsen, 2006).

With particular reference to wine consumption, other studies observed the recent changes in wine consumption as a consequence of changes to the socio-demographic, cultural, political and economic behaviour of the context in which companies operate due to several inputs; also the companies' activity impacts on wine consumption by means of a series of outputs (Giacosa, Giovando and Mazzoleni, 2014; López-Valeiras Sampedro et al., 2010; Rohan et al., 2007).

Wine consumption is influenced both by individual characteristics (Hall and Hall, 1990; Harrisson and Huntington, 2000; Peterson and Kern, 1996), and by perceptions of quality in objective and subjective terms (Lancaster, 1971). Objective quality is influenced by intrinsic characteristics of the product in terms of its chemical and organoleptic properties. However, subjective quality is governed by consumer perception connected to his or her preferences (Cavicchi, 2008; Steenkamp, 1989) and could be evaluated according to four dimensions (Brunso, Fjord and Grunert, 2002). These are taste and appearance, healthiness, convenience, and the purchase price.

Several studies focused both on the need to drink wine and the method of its consumption, as well as on the variables that impact on consumers' purchasing choices in terms of brand knowledge (Dotson et al., 2012; Goodman, 2009; Nowak et al., 2004), quality and packaging (de Luca, 2006; Bland, 2004; Pastore and Vernuccio, 2003).

According to green concepts for the wine industry, with thousands of different definitions the discourse field of sustainability has become so wide and divergent that it has largely become irrelevant (Pezzey 1997; Perman, Ma et al. 2003; Hopwood and Mellor 2005). Elkington (1998) introduced the term "triple bottom line" which is the most specific entry relating to sustainability for smaller entities like firms. The triple bottom line refers to the three pillars: economic, social and ecological sustainability. Two distinct versions of sustainability emerged in the 1970's; weak and strong sustainable development (Neumayer, 2003). Weak sustainable development (Weak) and strong sustainable development (Strong) give the three pillars different weight and meaning. The goal in Weak is that utility or consumption does not decline over time (Pezzey, 1997). In practice, social and ecological resources are to be used as input into economic development. Many academics have concluded that this version of sustainability is not sufficient, given the tremendous environmental challenges we are facing (Daly 1999; Zadek 2004; Holden and Linnerud 2007; Nilsen, 2010; Peeters, 2012).

The present study contributes to expanding the literature via the following two observations. Firstly, it verifies the impact of the recent world crisis on the wine sector in terms of both consumption trends

and companies' economic performance. Secondly, it identifies the most relevant green concepts for the wine industry with regard to addressing environmental challenges. It is a very recent phenomenon due to companies' attention to a green strategy: not only in the manufacturing sector, but also in the agricultural one, that the theme of green strategy has to be included in companies' business development plans.

METHODOLOGY

In order to achieve the research objectives, we have articulated the following research hypotheses:

H1: The recent world crisis which involved the industrial and financial economy has not strongly affected the wine sector. Indeed, the wine market is particularly susceptible to a strong tradition in drinking wine, influenced by the socio-demographic and cultural context. This is especially true in those countries with a high wine consumption culture.

H2: the tendency towards a green economy is involving the wine sector, due to companies' greater focus on the environment.

To demonstrate the above-mentioned research hypotheses, the research methodology has been carried out in the following phases:

1) First phase: the research hypotheses were analysed by examining the existing literature, according to several topics, such as the characteristics of the wine sector, the different typologies of companies belonging in the sector, wine consumption trends and the performance of wine companies. In addition, we referred to green economy concepts applied to wine sector;

2) Second phase: the research methodology was differentiated in relation to the above hypotheses:

a) With reference to H1: the objective to be reached is quantitative in nature. The analysis of the economic performance of wine companies has been articulated into the following observation focus:

- Italian companies: we firstly analysed the relevance of the wine sector compared to the manufacturing sector, which represents the core of the Italian economic texture. To this end, we compared the index numbers for turnover within the wine sector with that of the manufacturing sector, for the period 2007 to 2011. This allowed us to evaluate the wine sector compared to the manufacturing sector, and establish which one is characterised by positive trends in relation to turnover. Then, we verified the impact of the world crisis on Italian wine consumption from 2007 to 2011. We then observed the impact of Italian wine consumption on the economic performance of a sample composed of the major Italian wine companies. This sample consists of the 108 largest Italian companies with a turnover of more than 25 million Euro (these companies have achieved a total turnover of 2.67 billion Euro in 2011) (Table 1). The economic data observed were the following: turnover, ebitda, ebit, net

earning, ROI and ROE. The quantitative source for both foreign and Italian companies is represented by a series of market data, the processing of which allowed us to deduce wine sector trends drivers in Italy. The market data was obtained from reports of major Italian trade associations operating in the wine sector, as well as the National Institute of Statistics (ISTAT), and the research department of a major Italian bank;

	Revenues 2011 (million Euro)
Cantine Riunite & GIV	498
<i>including: GIV – Gruppo Italiano Vini</i>	368
<i>including: Cantine Riunite & CIV</i>	161
Caviro	247
<i>Gruppo Campari (wine department)</i>	185
Cavit Cantina Viticoltori	152
P. Antinori	150
Mezzacorona	149
Fratelli Martini Secondo Luigi	144
Casa Vitivinicola Zonin	124
Giordano Vini	119
Enoitalia	96
Gruppo Santa Margherita	91
Cantina Sociale Cooperativa di Soave	89
Schenk Italia	88
Casa Vinicola Botter Carlo & C.	87
La Vis	85
Compagnia De' Frescobaldi	83
Gruppo Cevico	83
Collis Veneto Wine Group	63
Contai Spumanti	62
Banfi	62
Masi Agricola	62
F.lli Gancia & C.	61
Casa Vinicola Caldirola	60
Mgm Mondo del Vino	57
Ruffino	57

Table 1. *The top 25 Italian wine companies of the sample- Source: personal elaboration on Mediobanca (2013)*

- Foreign companies: we firstly verified the impact of the world crisis on world wine consumption from 2007 to 2011. We referred to literature that stated that the global crisis began in 2007 (Deaglio, 2008). Subsequently, we observed the impact of world wine consumption on the economic performance of a sample composed of the major wine companies worldwide. This sample consists of

the 13 largest internationally listed companies with a turnover of more than 150 million Euro (these companies have achieved a total turnover of 7.9 billion Euro in 2011) (Table 2). The economic data observed were the following: turnover, ebitda, ebit, net earning and ROE.

Companies	Countries
Constellation Brands	USA
Treasury Wine Estates	Australia
Distell Group	South Africa
Vantai Changyu Pioneer Wine	China
Vma Concha y Toro	Chile
Vranken-Pommery	France
Lans on-BCC	France
Sektkellerei Schloss	Germany
Laurent Perrier	France
Andrew Peller	Canada
Vma San Pedro Tarapaca	Chile
Advini	France
Australian Vmtage Ltd	Australia
Vma Santa Rita	Chile

Table 2. *The sample of foreign wine companies- Source: personal elaboration on Mediobanca (2013)*

b) With reference to H2: the objective to be reached is qualitative in nature. We made a brief overview of the most relevant concepts for the wine industry with regard to addressing environmental challenges. We tried to emphasise how the concept of ecological sustainability is applied in the wine sector, referring to strong sustainable development or strong sustainability.

RESULTS

In this section, the research results are presented in relation to the following observation points:

- The performance of the Italian and foreign wine companies (*referred to H1*);
- The green concepts for the wine industry (*referred to H2*).

The economic performance of Italian and foreign wine companies

The analysis of the economic performance of wine companies has been articulated into the following observation focuses:

- Italian companies;
- Foreign companies.

Before observing the economic performance of the Italian wine companies, we verified the relevance of the Italian wine sector within the Italian economic context. For this purpose, we compared the wine sector trends in terms of sales to that of the Italian manufacturing sector, which constitutes a driving force of the Italian economic system (Table 3).

	2007	2008	2009	2010	2011
Wine sector	100.00	102.30	98.60	102.90	112.00
Manufacturing sector	100.00	100.60	83.20	89.80	96.10

Table 3. *Wine sector and manufacturing sector turnover comparison (index numbers of turnover)- Source: Giacosa, Giovando and Mazzoleni, 2014 on Mediobanca, 2013 data*

It emerged that wine sector turnover increased over time, despite the global financial crisis for which there was a sales reduction in 2009. This trend didn't hold true for the manufacturing sector: pre-global financial crisis levels were not reached in 2011. In 2011, wine sector turnover was about 17% higher than that of the manufacturing sector. Therefore, the wine sector is an important one for the Italian economy, due to its ability to increase revenue over the time considered: which has not been the case in the manufacturing sector.

The wine sector has a comparable relevance to the Italian economic system to the manufacturing sector. To explore this issue, we considered the ability of Italian wine companies to attract foreign consumers. The origin of turnover according to end markets is shown below (Table 4).

	2007	2008	2009	2010	2011
Domestic market	6.2	0.3	-3.5	0.6	5.6
International market	8.2	4.8	-3.9	8.9	12.6
Total revenues	7.1	2.3	-3.7	4.4	8.9

Table 4. *Origin of turnover to end markets (% variation compared to previous year- Source: Giacosa, Giovando and Mazzoleni, 2014 on Mediobanca, 2013 data*

It emerged that a great ability to attract foreign customers and exports have been major driving forces for turnover growth within the sector: indeed, Italian wine is globally recognised as being good quality. In particular, in 2011 and export sales are more than double sales in Italy.

When considering export volumes, Italy is clearly a more important player (21 million hectoliters of wine) than France (15 million hectoliters of wine), although the turnover generated by exports was higher for France (7.9 billion euros) than Italy (4.7 billion euros) (Wine Monitor, 2012). Large and medium companies have a tendency towards exporting (exports represent more than 90% of sales for some companies), while export sales are marginal or non-existent for small companies. The most popular markets for Italian wine are the USA, with 1.054 million euros of exports, a revenue growth

of 8% and volumes growth of 2% compared to the previous year; Germany, with a billion euros of turnover and a new exports market of about 7%; the UK, with 570 million euros turnover and a new exports market of about 9%; and Switzerland, with 311 million euros turnover, and purchase of 700 thousand hectoliters, despite a reduction in exports of 9% compared to the previous year. Therefore, the wine sector is an important sector for Italian companies, as Italy is the second largest wine-producing country in the world, after France.

We can conclude that the wine sector is important to the Italian economic context when compared to the manufacturing sector and that it has a strong ability to attract foreign consumers.

With reference to *H1*, we firstly analysed Italian wine consumption compared to world wine consumption (Table 5).

	2007	2008	2009	2010	2011	Var. 2007-2011 (%)
Italy	26,7	26,2	23	24,6	23,1	-13.5
Total world wine consumption	251,1	245,2	243,3	242,2	243,8	-2.9

Table 5. *Italian wine consumption (in hl/000.000)- Source: OIV, 2013*

World wine consumption decreased by 2.91% from 2007 to 2011, while Italian wine consumption decreased of 13.5%. Therefore, it seems that the world consumption crisis has had a stronger negative impact on Italian wine consumption than world wine consumption.

Then, we investigated the impact of the global crisis on the economic performance of a sample of 108 major Italian companies in the wine sector whose turnover is over 25 million euros (Table 6). Of these major Italian companies, the one with the biggest turnover is Cantine Riunite (498 million euros turnover in 2011), whose revenue is seventh in the world wine sector. Other Italian companies with remarkable turnovers are Caviro (247 million euros) in 11th position, a division of Campari Wine (185 million euros) in 16th position, Cavit (152 million euros) in 19th position, and P. Antinori (150 million euros) in 20th position (Mediobanca, 2013).

Years	2007	2008	2009	2010	2011	Var. 2007/2011
Revenues	4,394	4,495	4,330	4,521	4,923	12.0
Ebitda	436	387	385	436	459	5.3
Ebit	252	197	191	240	254	0.8
Net earning	58	34	64	142	99	70.7
ROI (%)	6.3	5.2	4.8	5.6	5.9	-6.3
ROE (%)	2.7	1.8	3.2	6.6	4.4	62.7

Table 6 – *Economic data at the aggregate level of main Italian wine companies (dati in €/000.000)- Source: Mediobanca, 2013*

Even if Italian wine consumption decreased by 13.5%, the turnover at the aggregate level increased by 12% over these years, beyond a downturn in 2009. Ebitda increased by 5.3% and net earning strongly increased by 71%). Core business performance (ROI) was 5.9% in 2011 (with a decrease of 6.3%), while the return of equity (ROE) was 4.4% in 2011 (with a strong increase of 62.7%).

Therefore, it seems that the negative trend of wine consumption has had a negative impact on ROI. However, the negative wine consumption trend has not had a negative impact on ROE.

H1 is partially confirmed: Italian wine consumption trends negatively impacted on ROI, but not on the ROE.

With reference to the H1, we also analyzed the trend of world wine consumption from 2006 to 2011 to assess the impact of the global crisis on consumption (Table 7).

	2006	2007	2008	2009	2010	2011
France	33	32.2	30.8	30.2	28.9	29.3
USA	27.2	28.3	28	27.3	27.6	28.4
Italy	27.3	26.7	26.2	23	24.6	23.1
Germany	20.2	20.8	20.7	20.2	19.7	19.7
China	13.3	13.6	13.7	15	15.8	16.3
UK	12.7	13.7	13.5	12.7	13.2	12.9
Argentina	11.1	11.2	10.7	10.3	9.8	9.8
Spain	13.5	13.1	12.2	11.3	10.4	9.9
Russia	10.8	11.7	11.3	10.1	-	-
Australia	4.6	4.8	4.9	5.1	5.3	5.3
Romania	5.5	5.5	5.4	4.9	-	-
Portugal	4.8	4.5	4.5	4.5	4.7	4.6
Canada	4	4	4	3.7	-	-
Brazil	3.5	3.3	3.3	3.5	3.5	3.8
Holland	3.5	3.6	3.8	3.5	3.5	3.8
South Africa	3.4	3.6	3.6	3.4	3.5	3.5
Chile	2.4	3	2.3	3.1	3.2	3
Other Countries	43.2	47.5	46.3	51.5	68.5	70.4
Total	244	251.1	245.2	243.3	242.2	243.8

Table 7. *Wine world consumption (in hl/000.000)- Source: OIV, 2013*

This analysis shows that world wine consumption is almost constant over time. A detailed analysis of the individual countries in the sample shows that, except for the increase in China (13.3 to 16.3) and the decrease in Italy (from 27.3 to 23.1), for the other countries the consumption is almost constant over time. Therefore, the global downturn in consumption does not seem to have had an impact on world consumption in the wine industry globally: the global players in the wine industry divide a market that does not seem to decrease.

Below, the distribution of wine consumption among the different continents in 2011 is shown (Table 8).

Countries	North America	South-Central America	Europe	Asia, Australia and New Zealand	Rest of the World
% of wine consumption	37.40	56.00	23.40	18.70	14.90

Table 8. *Distribution of wine world consumption (2011)- Source: personal elaboration on Mediobanca, 2013*

America (North America 37.40% and Central and South America 56%) is a major wine consumer, followed by Europe and then the other continents.

We said that the world wine sector was not affected by a global consumption crisis, subsequently, it was observed that the world's wine consumption trend has had repercussions on the economic performance of the main wine groups in the sample (Table 9).

Years	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Var 2002/2011
Revenues	5.267	6.104	6.400	7.022	7.178	6.478	6.559	6.451	6.708	6.598	25.27%
Ebitda	881	1.075	1.054	1.195	1.201	1.181	1.192	1.240	1.280	1.325	50.40%
Ebit	726	887	875	986	992	944	956	1.007	1.061	1.118	53.96%
Net earning	350	389	435	439	492	-152	-2	475	872	854	144.00%
ROE (%)	11.25	9.79	9.56	9.11	10.16	-3.28	-0.05	9.76	16.59	15.14	-

Table 9 – *Economic data at the aggregate level of the main groups in the world (in € / 000,000)- Source:*

Mediobanca, 2013

Analyzing first of all the turnover and net profit in the aggregate sample, we see a substantial growth over the years, apart from a decline in the years 2007 and 2008. We can see that the crisis emerges in a small way in the wine sector in the years 2007 and 2008, followed by a marked improvement in subsequent years. In addition, comparing the aggregated net income data for the sample with world wine consumption from 2009 to 2011, shows that compared to constant consumption of wine, there is a marked increase in the aggregate net income from 2009 to 2010 and a slight decrease from 2010 to 2011.

To analyse the impact of the global crisis on the economic performance of the major groups in the industry worldwide in the sample, we compared the trend with EBITDA, EBIT and Net Earnings. EBIT and EBITDA showed continued growth. It appears that companies' core business has always been growing notwithstanding the economic crisis. Moreover, this steady growth also occurred in 2007 and 2008, the year in which income decreased. The trend of ROE has been steadily increasing from 2002 to 2011 if we consider the period as a whole: despite a decline from 2003 to 2005 and the decrease of profitability in 2007 and 2008, there has been a steady increase since 2009, reaching very significant values both in 2010 and in 2011 (with a decrease in 2011).

With reference to the main world wine groups, H1 is confirmed. Despite the world consumption crisis, global wine consumption has kept to a similar level as in pre-crisis period (2003 to 2006). After a setback in 2007 to 2008, the companies in the sample have managed to increase their economic performance.

Green concepts for the wine industry

With reference to H2, it emerged that one of the future challenges and opportunities for business development is represented by global environmental degradation visible through the serious problems induced by man-made climate change, and industries' green initiatives in response to this situation. We must define what we mean when we talk about and use the various green concepts. This part gives a brief overview of the most relevant concepts for the wine industry with regard to addressing environmental challenges; sustainability¹, the "triple bottom line", organic and biodynamic production, carbon footprint and LCA. We focus on the most important differences, how some of them are related and offer some examples from the literature on the wine industry.

This research refers to Elkington issue (1998) about the "triple bottom line". In the literature, we said that many scholars stated that this version of sustainability is not sufficient, given the tremendous environmental challenges we are facing (Daly 1999; Zadek 2004; Holden and Linnerud 2007; Nilsen, 2010; Peeters, 2012), and this paper supports that conclusion. Instead, we look further into Strong sustainability. This is the only discussion in this part of whether the concept itself is actually appropriate to mitigate the environmental situation. For all approaches, critical investigations must be made to avoid contributing to green-washing and green rhetoric (Norman and MacDonald, 2004).

Strong sustainability is defined as giving the three pillars equal weight; they are all to be concentrated. The first pillar, economic sustainability, is addressed in the other parts of this paper through the concept of performance. The second pillar, social sustainability is often described at community level. It is challenging to find encompassing definitions, but the following two descriptions capture some of its complexity: 1) A community is to be continually in the process of creating physical and social environments and enhancing those community resources which enable people to mutually support each other in fulfilling the functions of life and attaining their full potential (Newton, 2000). 2) A life-enhancing condition within communities, and a process within communities that can achieve that condition (McKenzie, 2004). In practical business life, Pratt states that firms which have a vision for social sustainability, have staff who tend to work harder, have greater company loyalty, and demonstrate more enjoyment in their work ((Pratt and Pratt, 2010) referred to in (Thompson and

¹ "Sustainability" is mostly used through this paper, as short for "sustainable development". There are however nuances between the two, which we will not explore here. Also in this chapter "ecological" is most often used, instead of the broader and more anthropocentric term "environmental".

Forbes, 2011)). A case study of a wine producer in New Zealand finds that social responsibility is created by treating all staff as stakeholders in the business. The same study points to the existence of and huge potential for farmers to join networks in local communities to share experiences and resources. (Thompson and Forbes, 2011). The concept of corporate social responsibility (CSR) could be elaborated upon here, but due to the limited space, we just point to possible common features between the concept of social sustainability and CSR.

The third and last pillar of Strong sustainable development is ecological sustainability which can be defined as the degree of a practice to which activities can be continued indefinitely, without negatively altering the limiting factors that permit the existence and flourishing of other groups of entities, including other organisations (Starik and Rands, 1995). Limiting factors determine the carrying capacity of a given ecosystem for a type of entity and include food, water, shelter, breeding and rearing sites, predators, competitors, disease organisms and other toxins (Odum, 1989) for living species.

Corporations stand to benefit from moving toward ecological sustainability by reducing costs through ecological efficiencies, capturing emerging green markets, gaining first-mover advantage in their industries, ensuring long-term profitability, establishing better community relations, and improving their image (Shrivastava, 1995).

Several more recent concepts have emerged which can contribute to ecological sustainability; organic (Lawrence, Cheshire et al. 2004), biodynamic, LCA and carbon footprint. Organic is the most widespread green approach in the wine industry and in general it means wine made from organic grapes. In 2012 the EU arrived at common rules for organic wine (European Commission 2012). EU organic vineyards are mostly located in the EU-15, with Spain cultivating the biggest area in 2011, followed by France and Italy (European Commission 2013).

Although addressing overconsumption in the affluent part of the world is a significant part of creating ecological sustainability (Røpke 2006; WWF, 2010), consumers are at the same time contributing to greening the wine industry as described by Bisson et.al.: "As consumers become more aware of the vulnerability of our global environment, the demand for sound agricultural production practices is increasing. In the future, the perception of the producer as a conscientious environmental steward will be an important influence on the consumer's purchasing decision. This is due in part to the fact that the typical wine consumer is well educated and affluent" (Bisson, Waterhouse et al. 2002). An example from the consumer side in Norway, a non-EU member, is that organic wine is the only officially registered green concept for wines. All providers of organic products in and to Norway, must be certified by the organisation Debio (www.debio.no). There has been a steady increase in organic wine

consumption in Norway for many years, although market share is still only about 1% (Vinmonopolet March, 2014)¹.

Biodynamic refers to an agricultural system with a holistic approach in the spirit of anthroposophy and Rudolf Steiner, which in short introduces additional requirements to an organic system. Biodynamic farming notes the interdependence of nature and the lunar effect on active soils. Biodynamic winemakers allow the vineyard to operate as a self-sustaining entity within the surrounding ecosystem, placing emphasis on all living organisms contributing to the farm (Stasi, Seccia et al. 2010).

Life cycle assessment (LCA) is an approach that assesses the broad environmental impacts associated with a product, a material or an activity. A thorough LCA involves analysing the whole life span of the unit at hand (Ingebrigtsen and Jakobsen 2007), more popularly described as a cradle-to-grave approach. Carbon footprint also takes a cradle-to-grave approach, but is limited to estimating greenhouse gas (GHG) emissions. Cichelli et.al. (2012) has done a case study using carbon footprint analysis of an Italian wine product, and comparing it with a LCA on the same product. The International Organization of Vine and Wine (OIV) has issued general principles of measuring GHG emissions from the wine industry (International Organisation of Vine and Wine 2011).

H2 is confirmed. We have produced a brief overview of the most relevant green concepts for the wine industry, offering examples and literature to proceed further. We have tried, in this very limited space, to specify how each concept is different. The last concepts however, can all contribute to ecological sustainability, but ecological sustainability is still only one out of 3 pillars in the much broader concept of strong sustainable development or strong sustainability. Being specific about these green concepts makes it easier to investigate if and how the wine industry, and others as well, can contribute to a greener future.

CONCLUSIONS, IMPLICATIONS AND LIMITATIONS

The wine sector represents an important driver both for Italy and other foreign countries, thanks to the variety of fine wines and a combination of know-how, craftsmanship and traditions held by producers. In these terms, the wine sector has been considered a key factor for increasing tourism, due to its ability to attract both experts and tourists in general.

We investigated the impact of wine consumption trends on Italian and foreign wine companies in terms of economic performance. It emerged that, despite the Italian wine consumption having

¹ Vinmonopolet has the exclusive right to retail wine, spirits and strong beer in Norway. The figures can be obtained by contacting them directly by e-mail.

decreased by 13.5%, the turnover of the sample companies increased by 12% over the years, apart from a downturn in 2009, Ebitda increased by 5.3% and net earning strongly increased by 71%. Italian wine consumption trends negatively impacted on core business performance (the ROI was 5.9% in 2011, with a decrease of 6.3%), but not on the return on equity (the ROE was 4.4% in 2011, with a strong increase of 62.7%). Therefore, H1 is partially confirmed: Italian wine consumption trends negatively impacted on core business performance, but not on the return on equity.

For foreign companies, it emerged that turnover, Ebit, Ebitda and net profit showed a substantial growth over the years, apart from a decline in the years 2007 and 2008. In addition, return on equity (ROE) has been steadily increasing from 2002 to 2011, if we consider the whole period. Despite the world consumption crisis, global wine consumption has remained at a similar level to the pre-crisis period (2003 to 2006); indeed, after a setback in 2007 to 2008, the companies in the sample have managed an increase in economic performance. Therefore, H1 is confirmed.

As an additional goal, we identified the most relevant green concepts for the wine industry with regard to addressing environmental challenges. A brief overview of the most relevant green concepts for the wine industry emerged. We specified how each concept is different in the wine sector and how it can contribute to ecological sustainability. Therefore, the tendency towards a green economy also involves the wine sector, due to companies' susceptibility to a greater focus on the environment. H2 is then confirmed.

The implications of this study are related to the potential of the wine sector in Italy and in other foreign countries. This sector represents an interesting example for related companies in terms of turnover and profitability. This is applicable to wine companies, as well as to those operating in other areas related to wine, such as wine bars, restaurants, food and wine management and e-commerce companies, research laboratories, and wine consulting firms.

In order to overcome the limitations of the present research, it would be interesting to compare the potential and dynamics of wine consumption on performance with that of other economic sectors, which are also representative of a country economy. Furthermore, through the use of suitable econometric models, it would be interesting to carry out a simulation of the impact of a series of external and internal variables of the wine market on the performance.

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