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# **Economic and Social Development**

24th International Scientific Conference on Economic and Social Development -  
"Managerial Issues in Modern Business"



Editors:  
**Miroslaw Przygoda, Marijan Cingula, Li Yongqiang**

**Book of Proceedings**

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## **SUPPORTING OF THE SMALL AND MEDIUM ENTERPRISES AND THEIR IMPACT ON THE JORDANIAN ECONOMY**

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### **ABSTRACT**

*This study shows there is increasing interest in the small and medium-sized enterprises sector because of the important role it plays in the economy. These projects are considered the basis of economic development and one of the important tools for them. The problem of study is the weakness of financial support for these projects. This is reflected in the Jordanian economy represented by GDP that suffers from increased indebtedness and increased the trade deficit. The study concluded that there is a strong relationship with statistical significance between financial support for small and medium enterprises in Jordan and the Jordanian economy is represented by GDP. The study recommended the need to increase financial support for small and medium enterprises, and to establish specialized financing institutions for these projects because these projects suffer from poor creditworthiness.*

**Keywords:** *Small and medium enterprises, financial support, Jordanian economy, commercial bank*

### **1. INTRODUCTION**

Small and medium-sized enterprises play an important role in the economy of nations due to its leading role in the provision of varied work opportunities. Thus, it is the best way to foster economic development and social justice throughout the world. It works by creating jobs and solving the problem of unemployment. In addition, the reduction of immigration also increases the gross domestic product. Therefore, SMEs is the backbone of the economy in various countries around the world. The concept of small and medium-sized enterprises differs from one country to another according to the different possibilities of economic and social conditions. However, there is an agreement among economists on the importance of this sector. This agreement forms the base of the economy in developed countries. The engine of the economy in developing countries is the sector which employs a large proportion of employment, and the sector which is characterized by economic diversification. Furthermore, it contributes to a good percentage of the gross domestic product. Subsequently, this sector suffers from many constraints, especially in terms of the financial side due to weakness in the finance because they carry a higher risk; this sector relies majorly on banks. The problem of the study is the absence of financial and technical support for these projects, subsequently there is a need to provide these projects because it has an impact on the Jordanian economy in terms of increasing the GDP and contribute to solving the problem of unemployment and achieving social justice. The bank can provide this support, especially in the field of financing and economic feasibility studies.



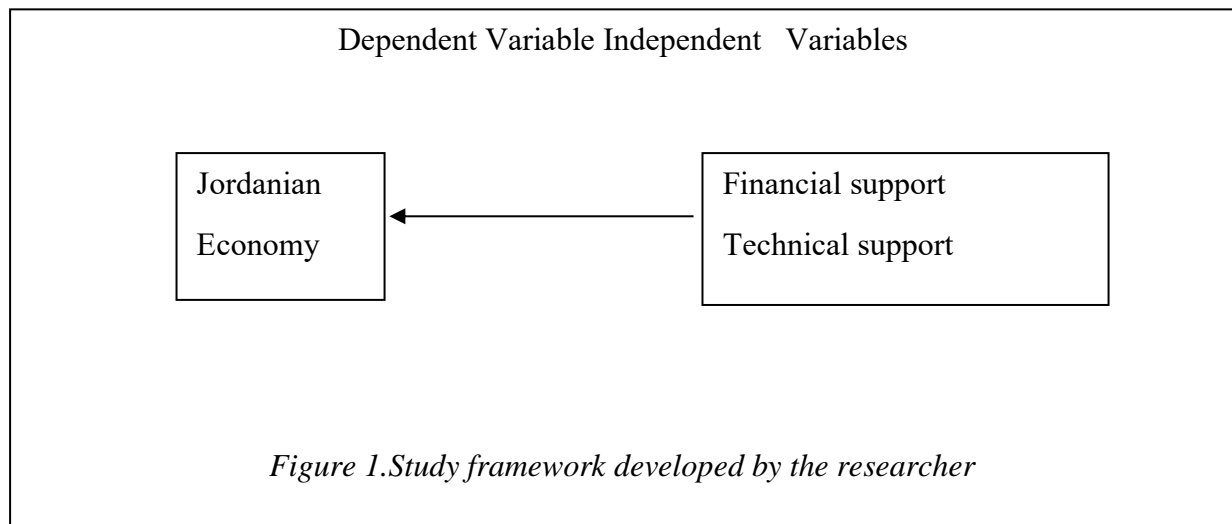
## 2. STUDY OBJECTIVES

The objectives of the study can be obtained by answering the following questions:

1. What is the reality of Small and medium-sized enterprises in Jordan?
2. What is the size of finance for Small and medium-sized enterprises in Jordan?
3. What is the importance of Small and medium-sized enterprises in the Jordanian economy?

## 3. STUDY FRAMEWORK AND HYPOTHESES

To study the Supporting of the small and medium enterprises and their impact on the Jordanian economy, the model below was constructed as follows:



To study the Supporting of the small and medium enterprises and their impact on the Jordanian economy, the following hypotheses was built:

Ho1 - There is no significant statistical impact of (Financial support t , Technical support) of the small and medium enterprises on the Jordanian economy measured by GDP at  $p \leq 0.05$ .

However, it consists of the followings sub-hypothesis:

Ho1-1 - There is no significant statistical impact of financial support of the small and medium enterprises on the Jordanian economy measured by GDP at  $p \leq 0.05$ .

Ho1-2 There is no significant statistical impact of Technical support of the small and medium enterprises on the Jordanian economy measured by GDP at  $p \leq 0.05$ .

## 4. THE THEORETICAL FRAMEWORK

### 4.1. Concept

Jordan's banking system is comprised of the Central Bank of Jordan and the licensed banks. Licensed banks include all Jordanian banks and non-Jordanian banks (commercial and Islamic) operating in Jordan and accept deposits. : (The Annual Report of the Central bank of Jordan, 2016). The Arab Bank which is one of the oldest banks in Jordan was established in 1930. However, this was followed by the Alahli Bank which started in 1956. Thus, the Jordanian banks provide banking services allowed by law. Furthermore, it also considers the credit facilities of the most important services provided by the banks and which is the most profitable (Abdullah & Trad, 2006). There are several definitions for small and medium enterprises which are as follows: They are projects or businesses with fewer than five workers and is approved by

the Statistics General Department and the Social Security Corporation in Jordan division. On the other hand, the Ministry of Industry and Trade Jordanian stated that the project which employs a number of workers between 5-19 is a small project. In the United States, a project, which has a number of workers between 5-200 is considered as a small project. In addition, the European agency shows that a project whose number of workers is between 10-99 workers is considered as a small project.

Small Projects Characteristics:

1. Centralization: The small-sized organizations are characterized by the existence of a single owner of the institution assisted by some helpers. Thus, most of the decisions and strategic focus is done or carried out by one person.
2. Informality: The prevailing relations inside the small-sized organizations are based on the spirit of friendship and family and informal relationships.
3. Locality: Most operations in small-sized organizations in a particular geographic area, means that its operations centers at a local site.
4. Successful Organizations Rely on Specialization: These organizations adopt and specialize in producing only one product.
5. The Use of the Means of Production is Small and Less Expensive: This means that these organizations do not use sophisticated techniques. They depend on the density unions, and lower production volume reduces storage costs (Najjar & Ali, 2010).

#### **4.2. Previous Study**

There are many studies that addressed the Obstacles of finance of small projects. The most important of these studies are:

1. The Study (Omar, Ballmosa, 2013) entitled "Obstacles for small and medium projects in Algeria and ways of developing." The study aimed to identify the problems and obstacles that is facing small and medium projects in Algeria and ways of support. The study identifies the importance of these institutions in the economic development of the national economy It also pointed that some of the Asian countries have made tremendous achievements over the past period through its reliance on small projects.

The researcher recommended that there is a need to address the problems faced by these projects and there is the need to provide the needed infrastructure for such projects.

2. The Study (Alsawi, Ali, 2015) entitled "The role of the banks in the sustainability of micro-financing projects to address societal poverty." The Study aimed to identify the role of the banks in the sustainability of microfinance to alleviate societal poverty. Here lies the problem of the research in the non-exploitation of banks in Sudan to the proportion of 12% set by the Central Bank of Sudan. This was obtained from the portfolio of funding for financing smaller projects. The study found that no banks deal with this ratio's commitment due to low yield and the high cost of finance. The study recommended that there is a need to encourage banks to grant funding for small projects with state support for banks through tax exemptions.

3. Study (salman,abbadi,2015): mall projects and their developmental impact

The research is to identify the developmental impact of small projects supported by the Employment and Enterprise Development Authority in Syria in order to reduce the unemployment problem and improve the standard of living. The study concluded that the subsidized projects provided a lot of job opportunities and this led to improving the standard of living. Are facing funding difficulties. The study recommended the necessity of conducting economic feasibility studies for projects and establishing specialized centers in the provision of professional consultancy.

4. Ali,Rashid and Khan (2014):The role of small and medium enterprises and poverty in Pakistan: an empirical analysis.

The aim of the research was to identify the impact of micro and small projects on the level of poverty in Pakistan and study the impact of the increase in inflation rates and the level of income on poverty. The study concluded that the small and medium enterprises sector plays an important role in economic growth and job creation. The study recommended the necessity of establishing a database for these projects and the need to facilitate the provision of support.

#### **4.3. Methodology of the Study**

In this study, the hypotheses were tested, and answers to the questions of the study were provided. The study relied on descriptive and analytic method, as well as field study. With regard to the descriptive method, the study gave an accurate picture of the financial support for small and medium enterprises in Jordan and the Jordanian economy is represented by GDP.. Through previous studies, as for the side of the field, the study relied on a questionnaire designed to collect the necessary data to test hypotheses.

#### **4.4. The Population of the Study: Scope of the Study**

The population of this study represents the Jordanian commercial banks in the Jordan, which offers various banking services to the customers. Here, the study distributed a questionnaire to obtain information about the study.

#### **4.5. Tools of the Study**

The study designed a questionnaire to solicit the views of an employee of Jordanian commercial banks about the study through Likert scale. The study distributed 210 questionnaire, 200 of the questionnaire has been recovered, while the percentage is 95.3%.

#### **4.6. Sincerity and Persistence of the Study Tool**

A tool of the study (a questionnaire) has been shown on a group of arbitrators (5 experts). To ensure the veracity of content resolution, good drafting, and representation of the subject accurately, the reliability coefficient of the questionnaire according to the coefficient (Cronbach alpha) is 85%. This was performed through the statistical analysis of the study's sample.

### **5. THE RESULTS OF HYPOTHESIS TESTING**

#### **5.1. Descriptive Statistics**

This section which contains the results of the study aimed to know the impact the financial support for small and medium enterprises in Jordan on the Jordanian economy is represented by GDP.. It also included a description of the personality variables for members of the study sample. In addition, the study used the Statistical Package for Social Sciences software (SPSS) to extract the averages, arithmetic, and standard deviations of the paragraphs of the questionnaire. Thus, the following is a presentation of the demographic variables according to Table 4:

*Table 4. Distribution of the study sample according to demographic variables*

Variable	Frequency	Percentage %
1- Gender		
Male	160	80%
Female	40	20%
2- Job site		
Manager department	10	5%
Assistant manager of the Department	10	5%
Manager branch	140	80%
Head department	40	20%
3-Academic Qualifications		
Graduates (Ph.D. or Master)	39	20%
Bachelor's	141	60%
Diploma or less	20	10%
4-Years of experience		
5 years or less	10	5%
More than 5 to 10 years	10	5%
More than 10 to 15 years	160	80%
More than 15 years	30	15%

## 5.2. Results of Testing the Hypotheses

### 5.2.1 Descriptive Statistics

*Table 5. The results of the answers to the questions of the hypothesis*

Number	Paragraph	Arithmetic Averages	Standard Deviations
1-	The Commercial Bank apply low-interest rates on loans for the small and medium enterprises.	3.65	.033
2-	The term of loans of the small and medium enterprises is suitable.	3.21	1.09
3-	The Commercial Bank has required guarantees from the small and medium enterprises in order to approve the finance.	3.62	.59
4-	The amount of the granted loans from the Commercial Bank to the small and medium enterprises is adequate	3.22	0.91
5-	The Commercial Bank does allow the provision of non-funded term on the small and medium enterprises.	3.13	.75
	<b>Total</b>	<b>3.358</b>	



The researcher notes from the previous Table 5 includes paragraphs that test the first hypothesis that the Arithmetic Averages ranged between 3.13-3.65, and the highest average is paragraph No. 1, which states “The Commercial Bank apply low-interest rates on loans for the small and medium enterprises.” In general, all averages were higher than Class 3, and the overall average of the paragraph is 3.358.

*Table 6. The results of the answers to the questions of the hypothesis*

Number	Paragraph	Arithmetic Averages	Standard Deviations
	Technical support		
6-	Procedures of registration of small and medium enterprises are very short .	3.34	.47
7-	There are support in feasibility studies to small and medium enterprises .	3.46	1.01
8-	There is a support in financial analysis to small and medium enterprises.	3.89	.57
9-	The banks does provide the necessary support to small and medium enterprises with regard to the training of human resources.	3.36	.83
	Total	3.512	

The researcher notes from the previous table 7, which includes paragraphs that test the first hypothesis that the Arithmetic Averages ranged between 3.34-3.89, and the highest average is paragraph No. 8, which states “There There is a support in financial analysis to small and medium enterprises..” In general, all averages were higher than Class 3, and the overall average of the paragraph is 3.512.

*Table 8. The results of answers to the questions of the hypothesis*

Number	Paragraph	Arithmetic Averages	Standard Deviations
	Jordanian economy is represented by GDP		
10-	The Jordanian economy suffers from unemployment.	3.38	.92
11-	Small and medium enterprises increase GDP.	3.37	.21
12-	Small and medium enterprises contribute to solving the problem of unemployment.	3.30	.79
13-	Small and medium enterprises contribute to the increase of foreign currencies through increased exports	3.11	.78
	Total	3.29	

The researcher notes from previous Table 8, which includes paragraphs that test the first hypothesis that the Arithmetic Averages ranged between 3.11-3.38, and the highest average is paragraph No. 10, which states “The Jordanian economy suffers from unemployment.” In general, all averages were higher than Class 3, and the overall average of the paragraph is 3.29.

### 5.2.2. Test of the First Hypotheses

In the section of this study, we present an analysis of the results of the study hypotheses. As mentioned before, in testing Ho1, we also use a sample of an employee of the Jordanian commercial banks. The following subsections provides an analysis of the results of hypotheses testing at the total sample level.

In testing the first hypothesis, multiple linear regression tests was used and the result is as shown in Table 9.

Ho1 - There is no significant statistical impact of (Financial support ,Technical support) of the small and medium enterprises on the Jordanian economy measured by GDP at  $p \leq 0.05$ .

*Table 9. Result of the multiple linear regression tests*

Dependent Variable	Independent Variables	Regression Coefficient B	Value of T calculated	Sig.
Jordanian economy measured by GDP	Financial support	0.141	2.02	0.001
	Technical support	0.107	1.32	0.002
R=0.89 R2= 0.79 F=50.11		Sig.=0.000		

From Table 9, there is a significant impact of independent variables on the dependent variable. Thus, this refers to the good relation between Affecting Factors and the financing of small projects, the value of Sig. is less than 0.005, and The value of Pearson correlation (R ) =0.89. Thus, this refers to the rejection of the null hypothesis and the acceptance of the alternative hypothesis.To test the sub-hypothesis no.(1), we used a simple linear regression test and the result is as shown in Table 10.

Ho1-1 - There is no significant statistical impact of Financial support of the small and medium enterprises on the Jordanian economy measured by GDP at  $p \leq 0.05$ .

*Table 10. Result of the simple linear regression test*

Independent Variable	Dependent Variable	Regression Coefficient B	Value of T calculated	Sig.
Jordanian economy measured by GDP	Financial support	0.123	1.70	0.001
R=0.85	R2=0.72	F=57.1	Sig.=0.001	

From the Table 10, there is a significant impact of the independent variable on the dependent variable. Thus, this refers to the good relation between the Banking obstacles and the financing of small projects, the value of Sig. less than 0.05, and the value of Pearson correlation (R)=0.85. This refers to the rejection of the null hypothesis and acceptance of the alternative hypothesis.

To test the sub-hypothesis no (2), we used a simple linear regression test and the result is as shown in Table 11.

Ho1-2. There is no significant statistical impact of Technical support of the small and medium enterprises on the Jordanian economy measured by GDP at  $p \leq 0.05$ .

*Table 11. Result of the simple linear regression test*

Independent Variable	Dependent Variable	Regression Coefficient B	Value of T calculated	Sig.
Jordanian economy measured by GDP	Technical support	0.121	2.57	0.001
R=0.82	R <sup>2</sup> =0.67	F=44.1	Sig.=0.001	

From Table 11, there is a significant impact of the independent variable on the dependent variable. Thus, this refers to the good relation between small projects obstacles on the financing of small projects, the value of Sig. less than 0.05, and the value of Pearson correlation (R ) =0.82. This refers to the rejection of the null hypothesis and the acceptance of the alternative hypothesis.

## 6. SUMMARY AND CONCLUSION

This study attempts to investigate the impact of (Financial support ,Technical support) of the small and medium enterprises on the Jordanian economy measured by GDP Thus, the results (findings) shows:

- 1 - There is a significant statistical impact of the Financial support ,Technical support) of the small and medium enterprises on the Jordanian economy measured by GDP .
- 2 - The study rejected the null hypotheses and accepted the alternative hypotheses for the main hypotheses.
- 3 - The study rejected the null hypothesis and accepted the alternative hypothesis for the three sub-hypothesis.
- 4 - There is a good statistical relationship between( Financial support ,Technical support) of the small and medium enterprises on the Jordanian economy measured by GDP .

## 7. RECOMMENDATIONS:

The study has recommended the following:

1. The Central Bank of Jordan should encourage banks to support small and medium-sized enterprises .
2. There is a need for the government to support to small projects; specifically training of the human resources and the making of an economic feasibility study.
3. Banks in Jordan should assist small and medium enterprises in conducting economic feasibility studies

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## **A MODEL FOR BRAND LOYALTY CREATION BY CONNECTED REMOTE SERVICES**

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### **ABSTRACT**

*Competition intensification based on globalization and price transparency leads to increased price sensitivity among customers and in consequence to brand switching behavior. Especially in saturated markets like Germany, the competitive pressure affects not only large companies like car manufacturers, it also affects small and medium size companies, such as car dealers and car service providers. After years of focusing on cost reduction and optimization of process flows, the automotive industry starts to focus on design and successful marketing of Service Innovation, aiming to increase market share and profitability by providing additional services to customers. Companies as well as economists consider Service Innovation as a lever to new sources of profit and new possibilities to keep customers loyal. This paper is concerned with the contribution of Connected Remote Services (CRS) to Customer Loyalty. It uses the automotive aftersales business as an example to evaluate if the introduction of Service Innovation such as Connected Remote Services create loyalty. The developed model is based on the definition and conceptualization of CRS resulting from an explorative qualitative research conducted by the author of this paper as well as on literature review in the fields of Customer Behavior, Technology Acceptance and Customer Loyalty. The main finding of the paper is the developed causal model. The dimensions of Convenience, Connectedness, Comfort, Safety and Reliability were identified as determining dimensions of CRS. Mediating concepts between CRS and Customer Loyalty are Customer benefits, Trust and Reuse intention of CRS. The model will be empirically evaluated in the near future. Results will help car manufacturers and their dealer-networks to fine tune their approach of Connected Remote Services and improve the service offering.*

**Keywords:** *Brand Loyalty, Causal model, Connected Remote Services, Technology Induced Loyalty Model*

### **1. INTRODUCTION**

One general trend in the automotive industry is that the isolated focus on car-sales is replaced by a wider view, considering the initial car sale more of an enabler for beginning relationships with customers. Car sales become the starting point for Relationship Management based on additional services expanding the traditional aftersales business, which today mainly consists of maintenance and repair services. (Confente, Russo, 2016, p. 59) Therefore, to ensure and expand market share and profits, the need for Service Innovation has never been greater. One challenge to systematic Service Innovation is to combine technology, business, social, and customer needs in the creation process. (Spohrer, Maglio, 2008, p. 238) Service Innovation helps traditional product innovation oriented companies like manufacturing firms to fulfil actual and future customer needs. (Gebauer et al., 2010, p. 198) However, there is little research and knowledge on developing and designing new services. While customers are more and more competent in articulating their needs, and expressing their demands, the success of Service Innovation becomes more and more dependent on the use and integration of Information Technology and digitization of information processes into the service delivery system. (Bouwman et al., 2008, p. 3) The acceptance of a new service is one of most important aspects regarding success. The more knowledge about customer needs is collected within the firm's innovation process, the better these needs can be used to design the service.

This research aims to investigate the impact of a companies' Relationship Management measures based on the provision of Service Innovation such as Connected Remote Services on Brand Loyalty. The main finding of this paper is the formulation of the causal model describing the interrelationship between CRS and Brand Loyalty. The novelties of the model are twofold. For once it contains the conceptualization of CRS based on an explorative qualitative research approach. Second, it picks up existing theories from the fields of Customer Behavior, Technology Acceptance and Customer Loyalty research, combining these findings in the Technology Induced Loyalty Model (TILM) developed by the author of this paper. These two findings together flow into the development of the causal model. Yet, the presented model is limited due to its theoretical nature. In a next step, the model is to be verified within an empirical analysis.

## **2. THEORETICAL FOUNDATION ON CUSTOMER LOYALTY AND SERVICE INNOVATION**

### **2.1. Customer Loyalty**

Early investigations on Customer Loyalty solely focused on the behavioral aspect, e.g. by examining the factual repeat purchase behavior of customers. This behaviorist measurement approach was built on proportions or sequences of purchase assumed to reveal underlying brand preference. (Cunningham, 1956, p. 116) Conventional wisdom suggests that the best predictor of future behavior is factual behavior a customer performed in the past once or in terms of repeat purchases. (Kumar et al., 2003, p. 667) This approach was criticized for its lack of explanatory power and its isolated focus on factual behavior neglecting attitudinal aspects of Customer Loyalty. Per Jacoby and Chestnut (1978) attitudinal loyalty encompasses beliefs, affections and intentions. Concretizing these emotions, Oliver (1999, p. 34) defines Customer Loyalty as: "a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior". Dick and Basu (1994, p. 99ff) combined different customer states of attitude and behavior, identifying four levels of loyalty: (True) Loyalty with a high level of relative attitude and a high level of repeat patronage, latent loyalty with high relative attitude and low repeat patronage and spurious loyalty with low relative attitude accompanied by high repeat patronage. No loyalty is characterized by low levels of relative attitude and repeat patronage. Loyalty may have several observable consequences, e.g. loyal customers repurchase the same products, express their preferences for a company or product over others and increase business over time. Zeithaml, Berry and Parasuraman (1996, p. 34) operationalize loyalty as behavioral intentions with five items including (1) saying positive things about the company to others, (2) recommending the company to someone who seeks advice, (3) encouraging friends and relatives to do business with the company, (4) considering the company to be the first choice to buy services, and (5) doing more business with the company in the next few years. Applied to the context of this research, the term Brand Loyalty shall be defined and used as follows: "Brand Loyalty describes a future oriented positive attitude of a customer towards the brand which provides CRS manifested by behavioral intentions such as repurchase intention and positive word of mouth." Precisely, repurchase intentions, exclusive intentions, willingness to recommend, resistance to persuasion by third parties are considered to represent suitable indicators for the measurement of Brand Loyalty in the scope of this research.

### **2.2. Service Innovation**

Kotler and Bloom (1984) state that: "a service is any act or performance that one party can offer to another that is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied to a physical product."

Grönroos (1990) emphasizes four basic characteristics in defining services: (1) Intangibility. The use of services does not result in ownership like in the case of physical products. The customer purchases the right to receive a service. Services are non-physical, although it is provided in support of a tangible product. (2) Inseparability. Production and consumption are conducted at the same time. In contrast to physical products, services cannot be stored. Most of the time customers are present while the service is produced or their presence is mediated by channels like the Internet, e-mail or mobile media. (3) Heterogeneity. Service outcomes and processes are not standardized. Because of this, services can vary in quality. The evaluation of the quality of a service, in terms of outcome and process, depends on the customer's individual and subjective expectations and perceptions during the consumption of the service. (4) Perishability. The service cannot be transferred or resold which means that the resources needed to deliver the service are not wasted, but must be made operational to deliver the service again. (Grönroos, 1990; Kotler, Bloom, 1984) An indispensable characteristic of service is the necessity of the integration of an external factor (e.g. customer) into the process of service delivery which consists in the introduction of a service object by the consumer into the creation and delivery process of the service. (Hilke et al., 1989, p. 12) The novelty of a Service Innovation can consist of a new service, a new service portfolio and/or a new service process that individually or in combination defines a new way of creating value for the customer. (den Hertog et al., 2010, p. 494) Further, the authors concretely categorize possible dimensions and describe Service Innovation as "a new service experience or service solution that consists of one or several of the following dimensions: new service concept, new customer interaction, new value system/business partners, new revenue model, new organizational or technological service delivery system." This definition covers important aspects within the scope of CRS. CRS is a new service concept, it introduces a new way of customer interaction as well as new business partners, revenue models and technology based delivery system. Therefore, the definition of den Hertog et al. (2010) shall be the foundation for the further process of this research. Another important aspect of Service Innovation is described by Toivonen, Tuominen (2009, p. 893), who combine the mutual dependency of benefit creation. The authors state that „A service innovation [...] provides benefit to the organization that has developed it; the benefit usually derives from the added value that the renewal provides the customers." Inferentially, an important target of the introduction of Service Innovation is the value creation for the customer.

### **2.3. Definition of Connected Remote Services**

As a subset of Mobile Services, recently Remote Services as an additional type of services has developed, describing a separate kind of service that can be delimited from traditional services because a technological interdependence occurs within the delivery process of the service. Wunderlich et al. (2007, p. 7) define Remote Services as "services that are delivered through a technologically mediated process between a service provider and its customer regardless of the spatial distance. The spatially separated service object can be bidirectional controlled and modified via a control unit." Remote Services can be subdivided into Remote Monitoring, Remote Diagnostic and Remote Control. (VDMA, 2006, p. 7) The definition of Service Innovation in conjunction with the definitions of Remote Services are the foundation for the definition of "Connected Remote Services" as a proposal for an integrated approach. Based on the idea of Connected Services by Hiraoka (2009, p. 16), the following definition for the term Connected Remote Services is suggested by the author of this paper: ***"Connected Remote Services are innovative mobile Remote Services that enable customers to interact with the service object as well as the service provider by using mobile infrastructure independently of the spatial distance. This infrastructure enables the bidirectional exchange of information and the control of the service object via data channels."***

CRS require several control elements. Information and Communication Technology (ICT) enables the service provider to access the service object as well as the customer's mobile device. The customer needs access to ICT that makes it possible to query data and to control and modify the service object. The service object must be able to feed the system via ICT with data of its own status. This enables the customer and the service provider to access the service object in order to monitor, to perform diagnostics and to control it. (Wunderlich et al., 2007, p. 13) Figure 1 describes the information and communication flows within the system architecture.

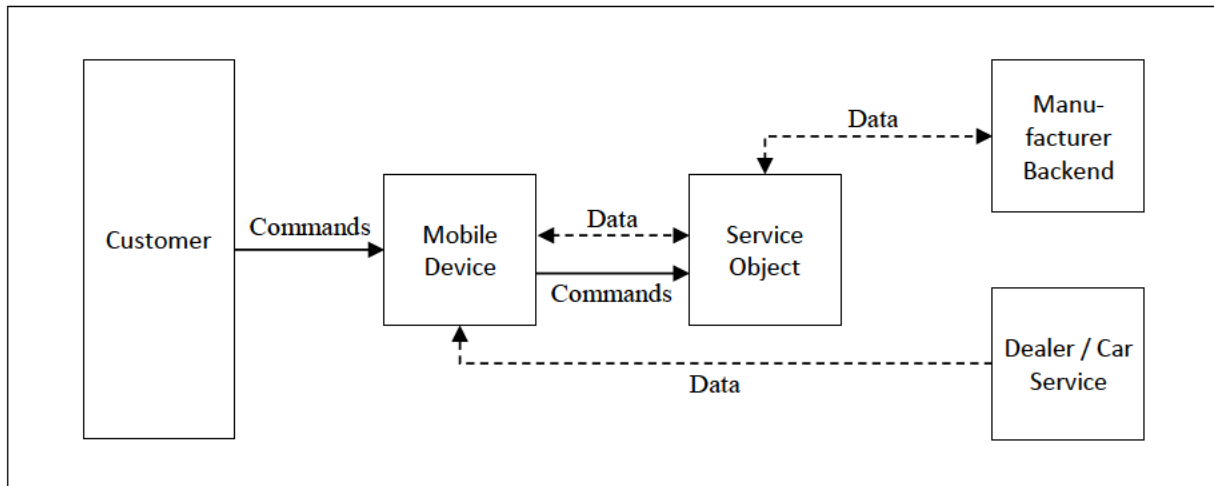


Figure 1: Schematic system-architecture overview of CRS (author's construction, extended from Wunderlich et al. 2007, p. 13)

### 3. DEVELOPMENT OF CAUSAL MODEL

#### 3.1 Technology Induced Loyalty Model as theoretical consideration

Current models within the fields of Customer behavior, Technology Acceptance and Customer Loyalty lead to the development of the Technology Induced Loyalty Model (TILM). Namely the Theory of Reasoned Action (TRA) of Ajzen and Fishbein (1975), Davis' (1989) Technology Acceptance Model (TAM) and the Loyalty Model (LM) of Oliver (1999) were analyzed in detail to identify implications for the model development. The TRA postulates the link between attitudes, behavioral intentions and factual behavior. The TAM adapts the concept on Reuse intentions and Reuse of ICT. The LM applies the idea of TRA towards Customer Loyalty creation. Customer perceptions of a product lead to attitudes, repurchase intentions and factual loyalty. The TILM, developed by the author of this paper combines the paths of the TAM and LM. The connection of Ease of Use and Reuse Intention of ICT is adapted from the TAM stating that a positive perception leads to increased Reuse intention of ICT. Further, positive consequences of the usage of a product or service are defined as Customer benefits. Services are intended to deliver benefits to the customers. However, not all of these intended benefits may be perceived as a benefit by any customer. In fact, the benefit is limited to the degree that customers can perceive, appreciate and use the product or service as anticipated consumption activities in order to achieve individual personal values. (Lai, 1995, p. 384) Often the benefit is created in terms of perceived Convenience by saving customers' time and effort.

If a Service Innovation is able to provide Customer benefits this may lead to positive word of mouth and customer recommendation regarding SI and the brand behind it (Berry et al., 2006, p. 62), which in turn are indicators for Brand Loyalty. In figure 2 these findings are combined postulating the TILM as theoretical consideration and basis for the further model development.



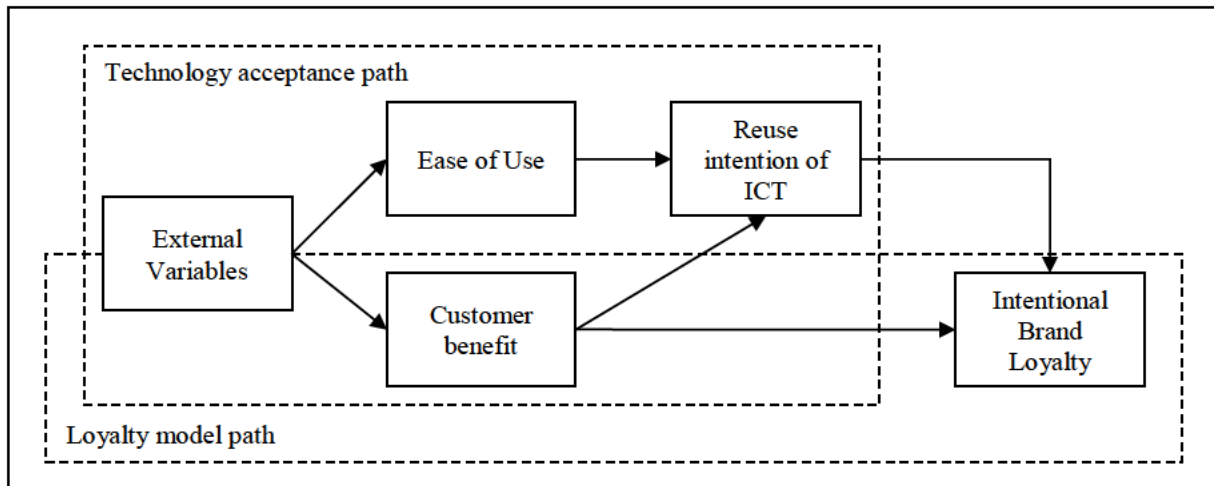


Figure 2: Technology Induced Loyalty Model (TILM, developed by author of this paper)

### 3.2. Conceptualization of Connected Remote Services

The developed TILM provides necessary theoretical considerations for the development of a causal model to empirically test the contribution of CRS towards Brand Loyalty. However, the model further needs to consider specifics of CRS. The conceptualization of Connected Remote Services is based on an explorative, qualitative research approach using the method of Means-End Chain (MEC) analysis. Having its roots within the field of Customer Value research, MEC models are based on the assumption that customers acquire and use products or services to accomplish favorable ends. (Khalifa, 2004, p. 653). The Means-End theory posits that linkages between product attributes consequences produced through consumption, and personal values of consumers underlie their decision-making processes. (Gutman, 1991, p. 143) Means are products or services, and ends are personal values considered important to consumers. The Means-End theory seeks to explain how an individual's choice of a product or service enables him or her to achieve his or her desired end states. (Huber, Herrmann and Morgan, 2001, p. 44). Transferred to the context of this work, the basic idea of the Means-End approach is that a customer decides to use a product or service to achieve certain wishes or targets. In consequence, the mechanism of a Means-End Chain makes it possible to track back perceived consequences towards certain attributes or functions of a product or service. (Gutman, 1982, p. 60-62) Functions of Connected Remote Services correspond to attributes that lead to attribute-specific consequences, which again lead to relevant values from the customers' perspective. The consequences, located in between attributes and values are of special interest for the identification of construct dimensions of CRS. The survey was conducted during the period of April and May 2017 in Germany. The participants are customers of four car dealers and four different brands. They were addressed while waiting at the service counter or in the waiting lounge. As a prerequisite, the participants should have owned and used a version of CRS in the past 6 months. The participants are also referred to as users of CRS. The sample size for the written surveys in person consists of 18 participants. Based on the results of the MEC analysis the following main consequences were identified: Convenience, Connectedness, Safety, Comfort and Reliability. The consequences Convenience, Connectedness and Safety show the highest numbers of connections and thus substantially determine the construct of Connected Remote Services. The consequences Comfort and Reliability show lower levels of connections but still on a significant level and are also considered as dimensions for the further process of research. On the value level, focus is set on the factors Customer benefit and Trust.

These factors are assumed to be mediating concepts in between CRS and Brand Loyalty and are considered in the development of the causal model. In summary, the qualitative research provides important findings. The concept of CRS consists of five dimensions, namely Convenience, Connectedness, Comfort, Safety and Reliability. The identified factors Customer benefit and Trust complement the TILM by (1) confirming Customer benefits to be relevant as mediating concept and (2) adding Trust as mediating concept. Based on these findings Ease of use is replaced by the concept of Trust in the final causal model. Next, the dimensions are defined in the context of CRS.

### 3.2.1. Convenience

Seiders et al. (2002), define Convenience as the customers' "time and effort perceptions [...] using a service", considering the specific context of necessary activities that customers carry out while using a service or performing a specific task. In the context of mobile services, Lin and Lu, (2015) reveal that Mobile Convenience directly and positively influences customer value and user satisfaction, because users may use a mobile phone to gather information and accomplish transactions at any time or place and obtain value based on convenience derived from the effective and timely transmission of information. The dimension of Convenience is therefore defined as follows: "*Convenience describes the degree of simplification and increased promptness a user experiences by use of CRS.*"

### 3.2.2. Connectedness

Wamba and Akter (2016) use the term Perceived Connectivity describing it as the ability of a technology to link people to people or other objects. This is consistent with the central aspect of CRS which are characterized by the possibility of bidirectional communication between user and service object (Wunderlich et al., 2007); combining the aspects of monitoring, control and modification of the service object. (VDMA, 2006, p. 7) The second aspect of simultaneous connectedness towards a vendor is reflected in the definition developed by the author of this paper: "*Connectedness describes the degree a customer feels connected to the service object in terms of receiving or query information and sending commands to a specific service object and simultaneously connectedness towards the dealer.*"

### 3.2.3. Comfort

In the automotive context, Hess (1924) defines comfort "as the transportation of an automobile passenger in so easy a manner that the trip will be a pleasure and not a hardship." Comfort can be perceived both positive and negative. In the negative case the term discomfort is used. (Engeln, Vratil, 2008, p. 270) Thus, the reduction of stress (physical and psychological) can lead to aim increased perception of comfort or avoidance of discomfort. It is assumed that perceived increase of Comfort leads to an increase of system acceptance. (Arndt, 2011) In this work Comfort is defined as: "*The degree the customer perceives physical relaxation (increased comfort) and the degree of stress avoidance (decreased discomfort) while driving the vehicle.*"

### 3.2.4. Safety

This dimension covers the aspect that the use of CRS increases the customer's perception of feeling secure. Within the context of automotive transport, Joewono and Kubota (2006) describe security as "the actual degree of safety from accidents and the feeling of security resulting from that". It comprises the aspects of safety from accidents, the presence of help, the avoidance of hazards as well as active safeguarding. Further also aspects of crime are included, e.g. in case of vehicle theft. Hence, in this paper Safety is defined as: "*the subjective feeling of minimizing the individual risk of harming their physical integrity or to increase the probability to ensure their physical integrity.*"

### 3.2.5. Reliability

According to (Bracke and Haller, 2011), Reliability is defined as the degree of increase of sustainability, e.g. by the avoidance of repair efforts by enhanced possibilities of monitoring the condition of the service object. The analysis of the mentions of the term Reliability in the conducted survey showed that it was often used in connection with the increased Reliability of the service-object itself, meaning that the use of a specific function increases the perceived Reliability of the vehicle. The dimension of Reliability is therefore defined as follows: "*Reliability describes the degree of availability of the service object a user experiences by use of CRS.*" At the consequence level, Perceived Reliability often was connected to Trust.

### 3.3. Customer Benefits

Customer Value is defined as the trade-off between benefits and sacrifices perceived by the customer in a supplier's offering in consideration of the varying customer perceptions of benefits (some need volume, others convenience etc.) and sacrifices, such as price, time or effort. (Zeithaml, 1988) The definition of Customer benefits used, is based on the work of Gwinner et al. (1998, p. 110), who defined relational benefits as: "*Benefits customers receive from long-term relationships above and beyond the core service performance*". Additional services create confidence benefits, social benefits, and special treatment benefits with positive effects on the loyalty dimensions Positive word of mouth and Continue in relationship. Hence, this discussion leads to three testable hypotheses:

H1: Customer benefits mediates the positive interrelation between CRS and Reuse intention.

H2: Customer benefits mediates the positive interrelation between CRS and Brand Loyalty.

H3: Customer benefits positively affects perceived Trust.

### 3.4. Trust

Trust was found to have a significant influence on loyalty in the scope of relationships between a customer and the service provider employee. (Gremler and Brown, 1996, p. 176) In their study, Aydin and Özer (2005) reveal that Trust also is an important driver of Customer Loyalty within an employer independent setting in the mobile service sector. Considering the definition of Moorman et al. (1992, p. 315) as suitable to the context of this work, Trust is defined as: "*A customer's willingness to rely on an exchange partner in whom one has confidence.*" Thus, consistent with previous studies, the current study hypothesizes the following:

H4: Trust mediates the positive interrelation between CRS, Customer benefits and Reuse intention of CRS.

H5: Trust mediates the positive interrelation between CRS, Customer benefits and Brand Loyalty.

### 3.5. Reuse Intention

Literature review on the TAM provides the insight that Perceived usefulness shows similarities to the concept of Customer benefits. Based on the empirically tested results, this Usefulness leads to Reuse intention of ICT. (Davis, 1989; Hiraoka, 2009; Park et al., 2014) Following the theoretical consideration of the TILM, the concept of Reuse intention shall be added to the causal model in the assumption that there exists a mediating interrelation towards Customer Loyalty. This assumption is based on the main finding of Davis' TAM (1989), who has shown that Reuse intention leads to factual reuse behavior. Therefore, the current study hypothesizes the following:

H6: Reuse intention mediates the positive interrelation between Customer benefits, Trust and Brand Loyalty.



### 3.6. Brand Loyalty

Brand Loyalty as the subject of the research and main target of manufacturers introducing CRS describes a customers' loyalty towards a specific brand. It is to be distinguished towards dealer loyalty and towards aftersales loyalty, since customers can stay loyal to a brand while switching the dealer to buy a successor vehicle or switching the workshop during the phase of ownership. Thus, a customer who changes the brand, needs also to change the dealer and workshop in the sense of an aftersales service partner. (Burmam, 1991, p. 258) Based on the definition of Scholly (2013, p. 50) Brand Loyalty is defined as: "A customer's positive attitude towards a brand, from which he has purchased at least once in the past manifested in the intention to repurchase from the same brand in the future." The distinction towards the, also attitudinal construct Reuse intention is given by the fact that the concept of Brand Loyalty in this work aims to measure Loyalty towards the vehicle brand, who provides the CRS application for its customers. The findings described above as well as the proposed hypotheses flow into the development of the causal model shown in figure 3.

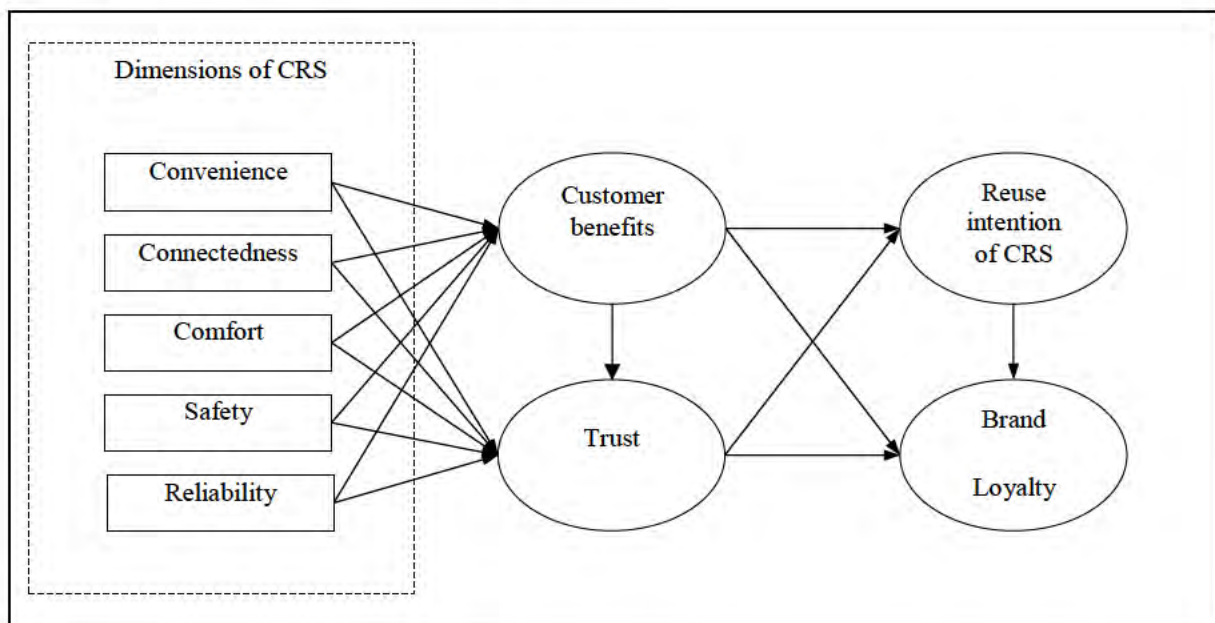


Figure 3: Causal model on disaggregated level for the evaluation of the impact of Connected Remote Services towards Customer Loyalty (author's construction)

## 4. CONCLUSION

Regarding the impact of Service Innovation on Customer Loyalty, especially within the context of Connected Services, research is scarce. Yet no model covers the particularity of Connected Remote Services and its role for Brand Loyalty creation. To empirically evaluate the hypothesis that the use of Connected Remote Services positively influences Brand Loyalty, a causal model was developed. To date, the model is built on four selected criteria.

- I. CRS are SI which vary from existing definitions by its particularity of Connectedness, which goes beyond the previous understanding of existing research regarding Connected Services and Remote Services. The qualitative study underpins this property, by identifying Connectedness as important dimension. Within this dimension the aspect of simultaneous connectivity towards a service object and a vendor is conceptualized.

- II. Research on existing models lead to the theoretically derived Technology Induced Loyalty Model. This model forms the basis on the theoretical level combining theories from research on Technology Acceptance, Customer behavior and Customer Loyalty.
- III. The theoretical considerations are amended by the results of the qualitative study aiming on the exploration of CRS. One result is that CRS can be understood as a multi-dimensional construct determined by the five dimensions Convenience, Connectedness, Comfort, Safety and Reliability. Another result is the identification of Customer benefits and Trust as aftereffects of these dimensions.
- IV. These findings are all reflected in the developed causal model, which is the main conclusion of this paper. The model takes into account that the identified factors influence Brand Loyalty creation. It is hypothesized that Customer benefits, Trust and Reuse intention of CRS mediate the effects of CRS on Brand Loyalty.

Limitations of this research are mainly defined by the focus on the German automotive market and the limited set of car brands on which the qualitative study is based on. Geographical differences may exist as well as different perceptions of CRS of further car brands. This limitation can be traced back to the fact that, yet only few car brands provide CRS to their customers. A property of Service Innovation or innovation in general is its low diffusion rate or availability at the early stage. As innovations are successful, the process of diffusion accelerates. The model is based on literature review and findings from a qualitative study and has no empirical verification so far. Following, it is recommended to perform the empirical analysis, considering a wider range of car brands.

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## INTELLECTUAL CAPITAL EVALUATION AND EXPLOITATION MODEL BASED ON BIG DATA TECHNOLOGIES

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### **ABSTRACT**

*The digital tools and technologies evolution beside economic, demographic, and social factors are driving massive changes across all industries worldwide. One of these changes refers to workforce, which nowadays owns new capabilities such as digital and linguistic skills, automation-savvy, global, mobile and diverse, and social-media skilfulness. The most important challenge of Human Resource departments refers to Intellectual Capital which is not quantified and appropriately exploited in the company in order to notice in advanced some evolutions, trends or problems that might encounter. Investing in or self-developing of advanced tools for Big Data processing as well as applying machine learning algorithms for predictive analysis will provide to Human Resource managers useful insights and a competitive advantage on market. This paper responds to such challenge by development of a Human Capital Analysis Model starting from collected data regarding current and previous employees. These data are transformed in key performance indicators (KPIs), seen from multiple perspectives: Technical and Soft skills, Achievements and Involvement and eventually extra competences. Based on vector space models of normalized KPIs we propose some appropriate machine learning algorithms (supervised and unsupervised) for employees' classification and clustering using similarity checking methods. These algorithms, applied on the most relevant KPIs, will help the HR in predictive analytics stage to reduce employees attrition risk, to improve recruitment and to forecast the pattern of leaving, contributing thus to increase the operational efficiency of company.*

**Keywords:** *analytics, Big Data, Human Resource (HR), Intellectual Capital (IC), machine learning algorithms*

### **1. INTRODUCTION**

In the conditions of globalization and economic transformation, one of the key factors responsible for maintaining and improving companies' performance is maximizing operational efficiency by applying the predictive analysis to human resource management, for acquiring new talents (head hunting), for assigning the fittest people on certain tasks, for maintaining a



motivated workforce and reducing the attrition risk of employee and increasing the employee retention, etc. Current decisions in HR departments are based on the correlation of the company's turnover with performance of each department / team / individual within the organization in order to predict performance indicators, attrition risk, patterns of leaving the workforce and finding solutions that increase retention rate. The HR leaders often make considerable efforts to sustain the previously mentioned goals due to many constraints: the required manpower does not have the expected high quality, the lack of a consistent budget, and the need to meet these targets within a limited timeframe. This paper aims to present the existing solutions and to implement a model for evaluation and capitalization of the Intellectual Capital (CI) integrated in the already existing ICT technologies at the level of the industrial companies. Based on this model and on the availability of relatively large and structured collected datasets that can be used to train a broad range of machine learning algorithms, we may predict the retention degree of each employee and „*how fit is each employee on its job/task!*” and also, we may improve the recruitment strategy. From all constituents of Intellectual Capital (human, structural and relational) we treated the human component because we consider that the human resource capital is one of the most under measured components of business, responsible with innovation and reconstruction, a repository of knowledge in corporative collectives, able to produce optimal research, design and implementation solutions. In empirical modelling, one possible encountered drawback is that generally, models are biased based on „*preconception*” (prior thinking or experience) of developers / people that created the models. Thus, sometimes they might wrong and it is mandatory to be tested on various datasets. Furthermore, applying our solution of predictive analysis to many companies will face a critical issue namely the privacy problem, and what they (the companies who want to apply our retention model) give up when they make their data available. To provide a better accuracy of prediction larger datasets are required. On the other side, this information is quite private and cannot be exposed to large audience (people), confidentiality agreements being closed between the involved parts (the company and their employees). Our research work is opportune because one of the main issues of HR departments consists in the fact that Intellectual Capital is not quantified and appropriately exploited in the company in order to notice in advanced some evolutions, trends or problems that might encounter. Some statistics reveal that a reduced percent of companies (only 8%) report they have usable data for HR predictive analytics [1]. Thus, a real up-to-date challenge in HR departments for improving companies' performance is the readiness (collecting) of data for applying analytics and development of such automated supporting software tools. This work fits very well in the context of Big Data applications using proper technologies for processing very large number of data provided by HR departments. The data has the special V characteristics: variety (the data is in various forms), volume, contains valuable information, veracity.

The model proposed and the software application that we will develop on the basis of it will provide added value to the following key sectors:

- Using state of the art machine learning algorithms for developing employee profiles and classification of them to better identify the department where they would fit better or to identify the necessary training activities;
- Quantifying the attrition risk and sentiment analysis of employee loyalty and forecasting of possible departures;
- Predicting capacity requirements on certain tasks and identifying recruitment needs.

The rest of the paper is organized into five sections, where Section 2 briefly reviews some state of the art papers related to this study. Section 3 presents the Intellectual Capital model proposal and quantifiable key performance indicators (KPI) of employees' capabilities based on the existing history of them.

Section 4 briefly describes the implementation stages of retention model including machine learning algorithms that might be applied to collected data regarding employees. Finally, Section 5 highlights the paper's conclusions and suggests some further work ideas.

## 2. RELATED WORK

This section briefly presents some existing research focused on measuring the Intellectual Capital within organizations split in three directions: exit interviews, task matching profile and attracting new workforce.

### A. Exit interviews

According to Oracle studies, nowadays employees spend an average of 4 years at a company [2]. Below we present some reasons why good employees quit. Most information is obtained based on exit interview or from direct supervisor data [3]:

- The inadequate salary and benefits and especially the emergence of another job opportunity, favours mostly changing the job. A high rate of HR managers recognizes the need to pay higher wages to stay competitive, while others simply can't afford to do so [4].
- The lack of a professional development perspective and feelings of being underappreciated by the superiors, the tense atmosphere of the team and a bad relationship with the boss are other reasons for dissatisfaction invoked by the majority of those who left the company. Few professional opportunities lead sooner to restriction in career development.
- Failure to observe at least one of the basic human needs: *trust, hope, sense of value and appreciation of competence, lack of recognition* represents another important cause of quit. Employees are not given the feeling of trust; they are often left alone in the face of very important decisions. Apparently, this is not a bad thing because it makes them responsible, but being corroborated with a feeling of lack of appreciation, leads to loss of trust in the company. Sometimes, the team leaders and project managers do not really appreciate the employees' individual performance, which demotivate them. Worse than that, instead of being praised for success, many times the employee's failures are exhibited. Outstanding results must be spread, made known and given as an example to everybody.
- The job has not proved to be what it was expected or the employee is bored with his job.
- Inappropriateness between task or job's requirements and person.
- Unhappiness with management: Employees are often forced to accept new positions, or people in the company are responsible for several positions. Often, it feels management enforcement and not a willingness of the employee to cover a certain position.
- There are too few training activities or feedback information from the trainer. An increased percent, 62% in 2017 comparatively with 48 in 2016, of the HR managers admit that is difficult to keep up with the costs of training workers for future skills needs, especially that the dynamism of technological innovation generates new jobs that require new skills and working methods [4]. For example, none of the next 9 jobs did exist 10 years ago: (Big) Data Analyst, Drone Expert, App developer, Social media consultant, Salesforce Administrator, User Experience Expert, Vlogger/Blogger, Amazon Web Services Architect, Uber driver.
- Overworked: working under stress conditions and the time pressure for finishing projects as well as an imbalance between spent time at work and personal time. Although the company provides a flexible schedule, this is overloaded, the tasks are often crowded and employees are often forced to stay over the program. Often, the responsibility feeling make them to avoid taking well deserved vacation in order to not disrupt their team's workflow [4]. Good employees are often overloaded with tasks and activities, which in the long run reduce their efficiency.

## **B. Human resource utilization analysis (*task matching profile*)**

In the HR besides the analysis of patterns of employees that left the workforce the companies intend to reduce reactive hiring, develop existing talents and also a real appreciation of how fitted are employees on some tasks / jobs. One approached solution is the employees' job rotation, seen as a measure for motivating key employees and broadens their skill sets. Job rotation provides fresh perspectives on existing roles, accelerates professional development and strengthens succession planning [5].

Sometimes the rush competition to obtain new projects determine the company to be in the situation to have many duties and activities and just few prepared experts and engineers able to accomplish the tasks. Thus, they apply the solution of using some employees not fitted at all or less prepared for certain tasks. Very few teams use the New Entry Development Plan for fresh employees such that they are introduced too suddenly into running projects. Some solutions aim engaging employees to training sessions in parallel with developing the tasks.

Most organizations collect the data for HR analysis based on **Employee Dialogue** forms [6].

This involves followings stages:

- A dialogue is done between the direct supervisor and employee each year based on the capabilities, development, potential and performance of previous year [7]. Data from each year can be correlated in order to achieve the shape of employee's performance and determine how the employees are in line with organization's values.
- Employee Dialogue is done three times a year: at beginning of year in the first quarter when the team leader sets the targets of the year in progress with the employee, mid-year when reviewing and identifying current status as well as at the end of year when targets will be closed and is computed the employee's performance percentage.
- For this form, the following data can be gathered: overall performance (score), potential rating (score), main employee's capabilities (score + text description written by direct supervisor);
- This data contains a score of each capability (learning, change, innovation, collaboration, agility and engagement) selected by direct supervisor and also a text that is describing the strength or weakness of employee in each capability.
- Measures incorporating motivational and developmental pathways (described as the professional development measures for the current year, consisting in trainings of technical and soft skills) [8].

## **C. Head hunting (selection new employees)**

More than ever in the last 5 years, market leader companies in IT&C such Google and Oracle understood the major importance of people management, the necessity for continuous innovation and reinvented their HR departments based on predictive analysis. The source for innovation consists in recruiting and hiring high quality trained candidates. However, due to market competition, companies face difficulties in attracting the best talents. This crisis is more acute in STEM domains (science, technology, engineering and mathematics), where, according to some statistics, 59% of the HR managers considered difficult to find qualified workforce [4]. Nevertheless, a solution adopted by big companies is to create and manage talent pools. According some research studies, about 73% from the 18-34-year-old people consider Social Networks the first place where they are looking (and find) a new job. [2]. On the other side, few companies (just 5%) use social platforms (LinkedIn or others) to support recruiting [9]. The leading companies leverage new technologies, tools, video, and gaming, from social to cognitive to recruit the most proper candidates [1]. Employers use video as a tool for determining candidate experience, and in order to judge their effectiveness, the focus is shifted from checking credentials to confirming skills.

Approaching the gamification solution, HR managers remark the candidate's ability of problem solving, find insights about their personality, and about their communication skills. In order to optimize the talent acquisitions process, the organizations need to tailored their job offer and map it so as to satisfy as much as possible the applicants' requirements: such as flex-time, performance bonuses and telecommuting as part of a greater work-life balance [4]. The care shown for employee by company, but also the pleasant atmosphere at job and existing training programs make the difference when choosing a job [3]. Applicants also require an attractive wage, certainly higher than what they got at the previous workplace. The desire for development through complex professional challenges, the possibilities for fast promotion within the company are other criteria targeted by young people when selecting a new job.

### 3. HUMAN CAPITAL DATA ANALYSIS - IC MODEL PROPOSAL

All data present inside organization that is gathered manually or through platforms or tools must be analysed for checking if can be applied to the Human Capital Data Analysis model. From the data specific to each employee (generated by the employee himself, by middle management, or HR analysis regarding the employee) the model created may suggests some trends in employee's career path, if the employee exceeded expectation or only meet the job requirements, if they are below the need of the job specification or even if they may leave the organization. The machine learning algorithms use the data to determine certain patterns of every person, in the end being able to make a classification of all employees to see if they fit into one pattern or another. The algorithm shall be capable to filter the input data, for example to use only the overall performance on all years, or use the overall performance correlated with most important capabilities, or all data that is available.

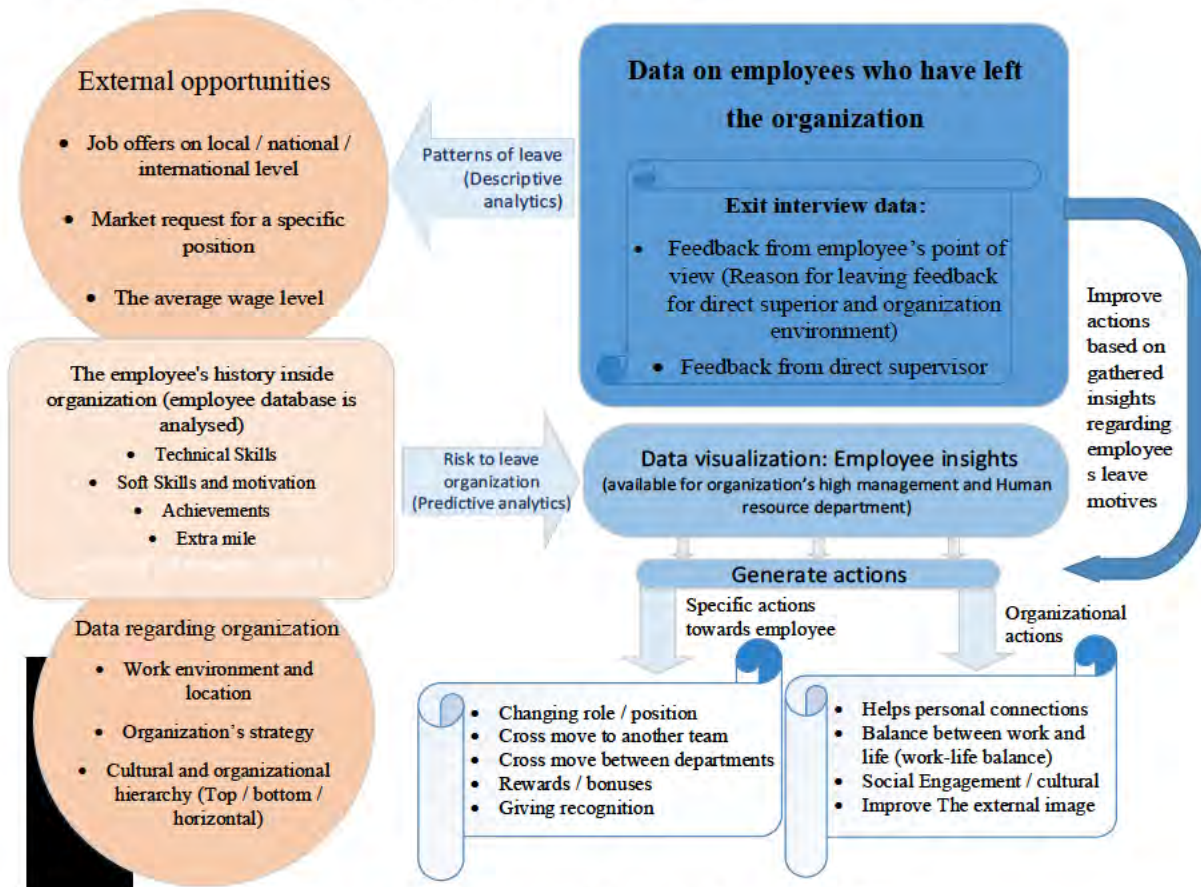


Figure 1. The proposed retention model (HCDA)



The model starts with the collection and processing of data that is created during the Exit Interview process (see Figure 1). To improve the company's performance, it is important to add such phase in the process, for identifying the weak and strong points of the organization / job, from the employees' point of view. Descriptive analytics algorithms are used to gather insights from the correlation of data received from all employees that left the organization. In this way, some patterns that are applicable to a large number of employees will be identified. The patterns can have positive manner, on which the company should focus on maintenance and promotion (like having strong points on the working conditions, offering chances to be promoted inside an organization, etc.); on the other hand, can be identified negative sides, like investing too less in technical training and development of employees, not interesting tasks. After finding the internal factors that caused reasons of dissatisfaction and leaving the company by employees, these needs to be correlated with external factors. Some of these departures were due to external opportunities. To identify this, or to warn about other further employee's resignations, the Internet (well-known jobs websites) and social media will be crawled using a self-developed software module. The job offers on local town, national also international offers will be researched (e.g., the company shall be prepared to make some improvements in one sector in case the job offer in that sector is higher in a certain period). After the internal and external factors are identified and stored inside the Database, some useful information it is already available, but the organization will not know the degree of risk for a certain employee to leave it. To calculate this, all employees' history needs to be added for data processing. In the "predictive analytics" machine learning algorithms will be run on the employees' historical data. The algorithms will first receive as input the employees that already left the workforce, to learn the pattern and afterwards will be programmed to classify between employees that have a risk to leave the organization and the ones not. The process will be continuously improved and refined through feedback loop algorithms represented feedback on persons who have left the company, exposing some predictable patterns.

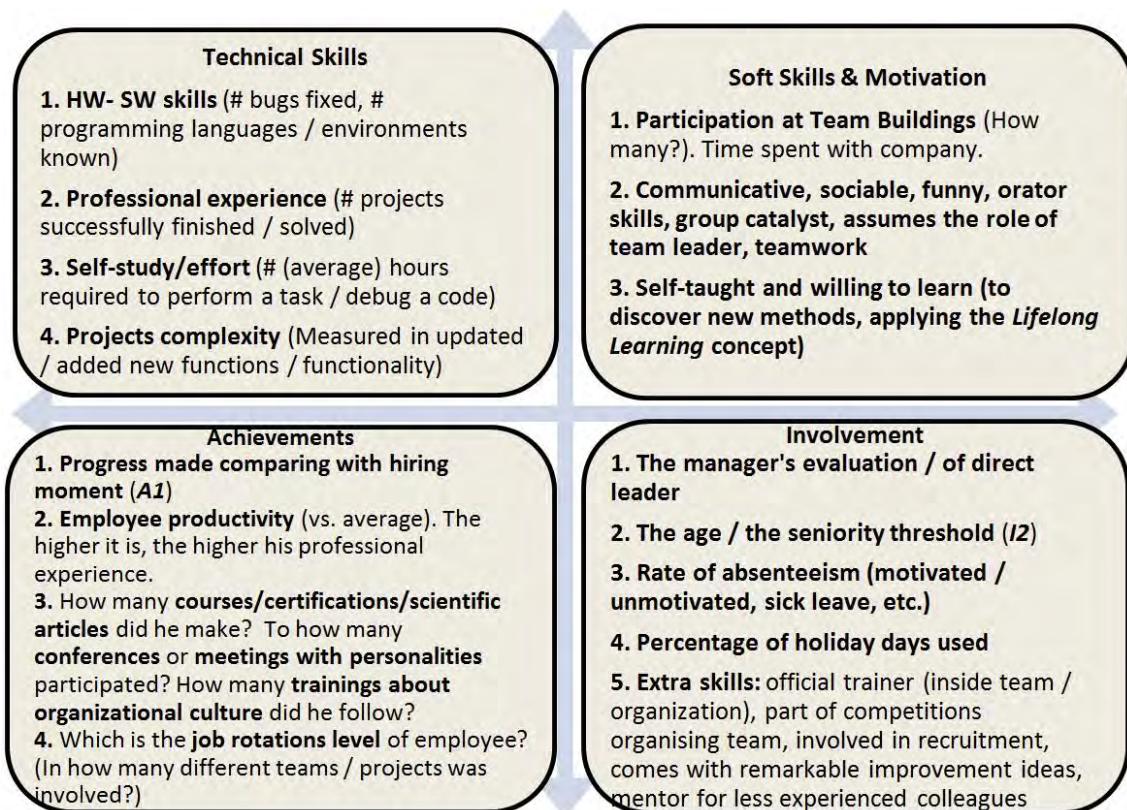


Figure 2. The KPI classes used in our retention model

**A1** indicator refers to *how many tasks successfully has accomplished an employee during his first year in company?* If its progress is substantial, then there is premise that the person is suitable on specific task.

**I2** indicator: The age is an important criterion as well as the seniority in company. If the employee gets over a certain seniority threshold or, if the employee achieved some self-development personal targets in a certain time deadline, his confidence in company will increase and will cause him to continue.

For our model, we consider 4 important class of KPI such as: technical skills, soft skills and motivation, achievements and involvements. The Figure 2 provides details about each class.

The “predictive analytics” follows naturally the “descriptive analytics” stage. At the organization level, the descriptive analytics mean the use of data for understanding the past and the current business performance [10]. Large datasets, retrieved from a certain time in the past until present, is summarized with information that is easily understood by HR managers. It will support answering questions such as what happened, what is happening and in best cases why is happening. The evolutionary process consists in to obtain new knowledge by understanding the past and to forecast what might happen in the future (predictive analytics).

In order to apply predictive analytics about employee’s state (quality, satisfaction degree or risk to leave) we take into consideration the key performance indicators (KPI) presented in Figure 2, quantifying each of them. For a better prediction, these indicators about Human Capital besides other important information like the date of employment, previous assessments, status (promotions, salary increases, quitting the company where this has been done) must be quantified and stored into employee’s history database. A data normalization process might be applied. As much information per individual is kept as better prediction accuracy is obtained. Judging from technical skills from Figure 2, it is obvious that the analytics process aims an IT company.

#### 4. IMPLEMENTATION STAGES OF RETENTION MODEL, SHORT DESCRIPTION

The Figure 3 briefly illustrated the workflow stages of designing, implementing and testing of Retention model:

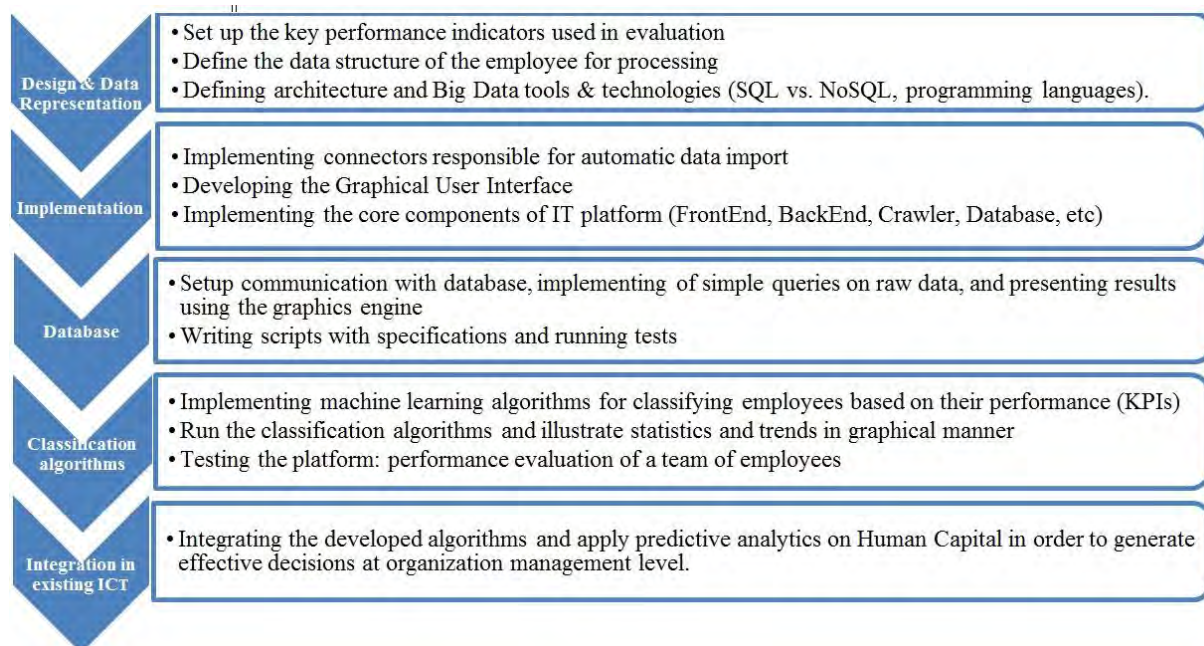


Figure 3. The workflow of Human Capital Data Analysis



In this moment, the project is under development such that the indicators (KPIs) are set, some modules are already software implemented and the retrieval of internal factors from Exit interviews is done. Although, we do not explain here these aspects because is beyond the purpose of this article, in table below we partially illustrate some results obtained with Crawler module: e.g. “percentage of available jobs for engineers versus city population”.

Table 1. Available jobs with respect to the 23199 indexed at this moment (July 2017)

City (Romania)	Bucuresti	Cluj-Napoca	Timisoara	Iasi	Constanta	Clujova	Brasov	Galati	Ploiesti	Oradea	Batila	Arad	Pitești	Sibiu	Bacău
Population x 1000 [units]	1883.43	324.58	319.28	290.42	283.87	269.51	253.2	249.44	209.95	196.37	180.30	159.07	155.38	147.25	144.31
Available engineering jobs [units] <sup>*)</sup>	544	286	118	145	39	35	111	17	38	58	7	39	28	94	22
[%] of the population	2.89	8.81	3.70	4.99	1.37	1.30	4.38	0.68	1.81	2.95	0.38	2.45	1.80	6.38	1.53

The *Crawler* is periodically indexing new jobs posted on the top job finding platforms, allowing creating an exhaustive snapshot of the job market. This way we can find correlations or we can explain the HR movements with respect to the market. From this correlation (number of engineering jobs vs. city population) can be observed following city ranking: Cluj-Napoca (1<sup>st</sup>), Sibiu (2<sup>nd</sup>) and Iasi (3<sup>rd</sup>); in contrast to available engineering jobs ranking: Bucuresti (1<sup>st</sup>), Cluj-Napoca (2<sup>nd</sup>), Timisoara (3<sup>rd</sup>).

Next, we shortly describe few machine learning algorithms that might be applied to collected data regarding employees.

**Principal Components Analysis (PCA)** represents a statistical technique with large applicability in image recognition and compression fields [11]. PCA is used to find patterns in big sets of high-dimensional data expressing similarities and differences between vectors of features (in our case correlation between the KPIs of employees who have already left the company and the current employees KPIs). PCA involves a mathematical procedure (unsupervised machine learning technique) that maps a number of (potentially) correlated variables – KPIs in our case, into (smaller) number of uncorrelated variables called as principal components. For HR analysis is very important also to find which KPIs are most important, which the PCA method can illustrate reducing the number of dimensions (KPIs), without much loss of accuracy of predictive analysis.

**K-means clustering** represents an unsupervised learning procedure aiming to automatically identify elements that have common features and to group them into  $K$  clusters, in which each object belongs to the cluster with the nearest mean [12]. Each cluster must contain at least one element and each element must be included in only one cluster. After generating the clusters, these are identified by “cluster centroid”, which is the element that best characterizes all other elements in a cluster. The aim of K-means is to minimize the total sum of the squared distance of every point to its associated cluster centroid. For grouping the elements from dataset, K-means is based on methods that compute the similarity: Euclidian distance, Manhattan distance or Cosine similarity [13]. In our work, K-means algorithm may help to identify clusters of employees with common features and similar tendency of behaviour.

**Support Vector Machines (SVM)** are supervised learning models associated with learning algorithms that analyse data classification based on support vectors, and kernels [14]. The algorithm’s aim is to determine the largest separation boundaries between adjacent categories

using decision planes. For problems that are not linearly separable, SVM should be used with a non-linear kernel (e.g., RBF - radial basis function). Among the advantages of the SVM algorithm are the possibility of working with high dimension vectors (information collected for a minimum of one year), a less complex than the neural networks from computing viewpoint and, the reliability of its performance when learning from nonlinearly separable data. The high number of KPIs represented as a vector and knowing the classes from training with employees that left the workforce suggest SVM as a possible candidate algorithm in our predictive analytics.

**Dynamic Feature Selection** based on **Dynamic Decision Trees** (DDT) [15] monitors a large number of features including most or all relevant information for making predictions at any time, and selects each new feature based on its correlation with the previously selected features and stores information about only the most relevant features from the larger feature set. In our case it must be applied a feature selection mechanism for all inputs because fewer KPIs is better. One approach could be to see what input if it is excluded from analysis does not affect the results (with an acceptable error). Some possible approaches could use a hierarchical structure of the model (features used for analysis are put in a hierarchy based on their importance).

**Artificial Neural Networks** (ANN) like **multilayer perceptron** (MLP) proved their utility in pattern recognition, prediction and pattern classification [16]. MLP is a feed-forward network having one-way connections from Input to Output layers. The basic architecture consists in 3 neurons layers: Input, Hidden and Output. Besides, there are weight matrices and bias arrays. The MLP produces through the Output Layer the forecasted value. The training process is realized with backpropagation algorithm, dedicated for fast supervised learning in feedforward networks using mean squared error (MSE) and gradient descent method. It mainly consists in two steps: forward step and respectively backward propagation step. The first step makes an Input to Output pass through the network computing weighted sums, applying activation functions and providing the neurons values. The second step, starting with the Output, determines the error from the Output layer and makes a reverse pass through the output and intermediate cells computing gradients. Once these are known the weights are updated using a small learning step. This process continues until the MSE becomes sufficiently small. To increase the prediction accuracy ANN could be trained. Thus, ANN does not start with random weights but are chosen different methods to find more appropriate weights, such that the neural network to recognize certain input and map it to an output.

## 5. CONCLUSION AND FURTHER WORK

A first conclusion of this work based on a deep survey refers to making aware the companies and HR department leaders that predictive analytics is “a must”, a mandatory activity in order to increase the company productivity. Second, digital technologies evolution has a double effect on companies:

- The emergence of new professions and jobs that did not exist some years ago pose new challenges for HR departments in order to learn these employees’ behaviour and features.
- The need to use these technologies, tools, video, and gaming, from social to cognitive in the recruitment mechanism as well as the introduction of advanced machine learning algorithms for predictive analysis applied to current employees.

We proposed for integration in existing IT&C tools of companies the Human Capital Analysis Model based on the following main stages: data collection, mapping them in KPIs, descriptive and predictive analytics. Also, we identified few machine learning algorithms candidates.

In a further work, we will continue to develop and present most of the activities from Figure 3, starting with software implementation of platform, Frontend, Backend, Database and machine learning algorithms, testing them on real data from IT companies collected from people who left the workforce.



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## NANOTECHNOLOGY IN WORK ENVIRONMENTS – LEGAL ASPECTS OF SAFETY

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### **ABSTRACT**

*This article provides an analysis of legal aspects of safety of the use of nanotechnology in the work environment. Due to the unique properties of the applied nanomaterials there is a growing interest in their application in various fields of industry. The number of workers exposed to nanomaterials grows every day. Many workers do not know that they are in contact with nanomaterials. Workers who use nanotechnology in research or production processes may be exposed to nanomaterials through inhalation, skin contact, or ingestion. This work reviews the European Union legislation on work safety with nanomaterials. There are already several regulations that mention nanomaterials specifically. In relation to nanomaterials the provisions of the European Union law are arranged according to: products, chemicals, protection of workers and environmental protection. The legislation referring directly to nanotechnology so far has been introduced for cosmetics, biocides and food. There are potential risks concerning the evolving nanotechnology. The traditional risk-assessment methodology required by EU directives cannot be adequately applied to the risks of nanoparticles, because they are defined by the real or potential risks of known materials. The security aspect of nanotechnology is increasingly important, as workers and employers should be aware of potential hazards posed by nanomaterials in their workplaces and employers should take appropriate measures to control worker exposure. The aim of this article is to analyse the main issues connected with nanotechnology in the workplace.*

**Keywords:** *legislation, nanotechnology, safety, work environments*

### **1. INTRODUCTION**

The 21st century is a period of dynamic development of new technologies, which ensure better work efficiency and quality. Nanotechnology is a science used in many aspects of life, which focuses on the design and creation of structures of at least one dimension below 100 nm and which s new properties resulting from their nanosize (Michalczewski, Mazurkiewicz, 2007, p. 23). The amount of nanotechnological products is increasing, which is a proof of the large interest in nanotechnology in almost every branch of industry. The basic areas of use for nanotechnology in individual sections of the economy are, among others, advanced materials, power engineering, electronics, pharmacy, food production, reduction of polluting emissions. Nanomaterials are also used in areas such as tourism and sport (functional fabrics, light and effective sports and recreation equipment, VR tourism allowing to see practically the whole world using special VR glasses) (Nehemiah, 2014,). However, it is worth stressing that this is a technology which can create serious danger to the health and life of humans and the natural environment. Currently, the fact that we do not possess full knowledge of the potential risks in the development of nanotechnologies is an issue. This is why the European Commission stresses in many of its documents the need for caution, as due to the potential, unknown, threats resulting from the usage of nanoparticles in products of everyday use it may be necessary to prevent their usage in areas in which the benefits of this technology do not outweigh the unknown risks involved (COM/2000/0001). The European Economic and Social Committee in its opinion from 2015, suggested that the responsibility for products included stages beginning at research and ending at waste treatment. As early as at the research stage, the companies should take into consideration how to safely manufacture and implement their new products.

Before such product enters the market, it is necessary to complete all research and present guidelines for safe usage. Additionally the companies need to provide information on how their products can be properly disposed after usage (Opinion of the European Economic and Social Committee, 2016). It is also important to pass on reliable information in the delivery chain on nanotechnological products, which can increase the work safety with nanotechnologies. There is still a lack of proper legislation, despite the fact that the European Union has been introducing regulations regarding nanotechnologies since 2004. Currently there are regulations related to cosmetic products, biocides, health products and food, where direct reference to nanomaterials is made. An important issue for work safety with nanomaterials is the necessity to conduct occupational risk assessment. The European Committee stresses that there is a need to introduce an individual approach to risk assessment, using strategies based on information on the potential risks related to exposure or threat. The aim of this article is to review the EU legislation in regard to work safety with nanomaterials and the analysis of problematic issues in this area.

## **2. LITERATURE REVIEW AND LEGAL BASIS**

The specific properties of nanomaterials can pose a danger to the health and lives of humans and the natural environment. The level of risk for human health is currently known to a very small extent. This is mainly due to the research being limited only to experimental research on animals and cell lines (Bujak-Pietrek, 2013). Apart from that, the data obtained from such research do not allow to assess the influence of nanoparticles on the biological functioning of cells, tissues and organs and to make assumptions regarding the mechanisms of influence on the human organism or the natural environment. Such research are expensive and time-consuming, and the procedures complicated (Gajewicz, et al., 2016, p. 291). There are also no methods of risk assessment resulting from the exposure to nanomaterials (Jankowska, 2011, p. 7-20), with international groups currently conducting research into the harmonisation of the strategy of exposure and risk involved with the presence of nanoobjects in the work environment (Świdwińska-Gajewska, Czerczak, 2013, p. 831). The fact stressed in literature on the topic is that at the current stage of nanotechnology development, the implementation of a conventional risk assessment model for nanomaterials is problematic. This stems from not knowing the full range of data on exposure and danger to humans, the methods of potential exposure as well as the period of and predicted level of exposure. In the near future we can only expect such risk assessment in relation to an individual case (Hodge, et al., 2010, p. 13-15). Since 2008 the European Committee has been reviewing legislation with an attempt to adjust it to the development of nanotechnologies (for more details see: COM/2008/366, COM/2012/572). In the current state of legislature on nanotechnologies, it can be stated that there is a visible division into legal reference related to individual areas of industry, relating directly to nanomaterials (regulations on cosmetic products, biocides, food products, including new foods and regulations on informing consumers about such food products) and legal reference aimed to support the overseeing of the legal reference related to the areas mentioned. EU legal regulations regarding work safety do not relate directly to nanomaterials. The main legal reference on the safety of employees is the Council Directive 89/391/EEC on the introduction of measures to encourage improvements in the safety and health of workers at work. The detailed directives in relation to the directive 89/391/EEC are the Council directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work and the Council directive 89/656/EEC on the minimum requirements for personal protective equipment used by workers at work. These regulations determine the responsibilities of employers regarding to ensuring work safety to their employees, including working with nanomaterials. Employers should conduct risk assessment in their work place, provide their employees with the necessary information on dangers and implement protective actions (Jurewicz, 2016, p.29). Due to the lack of direct legislation relating to occupational risk

assessment in nanotechnology, many guidelines and guides were designed in order to help ensure work safety with nanomaterials (European Commission, Guidance on the protection of the health and safety of workers from the potential risks related to nanomaterials at work, 2013). For the last few years there has been a public debate on the regulating of nanotechnology and we can observe different approaches to this subject in literature. Some authors see this as a possibility to influence the increase of safety of usage of nanomaterials by extra-legal means, the so called soft law (Brazell, 2012, p. 113-114). The soft law instruments such as the fulfilment of various programs in companies or in other words self-regulation, can become a source of support for future hard legal regulations. In accordance with the EU standpoint some of these authors promotes the strengthening of the existing forms of cooperation in the area of nanotechnology and encouraging countries to create internal legal regulations (Azoulay, Buonsante, 2014, pp. 114-120). There is also the need to create specific regulations for nanomaterials, adjust the risk assessment procedures and benefits of using nanomaterials as well as design preventive regulations. As the main legal norms in the European Union do not refer to nanotechnologies, new tools should be created in order to prevent the possible harmful results of nanomaterial usage (Ponce del Castillo, 2010, p.11). Currently, the most difficult issue is the possibility of regulating nanotechnologies at an international level, within a future framework agreement. This would above all include the standardisation of terminology, especially the definition of a nanomaterial, introduction of a harmonised risk assessment for nanotechnology usage, including in the work environment. There are many arguments supporting the creation of such a regulation. This need arises mainly from the fact that we currently are in a very good situation in regards to the standards of handling nanomaterials. The International Organisation for Standardisation has designed approximately 50 norms in the area of nanotechnology. Normalisation activity in the area of nanotechnology has been conducted at various levels, both internationally and nationally. In its communication 'Towards a European strategy for nanotechnology' (COM/2004/338) the European Commission has stressed the necessity for designing of metrology and standards for nanotechnologies, in order to enable an easier development of this technology and ensure the potential users in its processes and products. A technical committee ISO/TC 229 on nanotechnologies was formed at the International Organisation for Standardisation (ISO), an IEC/TC 133 committee on the normalisation of nanotechnologies of devices and electrical and electronic systems was formed at the International Electrotechnical Commission (IEC), and a CEN/TC 352 committee on nanotechnology was formed at the European Committee for Standardisation (CEN). The ISO/TC 229 and CEN/TC 352 are cooperating closely with each other. In the territory of the European Union it is suggested to use the ISO published norms. The subjects of standardisation in the field of nanotechnologies are, among other things, safer and risk assessment (methods used to prove the toxicity and ecotoxicity of nanomaterials, protocols for assessing the life cycle of materials in nanoscale as well as devices and products containing nanomaterials, safety and work hygiene). These standards serve as an important support for EU legislature in the field of nanotechnology. The technical competence of the experts, which are used in the process of designing the standards and the fact that the process involves at least some of the interest groups, can lead to having standards, which will be a useful reference point for future legal instruments (Jurewicz, 2016a, p.23-26)

### **3. NANOTECHNOLOGY IN THE WORK ENVIRONMENT**

Nanomaterials are currently present in many branches of industry. The current state of knowledge on the dangers of using them is limited. Those exposed are not only the people working with the production of the designed nanomaterials, as nanoparticles are also released as a side effect of many production processes e.g. during welding. Currently, the greatest challenge is connected with establishing of approved methods and equipment for detecting,

characterising and analysing nanomaterials, designing a complete set of information on the dangers related to nanomaterials and designing methods of assessment of exposure to nanomaterials. Currently there is a lack of legal regulations determining hygiene standards, which would be enforced in the production and usage of nanomaterials. Despite the conducted research, it is still difficult to assess the number of existing dangers. The toxicity of individual nanoparticles is varied which makes establishing a common criterion that more difficult. Employees working on the production or processing of nanomaterials are the most exposed to them due to high dosages (concentrations) and a long exposure time. This is why it is important to ensure safe work conditions through the designing of methods of assessment of occupational risk. The EU directive 89/391/EEC from 12th June 1989 on the introductions of measures to encourage improvements in the safety and health of workers at work (Journal of EU L 183 of 29.06.1989, p.1, with further changes), obligates the employers to undertake appropriate preventive measures in order to increase the level of safety and health protection at work. A key element of this directive is the obligation to conduct risk assessment (art. 9 section 1 item a and b) combined with the determination of its main elements (identification of dangers, participation of employees, implementation of appropriate measures which are aimed at eliminating the dangers at their core, documentation and periodical assessment of dangers at the work place). The employer shall pass on the information on risk assessment and the implemented preventive measures (art. 10 section 1, item a). This regulation is also related to the potential dangers connected with chemical substances in the form of nanomaterials in the work place. An important legal reference regulating the actions towards limiting the exposure to dangerous chemical substances in the work place is the Council Directive 98/24/EC from 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work. It imposes more rigorous regulations regarding the managing of chemical agents in the workplace. The aim of this directive is to replace dangerous chemical agents with less harmful ones or their complete removal from technological processes. Despite the fact that the directive does not refer directly to chemical agents in the form of nanomaterials, it also relates to them. According to this directive the employer is obliged to undertake actions to minimise the exposure to dangerous substances (art. 5 section 1 and art. 6 section 1). Using the rule of caution in the case of nanomaterials they need to be treated as potentially dangerous and incorporate procedures which would reduce this potential danger. In a situation, when the nanomaterial is classified as a dangerous chemical agent, the user should receive a data sheet (MSDS, Materials Safety Data Sheets) which contains information on the properties of the substance. Data sheets, which are an important tool of information to prevent dangers from dangerous substances in the workplace, contain very little or no information on the presence of nanomaterials and their characteristics as well as danger to workers. It is important in the context of the downstream supply chain. Approximately 75% of workers and employers are not aware of working with nanomaterials, as there is no such information in their MSDS sheets (Van Broekhuizen, Van Broekhuizen, 2009). The information obtained in this way could serve as the basis for taking into account the risk assessment of professional danger. A lack of an established risk level makes it more difficult to select the proper preventive actions limiting the danger resulting from exposure to nanomaterials. In the case of products using nanomaterials, the most important issue is controlling the risk related to their usage. However, as mentioned earlier, there is currently a lack of assessment methods of such risks in relation to nanomaterials. The most credible risk assessment method based on measuring the concentration of chemical agents in the air which the workers breathe requires the usage of expensive, complicated equipment often unavailable for laboratories, as well as it is difficult to design an appropriate methodology to assess the exposure to nanomaterials for individual cases and establish criteria for assessment of exposure to nanoparticles.

The currently used methods are simplified, basing on the data collected by danger assessment teams on the physiochemical and toxic properties of the used nanomaterials and parent compounds used to obtain them (Van Broekhuizen, Van Broekhuizen, 2009). According to the second review of European Union legislation in the context of nanotechnology, in the case of nanomaterials the following aspects need to be taken into account:

- risk assessment of professional exposure to nanomaterials should be conducted separately for each nanomaterial - and not only for each type of nanomaterial, but also for each of its forms, as the physical properties have a strong influence on the toxic properties,
- potential dangers need to be estimated at each stage of the production process,
- for purposefully created nanomaterials, the risk assessment should include the entire 'life cycle' of the nanomaterial, starting from its creation, through research and development, production, distribution, usage and ending with recycling or disposal (COM/2012/572).

Conducting of risk assessment at workplace with nanomaterials can be difficult due to:

- limited knowledge on the dangerous properties of nanomaterials;
- limited methods and lack of equipment available to identify nanomaterials as well as to measure the level of exposure;
- lack of information on the presence of nanomaterials, especially in mixtures or products, as well as downwards the user chain, in which the nanomaterials or products containing them are used or processed (Nanomaterials in maintenance work: occupational risks and prevention).

In a situation when there is a lack of a method for occupational risk assessment of exposure to nanomaterials rules of caution need to be used in order to minimise the potential negative effects. This means that in a situation of a lack of knowledge about the properties of a given nanomaterial, it should be treated as potentially dangerous, i.e. design and implement preventive measures necessary to minimise (eliminate) the exposure or limit the risk through keeping exposure levels as low as rationally possible. Limiting the exposure should be implemented as early as in the design stage of the work process (Zapór, 2013, p.41). It is suggested that the nanomaterials should be characterised, in order to be able to assess the level of exposure of workers, especially in relation to potential airborne properties and skin contact. There is also a need to organise trainings for workers on the proper handling of nanomaterials. Additionally, there should be a periodic inspection of personal protective equipment. In the case of a high concentration of nanoparticles it is advisable to separate their origin from the workers. HEPA filters should be widely used in order to prevent the nanoparticles from reaching the environment (Jurewicz, 2016b, p.29). It is also important to monitor nanomaterials in their life cycle - at the production stage, processing stage, storage, recycling and disposal. The regulations on workers' safety should include changes ensuring that nanomaterials shall be used only in closed systems, until their detection and exposure control are reliable (Zapór, 2012, p.7). Work safety with chemical agents in the form of nanomaterials is ensured also by two ordinances, i.e. REACH (Registration, Evaluation and Authorisation of Chemicals) and CLP (Classification, Labelling and Packaging). The employer is obligated ensure a safe workplace, materials and chemicals and to observe the hierarchy of control measures in order to protect workers from risks in the workplace. Employers need to provide current data sheets to their workers, maintain a register of dangerous substances, and ensure the proper labelling and storage of chemicals. The employer should also provide access to the most current knowledge through trainings. It is worth to note the fact that the REACH and CLP regulations do not contain entries related to nanomaterials, while they are applicable in their production, introduction to the market and usage of substances in the form of nanomaterials.

However, whether the manufacturer of the nanomaterial states the form of the substance in the REACH registration process, is a voluntary issue. This is significant from the point of view of the user chain, as the data sheet of a given substance will not contain information whether the substance is a nanomaterial or contains nanoparticles, and further users will not be able to implement appropriate preventive actions in the workplace. Apart from that, there is still a lack of awareness seen regarding the existence of the regulations of REACH and the necessity of observing them. This is why it is difficult to talk about complete safety of working with nanomaterials in a situation when there is a lack of understanding or knowledge of legal regulations on this topic. Nanotechnology in Poland is mainly an object of interest of academic units, as Polish entrepreneurs see nanotechnology as a marketing catch phrase. In 2014 the National Labour Inspectorate conducted 69 inspections in companies producing nanomaterials or using them and in laboratories at higher education facilities. The inspections have shown that large companies which are a part of international concerns implemented procedures related to nanomaterials. In smaller companies no such actions were undertaken due to the fact that there was no knowledge of the fact that the used substances contained nanoparticles. Experience shows that the majority of employers and workers is not aware of working with nanomaterials (Grodzicka –Lisek, 2015) . It is the responsibility of the employer to inform the worker of the type of nanomaterial in use and the process, in which it is used, present the worker with the results of the conducted risk assessment, with the preventive measures, rules for safety in the work environment and emergency protocol. It needs to be stressed that in the case of nanomaterials, as mentioned earlier, risk assessment should be conducted for each case individually. An important supporting element in regards to ensuring the safety of work with nanomaterials in Poland is article 220 of the labour code, according to which it is unacceptable to use materials and technological processes without a prior assessment of the level of their danger to the health of workers and the introduction of appropriate preventive measures. The responsibility of conducting such occupational risk assessment related with working and the implementation of appropriate preventive measures lowering that risk as well as informing the workers of potential risks is described in article 226 of the labour code.

#### **4. CONCLUSION**

Nanotechnology is dubbed the science of the future. It gives the possibility to solve many civilisation problems through the usage of lighter, smaller, faster and more efficient materials, which could lead to creating new chances of developing prosperity and creating jobs. The development of nanotechnology can, apart from the benefits, bring dangers, which we might not be currently aware of. In order to ensure the safety of usage of nanotechnologies it is crucial to create a firm legal basis. The new provisions must be constructed on the basis of the precautionary principle and the principle of producer responsibility in order to ensure safe production, use and disposal of nanomaterials before they are placed on the market. Important challenges relate to establishing validated methods and instrumentation for detection, characterization, and analysis, completing information on hazards of nanomaterials and developing methods to assess exposure to nanomaterials. Regulations regarding the development of competition in this area cannot be forgotten as well, which are the regulations concerning intellectual property, preparing the grounds for industrial innovations. However, due to the increasing number of companies dealing with nanotechnology there is mainly the need to ensure safety of working with nanomaterials. Faced with incomplete data on the dangers resulting from the use of nanotechnologies, there is need for actions targeted at minimising the dangers, as a part of risk management. One of such actions is the idea of creating registers of nanomaterials, which would collect data on their usage. Such initiative was undertaken by countries such as France, Belgium and Denmark, and many European countries are considering the introduction of such national nanoregisters.

In order to strengthen the safety measures, the European Chemicals Agency has launched a special platform (The European Unions' Observatory for Nanomaterials, EUON). It gathers data on nanomaterials in the EU market and their usage. The platform also contains data on legal regulations in individual countries in relation to nanomaterials (Chemical Watch, 2017)

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## **THE ECHORD++ PROJECT: ROBOTICS IN A PUBLIC ECONOMY**

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### **ABSTRACT**

*The idea of the ECHORD project was born before the economic crisis had its maximum impact on the robotics industry. Therefore, the concept of a project with the clear goal to strengthen the collaboration between academia and industry was a good opportunity to support the industry by offering funding opportunities and fostering already existing networks and creating new partnerships with the academic world taking into account the circular economy in the productive cycle of the intelligent robotics solutions to solve the challenges of the modern cities. One of the most innovative part of this project is to foster the participation of public investment in new robotic projects mainly in urban robotics. At this moment, more than 40 european cities have been participating in the challenge that ECHORD++ proposed.*

**Keywords:** *Academia-Industry Transference, Public Investment, Urban Robotics*

### **1. INTRODUCTION**

Focus on application-oriented research and development, ECHORD++ (E++) is been funded by the 7th Framework Programme (7FP) at the EU for five years to improve and increase the innovation in robotic technology through small-scale projects and a “structured dialogue” incorporating public entities and citizens to the conventional platforms of industry and academia. Three instruments and processes are being developed under the ECHORD++ project: experiments (EXP), research innovation facilities (RIF) and public end-users driving technological innovation (PDTI), all of them improving and increasing the innovation in robotic technology of SMEs companies and addressing answers to societal and industrial needs in different scenarios. E++ will elaborate four Annual White Papers describing the outcomes and results of the project, the tasks of communication and dissemination and the structured dialogue between all the involved stake-holders. This paper is focused on the PDTI process and the lessons learned during the first 24 months of E++. The aim of this paper is to introduce the novel PDTI process with the intention to boost the innovative research in technologies and specifically in robotic technology and to contribute and join efforts to improve public services. After an overview of the innovative public procurement instruments, the PDTI process is described with emphasis in its relationships with one of these instruments, the precommercial procurement (PCP), looking to check the 4 phases proposed in this instrument.

The case study of Echord++ PDTI in Urban scenarios brought us the opportunity to develop deeper the phase 0 of a common PCP through a group of Activities for Public Demand Knowledge with the active participation of the end users. Finally this first research describes the outcomes and findings in robotic technology in urban scenarios and the future proposals in innovative public precommercial procurements.

## 2. OBJECTIVES AND SCOPE

Different policies from the European Commission have looked to take advantage of public procurement, creating an innovative Europe and solving the lack of an innovation-friendly market (1). The Europe 2020 strategy includes innovative public procurement as one of the key market-based policy instruments for smart, sustainable and inclusive growth. Having reached the 19.4% of the Gross Domestic Product, Public Procurement has an immense potential to fully exploit research and technology for innovation and also to deliver more cost effective and better quality of public services. In some cases the technologies needed to make these breakthroughs exist or are closed to the market; in other situations, investment in R&D is needed to assure the progress of technological solutions that meet the societal needs detected. In this last case, the instrument used by public entities is a Pre-Commercial Procurement (PCP), located into the procedures of Innovative Public Procurement. During the last years very few PCP have been initiated in Europe and in some cases the calls have been declared void. The possible reasons of this lack of success could be a range of deficiencies in the PCP process including information asymmetries, lack of interaction between buyers and potential suppliers, perceived exclusion of small companies, risk aversion on both the public and private sides (2) and the lack of knowledge of public entities about what technology is and could solve. However the good results of the Innovative Public Procurement at the United States of America public sector, that spend in research, development and innovation 20 times compare to Europe, give us a clear goal to reach. It is in this scenario where the ECHORD++ project proposes the process "Public end users Driven Technological Innovation" (PDTI) to increase and improve the innovation in robotic technology developing deeper the phase 0 of a common PCP. Situated in the demand-side innovation policy, the PDTI develops a group of tasks and activities addressed to a deeper knowledge of public demand and could be defined as a public measure to induce innovations and/or speed up diffusion of innovations through increasing the demand, by specifying and defining new functional requirements for public products and services. An intensive dialogue between all the stakeholders involved will be essential to narrow the wide field for innovative public procurement: public entities as procurers; technological consortiums as suppliers; users as surveyors and the research team as coordinator of all the process.

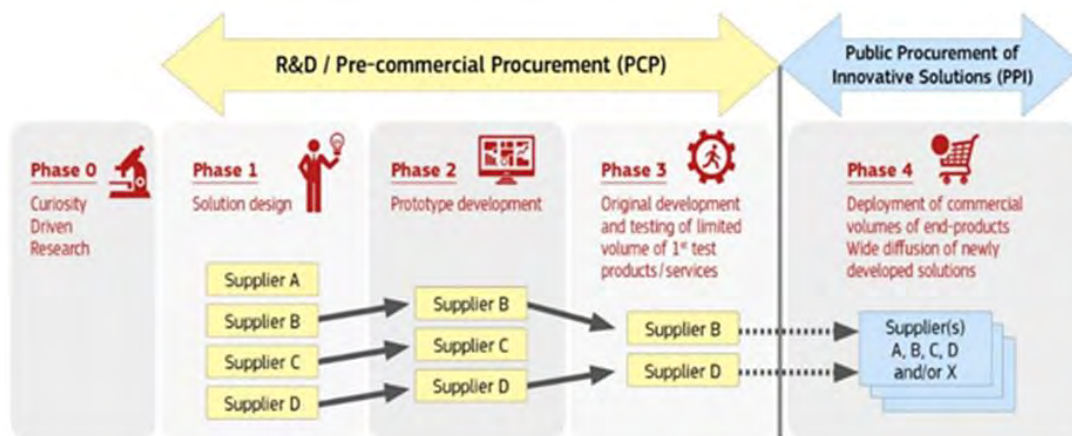


Figure 1: Innovation Procurement Instruments

### **3. OVERVIEW OF THE INNOVATIVE PUBLIC PROCUREMENT INSTRUMENTS**

Policy may act where the demand for innovations is insufficient, or non-existent, but where a technological product has a high potential benefit. Innovation life cycles are concerned with the life cycles of generation of technology from the perspective of the economy and society as a whole as opposed to the life cycle of a specific product (3). Two main public procurement instruments' have been developed into the product innovation life cycle:

Pre Commercial Procurement (PCP) and Public Procurement for Innovation (PPI). Public Procurement for Innovation (PPI) is procurement where contracting authorities act as a launch customer for innovative goods or services which are not yet available on a large-scale commercial basis, and may include conformance testing. Pre-commercial procurement (PCP) means procurement of research and development services involving risk-benefit sharing under market conditions, and competitive development in phases, where there is a separation of the research and development phase from the deployment of commercial volumes of end-products (European Commission, 2014) (Figure 1). Despite the perception of innovative procurement as something of a policy panacea and repeated efforts to put procurement budgets to work to drive innovation, efforts have been met with limited success. Numerous barriers exist from demand and supply side: there are market failures (information problems) and system failure (poor interaction); suppliers of potential new products and services often lack the knowledge on what customers might in the future; user-producer interaction and communication doesn't help to produce synergies results and innovative firms in the side of the suppliers perceived a lack of expertise on the procurers and see it as a strong barrier to supplying innovative goods or services (4). On the other hand, public call for RTD tenders or proposals, may not consider as a common call. Its complexity requires much more comprehensible development of the preliminary phases of public demand knowledge, as well as the specifications and features of the new technology. It is necessary to develop the initial phase, the phase 0, of the Pre Commercial public procurement procedures, through activities aimed to know in depth the demand of both of the authorities and the users. Moreover it has to be analyzed the innovative technology that can give a response to these needs, while it allows to improve the quality of the public service or to reduce its economic cost. The aim is that the joint consortia of industry and academia could offer innovative pre commercial products linked to real demand. The analysis presented in the document Quantifying public procurement of R&D of ICT solutions in Europe (Digital Agenda for Europe, SMART 2011/0036, European Union, 2014) highlights the poor initiatives developed by the 29 European Countries in favor of the innovative public procurement. Only one country of all Europe was working aligned with the innovative public procurement strategy in 2014: Spain. A series of policy measures supporting innovative public procurement in this country was the formal origin of the stimulus: the agreement of the Council of Ministers from 2/7/2010, where the State's Innovation Strategy was adopted; the Science, Technology and Innovation Act (Law 14/2011, June 1st) explicitly mentions innovative public procurement, while an agreement of the Council of Ministers from 8/7/2011 sets out the procedure for the implementation of innovative public procurement in all ministerial departments and public bodies. Despite this, 13 innovative public procurement contracts were awarded in Spain from October 2012 until the April 2013, with a combined total value of about EUR 18 million. In Urban policies, the article Urban Competiveness and Public Procurements for Innovation presents the case study of six Nordic-Baltic Sea cities that have developed six specific Innovative Public procurements from 1998 to 2007. The authors defend that the main triggers for procurement for innovation is based in the necessity of the cities to answer social needs. The experience of the Nordic-Baltic Sea cities reveals that in general terms there is a small number of cases relates to the fact that public procurement for innovation at the urban level is not very common.



Public procurement for innovation is not seen till now as an inherent part of the cities' innovation policy and mostly the cities tend to implement supply-side policy measures.

#### 4. THE PDTI PROCESS

In this scenario it is where the lessons learned in the case study of the ECHORD++ project bring us the possibility to introduce the novel PDTI processes and generalize it to other domains. Located into the product innovation life cycle, and based in Pre Commercial Procurements, the PDTI proposes a process that develops two main phases (Figure 2):

- Activities for public demand knowledge
- Activities for research and technological development of pre-commercial products.

PRODUCT INNOVATION LIFE CYCLE			
	PCP PHASE 0	PCP PHASE I-II-III	PPI PHASE IV
ACTIVITIES FOR PUBLIC DEMAND KNOWLEDGE		ACTIVITIES FOR RESEARCH AND TECHNICAL DEVELOPMENT OF PRE-COMMERCIAL PRODUCTS	PUBLIC PROCUREMENT FOR COMMERCIAL ROLL-OUT
PDTI			

Figure 2. Relation between PCP and PDTI processes

The “Activities for public demand knowledge” increase and structure the tasks developed in the phase 0 of a common PCP. The “Activities for research and technological development of pre-commercial products”, match the phases I, II and III of the PCP, ending in a pre-commercial product and making possible a Call for Commercial Tendering (PPI).

Policy instruments mainly address the act of procurement itself and does not engage with the whole cycle from identification of needs and forget to involve a wider set of actors and stakeholders (5). To the importance of this identification of needs and looking to bring future needs and future supply together at an early stage the first part of the PDTI process, the Activities for public demand knowledge, develops four qualitative phases inspired in Delphi methodology (6): Brainstorming, Narrowing Down, Ranking and Challenge Description. This group of activities ends in a Call for Proposals /Tenders, initiating the Activities for research and technical development of pre-commercial products structured as a Pre-Commercial Procurement: Solution Design, Prototype Development and Small Scale Test Series (Figure 3).

PDTI							
ACTIVITIES FOR PUBLIC DEMAND KNOWLEDGE				CALL FOR RTD PROPOSALS	ACTIVITIES FOR RESEARCH AND TECHNICAL DEVELOPMENT OF PRE-COMMERCIAL PRODUCTS		
BRAINSTORMING	NARROWING DOWN	RANKING	CHALLENGE DESCRIPTION		SOLUTION DESIGN	PROTOTYPING	SMALL TEST SERIES

Figure 3. PDTI process and activities

#### 5. THE PDTI PROCESS: ACTIVITIES FOR PUBLIC DEMAND KNOWLEDGE

The novelty of the PDTI is to develop the phase 0 of a common PCP putting more emphasis in the preliminaries tasks and proposing a previous and indispensable phase of knowledge and interactivity between the stakeholders. The public entities, demand side, and the technological consortiums, suppliers, under the coordination of a research team and the supervision of the users constitute the stakeholders. More-over, the innovation procurement requires a shared

vision of the future needs between purchasers and suppliers, and a systematic way of identifying and characterizing those possible needs (2). This part of the PDTI process, Activities for Public Demand Knowledge, is a qualitative procedure inspired in Delphi methodology and allows a group of stakeholders to systematically approach a particular task or problem (7). In our case, the objective will be the reliable and creative exploration of social needs related to public services that could be solved through technology and the production of sustainable information for decision making in the area of Innovative Public Procurement. The methodology will employ iterations of questionnaires and feedback through series of rounds to develop a consensus of opinion from the participants. There is not a limit of time, but is necessary to consider a minimum and a maximum number of rounds. After each step, specific documentation will be generated as the conclusion of the developed activities as well as the starting point of the next phase. Figure 4 shows the methodology to develop the Activities for public demand knowledge, the stakeholders involved, the tasks to develop and the documents elaborated in each one of the four phases. First of all, a Collaboration Agreement should be signed between all the stakeholders as an official requirement to start the process. This document will describe the roles of the different agents, the process and the proposed methodology.

ACTIVITIES FOR PUBLIC DEMAND KNOWLEDGE				
USERS SURVEYORS		USERS SURVEYORS		
RESEARCH TEAM COORDINATOR	RESEARCH TEAM COORDINATOR	RESEARCH TEAM COORDINATOR		RESEARCH TEAM COORDINATOR
PUBLIC ENTITIES PROCURERS	PUBLIC ENTITIES PROCURERS	PUBLIC ENTITIES PROCURERS	EXPERT PANEL	PUBLIC ENTITIES PROCURERS
TECH CONSORTIA SUPPLIERS			TECH CONSORTIA SUPPLIERS	
PROCESS	BRAINSTORMING	NARROWING DOWN	RANKING	CHALLENGE DESCRIPTION
	1-3 ROUNDS	WORKSHOP	OPEN MARKET	1-6 ROUNDS
METHODOLOGY TASKS AND ACTIVITIES	TASK 1. STATE OF THE ART IN TECHNOLOGY APPLIED TO SOCIAL NEEDS AND CHALLENGES.	TASK 3. EVALUATION CRITERIA / IMPACT INDICATORS	TASK 5. CHALLENGE EVALUATION THROUGH IMPACT CRITERIA	TASK 7. ELABORATION OF THE CHALLENGE BRIEF AND PREPARATION OF THE DOCUMENTATION FOR THE CALL FOR TENDERS / PROPOSALS
	TASK 2. TECHNOLOGICAL NEEDS IN EXISTING PUBLIC SERVICES	TASK 4. MANAGEMENT OF THE FEEDBACK OF ALL STAKEHOLDERS	TASK 6. SELECTION OF CHALLENGES	
COLLABORATION AGREEMENT	QUESTIONNAIRE	CLASSIFIED CHALLENGE LIST	CHALLENGE SELECTED	PRODUCT IDEA CHALLENGE BRIEF

CALL FOR RTD PROPOSALS / TENDERS

Figure 4. PDTI Activities for Public Demand Knowledge: process, methodology, tasks and activities

The involved stakeholders will be the Public Entities and their specific departments, the Users, the Users' Associations, the Industry, the Technology Manufacturers, the Research and Academy Institutions and Organizations. They have different roles to play in PDTI. The procurers are the Public Entities; the suppliers are the technological consortiums; the surveyors are the users; and finally, the coordinator is the research team, which will give the technological

support to the public sector for developing and implementing the innovation-oriented procurement. The role of the coordinator is needed to drive and lead the complete process based on innovation. Due to the complexity of this process, it is valuable that the coordinator has a team of people coming mainly from technological areas but also from other areas as economics, psychology or political science fields (8). The participation of users will take place all along the development of the PDTI to survey the process and participate in it, through different activities. The contact and participation of users can be done through local associations as Living Labs. These living labs offer us a real-life test and experimentation environment where users and producers co-create innovation in a trusted and open ecosystem.

### **5.1. Brainstorming**

The process starts with an identification of the real needs in hands of the users and budget holders rather than procurement officials. Two tasks are developed at least: Task 1. Analyze the state of the art in technology applied to social needs and technological challenges; Task 2. Analyze the technological needs in existing or new public services. Sometimes the identification of the needs is constrained by lack of knowledge of the innovation potential (2). The objective of this step is the elaboration of a Questionnaire of Public Needs and its associated Innovative Technology, based in the improvement of existing public services, their cost reduction or the creation of new ones. At the same time the knowledge about innovative technology could be introduced in public environments. Interactive collaboration between organizations is extremely important for innovations to emerge, in the demand/pull side as in the supply/push side (8). The success will come by interacting with the stakeholders in several rounds. A questionnaire of the public needs and the associated innovative technological solutions will be the tool used during the rounds. The information elaborated in each round will be collected, edited and returned by the coordinator to prepare the next round. Finally, a consensus final Questionnaire will be elaborated.

### **5.2. Narrowing Down**

This phase has the objective to focus the needs proposed at the Questionnaire through specific criteria. It consists of two tasks. The objective of Task 3 is to obtain a group of impact indicators. Clear narrowing down instructions should be provided emphasizing the clarity and simplicity of them (9). These impact indicators sometimes exist in the Public Entities, and in this case they can be used as starting point. In any case, a list of impacts indicators must be created and they will be used in the evaluation and selection of the Innovative Challenge List.

Task 4 consists in the management of the stakeholder feedback. One way to develop this phase is by organizing a workshop with the different stakeholders involved, discussing and receiving the feedback through the impact indicators and elaborating the Innovative Challenges List. Users, Industry and Academia Consortiums can be invited to participate in order to know their opinion. Also the use of social media allows to reach a large number of people with a wide spectrum, however not always is easy to obtain the expected result. To raise users' opinion is very convenient to organize activities with them all along the process. As we have said, the elaborated document at the end of this phase is the List of Innovative Challenges and each one of these selected challenges should be described and evaluated through the proposed impact indicators.

### **5.3. Ranking**

The third phase of the Activities for public demand knowledge will be done by an expert panel composed by designed people from the Public Entity and the Research Team. Task 6 consists in evaluating the List of innovative challenges and task 7 is where the selection of the public challenges will be done.



The expert panel has to use the impact indicators; however other criteria can be used at the same time. In this process, the number of selected Public Challenges will depend on the budget of the Public Entity and at the same time of the potential market offered by the procurer weighting if is relatively big or small to the costs involved in the development of the Innovation.

#### **5.4. Challenge Brief**

The aim of this phase is to create the Challenge Brief. It consists of task 8 which have to elaborate the challenge description. The Challenge Brief is a document with a clear explanation of the public service and with enough information about the functions to be developed by the new technology. It is important to address that this Challenge Brief is not a common procurement document, but an innovative one, and has to be written taking in mind its functionalities (to do or required by the public service) instead of the specific requirements that could narrow the innovation field. New rounds between the public entity and the research team should be done. The functionalities must be defined by the end user of the public entity and not by its general services which are not directly involved in their implementation, especially if they do not possess the relevant information (10). At least, 2-6 meetings are necessary in order to get the Challenge Brief. This document has to specify the functionalities of the new technology, which must be chosen from the present functions, those that can be applied but are not standard and the new ones that will optimize the public service. The translation of needs/problems/challenges into functionalities requires highly developed competences in technological level on the part of the procuring organization (8) and the role of the researchers is essential. The Challenge Brief will be the main document for the Call for Proposals/Tenders and the starting point of the second part of the PDTI process, the "Activities for research and technical development of pre-commercial products".

### **6. THE OUTCOMES OF E++ URBAN PDTI AND THE INNOVATION IN URBAN ROBOTICS**

As we have said before, 14 urban robotic challenges were received from different European City Councils. The wide scenario of urban challenges was structured and analyzed looking to stablish synergies between the urban needs proposed and under a new technological-urbanistic point of view. We structured them in three groups: city infrastructures, information and communication technologies related to different urban areas and technologic challenges for pedestrian areas at the city (Figure 5). We also organized two workshops with local living labs and we started the recruitment of E++ citizens' collaborators, looking to receive their feedback through the different phases of the project. We used the E++ web site to publish this activity. 103 citizens were involved to survey the activities programed in E++ Urban PDTI and their first task was to evaluate the Robotic Urban Challenge List (Figure 6) at the Science and Technical Party celebrated in June 2014 in Barcelona. We arranged the survey following ludic criteria, in order to motivate their feedback as a qualitative procedure. We received comments and suggestions that we collected and joined to the challenges' evaluation.

*Figure following on the next page*

INFRASTRUCTURES	HELSINKI Finland	<b>Traffic infrastructure inspection and maintenance.</b> Decreasing the cost of maintenance and increasing the area livability through robotisation of the city's maintenance traffic at the Smart Kalasatama designated smart city area, including both vehicles and installed infrastructure in the area.
INFRASTRUCTURES	BARCELONA Spain	<b>Automatic detection and road surface damage warnings.</b> To find a solution that can gather data and analyze the 11Mm2 of asphalt paving surfaces, road, cycle and pedestrian across the whole city.
INFRASTRUCTURES	CORNELLA Spain	<b>Improving waste management and street cleaning.</b> Perform tasks with less cost for the maintenance of parks and gardens.
INFRASTRUCTURES	BARCELONA Spain	<b>Utilities infrastructures condition monitoring.</b> To mechanize sewer inspections in order to reduce the labor risks, objectify sewer inspections and optimize sewer cleaning expenses of the city.
ICT AND ENVIRONMENT	MALAGA Spain	<b>Environmental monitoring and control.</b> This challenge aims at the deployment of a robotic collaborative network for monitoring and mitigating the presence of air pollutants (including pollen), as well as odors that may be unpleasant to citizens.
ICT AND TOURISM	GREENWICH United Kingdom	<b>Improving tourist services at the city.</b> To provide a cost effective way of interacting with visitors to provide accurate information based on real time management data as well as information on attractions and related services.
ICT AND PLANNING	SEVILLA Spain	<b>Improving the management, planning and urban city observations.</b> The use of aero robots in the management, planning and urban city knowledge
ICT AND MOBILITY	SEVILLA Spain	<b>Planning and information of urban accessible routes.</b> The robotic challenge we propose is the realization of a LAND ROBOT prototype, as the basis for a battery of them deployed around the city taking mobility accessibility data with references that are inherent in the development of the Planner.
ICT AND SURVEILLANCE	PADOVA Italy	<b>Providing safe and secure environments for citizens.</b> The new technology should improve the limits of traditional surveillance cameras and should have more features (i.e. proactive action, movement ...) compared with the actual passive video surveillance/acquisition.
ICT AND MOBILITY	VALENCIA Spain	<b>Improving the management, planning and urban city observations.</b> An innovative monitoring system applied to urban bus lines to monitor Origin and Destination and sustainable mobility modes.
PEDESTRIAN AREAS	BARCELONA Spain	<b>Personalized mobility support for pedestrian areas.</b> To create a system or service that will guide the transport or mobility impaired through the neighborhood. The system must be integrated into the pedestrian area of the new city model raised.
PEDESTRIAN AREAS	SITGES Spain	<b>Providing safe and secure environments for citizens.</b> New robotic infrastructure where now there is a human intensive service. Objectives: noise reduction, surveillance and management of public spaces, especially in crowded events and support to disabled people in pedestrian areas
PEDESTRIAN AREAS	BARCELONA Spain	<b>Goods distribution technology to improve local retail.</b> To create a sustainable system to make the distribution from the neighborhood Warehouse to each commerce. This robotic system must be integrated in the pedestrian areas of new neighborhoods.
PEDESTRIAN AREAS	COIMBRA Portugal	<b>Personalized mobility support.</b> To contribute to the downtown urban life revitalization, improving the existing personalized transport as a key issue to connect activities and people. To select and apply the best mobility solution that can assure an effective transportation role in the downtown.

Figure 5. E++ Urban Robotic Challenges

URBAN AREAS	CITY CHALLENGES	CITIZENS
INFRASTRUCTURE	Traffic infrastructure inspection and maintenance	6,44%
INFRASTRUCTURE	Automatic detection and road surface damage warnings	6,44%
INFRASTRUCTURE	Improving waste management and street cleaning	12,23%
INFRASTRUCTURE	Utilities infrastructure condition monitoring	6,44%
ICT & ENVIRONMENT	Environmental monitoring and control	11,30%
ICT & TOURISM	Improving tourist services at the city	3,92%
ICT & PLANNING	Improving the management, planning and urban city observations 1	5,98%
ICT & MOBILITY	Planning and information of urban accessible routes	5,98%
ICT & SURVEILLANCE	Providing safe and secure environment for citizens	3,64%
ICT & MOBILITY	Improving the management, planning and urban city observations 2	2,52%
PEDESTRIAN	Personalized mobility support for pedestrian areas	8,87%
PEDESTRIAN	Providing safe and secure environment for citizens	13,33%
PEDESTRIAN	Goods distribution technology to improve local retail	4,04%
PEDESTRIAN	Personalized mobility support	8,87%

*Figure 6. Citizens' Evaluation*

## 7. COMPARISON AND CONCLUSION

Urban competitiveness would drive municipalities to engage in the procurement for innovation, but the innovative public procurement is unknown for most of cities' procurers. Municipalities could boost procurement for innovation in the initiation phase of the technology life cycle, co-creating new solutions with the private sector to sustainability challenges and opportunities in the cities. The development of technology is the key to mastering these challenges and transformations in the European Cities and the PCPs and PDTIs are the right tools to accelerate them. Few examples of Public Procurement for Innovation have been developed in Europe during the last years. The case study of six Nordic-Baltic Sea cities (12) bring us six specific Innovative Public procurements from 1998 to 2007. Tallinn faced the challenge of introducing a universal ticket system for public transport; Copenhagen's case was initiated because of an emerging need in educational policy; Malmö's photovoltaic energy-supply purchase was a direct result of its environmental policy; Stockholm public procurement for innovation is strongly driven by environmental goals and Helsinki case was launched to meet emerging problems in their public transport sector. In Spain, 83 procedures of innovative public procurement have been developed from 2011 to 2016; 56 are pre-commercial procurements and 6 have been presented by local authorities related to Smart Cities. In general terms there is a small number of cases relates to the fact that public procurement for innovation at the urban level is not very common. Public procurement for innovation is not seen till now as an inherent part of the cities' innovation policy and mostly the cities tend to implement supply-side policy measures. In spite of this, the European cities are prepared. Their competitiveness makes them strong and at the same time the innovative public procurement makes them more competitive. The lead-user role played by the cities can have spectacular results in innovative public procurement and the case study of Echord++ and the development of the first part of the PDTI, bring us a structured and proactive process to achieve them: 14 urban robotic challenges posed and defended by 10 European City Councils, all of them with robotic technology associated one step below an innovative RTD public call. Cities and citizens have specific needs, not solved by existing market products, which require innovative solutions. These innovative solutions are based in new technologies that are unknown for public managers. At the same time the technological consortia of industry and academia unknown the real cities' challenges. In this scenario, the PDTI process sets the connection link to public entities to develop innovative public procurement.

It is clear that the Innovative public procurement increases the support to companies and leverage private funding increasing and improving employments opportunities in the cities. The few cases of public procurement for innovation have had a positive impact, not only on the providers but also on the positive influence that public sector can have on innovation-friendly markets. A positive impact on companies is evidenced by the increased exports and changes in companies' routines having an end user driving their RTD development. The social impact is reached improving citizens' accessibility and mobility in most of the cases and better public services. The results got in the Echord++ PDTI process, during the first months of work, in a continuous learning by doing, bring us fourteen innovative urban challenges proposed by Cities' Councils of all Europe. All of them with innovative technology associated, specifications about functionalities and one step away to achieve a call for RTD tenders. The role of the academia was essential, not only in technological topics but also in the management of all the process. All of these proposals could be the starting point of a new Innovative Public Pre Commercial Procurement.

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## PROFESSIONAL DUTY AND RESPONSIBILITY OF COMPANY LAWYER

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### **ABSTRACT**

*Company lawyers are one of the most numerous legal professions in Croatia whose members are perceived as highly professional, often with very profound legal knowledge in many different fields of law. Company lawyers usually work in-house or for a law firm, and may have to represent a client in court. Company lawyers in Croatia are not part of the Croatian Bar and Law Society, but can't also choose to become members of the association of in-house legal advisors. They generally review and draft legal paperwork for businesses. Company lawyers are attorneys who specialize in business law. They might work on negotiating and drafting contracts, reviewing employment agreements or company mergers. Some company lawyers work for a law firm and represent many clients, while others are employed by a company and represent its legal interests exclusively. Wide legal knowledge that company lawyers frequently have is a result of a diversity of tasks they are confronted with throughout their professional life and great understanding of the business processes taking place in the companies they work for. Company lawyers have a duty to provide competent representation, and the failure to observe deadlines or conduct thorough research is considered a breach of ethics. They are under a strict duty of confidentiality to keep information received in the course of their representations secret. This paper briefly deals with the main challenges which are placed before company lawyers in Croatia with the accent on diversity and complexity of their tasks, as well as with the issue of their intellectual independence.*

**Keywords:** *company lawyer, General Data Protection Regulation, independence, professional duty*

### **1. INTRODUCTION**

In recent years, the role of in-house counsel has become increasingly crucial to the success of corporations operating in Europe, as the European Union undertook to transform its member states into a cohesive economic bloc. The role of the in-house legal and compliance function is rapidly evolving to keep pace with the changing needs of the businesses that they support. Two key factors explain the rapid expansion of the profession of company lawyer: the development of the law on the one hand, and of the corporations themselves on the other. The need for an in-house legal service is dictated by the need for businesses to have legal experts of top quality available within their corporate structure at all times. There is nothing to prevent a company employing its own lawyer and at the same time continuing to use outside lawyers for certain services or certain sections or areas of the company (Macon, 2002, p. 99.). Company lawyers acknowledge and promote the importance of the law and compliance thereof within the company or group of companies they work for and in the relations of the company with third parties. These legal professionals assist their corporation in regulating business by ensuring that they follow the antidiscrimination law while running the business. It can be said that in house counsel responsibilities focus on providing the required legal insight to the company. Their position is unique within the structure of the organization, and it can be utilized to develop strategies for improving the company's business successfully. In-house counsel cannot easily be substituted by outside counsel. It needs an in-house counsel's intimate knowledge of business, products, procedures and the acting people to give valuable legal advice in the complex environment of today's corporations (Letter to Competition Commissioner Mario

Monti dated 30th June 2000.). Company lawyer cannot be entirely independent of the company and company lawyer often acts as a company's legal representative, has for example signature rights or procura rights (Lencioni, 2013, p. 233). We can say that are a few significant reasons to justify the employment of an company lawyer: costs, familiarity with the client, accessibility, preventative role, administrative/problem-solving skills, and outside-lawyer management (Mackie, 1987, p. 5 - 7).

## **2. THE ROLE OF THE COMPANY LAWYER**

Professional duty is the area of legal practice that encompasses the duties of company lawyers to act in a professional manner, obey the law, avoid conflicts of interest, and put the interests of clients ahead of their own interests (Šago, 2013., p. 222.). They are a key resource of the company and their role is to counsel and solve legal issues within the business context. Company lawyers are the internal legal experts within companies: among other tasks, they draft, advise, defend, assist in negotiations, provide general counseling advice, assist in the company strategy and legal compliance and safeguard the ethics of the company. They contribute actively through their specific skills to business and risk assessments. Company lawyers are driven by legal ethics and they help striking a balance between business decisions and legal constraints, in the company's interests. The first key skill that corporate lawyers are equipped with is an understanding of business and how transactions will fit in within the ordinary scope and course of business in general. It is crucial for corporate lawyers to understand the business effect of any legal decisions they make. All lawyers must be proficient in legal research to ensure that their clients are in compliance with the most recent rules and regulations. The second and most important aspect is an intermit understanding of company law, this includes the Competition Action, the Consumer Protection Act, securities law, tax law, accounting, bankruptcy, intellectual property rights, zoning laws, licensing laws and the laws specific to the business that they work for. Corporate lawyers are experts in all facets relating to company law as well as having a solid understanding of how companies operate. Along with these attributes, corporate lawyers are expected to be excellent contract negotiators and drafters. The involvement of the legal department in corporate governance can have a great impact on how company lawyers' performance is viewed by the company. For instance, they can demonstrate their ability to factor legal risk into the enterprise strategy, and they can raise senior management's awareness of the many ways that the legal function contributes value to the company. At the same time, involvement of legal function in governance helps the company ensure that it has effective internal controls, a correct assessment of legal risks (Cova, 2013, p. 309.). The role of corporate lawyers differs from that of the litigators. Corporate lawyers act as "transaction engineers" in planning, structuring, negotiating, drafting and implementing transactions for their clients. They are continuously involved in due diligence exercises in order to ensure the preparation of transactional and disclosure documents (Rousseau, Biron, Mackaay, 2013, p. 338.). Company lawyers can act as Data Protection Officers. DPO's do not have to be lawyers but need to be suitably qualified, with expert knowledge of data protection law and practices. He needs to be skilled in using his understanding to develop and implement concrete data protection practices. DPO must have a understanding of the company's technical and organisational structure and be familiar with its IT infrastructure and technology. The General Data Protection Regulation allows for one joint DPO to be appointed for a group of organisations. Independence is a crucial issue for a lawyer who acts as a DPO. Company lawyers who are data protection officers are obliged by law to exercise their responsibilities with independence and in an autonomous manner. The appointment of a DPO can reduce or eliminate an organisation's notification obligations with the local data protection authority. The appointment of a DPO within a large organization will be a challenge for the Board.



On the other hand the role of DPO is important because it keeps management informed regarding their obligations under the Regulation, and is the primary contact point for supervisory authorities.

### **3. LEGAL PRIVILEGE**

Legal privilege has been recognized as a fundamental human rights by the European Court of Human Rights and by national courts in the EU. Since the AM&S case (Australian Mining and Smelting Europe Ltd. v. Commission, 155/79, Rec. 1982, p.1575.), in which judgment was given on 18 May 1982, the European Court of Justice did not recognise legal privilege for the advice of company lawyers. Since 1982, the European Commission has, on several occasions, used company lawyers' notes against the client the lawyer was advising in EU competition cases. This right to proper legal advice is reflected in the principle of legal privilege, as it is known in common law countries, and the principle of the "secret professionnel" of the civil law countries (Legal privilege versus secret professional (1997)). The European Court in A.M.&S. recognised that the principle of protection of written communications between outside lawyer and client is generally accepted, although its scope and the criteria for its application vary. The difference between legal privilege and "secret professionnel" largely comes down to the difference in approach between the way the common law and civil law systems approach civil litigation. In the common law system the concept of legal privilege was developed mainly by reference to the discovery process in civil cases. According to the Article 6 of the Code of Ethics company lawyers keep confidential all information they have obtained during the execution of their duties and which has explicitly been marked as confidential or whose confidentiality should be assumed and respected, given the nature or characteristics of the information. The duty of confidentiality persists beyond the employment, except in case of applicable laws providing otherwise or if information falls into the public domain or if waived by the Company. Any employee receiving a task is committed to keep the confidentiality of the facts of the case published to him, arising from the justified interest of the employer, foremost the employer's trade or business secret (Kruuser, 2013, p. 110.). Company lawyers have a duty to provide competent representation, and the failure to observe deadlines or conduct thorough research is considered a breach of ethics. They are under a strict duty of confidentiality to keep information received in the course of their representations secret. Absent law to the contrary, lawyers may not reveal or use this information to the detriment of their clients (Šago, 2013., p. 222.). Employees and persons who have special responsibilities in the company have duty to keep trade secret. Also, third persons must not take actions regarding disclosure, acquisition or use of information that constitute a trade secret, without the consent of the holder of trade secret, in a manner contrary to law and good business practice. Both groups are obliged to behave in accordance with the principle of loyalty, which, among other things, means that they have duty to refrain from violation of trade secrets. As a trade secret can be determined data that meets the requirements defined by legal rules, but also an information which have an economic - commercial value (Mićović, 2012, p. 33). A lawyer can't advise his client properly if the client doesn't provide the pertinent facts. Without the attorney-client privilege and the statutory obligation that lawyers preserve "at every peril" their clients' secrets, clients quite understandably will be reluctant to provide full disclosure to their lawyers. While not every client will follow her lawyer's advice, many clients want to be in legal compliance and society benefits when they can consult their lawyers without fear (Bishop, 2014).

### **4. LEGAL OR BUSINESS ADVICE**

Company lawyers perform at all times their duties conscientiously, professionally, thoroughly, fairly and with probity. Company lawyers should aim at providing qualitative, relevant, objective and clear advice and should attempt to ensure that the professional and ethical rules

are known and understood within the company. For lawyer-client communications by company lawyer to be privileged, the corporation must be able to show the company lawyer was providing legal advice, not business advice (Šago, 2013, p. 224.). Both inside and outside lawyers are expected to provide objective and independent legal advice. In a nutshell, legal advice has the following characteristics: 1. requires legal knowledge, skill, education and judgment; 2. applies specific law to a particular set of circumstances; 3. affects someone's legal rights or responsibilities and 4. creates rights and responsibilities in the advice-giver (FindLaw). Commercial or financial advice, as a business advice, which is not privileged, should be given in separate and clearly distinguished documents for which privilege should not be claimed. These documents should be kept in separate files from privileged documents and not marked "privileged" (Dolmans, Temple Lang, 2013, p. 36.). Legal or business advice, cannot, in fact, be separated. Both are at the core of the relations of trust which must exist between chief legal officers and the management board, and especially the chief executive officer. When giving business advice, company lawyers not only have to ensure the legal feasibility of a scheduled operation, but they must also have an eye toward anticipating and preventing difficulties from arising in the future (Lenoir, 2013, p. 140.). Purely business advice should not be privileged nor should advice on how to commit or cover up a crime or other violation of law (Bagley, Roellig, 2013, p. 199.). Company lawyers are driven by legal ethics and they help striking a balance between business decisions and legal constraints, in the Company's interests. Clients don't only seek prospective legal advice. Sometimes, they seek legal advice concerning actions that they have already taken. Lawyers then have the opportunity to counsel their clients not only on how to come into compliance, but also what steps may be taken to address past transgressions (Bishop, 2014). The protection of legal advice requires that public authorities, including courts and commissions, respect the confidentiality of communications between corporate clients both with their internal and external lawyers, and that they accept a rule of privilege that prevents such communications from being used against the corporate client. By protecting the correspondence with the company lawyer, the aim is to protect the interests of the company, not the position of the company lawyer himself (Carr, 1996.). Unlike external lawyers, lawyers who are employed as permanent legal advisors to an enterprise cannot refer to their right to refuse to give evidence and the related seizure prohibition. This would mean that to be on the safe side, many companies would feel obliged to call upon the services of external lawyers more often. As a consequence, costs would rise.

## **5. THE CONCEPT OF INDEPENDENCE**

The independence of company lawyers is, can and should increasingly be used as a driver for improving corporate governance and one of the key starting points in promoting a culture of corporate legality and responsibility (Siragusa, Emanuele, 2013, p. 322). Intellectual independence is one of the essential attributes needed to qualify as a lawyer (Charreton, 2013, p. 41.). According to the Article 4 of the Code of Ethics company lawyers are expected to execute at all times their missions with an independent mind (in particular when it concerns their analyses, drafting and advices) while remaining loyal to the Company. Independence is an essential permanent professional duty in the practice of company lawyers. On the one hand, intellectual autonomy founded on the lawyer's technical competence which enables him to impart advice, which will be treated by management as being definitive and reliable; on the other hand, the courage to state one's opinion and to persuade management to take it into consideration, even at the risk of unpopularity. There is no intellectual independence without knowledge. Knowledge and intellectual independence are interwoven. A permanent process of acquiring of new skills and knowledge is, therefore, a necessary element of intellectual independence. Since permanent learning process (through lifelong learning, continuous research and practice) is a part of company lawyers' everyday professional activities, company



lawyers at the same time develop the basis for their intellectual independence (Markovinović, Bilić, 2013, p. 63.). The argument most often put forward to challenge the intellectual independence of company lawyers is that an employment contract binds the lawyer to his employer and generates a relationship of subordination (Charreton, 2013, p. 41.). If a conflict of interest exist or is likely to occur, then company lawyers are expected to take the appropriate steps either to avoid it or to alert the relevant persons in the organization of the Company, consulting their national association if they consider it appropriate (Art. 5). Like everyone, lawyers may find themselves in a conflict of interest situation that not only may affect their loyalty towards the client they work for but may also jeopardize the full integrity of their judgment. It is sometimes argued that the judgment of the lawyer can be affected by considerations linked to his personal career ambition within the company he works for. Also, it is often asserted that the lawyer, when confronted to a high business pressure, may not be able to resist such pressure and may be led to offer the legal advice that the client wants to hear rather than the one that an objective and professional legal analysis would require (Savouré, 2013, p. 49.).

The role of the lawyer cannot be restricted to the mission of “saying what the law says”. It has now become a platitude to say that one of the very first features of the legal environment of today is its complexity. Thus the primary challenge that weighs on the lawyer’s shoulders is to understand what the law is meant to address, to analyze it in the context of a more global regulatory environment, whether local or international, with the view to assessing what its practical implications are, or can be, in an usually equally complex particular business context. An important aspect of this is that there is practically no situation that calls for a single, simple and binary answer. Being a lawyer requires judgment capabilities. And here is the risk of seeing the legal advice infiltrated by outside influence (Savouré, 2013, p. 48). The legal system benefits when ethical and other rules strictly limit a lawyer’s opportunities to put her self-interest above her client’s interest (Bishop, 2014). In practice, dependence may affect lawyers running a law firm (and therefore supposedly independent) just as much as those working under an employment contract. One cannot equate employment (on the basis of an employment contract) with dependence only because of the structural and hierarchical position of a lawyer within a given company. One can argue successfully that both professional groups, company lawyers and external lawyers, find themselves in certain respects in a similar situation, while in other respects external lawyers are subject to greater economic pressure, so they more frequently fall victim to the “infidelity” of their clients (Koper, 2013, p. 103.).

## **6. COSTS**

Some cases do not justify the cost of external counsel. This, especially if the dispute is relatively less complex and the value of the case is low. In that cases, company lawyers should asses the strengths and weaknesses of their company’s position and suitably advise top management on the next steps. It may be that such cases are better off being settled particularly if the case has been filed against the company. Unlike external lawyers, lawyers who are employed as permanent legal advisors to an enterprise cannot refer to their right to refuse to give evidence and related seizure prohibition. This would mean that to be on the safe side, many companies would feel obliged to call upon the service of external lawyers more often. As a consequence, costs would rise and outweigh bureaucratic reliefs. Company lawyers can do all of the work for a fixed salary. In a significant win for in-house lawyers, the Employment Appeal Tribunal (EAT) recently confirmed that in-house lawyers can recover their legal costs incurred during litigation in the employment tribunals (*Ladak v DRC Locums Ltd UKEAT/0488/13*). The Ladak case questioned the position of recovery of legal costs in the employment tribunal. Mr Ladak argued that, although in-house legal costs could be recovered in civil litigation, this was not the

case in the employment tribunal based on the wording in the employment tribunal rules which refer to recovery of 'fees, charges, disbursements or expenses incurred by or on behalf of a party' only. The EAT decided that there would be an absurd lacuna in the employment tribunal rules if a company who had employed an in-house lawyer was unable for that reason to recover legal costs in the employment tribunal. The definition of "costs" in rule 38(3) of the Employment Tribunal Rules of Procedure 2004 is wide enough to enable party who employed a qualified in-house legal representative to recover costs in respect of the time spent by that representative (<https://app.cronerico.uk/law-and-guidance/case-reports/ladak-v-drc-locums-ltd-2014-ukeat048813?section=3556>). In this case judge Richardson stated 'to my mind it is plain that the words 'fees, charges, disbursements or expenses' are not to be read restrictively in the way in which Mr Ladak suggests. I consider that it is a normal and permissible use of language to describe the costs of an in-house legal department as a charge or expense upon the employer. The EAT confirmed that companies can recover the costs in respect of time spent by a legally qualified in-house representative in conducting the case even within the employment tribunal. In-house costs are recoverable in civil litigation. As in-house lawyers do not usually work to an hourly rate, the court is prepared to take a pragmatic approach and use the cost of employing the in-house lawyer concerned as a reference point. The court will assess the time involved and the reasonableness of the suggested rate and consider the completed tasks, as it would for a lawyer in private practice (Randall, Syms, Shoosmiths, 2014).

## 7. CONCLUSION

For attorney-client communications by company lawyer to be privileged, the corporation must be able to show the company lawyer was providing legal advice, not business advice (Boykin, 2006, p. 19-21). Quite the opposite, the attorney must disclose such information to corporate management if the information involves conduct harmful to the corporation. I believe it would be useful that legal and other persons who give power of attorney to their employees, already in the power of attorney expressly indicate that it is their employee. If the opposing party files complaint considering power of attorney in that case one should obtain documents proving employment status of proxy. There is always possibility that the opposing party files complaint with the purpose of the obstruction of the proceedings. The Croatian Bar Association is a law-based institution. All attorneys in Croatia have to be members of the Croatian Bar Association as well as members of local bar associations (mandatory membership). I consider it necessary to regulate their position in order to improve their work, and thus the entire legal profession by establishing appropriate forms of their professional organization. It would be necessarily to regulate new, third Jurists Association, Croatian Chamber of corporate lawyers or amend the Legal Profession Act in the way of establishing a special class of corporate lawyers within the Croatian Bar Association. A third possibility would be to organize a new joint chamber with several classes (class of lawyers, notaries class, class-house counsel). By enabling a membership for corporative lawyers it would be possible to prevent the antagonism between the individual branches of the legal profession (the lawyers in the economy, lawyers in government, science) (Šago, 2013, p. 228.). Finally we can mention some steps that in-house lawyers can take to help deal with technological developments. First of all, establish a recruitment process that favours and encourages technologically savvy new joiners who are comfortable working in a technology-driven environment and consider recruiting specialist knowledge managers or individuals who can assist in the collation and retention of legal knowledge and the production of automated contract generation systems. Also, improve existing in-house legal teams' IT skills and appoint a coordinator to monitor the opportunities and risks presented by technological development.

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## **LEADERSHIP – DEDICATION TO THE QUALITY MANAGEMENT SYSTEM AND CUSTOMER FOCUS IN MACEDONIAN COMPANIES**

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### ***ABSTRACT***

*This study presents the research findings regarding the capacity of leadership in Macedonian companies, their ability to make decisions and practice team work in accordance with the criteria for obtaining the European Quality Award. The results of the research should provide useful directions that will serve Macedonian companies to improve products, services and business processes. The solution was found in the development of the management system through TQM (Total Quality Management) strategy, staff development and teamwork, as well as improvement of processes.*

***Keywords:*** *TQM strategy, Quality assurance system, Leadership, Management teams, European quality award*

### **1. INTRODUCTION**

Changes in the environment and in companies themselves on one hand, the growth and development of the organization on the other, can be complementary factors if within the company a dynamic process of internal changes is established, to ensure response to external changes and market competitiveness of the organization. In conditions of a free and open market economy, the problem of strong leadership is increasingly present as well as the need of management teams, especially in the countries of transition. The introduction of a quality system is teamwork effort and in areas where the rules for teamwork are not respected, it can be assessed as unacceptable from the start. One of the biggest changes required by the new TQM (Total Quality Management) strategy when it comes to Macedonian companies is changing the mentality and getting rid of the old habits and the transitional syndrome.

## **2. LITERATURE REVIEW**

### ***Responsibility of the top management to ensure quality of products and services***

Without good quality products and services, it is impossible to create substantial advantages from the aggressive competition in the domestic and international markets. Based on detailed analysis that indicates the many weak points in the growth, development and operation of the companies, it becomes clear why they are insisting on successful quality management. Hence, according to Chepujnoska and Cepujnoski (1993) it also indicates the role of the top managers in the companies responsible to ensure quality of products and services. Leaders in the organizations are committed to creating conditions under which they will achieve the mission and vision of the organization through the development of an authentic quality management system that can be fully implemented (Cao et al., 2000; Craig & Lineberry, 2001; Woodall & Winstanley, 1998). The difference between the leader's and the manager's tasks in a good organization is that managers organize effective use of resources and business processes, manage the organization according to established procedures, while leaders establish the system of values within the organization. The role of the managers has changed nowadays (Ciampa, 2005). They are expected not only to be experts for themselves but also to ease the work and train others, helping to create a climate in which individuals and teams will achieve their optimum. In many organizations, the manager's ability to teach others is considered a key managerial skill. Apart from the manager who is expected to do his job effectively, it is necessary to know what the subordinates are doing and what needs to be improved. Estimating employee performance is part of the performance management system, which sets the performance standards that is used to make an objective decisions for the human resources in the organization. The system of values build by leaders is based on moral, social and religious principles, which are learned in childhood and are modified throughout the life. Organizational values are not usually spoken, but they still shape the behavior of all its members. According to Smilevski (2000), organizational values are not the same as organizational culture but organizational values are forming the external manifestation of the organizational culture.

Many authors agree with the statement that the organizational values are the one thing that makes organizations differ from one another, so it is safe to say that they are the "soul" of the organizational culture. Due to the key role that leaders play in organizations, the requirements for their competence are way above the requirements for competence of employees and other managers (Speltz, 2013; Sethi & Pinzon, 1998). Apart from the formal level of education, the leader it is also required a behavioral competence, where on the surface are the performances that can be easily proved (diplomas and certificates), and below the surface are the human characteristics (the image of the leader for himself, the awareness of the social role, dignity and motivation). In recent years, it has increasingly been said that the leader should possess emotional intelligence (Mitreva, 2011; Sasaoka, 1995). Emotional intelligence means the ability to identify, integrate, understand, and freely direct their own feelings as well as the feelings of others. In the literature, it can be found that emotional intelligence in 80% contributes to the success of people in such places (Robbins & Finley, 1997). The role of the leader in teamwork is particularly special (Martínez Fuentes et al., 2000). Leaders are mainly promoters of consensus as a decision-making method, but the consensus implies not only in decision-making, but in forming a space in which many opinions can be shared. The leader's skill is to create an environment in the team where every participant is aware that he may not totally agree with all the specifics, but basically supports the proposed solution. This way of leadership is valuable because it allows all options to be put on the table so that all participants feel beneficial and as a result they support the proposed solution. Teamwork under the supervision of the leader, especially when making an important decision, is a major challenge (Robbins & Finley, 1997).

According to group of authors (Babatunde & Pheng, 2015; Beardwell et al., 2004; Grinberg & Baron, 1998; House, 1994), the leader should encourage disagreement, which will create a space for expressing opinions and ideas, space to present more facts, and less convictions, while not having conflicts of personalities. Especially encourage those who are “low key” to express their opinion before the final decision is made so that in the future they remain attached and support the decision made. In addition, the leader has his own mission which is to identify and develop leaders in his environment. Thus, his leadership will not be endangered, but with that, the capacity of his leadership role will increase (Kratsu, 1995; Kano, 1996). Peter Drucker (2014) is convinced that managers should not be leaders in the latest meaning of the word, giving the example of Harry Truman, who, although not possessing charisma, belongs to the ranks of the most productive US presidents of all time, especially in the diplomacy. What makes one leader effective? According to Drucker (2007) is to ask the following questions: what needs to be done; what is best for the company; develop action plans; to take responsibility for the decisions taken; to take over the responsibilities for communications; to focus on opportunities, not on problems; to lead a productive meetings; to think and work as a team.

### **3. METHODS IN THE RESEARCH AND ANALYSES OF THE RESULTS**

This study provides an analysis of the situation in Macedonian companies through one of the criteria for obtaining the European Quality Award according to EFQM (1997, 1998): the capacity of leadership and the ability of managers to make decisions and perform teamwork (Madan, 2010; Sarria Ansoleaga, 2007; Uygur & Sümerli, 2013). According to the previously defined goals of this empirical research, the list of surveyed companies consisted of 3109 Macedonian companies. The research was conducted in cooperation with the Chamber of Commerce of the Republic of Macedonia. In the process of analysis actively participated only 363 companies and managers from their respective quality control departments; although it was planned many Macedonian companies to participate, the research was realized with participation of only 363 companies which is 11.6% of the estimated database, such a response is typical for this type of research (Bohdanowicz, 2005a; Medina-Munoz Garcia-Falcon, 2000). The research was based on questionnaire and a detailed study of the companies conducted by the research team. Research in Macedonian companies is usually done as per the European Quality Award criteria which includes leadership, policy and strategy, staff management, resources, processes, customer satisfaction, employee satisfaction, corporate social responsibility, business results and investment in innovation. These criteria are used to evaluate whereabouts of Macedonian companies to compete for the European Quality Award and to identify the large gap between local and developed European and global companies as well as their ability to compete on the global market. Due to the large scope of the research material, this study will only present the results of whether the Macedonian companies have built a capacity for leadership and managers' ability to make decisions, willingness to work in a team and whether they are ready to accept the TQM (Total Quality Management) philosophy. The structure of the surveyed companies - participants in the survey, as per the industries to which they belong (National Classification of Activities - NKD rev. 2 - ("Official. Gazette of the Republic of Macedonia" no. 147/08) and amendment of the National Classification of Activities - NKD Rev. 2 in place since 1 January 2013) is shown in figure 1.

*Figure following on the next page*



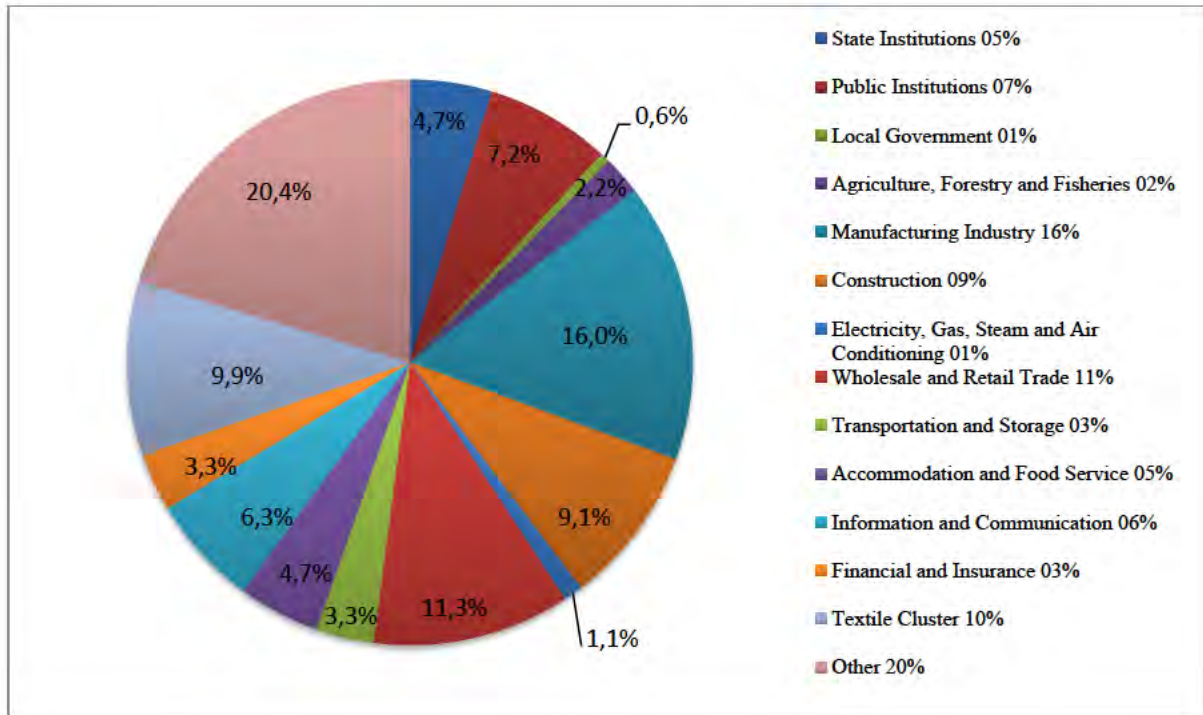


Figure 1: Percentage share of companies in the survey as per industries

In the survey participated quality managers in all the companies and institutions that have planned and implemented quality systems, those who do not have engaged managers of the first or second level.

### 3.1. Leadership in Macedonian companies

In terms of evaluating the success of a company, one of the parameters that represent criteria for the results is the leadership.

All activities and measures taken by top management and other managers should be in the direction to inspire, support and promote the culture for TQM (Total Quality Management). In order to see the behavior of the leaders in the Macedonian companies, several enquiries are being brought.

When inquired how top management creates a working atmosphere in the company, following data was obtained:

- 36.9% of the surveyed companies reported that there is great trust and respect, no fear of expressing their own opinion, which enables them to have quality interpersonal relationships;
- 28.4% stated that they use the factor - motivation when building a good working atmosphere;
- 24% reported that working atmosphere is built with direct control and supervision of employees;
- 10.7% of respondents reported that working atmosphere is built with strict working discipline.

The balance between the company's interests and the human rights and freedoms of employees slightly weighs on the side of the company. But, apart from the fact that the company protects its interests by establishing order and discipline in the operation, it will have a lack of business results if different types of motivational activities are not applied.



In public and government institutions in Macedonia, there is bad cooperation as well as strict working discipline, while in private companies there is regular cooperation, both in the managerial teams and between the employees, with the presence of greater trust and respect, which provides quality internal relationships. Quality assurance in companies requires presence of the top management, choosing the right teams that will solve the problems and improve business processes. For that purpose, the research in the Macedonian companies was aimed at obtaining knowledge about the way of solving the problems, existence of managerial teams, building confidence in the team, and how many management teams influence the improvement of the business process. When inquired the frequency of teamwork at managerial level, the following results were obtained:

- 52.1% said that almost all decisions were made in the management teams. These teams share and complement the knowledge and information with everyone who needs them and these teams are guided by managers who develop the TQM strategy. These managers are team leaders who are passing through functional lines, working with everyone to achieve qualitative goals. These team leaders are professionals and have significant responsibilities in many different functions. The selection of team members is based on the results of the work and professional ability. These teams have clearly set standards of giving rewards and penalties, giving clear orders and precise instructions to employees, and as a result, there are no conflicts, a favorable working atmosphere is present and good business results;
- 28.9% of the respondents stated that they have management teams that activate them from case to case that is similar to the lack of permanent management teams;
- 15.4% of the respondents stated that they have permanent management teams, but their work is unproductive. These teams are run by old-style managers who do not change the team, follow the hierarchical chain to achieve the goals of quantity, demanding constant loyalty to the boss, hiding and even reproducing information;
- The lack of permanent management teams in companies (about 3.6%) points to the fact that managers are engaged in activities that are not in the interest of the company, which leads to employee mistrust, as well as to mistrust inside the management teams.

The main problem in the Macedonian companies is that managers believe that they do not need training programs and that they hold this positions thanks to the knowledge and skills they own. Participation in such programs is considered to have a political background or there is doubt in the credibility of the program. The Japanese experience shows a regular rotation of the work positions and managerial tasks (Ishikawa, 1995; King, 2002; Kratsu, 1995). It should be emphasized that there is no rotation of responsibilities here, but a change of the position. In this way, there is broadening of the views, new knowledge and experience is mastered, but also there is no loss of the ability to perform the tasks that the managers returns to. When inquired how the management teams function, ie what is the quality of the team work at the managerial level, the following information was obtained:

- 55.4% of the respondents think that problems arise, but they successfully solve them;
- 26.7% of the respondents consider that the management teams function with major problems;
- 17.9% of them reported having no team work.

The distribution of the results points to the poor functioning of the teams in the investigated companies, as in nearly 50% of cases it is evident that the problems in the companies are not recognized and not resolved in accordance with the possibilities.

The problem in Macedonian companies when it comes to involving employees and teamwork is two-sided because there is a problem with:

- the Macedonian mentality with emphasized individualism and
- by distinguishing between old habits and participation in problem solving, improvements, and innovations.

The barriers to the work of the management teams vary from team to team, and are mostly due to: unrealized needs, poorly-made decisions, unclear roles, interpersonal conflicts, poor leadership, lack of feedback/information, inadequate system of reward, lack of trust inside the team and unwillingness to change. A substantial barrier is in the psychological moment, which can be associated with lack of cooperation, incapacity for work, vanity and inadequate financial support, lack of interest in continuous learning and improvement, or an inadequate training program. For many authors, the key to successful teamwork is the willingness to co-operate inside the team. When team members share the same vision and are motivated to achieve it, they are, in most cases, very cooperative and all that leads to success.

What is necessary for successful teamwork is:

- support from all employees;
- willingness to cooperate with other teams.

For cooperation in a business-mature team, the interaction between team members is of great importance. In-depth analysis in the Macedonian companies/institutions has proven a poor communication between the members of the management teams and the employees, the lack of a high level of trust and respect in the teams themselves and in their attitude towards the employees leading to poor business results. When enquired whether there is trust and respect among the members of the management teams in about 50% of the surveyed companies, there is no trust and respect, and this is reflected through lack of interest in taking actions to improve the processes. These managerial teams follow the hierarchical chain to achieve the quantitative goals. The survey revealed poor communication between the members of the management teams and employees, a low level of trust and respect both in the teams themselves and in their relationship with the employees. There are some differences between service providers and manufacturing companies. In the service companies, there is better cooperation between the members of the management teams with confidence and respect, while in the production there is a poor cooperation within the company. There are some differences between the private and the public sector. It is evident that in most private companies, 58% to be precise, there is better communication, more efficient solving of problems and overcoming conflicts. Managers strive to build better business relationships with employees and there are no conflicts between them. While in the public sector, communication is underdeveloped, employees are not willing to cooperate, and conflicts are difficult to overcome. Managers do not strive to build good relationships with employees because they think they have a monopolistic position. When enquired how many managers enjoy the trust of employees, the following findings were obtained:

- There is a lack of confidence in 26.2% of the surveyed companies, which means distancing of the management teams from employees is leading to constant conflicts and poor functioning of the management;
- only 22% of companies have partial positive feedback between manager and employees because the success of management teams depends on the trust and engagement of employees, so it is necessary for managers to make additional efforts and build good business relationships with employees;

- 51.8% of respondents reported that managers enjoy the trust of employees due to their clear, consistent and honest relationships with employees.

Private companies, driven by the desire to get rid of the socialist syndrome, have introduced an authoritative management style of the owner-manager, where any team work is considered a waste of time, and involvement of employees in decision-making is considered their intruding in the management and disrespect of the owner.

### **3.2. Leaders recognize and reward the efforts and results of the employees**

The norms for carrying out the tasks are one of the most important issues that the management of companies deals with. Determining the scope of the work performed at a given time should not only mean quantity, but also quality and productivity. When determining the norm one must take into account the achievement of the defined quality. Regarding the enquiry whether they have normalized the work obligations, the following data was obtained: 79.9% of the respondents answered that they have a quality norm, but the practice shows that this is the norm for quantity. When enquired how their work obligations have been standardized, the following data was obtained:

- 30.9% of the surveyed companies defined the standardization of their work obligations with the scope of activities and deadline for execution, but also through the quality of assigned activities;
- 26.7% defined the working obligations by working time;
- 18.2% of the respondents regulated their work obligations by the number of activities and deadline for their execution;
- 14% determined the standardization only with the scope of activities;
- 10.2% answered other.

And under other, it is stated that the standardization of the working obligations is with the quality of the performed activities. Work norms and standards for products and services are acceptable only where quality assurance is required or in the performance of certain operations. These norms must be reduced, especially in the areas where these norms stand on the way of continuous improvements of the quality.

## **4. CONCLUSION**

The problem of the Macedonian mentality is that it stubbornly and irrationally opposes external mental models, rather than wisely analyzing and applying them. When accepting a new mental model without detailed analysis, it is easy, unwisely to give up the traditional model. The Macedonian main problem is how to successfully combine traditional values with civilizational values and with the current trendy western values that rule the world. Many of the Macedonian companies are based on the traditional approach and therefore there is a need for a reorganization/reengineering of the operation. However, the most important aspect that develops the new theory is based on the third approach i.e., the learning organization. Therefore, the conclusion is that successful operation of the company is possible only with strong leadership, good functioning of the management teams, good cooperation with the employees, existence of clear standards of reward and punishment, clear orders and precise instructions for the employees, instead of agreeing with them, and this is possible only with the existence of managers who develop the TQM strategy.

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## MODERN TENDENCIES IN SPA TOURISM: INNOVATIONS

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### **ABSTRACT**

*The facilities offering SPA services have become a permanent feature of the tourism services market, enhancing it with new proposals of services and opportunities for meeting tourists' needs. There is also a growing demand for SPA services. Spa tourism is a form of health tourism based on the use of mineral water for health purposes. Therefore, SPA tourism, in order to meet the high expectations of consumers, is subject to constant changes, particularly in terms of product, process, organizational, marketing and social innovations. The research problem discussed in the paper is innovativeness as a modern tendency in SPA tourism development. The aim of the study is to analyze new tendencies in spa tourism in terms of innovations being introduced. Detail objectives are:*

*C1 - Analysis of the type of innovations being implemented;*

*C2 - Recognizing the scope of innovations;*

*C3 - Assessment of determinants of innovativeness.*

*The following hypothesis was verified: the most common type of innovation introduced by SPA objects is product innovation (new offer). The survey pull method was used to achieve the objectives and verify the hypothesis. The questionnaire consists of 11 questions (closed and semi-open). The study was conducted in 2015 year and covered 38 spa facilities (understood as health-based services) from all 46 located in Poland. The article consists of two parts: theoretical and practical. The first part proposes the definition of innovation and the literature review of the research in the field of innovativeness of SPA service. The second part describes the methodology used in research and results of them. At the end of the paper Athors added discussion and the conclusions of the study. The research confirmed the hypothesis as the most frequently introduced innovation was the new offers. The paper is novel in character, and contributes to the development of the field of economic sciences, the discipline of economics showing new trends in innovation in SPA services.*

**Keywords:** *innovativeness, health tourism, SPA service, product innovations*

### **1. INTRODUCTION**

The research problem discussed in the paper is innovativeness as a modern tendency in spa tourism development. Innovation is perceived as the major driver of economic growth (Samuelson, Nordhaus, 2012). The term "innovation" comes from Latin and means the introduction of something new, a novelty, a reform – based on *innovatio*, which means "renewal", or *innovare*, which means "to renew" (Kopaliński, 1978).

The research area was not chosen incidentally, but on the basis of the following premises:

- the dynamic growth of tourism industries in the last centuries, well ahead of most of the other industries. This is confirmed by statistics which demonstrate that in the period from 1950 to 2010 the number of travels grew almost by a factor of 38 and continues to grow. In 2011, there were 940 million of them (UNWTO, 2011).



- the particularly dynamic development of health tourism, including SPA tourism,
- the relatively poorly explored innovation issues in the spa tourism, despite its large potential.

Spa tourism is a form of health tourism based on the use of mineral water for health purposes. The term “spa” is an acronym from the Latin phrase *sanus per aquam*, meaning “healthy through water”, or *sanitas per aquam*, meaning “health through water”. In this case spa facilities are understood as *health-based services*. Spa tourism has a long history, dating back to antiquity. Remains of spa sites can be found in the land which used to be ruled by the Roman empire, including e.g. the Baths of Diocletian in Italy or Bath in England. Currently the name of “spa” is most often given to hotels, wellness centres and other facilities offering procedures using water which serve to maintain and improve health, good looks and comfort (Koźmiński et al., 2013).

The aim of the study is to analyze new tendencies in spa tourism in terms of innovations being introduced. Detail objectives are:

- C1 - Analysis of the type of innovations being implemented;
- C2 - Recognizing the scope of innovations;
- C3 - Assessment of determinants of innovativeness.

The following hypothesis was verified: the most common type of innovation introduced by SPA objects is product innovation (new offer).

The survey pull method was used to achieve the objectives and verify the hypothesis.

The research has an interdisciplinary character and covers two research areas; specifically, medicine and the tourism economy. The researcher hope that this study will build foundations for both innovation theory and practice for entrepreneurs operating at the interface between tourism and medicine in order for the results of the research to be applied in their economic activities.

## **2. LITERATURE REVIEW**

### **2.1. The directions of the innovation theory development**

The innovation issues have been discussed in many publications. The most important publications include those by J.A. Schumpeter, considered to be the father of innovation theory, along with his outstanding work *The Theory of Economic Growth* (1932). P.F. Drucker (1998) was another eminent researcher on these issues. Many studies emerged as part of the innovation studies carried out by the OECD and Eurostat (*Oslo*, 2005).

The main issues of interest to the researchers in the world who deal with the issues of innovativeness in the economy include:

- innovation policy (Furman, Porter, & Stern, 2002; Grupp & Moguee, 2004; Balezentis, & Balkiene, 2014);
- the innovation drivers in the economy (Hollenstein, 2003; Gault, 2011), including users (Urban, 2013);
- the innovative activity of enterprises (mainly production enterprises) (Tuominen, Rajala, & Möller, 2004; Perunovic & Christiansen, 2005) with particular consideration given to technological progress and R&D expenditure as well as their roles in the innovation process (Aw, Roberts, & Xu, 2011; Urban & Czerska, 2016);
- sector-specific research on the innovativeness of the economy (Garcia & Hollanders, 2009; Gallouj & Windrum (2009) and Gault (2011, 2013) should be regarded as the leading researches on the issues of the innovativeness of services at the international level;

- the innovativeness of chosen sectors, e.g. tourism enterprises (Hjalager, 2010; Szymańska, 2009, 2013);
- innovativeness in the context of a knowledge-based economy and in the globalisation process (Rycroft, 2003);
- attempts are also taken to seek innovation in different areas of social activity and to link completely different phenomena (Deshpande & Farley, 2004; Ejdys, 2015) or spatial planning of the city (Hajduk, 2015, 2016).

Contemporary economic studies, including primarily the Oslo Manuals [the 3<sup>rd</sup> edition of 2005 and the subsequent ones] indicate that innovation can be found not only in manufacturing enterprises but also in services. In accordance with the OECD [2005] nomenclature, innovation can be related to a product, process, organization or marketing.

## **2.2. Health tourism innovations in the economic literature**

Since spa tourism develops dynamically, there are more and more publications on this subject matter on the publishing market. They are mainly descriptive and reporting in character. The facilities offering spa services have become a permanent feature of the tourism services market, enhancing it with new proposals of services and opportunities for meeting tourists' needs. Compared with typical health resort-based facilities, in addition to the effectiveness of treatments and therapy, in spa facilities (Boruszczak, 2011) it is the atmosphere in which treatments are carried out that are important. Health tourism develops dynamically and there are more and more publications on this subject matter. They are mainly descriptive and reporting in character. The term "health", according to the World Health Organization (WHO, 2016), means "a state of complete physical, mental and social well-being, ensuring a socially productive life in social, economic and mental terms, also in the spiritual dimension". The actors on the health tourism market include not only persons suffering from specific disease symptoms, but also physically healthy persons who wish to change the everyday rhythm of their lives, to experience new challenges or to improve their current health condition. Because of the factors listed above health tourism already develops in more than 35 countries in the world (Amodeo, 2010). It is worth noting that the in-depth review and classification of academic publications on medical tourism offered by Chang *et al.* (2014) reveal a shortage of studies that overtly address the issue of innovation in medical tourism although some publications offer concepts and insights that should be incorporated in such studies. They embrace a model of medical tourism demand and supply (Heung *et al.* 2010), a model of aesthetic medical tourism (Panfiluk, 2016) and concepts pertinent to competitiveness of medical tourism destinations (Chang *et al.* 2014). A wide offer of high-quality medical services is a response to the globalisation of health services (Lunt & Carrera, 2010; Morgan, 2010). Moreover, the causes of travels for health purposes are considered to include the availability of cheaper, alternative procedures conducted outside of the country of residence (Hazarika, 2010).

## **2.3. Innovations in health tourism**

The issue of innovation in tourism was addressed on the international institutional forum by the OECD (2006). In the publication containing papers of ten authors, different aspects of the phenomenon have been addressed. It has been stressed that in tourism there is a strong relationship between innovations in enterprises and destinations in which they are embedded (Hall and Williams, 2008). The research on the innovativeness of the tourism service sector based on such indicators as research and development expenditure, the number of patents granted and the number of product innovations implemented can significantly underestimate the real effects of innovation processes in tourism (Sunbdo, Orfila-Sintes, & Sorensen, 2007). An analysis of the academic literature on the topic reveals two most popular types of studies: case studies focused on particular concepts pertinent to the innovation and more general reviews

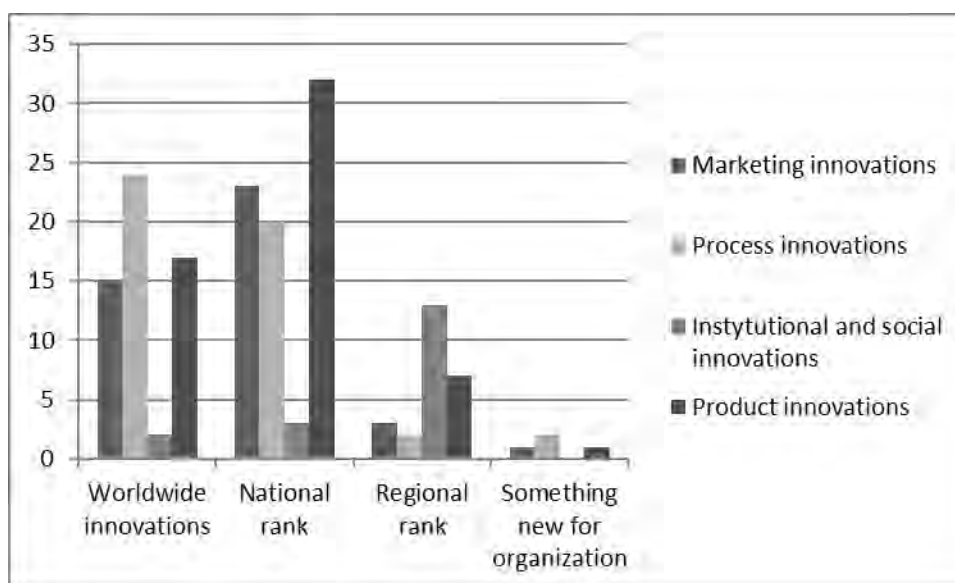
offering conceptual insights into the phenomenon. In her overview of innovation in tourism research, Hjalager (2009; 2002) discussed the main topics which have drawn attention so far but still deserve further elaboration in the research agenda. She enumerated some major areas related to the issue of innovation in tourism: categories of innovation, determinants and driving forces, search processes and knowledge sources for innovation, the extent and effects of innovative activities, implications and impacts of innovations, innovation policies, and then discussed research gaps (Hjalager 2009). In the case of innovations on the tourism market, before new tourism offers are introduced, it is quite important to modernise the tourism base and marketing methods designed to win new customers using new computer-assisted techniques in tourism (Stepaniuk, 2012) or based on membership of tourism clusters (Borkowska-Niszczoła, 2015, 2017). The atmosphere in spa centres is built by acting on senses through fragrance, music and light. The key spa elements include hydrotherapy, different types of sauna, a salt cave, aromatherapy, chromotherapy and massage. It is important to note the growing number of hotels offering spa centres (by several dozen percent annually) (Turkowski, 2010, p. 76). These services are part of the offer of both typical spa & wellness facilities and hotels which use them as means of enhancing their revenues (Meyer, 2014).

### **3. METHODOLOGY AND THE RESEARCH PROCEDURE**

The respondents' task was to indicate the innovations which they had implemented over 3 years, in the period from 2013 to 2015. Questionnaire and CATI (Computer Assisted Telephone Interview) methods were used to collect data. The questionnaire and phone were used as a research tool. The CATI method is a technique used for quantitative research. It involves conducting a telephone interview with a computer. The interviewer makes a phone call to the respondent, then interviews and the data is updated to the computer. CATI method was used to know the level of innovation of individual objects. The study covered 461 health care facilities, including 38 health resorts (7.4%). The questionnaire consists of 11 thematic questions and 7 questionnaire questions. Questions are closed and semi-open. In the first place respondents indicated the types of innovations introduced. The questionnaire divided innovation into four groups (and proposed examples): product, marketing, process and organizational, institutional and social. Later on the respondents were asked about the impact of various factors on the innovation process. Likert's 5-step scale was used to evaluate the factors influencing innovation. The list of questions consist of 54 factors, which on a scale of 0 to 5 assess the impact on the innovation of the object. According to the Ministry of Health [2017], there are 46 health resorts (spa resorts) in Poland, with almost 300 spa treatment facilities. Since 1999 National Spa Enterprises have been in a process of commercialization and privatization (Hadzik 2009, p. 86). In order to assess the importance of innovations, they were divided into 4 groups: with a worldwide range (innovations with an absolute character), with a national or regional range or an innovation for the firm.

### **4. INNOVATIVENESS OF SPA TOURISM ORGANIZERS – FINDINGS OF THE RESEARCH**

Most respondents (30 out of 38), representing 79% of the research sample have introduced innovations over 3 years. The types of innovations shows the fig. 1.



*Fig. 1. Number and types of innovations implemented in examined spa objects (health-based resorts)*

*Source: own study based on research results.*

According to the research results, the most common innovations introduced by spa entities were product innovations (57). Most, as many as 32 of them can be classified as a national rank, 17 innovations is a world novelty. As a regional innovation, 7 innovations have occurred, and the innovation of the organization - 1.

Among the product innovations there are following:

- a) new treatments: paleotoido therapy, acid bath, carbon dioxide bath, ozone bath, saline bath, bubble massage, cancer therapy,
- b) patient care: health education program,
- c) new equipment.

Based on the survey conducted, 42 marketing innovations were introduced. The most - 23 of them should be counted as domestic innovations, 15 to the world ones, 3 of them declared as regional innovations, and the least - 1 as innovation of the organization. The marketing innovations that have been mentioned were new distribution channels as newspapers and internet. According to the process innovations - 48 were introduced, while 24 of them were listed as world novelties, 20 as national news. Least innovation was defined as regional innovation and novelty at the organization level - 2. Among the process innovations were mentioned: use of new equipment and software: massage equipment (eg lymphatic massages), lasers, gyms, treatment programs, reception program (electronic documentation). Institutional and social innovations in the examined health resorts are 18, 72% of them (13) are innovations introduced as a regional, 3 as a national innovation, and 2 as a world novelty. No new innovations were introduced in the health resorts as a novelty of the organization. The researched objects did not mention any examples of these innovations. Most of the innovations, introduced in one spa were 22. This spa is located in Lower Silesia (Kudowa Zdrój). Second position, with 18 innovations gained spa located in Podkarpackie Voivodeship. It should be mentioned that 8 spas no introduced any innovations. Research has shown factors that may influence the innovation process. These factors have been assigned to five categories. Factors are rated on a scale from 0 to 5, where 0 - meaningless and 5 - very important.

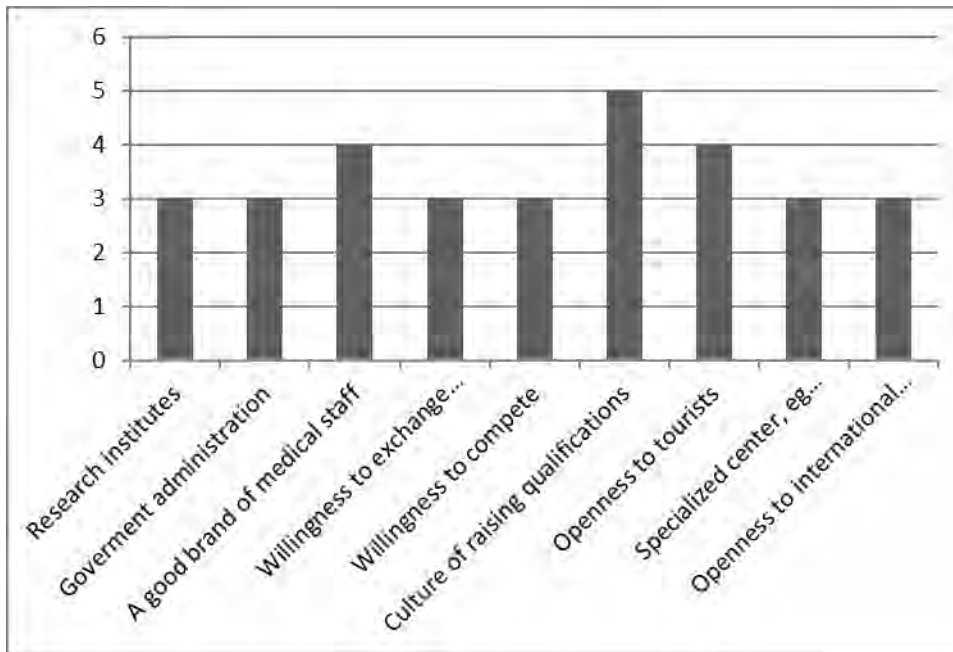


Fig. 2. Determinants (most important factors) influencing the implementation of innovation  
Source: own study based on research.

The above fig. 2 shows the factors that were rated highest by the surveyed entities and the number of facilities that these factors assessed as very important. The 9 around 58 indicators were chosen by some respondents as the most important in the innovation process (minimum 3 respondents gave them mark 5). But the most important is *culture of raising qualifications*. There are two indicators at the second position (4 respondents gave them mark 5): These factors include: a good brand of medical staff, openness to tourists.

## 5. CONCLUSION

On the basis of the research, it can be stated that the objectives laid down in the Introduction has been achieved. Following the results of the survey, the hypothesis was verified positively because the most common (57) innovations applied by the spa tourism units is the product innovation. Most respondents (30 out of 38), representing 79% of the research sample have introduced innovations over 3 years. Among all respondents, 11 (about 39%) introduced institutional and social innovations, 17 (about 45%) process and organizational innovations, 20 (about 50%) marketing innovations, and 28 (about 74%) product innovations. As can be seen, most innovations were introduced on a national novel (78) and world (58). Much less as regional (25). The least, because only 4, is a novelty within the organization. This is a challenge for the future which demonstrates the need for the relevant research to be deepened. The implication to theory is the ordering of models of innovative processes. The recommendation for innovation policy is to support innovators (entrepreneurs) in expanding their knowledge of open innovation models. Implications for practice can be described as a recommendation to deepen cooperation with other actors in the innovation process. This study is novel in character, both as regards the issues considered and the types of innovations elaborated, making a contribution to innovation theory in the economics science and management practice. The researcher hope that this study will build foundations for both innovation theory and practice for entrepreneurs operating at the interface between tourism and medicine in order for the results of the research to be applied in their economic activities.

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## **ADVANTAGES AND DISADVANTAGES OF MODELS OF PERSONAL INCOME TAXATION CONCERNING EMPLOYMENT INCOME AND INDEPENDENT PERSONAL SERVICES INCOME**

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### **ABSTRACT**

*One of the most important and most represented tax distributions is the one that separates direct and indirect taxes having in mind that when it comes to direct taxes redistribution role is possible because the concept of progressivity is not applicable when it comes to indirect taxes. One of the most important direct taxes is personal income tax which is in most of developed countries one of the most fiscally abundant tax and tax by which progressive taxation is introduced in tax systems. But recently, there has been rapid swerve when it comes to progressive taxation of personal income. A great number of countries, primarily countries of Eastern Europe and Central Asia, have implemented into their tax systems an institution of flat tax. When the countries of Eastern Europe are in question it should be emphasized that these countries are in fact in the process of transition just like the Republic of Croatia. In the Republic of Croatia we talk about synthetical personal income tax, but with characteristics of analytical model especially when employment income and personal services income are in question. Elements of duality can also be found just like in the other countries that are in the process of transition. In the Republic of Croatia personal income derived from employment income and income derived from independent personal services is taxed via progressive tax rate. Correction of the current system of personal income taxation in the Republic of Croatia is necessary and through detailed analyses we have to find solutions so that the personal income taxation is more in accordance with the principle of fairness in regards to current situation and current timing, especially because of the fact that in the Republic of Croatia it represents an essential and abundant part of self-government units revenue.*

**Keywords:** *employment income, flat tax, independent personal services income, personal income tax, progressive tax rate, self-government units*

### **1. INTRODUCTION**

One of the most important and most represented tax distributions is the one that separates direct and indirect taxes having in mind that when it comes to direct taxes redistribution role is possible because the concept of progressivity is not applicable when it comes to indirect taxes. One of the most important direct taxes is personal income tax which is in most of developed countries one of the most fiscally abundant tax. We can connect three models of taxation to personal income tax. Models of personal income taxation can be sorted in three separate categories: personal income taxation via proportional tax rate, personal income taxation via progressive tax rate and system of dual personal income taxation.

### **2. PROPORTIONAL TAX RATES**

Proportional tax rate is the tax rate that does not change with the increase of the tax basis. Basic characteristic of proportional tax rate lies in the fact that it has neutral effect on relations between tax strengths which are being taxed. That actually means that relations that existed between economic strengths before taxation remain the same after taxation.

Proportional taxation gives bigger amounts from bigger tax basis but only absolute and not relative bigger amount because the use of proportional tax rate manifests in decrease of the basis

but in equal parts, by which relations of personal income before and after taxation remain the same. (Jelčić, 1977, p. 96) we usually connect proportional taxation to indirect taxes (VAT). However in recent years many theories developed about the use of proportional tax rate on personal income tax. Recently, however there has been rapid swerve when it comes to progressive taxation of personal income. A great number of countries, primarily countries of Eastern Europe and Central Asia, have implemented flat rate income tax into their tax systems. Within the flat tax system, all the groups and taxpayers of the society take part the same rate in contributing to public funds irrespectively of their amount of income. Obviously their nominal contribution differs, and the rich pay more, but the same proportion, which might sound fairer than taking more proportion of their income. This could lead to a more balanced and proportionate tax payment system: the taxpayers of higher amount of income pay more anyway, taking part in contributing to public funds according to their ability to pay. The flat tax provides a stronger motive for the taxpayers to realize higher amount of income, since they can achieve a higher amount after tax in case they work more and make higher revenue. Thus despite their tax due is higher, still a higher amount can be used as per their sole decision. In the progressive structure it is not worth for the taxpayer to invest more energy in obtaining a higher amount of income, since the amount taken as tax is proportionally higher as well. In other words, it establishes a psychological limit to the activities out of which income is derived. For instance, the taxpayers do not take an additional job, or apply for other grants or subsidies if they get to a higher tax bracket accordingly, and by paying higher amount of tax due to the applicable higher tax rate, and therefore they take less money home. The higher tax rate increases the level of redistribution, but decreases the employment rate. As John Stuart Mill stated in 1848: the progressive tax levies a higher rate of tax on the higher income, therefore it definitely punishes the hard working taxpayers.

### **3. PROGRESSIVE TAX RATES**

Progressive tax rate increases as the taxable base amount increases. However, the increase cannot be unlimited, progression cannot last forever, i.e. there is a moment when progression stops and proportion sets in. If that does not happen the result would be confiscation. One of the biggest problem is the fact that the tax payers take the measures of tax and fiscal policy as sort of a punishment and because of that these measures are lined up in criminal law and not in financial law where they truly belong. The term "progressive" describes a distribution effect on income or expenditure, referring to the way the tax rate progresses from low to high, with the result that the average tax rate is less than the highest marginal tax rate. Progressive taxes are imposed in an attempt to reduce the tax incidence of people with a lower ability-to-pay, as such taxes shift the incidence increasingly to those with a higher ability-to-pay. The term is frequently applied in reference to personal income taxes, where people with more income pay a higher percentage of that income in tax than do those with less income. It can also apply to adjustment of the tax base by using tax exemptions, tax credits, or selective taxation that creates progressive distribution effects. For example the exemption of taxes on basic necessities, may be described as having progressive effects as it increases the tax burden of higher income families and reduces it on lower income families. Progressive taxation is often suggested as a way to mitigate the societal ills associated with higher income inequality as the tax structure increases equality. Most systems around the world contain progressive aspects. In light of the fact that with the increase of the tax base the tax rate also increases, tax burden of the economically stronger tax payer increases in absolute as well as in relative amounts. Progressive tax rate can be direct and indirect. Direct progressive tax rate can be full (constant) and broken.

### 3.1. Full or constant progressive tax rate

Full or constant progressive tax rate egzists in cases when the increased tax rate is applied on the whole amount of tax base.

Tax basis (money unit; m.u.)	Tax rate
Up to 1000	3%
Up to 3000	5%
Up to 5000	7%

*Table 1.: Full progression*

Taxation via constant progression of the tax basis that amounts e.g. 2500 m.u. will be performed with the use of 5% tax rate whereas tax basis that amounts 4900 m.u. will be taxed with tax rate of 7%. When it comes to this sort of taxation we have to file an objection because even a small increase of tax basis can lead to significant increase of tax obligation and tax burden. Consequently the amount of paid tax can in some cases be bigger than the increase of the tax basis (e.g. Special Tax on salaries in the Republic of Croatia). This shortcoming is remedied with the use of broken progressive tax rate.

### 3.2. Broken progressive tax rate

Broken progression reffers to the use of progressive tax rate by which break the tax basis into parts and aply increased tax rate on the adequate increased part of the tax basis. (Jelčić, 2001, p. 90)

Tax basis (money unit; m.u.)	Tax rate
Up to 100	5%
100-200 (further 100)	10%
200-300 (further 100)	15%

*Tablica 2: Broken progression*

If the tax basis amounts 250 m.u. by applying constant tax rate taxpayer would be taxed with the tax rate of 15%. But with the use of broken rax rate the situation would be as follows: the first 100 would be taxed with the rate of 5%, difference between 200 and 100, i.e. further 100 would be taxed with 10% and the differnece between 250 and 200, i.e. 50 would be taxed with 15%.

### 3.3. Indirect progression

Indirect progression represents taxation via proportional tax rate but because of the way the proportional tax rate is applied the effect od taxation is progressive. (Jelčić, 2001, p. 94) It is usually acomplished in the way that we aply non-taxable part of income, i.e. personal allowance enlarged with other kinds of allowances which decrease tax basis and in that way lead to the use of a differet tax rate and hidden progressive taxation because the tax burden absolutely and relatively increases.

## 4. ADVANTAGES AND SHORTCOMINGS OF PROGRESSIVE TAXATION

It is of great importance to emphasize that the use of progressive tax rates does not mean progressive taxation aswell. (Jelčić, 2001, p. 94) In some tax systems the use of progressive tax rates:

- decreases or partially eliminates unwished regressive effect of indirect taxes (usually we talk about unwished regressive effect of Value Added Tax),

- or it annuls socially unfavorable and very often undesired regressive effect of indirect taxes.

In both cases we talk about compensatory progression. If with the use of progressive tax rates we not only annul regressive effects of indirect taxes, but we go beyond that (absolute progression) then with the use of progressive tax rates we achieve progressive taxation as well. (Jelčić, 1977, p.13) When we observe advantages and shortcomings of progressive taxation we usually observe them from the point of absolute progression which goal is to achieve payment of tax in accordance to economic strength of the tax payer in question, with the intent that the relatively bigger tax burden should be borne by stronger economic forces.

#### **4.1. Advantages of progressive taxation**

There are many advantages of progressive taxation and by that statement we mean both direct (especially broken progression) and indirect progressive taxation.

Main goal of taxation is the fiscal goal. But there are many kinds of nonfiscal goals that need to be fulfilled. One of the most important places belongs to social goal of taxation and when it comes to personal income tax its fulfillment is usually connected to progressive taxation. One of the basic functions of personal income tax is its redistributive function of taxation and progressive taxation represents means of that redistribution. Social function will be achieved only when the effects of use of adequate taxation are expressed as:

- a) paying taxes in accordance to economic strength
- b) annulment of regressive effect of taxation. (Jelčić, 1977, p. 33)

However it is of great importance whether the economic strength is deriving as a result of employment income, independent personal services income, investment income, from gifts or inheritance etc. In light of the fact that the redistribution represents division of tax burden, we talk about vertical redistribution of income and assets which presumes progressive taxation of personal income tax, we have to mention that there is a simpler way of achieving desired effect and that is confiscation of personal income and assets from taxpayers with higher economic strength which would then be distributed to the taxpayers with lower economic strength. However these sort of measures are on a one-time basis and they create great antagonism to paying taxes as they demotivate taxpayers to earning higher income. That is why the process of redistribution of personal income through progressive taxation takes longer to achieve and the amount that is being redistributed is smaller, but the morals of taxpayers is on a higher level as is their motivation to earn higher personal income. Paying taxes according to economic strength necessarily presumes the use of progressive taxation. However, tax theoreticians cannot even today agree upon so many elements of progressive taxation, e.g. which rate to apply onto which level of personal income, the highest and the lowest tax rate, should the tax basis be personal income of the individual person or of the family, etc. Measures of tax policy are also used to achieve many economic goals which presumes usage of taxes because of their elasticity. First and foremost we have to mention personal income tax and VAT. Antiinflationary effects of taxes (built-in flexibility) presumes use of progressive tax rates. (Jelčić, 2001, p. 101) But here as well there are many questions related to tax credits, tax deductions, tax rates etc. High progressive tax rates do not have to have destimulating effect on a taxpayer, they can also be a positive and motivating influence on the choice of taxpayer that he enhances his business activities and that way tries to compensate higher tax burden. This also means that the taxpayer is not necessarily motivated only by economic reasons. It is common that significant role represent ideological and moral reasons that can greatly influence taxpayers activity which will maybe not result favourably from the tax point of view.



#### **4.2. Disadvantages of progressive taxation**

As one of the basic shortcomings of progressive taxation we can emphasize its destimulating effect on economic activity of a taxpayer which consequently negatively affects economic development of his country. Specifically, opinion of many financial experts is that with the use of progressive tax rate when it comes to income derived from investment, income from insurance or income from property or property rights, encourages indolent, uninterested, behaviour in combination with laziness and inefficiency, and hard work, prudence and skill are being punished. Possible financial benefit (fiscal effect) cannot be measured with the disadvantages of progressive taxation to the taxpayers as well as to the national economy. (Jelčić, 2001, p. 96)

Second argument against progressive taxation is lack of criteria for determining tax burden. Various combinations are possible for determining highest and lowest tax rates, number and range of tax rates, tax bands, and tax basis split-up. It is of great importance that the highest tax rate is not placed in the way that the amount of tax due actually covers the amount of tax basis (tax rate of 100%) because that would lead to confiscation of personal income and assets. Theoreticians of tax law have not even today agreed upon the height of the tax rate and the size of the tax basis and what is considered to be upper limit height of tax burden so that the tax strength of tax source renews constantly. In some tax systems it is anticipated that the average tax burden of personal income (with deductions) upon paying personal income tax cannot exceed 50% (Belgium) or 33,82% (Switzerland). In some tax systems it is anticipated that the average tax burden of personal income (with deductions) upon paying personal income tax and property taxes cannot amount more than 80% (Switzerland, Norway, Netherlands). (Jelčić, 1973, p. 16)

Another shortcoming of progressive tax rate is that the jumps between the rates and applying them to the tax base can lead to result that the taxpayer is in the position that he has lesser assets than the person which had smaller tax basis. (Srb, Perić, 2004, p. 46) Resistance to paying taxes is another big shortcoming of progressive taxation. It automatically leads to bigger number of taxpayers who try to find legal and illegal way not to pay taxes (tax avoidance and tax evasion). Tax payers are trying not to enter higher tax bands because that means they have to pay more higher amount of tax. Usually they are supported by their employers who give them minimum wages and that results in absurd situations such as that the director of a company and the cleaner earn the same salary. According to economic theories that justify taxes, i.e. price theory, taxes should represent price for provided services which means that the amount of tax should not depend on taxpayers assets; taking into account that the state provides certain services to taxpayers, tax represents a price for these services, state should not differentiate among taxpayers and the cost of the service should not vary and should be equal for all taxpayers regardless of their assets. In that case taxation is evolving into robbery and extravagance. (Jelčić, 1977, p. 17) Also when it comes to progressive taxation it is rarely in accordance with inflationary movements in economy especially when it comes to non-taxable part of personal income, personal allowance which usually represents subsistence level income. We cannot ignore the fact that progressive taxation of personal income is part of every developed country in the world and their tax systems which is the proof that the numerous advantages outnumber and outweigh shortcomings of this type of taxation.

#### **5. DUAL PERSONAL INCOME TAX MODEL**

Dual personal income tax is a model of income taxation that largely differs from analytic and synthetic personal income tax. Dual system of personal income taxation first appeared in 1987. In Denmark. First person who suggested this sort of taxation was professor Niels Christian

Nielsen in 1980. Dual taxation is not purely analytic nor synthetic. It represents a combination of both. Personal income is divided into two parts, income derived from investment and other income which together make taxpayers' whole personal income. (Jelčić, 2001, p. 232.) Part of the income that derives from<sup>1</sup> investment is taxed via a proportional tax rate (which matches the tax rate applied to taxation of corporate income). Income derived from other sources is taxed via a progressive tax rate. This sort of taxation is applied today only in Scandinavian countries and it differs from one country to another. Norway is the only true representative of a dual taxation model. (Blažić, 2010, p. 95)

## **6. TYPES OF INCOME IN THE REPUBLIC OF CROATIA<sup>2</sup>**

In the Republic of Croatia there are 6 types of income:

- a) Employment income
- b) Independent personal services income
- c) Income from property and property rights
- d) Investment income,
- e) Income from insurance
- f) Category of other income.

In this paper we are going to elaborate two most important types: employment income and independent personal services income.

### **6.1. Employment income**

Share of the employment income tax in the entire income tax system is of great value. Depending on the year in question it can exceed 80% and it should not surprise us because an overwhelming number of tax payers are employees. Dependent personal services represent a relation between employer and employee in which the employee is obliged to work by the instructions of the employer. Retirees are being taxed as employees. Employment income is contrast between receipts obtained in one taxable period and expenditures originated in same taxable period. Receipts based on dependent personal services are:

- salaries
- retirements
- receipts based on consideration, support, award and other, which are paid by the employer or which are given to the employees above prescribed amount
- salary which is to employee paid by another person instead of the employer
- assurance premium which employers pay for their employees dealing with life assurance, extra and private health assurance, voluntary social security contributions above prescribed amount and assurance of their assets
- all other revenue that employer pays or gives to employee for services that had been done based on employment contract or any other act that regulates employment
- entrepreneurial salary that is defined as an expenditure while establishing corporate income tax
- salary of natural persons that work in the Republic of Croatia in domestic corporation by mandate of foreign employer
- salary of members that work for representative and executive departments of state authority and departments of local and regional authority
- salaries for persons that help and care for military invalids of Homeland War according to special regulation.

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<sup>1</sup> E.g. interests, dividends, dividende, increase of asset value etc.

<sup>2</sup> Income Tax Law, Official Gazette, 177/04, 73/08, 80/10, 114/11, 22/12, 144/12

## 6.2. Independent personal services income

Independent personal services income is considered to be:

1. Income derived from trade and with trade equaled services
2. Income derived from independent profession such as:
  - independent profession of health care employees, veterinarians, lawyers, public notaries, engineers, auditors, bankruptcy managers, architects, tax consultants, interpreters, translators, tourist employees and etc.,
  - independent profession of scientists, inventors, authors and other similar profession
  - independent profession of lecturers and educators and other similar profession
  - independent profession of journalists, artists and athletes.
3. Income derived from agriculture, fishery and forestry
4. Income of other independent services which are not main service of tax payer, but are occasionally performed for gaining income

There is one significant regulation, Article 26. by which all tax payers referred to above can upon their request pay corporate income tax instead of personal income tax. Personal income tax is shared tax. The most important remark dealing with shared taxes is revenue belonging, so which unit of the public administration the revenue belongs to. Personal income tax is the most significant revenue especially when it comes to cities and municipalities. Revenue from income tax is divided between:

- municipality/city - 60%
- county - 16,5%
- part for decentralized functions - 6%
- part for position for aid of accommodation for decentralized functions - 16%
- part for position for aid for project co-financed with funds of European structural and investment funds, project managers being municipalities, cities and counties - 1,5%.

Decentralized functions are social care, education, health care and fire department. But it is very important to emphasize that the operational side of these functions is financed through Personal income tax. When it comes to personal income of people employed or taking care of these functions, their income derives from state budget. Operational side includes mostly material costs (buildings, equipment, furniture etc.) in connection to performing these functions.

## 7. TAX RATE

Progressive taxation rests on fact, that person who has bigger income should pay bigger tax. On the other hand, person who earns smaller income should pay smaller tax. That means that persons with different economic strength should pay different amounts of tax, - vertical tax fairness. (Lončarić-Horvat, 2010, p. 192) By most recent changes in the system of income taxation, number of tax brackets has been changed from 3 to 2. That automatically changes range of receiving which is related to each tax rate and its height. Contrary to that concept, we have flat tax, where everybody is taxed with the same tax rate with no regard to tax payers income size. (socially most unjust) (Perić, 2010, p. 302) The tax base on income for the taxation of income tax from employment and income from self-employment is divided into 2 tax brackets. Income tax is paid at a rate of 24% on taxable income under 17.500,00 HRK. Income tax is paid at a rate of 36% on taxable income over 17.500,00 HRK.

Tax rate	Monthly basis(HRK)
24%	- 17.500,00
36%	17.500,00 -

*Tablica 3: Tax rates*

The essential issue is how business players react on taxes. High and progressive taxes cut back performance and will not stimulate production. (Streissler, 90:79) Beyond not making the pursuing of activities appealing, high tax rates encourage taxpayers to search for legal and illegal ways of tax evasion (the back door methods, such as the permanent investment account<sup>3</sup>, the calculation of cost invoices for individual entrepreneurs, or when real estate or other property is sold<sup>4</sup>). I believe that tax planning performed by the taxpayer in such ways is by no means harmful, but its wide option much rather promotes that taxpayers accept tax law, because the taxpayer is happy to pay less tax feeling that implicitly he/she received more money or actually more stayed in his/her pocket. This will mean more revenue for the state or eventually in terms of the personal income tax for the budget of local municipalities than as if with regard to the high tax payment obligation or by some tax fraud techniques, such as black or grey employment, no revenue would flow in or the tax base would be significantly lower due to hidden incomes.

## 8. NON-TAXABLE PART OF INCOME

When it comes to defining economic strength, both jurists and economists, although by different means, come to same conclusions. In fact, they both accent that tax basis of income tax must be decreased for expenditure necessary for assurance of minimal existential costs. (Lončarić-Horvat, 2010, p. 189) Excluded from taxation is part of income that is necessary for taxpayer to fulfill his existential needs. This part of income is usually called existential minimum. Term non-taxable part of income is used in tax terminology, and in Croatia Income Tax Law term personal allowance is used. Article 36. of Income Tax Law prescribes that the full amount of realised income should be reduced for personal allowance in the amount of 3.800,00 HRK for each month of taxable period. This amount of personal allowance is enlarged for dependent members of family and children. Income Tax Law presumes that the amount of 3.800,00 HRK is enough for taxpayer to cover his basic existential needs. (Sindičić, 2010)

Personal Allowance	Factor of Personal Allowance	Monthly Amount of Personal Allowance (HRK)
Basic personal allowance	1,00	3.800,00
Dependent member(spouses, parents of spouses, grandchildren, grandparents)	0,70	1.750,00
First child	0,70	1.750,00
Second child	1,00	2.500,00
Third child	1,40	3.500,00
Fourth child	1,90	4.750,00
Fifth child	2,50	6.250,00
For each additional child factor increases 0,8; 0,9, etc.		
For partial disability	0,40	1.000,00
For 100% disability	1,50	3.750,00
Retirees		The amount of pension income

*Table 4: Personal allowance in the Republic of Croatia*

<sup>3</sup> See Section 67/B. of the Act on Personal Income Tax.

<sup>4</sup> The effective regulation has retained taxpayers' opportunity to deduct three types of cost: the amount of income shall be established by deducting the expenditure related to the acquisition, the costs of value-added investments, and the costs in connection with the transfer can be deducted from the revenue.

Starting January 1st 2017 basic personal allowance amounts to 3.800,00 HRK and it can be enlarged by other personal allowances which are calculated as a product of factor of personal allowance and basis of 2.500,00 HRK (figure of net minimum wage in the Republic of Croatia)

1	GROSS INCOME (HRK)	8.399,79 HRK
2	SOCIAL SECURITY CONTRIBUTIONS 20%	1.679,96
3 (1-2)	INCOME	6.719,83
4	PERSONAL ALLOWANCE	3.800,00
5 (3-4)	TAX BASIS	2.919,83
6	PAYED TAX AND SURTAX	
	TAX RATE 24%	700,75
	TAX RATE 36%	0,00
	SURTAX <sup>5</sup> 13%	91,09
	WHOLE TAX	791,85
7 (3-6)	NET INCOME	5.927,98 HRK

*Table 5: Salary accounting example*

## 9. CONCLUSION

Income tax is one of the basic tax forms which is relatively easy to adjust to economic strength of citizens so that the wealthier ones pay relatively more tax, and poorer ones pay less, and by which it can be influenced on just and fair splitting of income so it can be said that income tax has attributes of progression. With income tax we try to fix «injustice» that is brought by consumption tax (VAT and excise duties) that relatively more burden poorer citizens. Also, income tax has distinct and automated ability of adjusting to current economic state of any country (built-in flexibility). (Lončarić-Horvat, 2010, p. 295) It should be emphasized that there is no optional fairness, and not all of societies have the same concept of fairness. However, moral aspect of taxation should equally apply both to state and taxpayer. That means that duty of every state is to develop fair splitting of tax burden, i.e. taxpayers should pay taxes in accordance to their economic strength and the state should rationally spend collected means. On the other hand, duty of every taxpayer is to bare fair amount of public expenditure in accordance to his or her economic abilities. In the Republic of Croatia we talk about synthetic personal income tax, but with characteristics of analytical model especially when employment income and personal services income are in question. Elements of duality can also be found just like in the other countries that are in the process of transition. Employment income and personal services income are taxed via progressive tax rate and investment income and income derived

<sup>5</sup> The taxpayer of surtax is obliged to pay income tax if domiciled or habitual resident in the municipality or city that prescribed the obligation for surtax.

Tax basis is the amount of income tax.

Tax rate

Municipality or city can prescribe that tax payers in their territory have to pay surtax to income tax as follows:

- municipality at a rate of up to 10%
- city under 30,000 inhabitants at a rate of up to 12%
- city above 30,000 inhabitants at a rate of up to 15%
- City of Zagreb at a rate of up to 18%.

from is taxed via proportional tax rate. However, we cannot talk about full dual system of taxation because when it comes to investment income the tax rate is much higher than the tax rate of corporate income tax.<sup>6</sup> To conclude, only by progressive taxation of personal income tax can horizontal and vertical fairness be achieved. Correction of the current system of personal income taxation in the Republic of Croatia is necessary and through detailed analyses we have to find solutions (especially connected to combination of broken progressive tax rate, tax brackets and non-taxable part of income) so that the personal income taxation is more in accordance with the principle of fairness in regards to current situation and current timing.

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<sup>6</sup> We think about investment income in broader sense, i.e. income derived from capital investment, asset and insurance income.

## MAIN AREAS OF PLACE BRANDING SCIENTIFIC RESEARCH – BIBLIOMETRIC ANALYSIS

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### **ABSTRACT**

*This article aims to identify the most popular areas of scientific research in the domain of place branding on the basis of bibliometric data of scientific papers published in Scopus database between 2000 – 2017. In the study authors use different techniques of the bibliometric analysis with the support of the VOS viewer software. Based on the large number of literature references of the place branding, the result of this article is identification and the development of maps visualizing the most important thematic areas undertaken by place branding researchers and links between them. This article provides a systematic review of the place branding literature over the past 17 years and allow identify scientific gaps in this area comparing it to corporate and product branding.*

**Keywords:** *Bibliometric analysis, Place branding, Research domains*

### **1. INTRODUCTION**

In the past few decades, a growing number of communities, cities, provinces, nations and regions have adopted branding concepts and tools to attract investors, visitors, residents, events and so on (Gertner, 2011b). This trend is reflected by the systematic rise in the number of publications dealing with this subject confirming the growing interest with this field of knowledge among both academics and practitioners (Gertner, 2011b). Place branding has attracted an increasing number of researchers belonging to different disciplines producing a highly interdisciplinary literature (Lucarelli, Brorström, 2013). The issue of place branding is currently considered within numerous disciplines including: marketing and business (by Kavaratzis, 2005), public relations (by Szondi, 2010), international relations (by van Ham, 2001), public administration (by Eshuis et al. 2013), public diplomacy (by Gilboa, 2008), communication (by Sevin, 2010, 2014) and geography (by Boisen et al. 2011).

The aim of this paper is identification the most popular areas of scientific research in the domain of place branding on the basis of bibliometric data of scientific papers published in Scopus database between 2000 – 2017. During analysis special consideration will be given publications dealing with place branding whose authors conducted their research in the area of 'Business, Management and Accounting'. In the study authors use different techniques of the bibliometric analysis with the support of the VOS viewer software.

### **2. FROM PLACE MARKETING TO PLACE BRANDING**

Ashworth and Voogd (1994) defined place marketing as a process in which the local authorities are strongly oriented to the needs of "customers" of a given place. The aim of marketing in relation to a particular region is the maximization of the socioeconomic functioning effectiveness of a given territory according to previously defined broader directions of its development. A number of years later Braun (2008, p. 43) described territorial marketing as the coordinated utilization of marketing tools (supported by the philosophy of focusing on the customer) to create, communicate, deliver and exchange the city's "products" having value both



for the local community as well as for the external users of its offer. Places – understood as regions, cities or communes – have always competed with each other because there were always alternative locations which could be used for specific aims. According to the opinion of Kavaratzis and Ashworth (2010, p. 2) place marketing does not only recognize the existence of competition between territorial units but also addresses its challenges through discovering or creating the unique character of a given place in order to improve its competitive position on the territory market. Place marketing, similar to other concepts used in marketing, evolved with the passage of time and the appearance or development of interesting new issues within this area of knowledge. According to Kavaratzis (2008), place branding is the current stadium of its development. This means that the marketing efforts of territorial units focus more often on producing emotional, mental or psychological rather than functional associations with a given place and no longer ignore them in the process of brand building (Florek, 2014, p. 28). In his analysis of the theory and practice of city marketing Braun (2008, p. 35) also observes a shift from marketing to branding. Branding is seen as the next step, or the "ultimate objective", of the marketing process (Braun, 2008, p. 36). The idea of place branding has become the focus of debate in the area of territorial marketing in the early 21st century. The shifting of the development of the concept of place marketing in the direction of place branding resulted, to a large degree, from the central role of the "image" category within this approach to territorial management (Kavaratzis, Hatch, 2013). Gaggiotti et al. (2008) write that the successful implementation of place marketing is treated in literature as mainly dependent on construction, communication as well as the management of a place's image. The creation of a desired image of a particular place, one of the most important aims of place marketing, became the starting point for the development of branding. It must be stressed, however, that the difference in subject related literature between place marketing and place branding is not completely clear. Some authors treat place branding as a set of strategic guidelines for marketing (such as Hankinson, 2010) while others define it as one of the tools of marketing (for example Braun, 2008).

### **2.1. Definition of place branding**

Zenker and Braun (2010, cited in Zenker, 2011) define a place brand as “a network of associations in the consumers’ mind based on the visual, verbal, and behavioural expression of a place, which is embodied through the aims, communication, values, and the general culture of the place’s stakeholders and the overall place design. The definition essentially asserts that a brand is not the communicated expression or “place physics”, but the perception of those expressions in the mind of the target group(s). Place brand is symbolic constructs meant to add meaning or value to places (Eshuis et al., 2014). According to Eshuis et al. (2014), place branding is an element within place marketing that involves influencing people’s ideas by forging particular emotional and psychological associations with a place. Place branding refers to the development of brands for geographical locations such as regions, cities or communities, usually with the aim of triggering positive associations and distinguishing the place from others (Eshuis, Klijn, 2012). Branding is intentional activity whose aim is the change or improvement of an image. These activities include the designing, planning and communication of an identity of a city brand in order to build its image and to manage it (Anholt, 2011, p. 11). Ultimately, place branding, through producing desired associations with a given location among representatives of defined target groups, aims at acquiring new inhabitants, companies, tourists or investors. City branding engages numerous stakeholders representing both the public as well the private sector (Klijn et al., 2012). Nowadays place brands exist in various forms (national, regional, tourist destination and urban branding) and there remain no doubts that place branding is a well-grounded field of academic research (Hankinson, 2010, p. 13-14).

According to Kavaratzis and Hatch (2013) it is currently not only a well developing academic discipline (seen in the wide popularity of studies in this field) but also a more and more common practice (expressed in, among others, the growing number of consultations concerning a place brand). Kavaratzis (2012) additionally observes that some aspects of place branding were previously focused on and discussed in several scientific areas/disciplines but only recently became interconnected to a sufficient degree to be considered an autonomic research field. Today, the creation of a territorial brand is an approach which is broadly discussed in subject literature as a concept supporting the growth and development of places (Florek, Janiszewska, 2011). Place branding research domain has been developed through constant debate among several contrasting academic disciplines that have studied the phenomena of place branding with different methods, conceptual tools and empirical explanations (Lucarelli, Brorström, 2013). It is noticeable that the development of the concept of the territorial brand is slow and that the research which has been conducted so far does not allow the formulation of a uniform theory of place branding because it takes the shape of diverse comments that are exploratory in nature. Further work aimed at understanding the idea of the place brand and in organizing this field of study is, therefore, still necessary (Kavaratzis, Hatch, 2013).

## 2.2. Previous place branding literature reviews and their results

Within subject literature it is possible to find several systematic reviews of scientific works dealing with place branding. A list of these types of analyses has been shown in Table 1. Lucarelli and Berg (2011) as well as Oguztimur and Akturan (2016) narrowed down their analyses solely to studies dealing with city branding. In turn, the review completed by Gertner (2011a, 2011b) does not include the most recent papers concerned with the subject of place branding. An analysis which does cover the broadest spectrum can be found in the work completed by Vuignier (2016).

*Table 1. Previous place branding literature reviews – comparative analysis  
 (Table ends on the next page)*

No.	Author	Title of paper	Area of analysis	Main results
1	Lucarelli & Berg 2011	<i>City branding: a state-of-the-art review of the research domain</i>	217 articles published between 1988 and 2009	The authors classify articles into three categories: (1) production (process under which brands are created and managed), (2) appropriation (the way in which brands are perceived and consumed by target groups) and (3) criticism (impact of branding logics on the existing social, economic and cultural environment).
2	Gertner 2011a	<i>A (tentative) meta-analysis of the 'place marketing' and 'place branding' literature</i>	212 articles about place branding and place marketing published in 43 periodicals between 1990 and 2009	The author classify articles by time period to explain the development of this field of study: a gestation period (1990–2000), the birth of the discipline (around 2002), a period of adolescence (2004–2008) and a last phase with the approach of maturity (2009 and onwards).
	Gertner 2011b	<i>Unfolding and configuring two decades of research and publications on place marketing and place branding</i>		

3	Lucarelli & Brorström, 2013	<i>Problematising place branding research: A meta-theoretical analysis of the literature</i>	292 articles from different databases	The authors divide the field of place branding research into six perspectives that differ in their ontological and epistemological standpoint: the critical structuralist perspective, the radical humanist perspective, the production perspective, the co-production perspective, the consumer oriented perspective and the appropriation perspective.
4	Oguztimur & Akturan, 2016	<i>Synthesis of City Branding Literature (1988–2014) as a Research Domain</i>	147 articles on city branding (one of category included in place branding)	The authors propose four categories to describe the topics addressed: (1) city branding concepts, processes and measures, (2) branding strategies, (3) social urbanism and (4) cultural and tourism branding.
5	Vuignier, 2016	<i>Place marketing and place branding: A systematic (and tentatively exhaustive) literature review</i>	1172 articles published between 1976 and 2016 in 98 different journals	The author identify themes that attract authors in this field and that can be developed in the coming years: analysis of the role of stakeholders and residents, advances in information technology (the Internet and social networks) and the overall effects of place branding and place marketing.

None of the reviews mentioned above covers the analysis of key terms indicated by the authors of articles dealing with place branding taken into account in the analysis just as not one of them focuses on showing the relationships between them.

### 3. METHODOLOGY OF RESEARCH

To achieve the aim of the article a systematic review of scientific literature, or more specifically of scientific articles indexed by the Scopus database published between 2000 and 2017, was conducted. This review consisted of the following stages:

- (1) selection of the research subject:
  - generation of a list of scientific articles registered in the Scopus database which referred to ‘place branding’ and fit within available search criteria including titles, keywords or abstracts published between 2000 and 2017;
  - reduction of the generated list of articles to include only works dealing with the subject area of Business, Management and Accounting;
- (2) bibliometric analysis – an analysis of the number of articles in relation to the country of origin of their authors, authors publishing the most works and most often cited articles,
- (3) frequency analysis – the occurrence of key words indicated by authors,
- (4) content analysis – analysis of relations between key words indicated by authors of articles chosen for analysis. The data was organized and presented using the VOSviewer software which enables the creation of visualizations of bibliometric networks<sup>1</sup>.

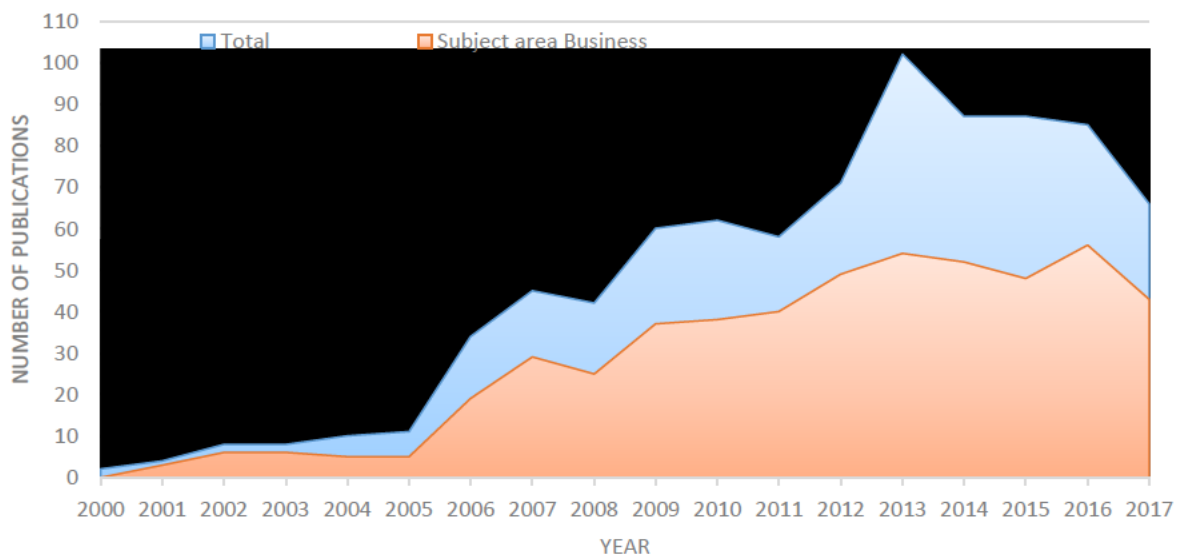
Within the last stage of the analysis authors prepared a map showing the existing relationships between key words characterizing publications dealing with place branding.

<sup>1</sup> At this stage occurred another reduction in the number of articles being analyzed. After becoming acquainted with the titles of 515 articles approximately 100 publications, whose titles and abstracts (including aims) showed lack of direct connection with the subject of place branding, were eliminated from the list.

Through the use of the VOS program it was possible to highlight the frequency with which given elements appeared in the network as well as the frequency with which they appeared together. The VOSviewer software also facilitated the combining of the analyzed set of data into clusters, what allowed to identify the main areas of research in place branding.

#### 4. RESULTS

Utilizing a filter consisting of the phrase "place branding" a list of scientific articles published in the Scopus database between 2000 and 2017 was generated. This list included 842 items. Next, the list of articles was narrowed down to contain only publications pertaining to the subject area Business, Management and Accounting. This reduced list included 515 works. Considering the number of articles published each year during the period being analyzed it is possible to observe a systematic growth of interest in the subject of place branding among researchers until the year 2013. The greatest number of articles dealing with place branding was published in the Scopus database in 2013 (102 publications). Although this quantity had declined in the following years the issue of place branding still enjoys researchers' considerable interest and since 2014 the number of publications remains at a similar, high level (number of publications from 2017 is only partial). A dominant number of analyzed publications (61% of all published articles) pertains to the subject area of Business, Management and Accounting. The number of works indexed by the Scopus database during the period 2000-2017 has been presented in figure 1.

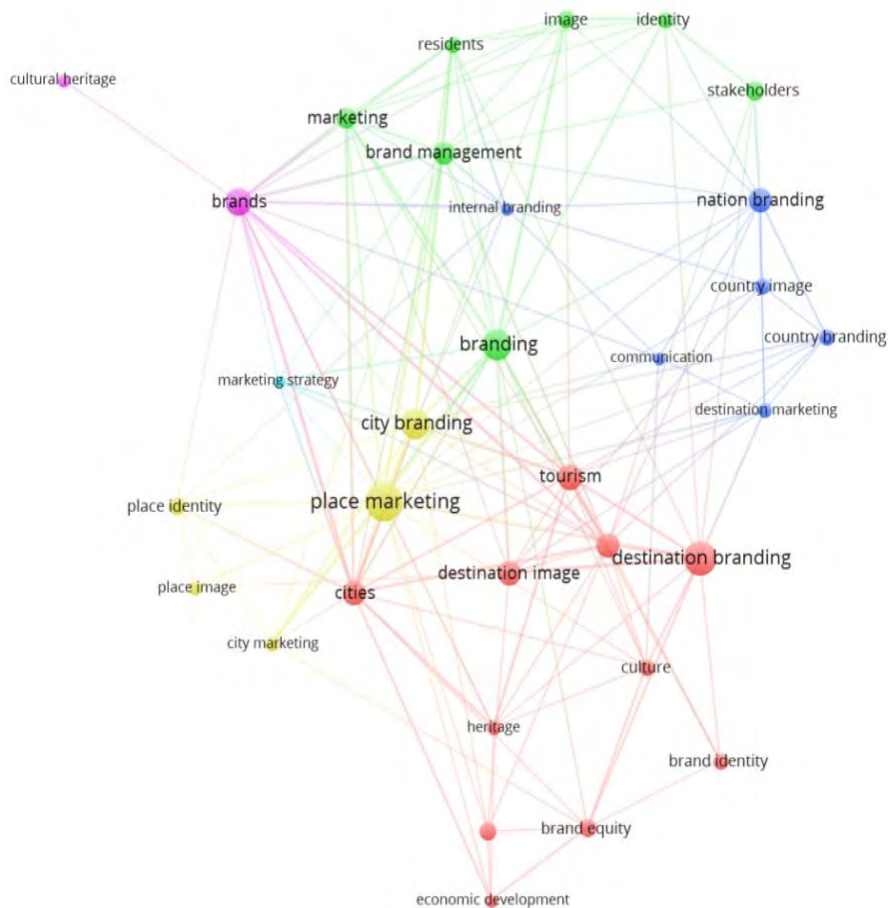


*Figure 1: Numbers of papers dealing with place branding listed in the Scopus database with consideration to articles in the business, management and accounting subject area during the period 2000-2017*

Among all publications dealing with place branding the two most popular subject areas during the period being analyzed were Business, Management and Accounting (515 articles) and Social Sciences (382 publications). Areas with more than 50 articles published included: Arts and Humanities (65), Environmental Science (54) and Engineering (53). The size of the font used in the illustrations below reflects the number of works related to a particular analyzed area (figure 2).



Within the next stage of the analysis we prepared a map showing the existing relationships between key terms characterizing publications dealing with place branding. Through the use of the VOS program it was possible to highlight the frequency with which given elements appeared in the network as well as the frequency with which they appeared together (Figure 4). The central part of the map shows key terms which appear the most often. The size of the point representing each term as well as of the font with which that point's name was written show the frequency with which this phrase occurs. The resulting network is quite dense and it is characterized by numerous links. The main points, referred to in most works, included: place marketing, destination branding, city branding, branding, destination image and tourism. Concepts which had the strongest links to others within the network were the same as the terms listed above.



*Figure 4: Map showing the existing relationships between key terms characterizing publications dealing with place branding*

The VOSviewer software also facilitated the combining of the analyzed set of data into clusters which were then marked out on the map in different colors. Being a member of a given cluster means that given phrases occurred together most often (it does not mean that the term does not appear with other terms). The program distinguishes six clusters which, all together, included 32 words (proposed cluster names relate to the majority of terms which a given cluster contains):

- cluster 1 “destination branding” (11 items): brand equity, brand image, brand identity, cities, culture, destination branding, destination image, economic development, heritage, place brand equity, tourism,
- cluster 2 “place branding strategy” (7 items): brand management, branding, image, identity, marketing, residents, stakeholders,



- cluster 3 “country branding” (6 items): communication, country branding, country image, destination marketing, internal branding, nation branding,
- cluster 4 “city branding” (5 items): city branding, city marketing, place identity, place image, place marketing,
- cluster 5 “cultural heritage” (2 items): brands, cultural heritage,
- cluster 6 “marketing strategy” (1 item): marketing strategy.

The latest research that has been going on in few recent years, the areas of research that appear in the area of place branding include: place brand equity, stakeholders involvement and the role of cultural heritage in the place branding process.

## 5. CONCLUSION

Over almost the past two decades, scholars have devoted more and more attention to the adoption of branding tools and strategies by places aiming to promote exports, attract investors, businesses, industries, visitors, residents and so on. During this period, many articles on these topics have appeared in academic journals (Gartner, 2011 a). The systematic analysis of articles dealing with place branding which appeared within the last two decades allowed the identification of the main disciplines conducting research in this area. These include: tourist destination branding, country branding, city branding, place branding strategy and cultural heritage. It has been additionally possible to recognize research fields which are developing the most dynamically within the area of place branding: place brand equity, stakeholders' involvement and the role of cultural heritage in the place branding process. The limitations of this analysis concerns focusing only on publications listed within the Scopus database. In the future the scope of analysis should be expanded to include works indexed in other databases.

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## **BIBLIOMETRIC ANALYSIS OF SCIENTIFIC PUBLICATIONS ON SMART CITY IN INTERNATIONAL LITERATURE**

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### ***ABSTRACT***

*Cities around the world have built a transformative culture around smart governance, smart mobility, smart environment, smart economy, smart living and smart people. These six characteristics were regarded by researchers as the relevant group characterizing a smart city. Being a smart city means to develop urban centers. Nowadays smart cities attract new investors, entrepreneurships, rich tourists, events and new inhabitants. The concept of smart city has become more and more popular in scientific literature and international policies since the end of the first decade of the twenty-first century. This article aims to identify the main components characterizing the concept of smart city and trends in the area of smart city on the basis of bibliometric data of international literature published in the ISI Web of Science and Scopus databases in recent years. Bibliometric analysis is a combination of different methods for conducting a quantitative analysis of science. This study seeks to observe trends in scientific literature on smart cities, especially smart mobility. An important result of this article will be created a map of current research trends based on co-occurrence of the authors' keywords in publications referring to smart city in recent years. The study made use of basic techniques of the bibliometric method with the support of the VOS viewer software, which can be used for analyzing large amounts of text data.*

***Keywords: Bibliometric Analysis, Smart City, Intelligent City***

*Full paper is not presented upon author's request.*

## **PRESUMPTIONS OF POWER: THE NEGATIVE REPRESENTATION OF POLES BY EXPATRIATE MANAGERS**

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### **ABSTRACT**

*The field of Cross Cultural Management (CCM) studies has, at long last, begun to engage critically with the western-centric origins of the field with increasing regularity. Global West to rest flows of power underpin both CCM theory and western managerial knowledge transfer. These flows of power influence western expatriate managers often resulting in perceptions of managerial and cultural superiority manifested in the negative representation of the local Other. This paper critically confronts the predominant positivistic methodology of quantifying national culture and the related fundamental inability to address such representation. The paper is based on data from 32 semi-structured interviews with British expatriate managers working in Poland. By critically analysing the discourse of the expatriate managers, this paper argues that an interpretive approach highlights two dynamic elements crucial to such interactions which quantitative approaches (Hofstede dimensions, GLOBE survey, etc.) fail to capture. The first of these dynamic elements involves the superordinate position in organisational structures which the British expatriate managers almost exclusively hold. The second element which the orthodox CCM approach fails to take into account involves changes in managerial style amongst those expatriated to countries which they perceive as economically less developed. These two dynamic factors provide a perspective from which the expatriate managers' representation of Poles as managerially and culturally inferior can be better understood. By implication, it is proposed that similar representation on the part of expatriate managers can be observed in any scenario of Western expatriation to countries they perceive as being less economically developed.*

**Keywords:** *critical management studies, cross cultural management, expatriation*

### **1. INTRODUCTION**

Cross cultural management (CCM) has become, over the past five decades, a rather gargantuan and unwieldy beast of a field. The majority of the CCM literature is underpinned by the positivistic methodology of quantifying national culture through either the ubiquitous Hofstede dimensions of national culture or the methodologically comparable GLOBE study. Never one to be humble about the widespread appeal of his work, Hofstede refers to his methodology as both a paradigm and doctrine in the social sciences (Minkov and Hofstede, 2011). The Hofstede method does not, however, address the power dynamics and power discrepancies so integral to scenarios in which Western expatriate managers interact with host-country nationals from the transition economies of Central and Eastern Europe (CEE). Armstrong et. al. (2017) rightly explore the ethical aspects of expatriation, but in so doing assume that the direction of travel (West to East, North to South or visa versa) is not a factor in interactions between the expatriated manager and the locals she or he may work with. This paper argues that the direction of travel is a crucial and understudied factor in such relationships to such an extent that the term *expatriate* is limited in its common usage to Westerners living abroad. Those from second and third world economies living in Western countries, regardless of their profession and qualifications, are commonly represented as "economic migrants". Such representations and associated behaviours are what the static Hofstedian approach fails to capture and address.

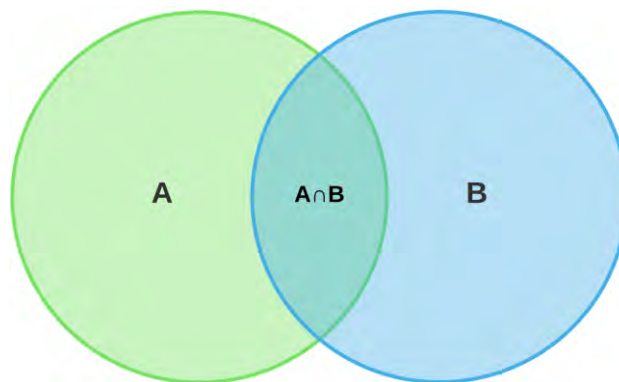
Without a clearer understanding of the superordinacy - subordinacy element in such relationships and the associated representation of the local Other, the idealistic goal of cultural integration is skewed in the direction of the foreign management. In other words, integration is assumed to be towards the norms of the Western manager rather than local cultural/managerial norms or a compromise between the two. Such skewed integration is most pronounced in cases of Western corporate expansion and the associated expatriation of managers into countries which the Western management discourse represents as managerially and culturally inferior. This paper argues, based on the empirical data collected, that Western expatriate managers who are in positions of higher autonomy represent the subordinate Poles they interact with as inferior, thus rendering the Hofstede approach limited at best.

## **2. THE STATIC PERSPECTIVE OF THE HOFSTED PARADIGM**

The field of Cross Cultural Management studies has, at long last, begun to engage critically with the Western-centric origins of the field on a more frequent basis. Global West to East / North to South flows of power underpin the many critiques of the theory and produce findings reflecting the presumed superiority of the 'Western' and implicitly white and male manager (Primecz, Mahadevan and Romani, 2016). This flow of power and presumed superiority exists not only in critical CCM theory but in the cross cultural interactions the theory attempts to describe. The work of Hofstede provides a popular starting point for the management literature and introductory academic studies of cross-cultural dynamics in the workplace. Hofstede describes himself as "one of the most-cited authors in social science" and points to the four decades of "constant attention and extension" of his work as evidence of the "unflagging interest" in the Hofstede paradigm (Minkov and Hofstede, p.11). His five-dimensional model (sometimes four, sometimes six) of culture has become a foundation on which a multitude of studies have been based. As an analytical tool however, it is limited. It is important to remember that the Hofstede data originates from respondents living and working in their own country at the time. Furthermore, the respondents are from similar professional backgrounds. With such data it is possible to see, for example, that Americans generally prefer individualistic decision making processes whereas Germans prefer collectivist. From this, one may deduce what types of problems are likely to arise when an American and a German meet in a business setting. As with all models in the social sciences however, the Hofstede model provides us with a simplification of reality based on a number of assumptions. The focus of this study is primarily on the power distance dimension of the Hofstede paradigm and argues that, while the dimension may be an adequate measure of what it is intended to quantify, as a static measure of national cultures in isolation, it has inherent limitations in modelling power dynamics in first – second world (as well as first – third world) cross cultural interactions. Hofstede (2001) notes that according to his paradigm, the degree of inequality that members of a given culture accept or expect is a static one. Pesch and Bouncken point out however that "this optimistic view of cultural distance might be clouded by interactional obstacles driven by perceived cultural distance"(2017, p.33). The alternative approach adopted here is based on the understanding that the quantitative, static measures of culture distance which have been predominant in cross cultural management literature over the last 30 years "are not sufficient to fully understand this complex concept" (Chapman, et. al. p. 217). In short, the approach adopted by orthodox CCM research through the Hofstede paradigm and methodologically comparable studies fails to capture two dynamic elements. The first of these elements is the adaptive behaviour of the Western managers when expatriated to Poland.

The second element is the superordinate position in which the Western managers almost exclusively find themselves. These failures are due to noted naïve assumptions in the model (Holden, 2002; Allen, 2016 and Mc Sweeney, 2002) regarding the nature of the reality in which real-world CCM interaction takes place. Van Taras and Steele (2009) note that of ten postulates deriving from the Hofstede paradigm, number 8 states that matched samples should be used to study cultural differences, thus implying that matched sampling allows one to compare like for like, with culture alone responsible for the observed differences. The point that this paper addresses, however, is the inability of the Hofstede paradigm to be able to model the non-theoretic reality of two actors, or both, changing their behaviour when interacting with each other. Can the stability of culture (Van Taras and Steele's postulate number 3) be assumed? If we accept Hofstede's numerous assumptions then the methodology can in fact operate as a reasonable comparator for two national cultures – in this example culture A and culture B in isolation. In the non-theoretic, real world however, cross cultural interaction does not take place in isolation but rather within a cultural setting which is not the national culture of one or both of the actors. To illustrate this point, think of Hofstede's dimensions of a given national culture (culture A) as a set within which is contained culture A's, or set A's, cultural characteristics. Then according to the Hofstedian model, we could compare set A to one for culture B (set B) and in so doing ascertain the similarities and differences between the two cultures. The ubiquitous Venn diagram (fig. 1) can be used to illustrate this relationship. This simplification of the Hofstede model helps to illustrate the erroneous assumption. The Hofstede paradigm compares national cultures based on data collected in respondents' own countries, but the model is used as a predictor of interactions between two or more individuals from different national cultures (e.g. sets A and B). Thus far, the Hofstedian Venn diagram works reasonably well. Using set theory notation, this can be formulated as:

$\{x : (x \in A) \text{ and } (x \in B)\}$



*Fig. 1: Venn diagram*

$A \cap B$  represents the intersection of objects that belong to set A and set B. In our example,  $A \cap B$  is the intersection of cultural traits common to both cultures A and B.  $A \setminus B = \{x : (x \in A) \text{ and } (x \notin B)\}$  on the other hand represents the objects that belong to set A, but not set B. In other words, the cultural traits unique to culture A which are not found in culture B. The problem with our Hofstede-Venn diagram, and the Hofstede paradigm in general, is that cross cultural interaction does not take place in culturally neutral isolation. For such interaction, at least one of the two individuals ('a' from culture A and 'b' from culture B) must interact in a setting where the national culture is not his or her own.

In the example of the study this paper is based on, it is the Western (let us say British for example) manager 'a' from British culture A interacting with Polish manager 'b' from culture B. Crucially, this interaction takes place within the geographical constraints of culture B or, in our example, Poland.

### 3. ADAPTIVE BEHAVIOUR OF EXPATRIATE MANAGERS

The previous section established the static perspective of the Hofstede model and its limitations in modelling inter-cultural contact in which one actor is likely to be in their own country and the other abroad. Can we expect the actor who is abroad however, let us say the British expatriate, to behave in the same way as if she or he were in the UK? Furthermore, can we expect the Pole to behave in the same way to the British manager as to another Pole? Research from this study indicates that neither of these are realistic assumptions. Shankar's 2001 study supports these findings and points out that the Hofstede model conceals the different roles of 'home' and 'host' environments. (from Bjerregaard et. al., 2009). Analysis of the Western manager interviews shows us that the very fact that they are not in their own country influences their behaviour and influences their chosen management style. Furthermore, the specific country they are in also has an impact. Western managers interviewed as part of this study indicated that they adapt their behaviour to a given environment based on a number of factors including:

- their own preconceptions of the country
- the depth of their immersion in the local culture
- ability (or inability) to communicate in the local language
- the degree of their contact with the expatriate community
- their day to day on-job experiences
- the strength of the organisational or corporate culture in their workplace.

It is important to note that the interview partners were encouraged to tell stories of their experiences rather than asked specific questions. As such, they were not led towards pre-established conclusions. One interview partner, a senior British manager from an international chemical company, shared a story typical of those told in many other interviews:

*"I knew before I came to Poland, based on the experiences of my predecessor and other colleagues, that Poles are not good at planning and following through with plans. You know, deadlines and things like that. So I knew. Before I came I mean. I knew that I would have to be more hands on. It's not my job but I knew I had to."*

When asked if his actual experience after seven months in the country reinforced his expectations, he embellished his story with an interesting metaphor:

*"Yes. Definitely. You see, they are grasshoppers. You cannot catch them. You cannot (inaudible) them, if you want to catch them they jump. And if they, if you try to catch them from another side, they jump in another direction. The only thing to do is to (pause) watch them. You must monitor things much more carefully here. But this takes time away from the work I should be doing."*

Finally, when asked if he managed people in Poland in the same way he had in the UK, the answer was simply, "No. I don't. You can't". Analysis of the interviews suggests that pre-existing assumptions or stereotypes about one another have a strong influence on cross cultural interaction.



According to the data the managers, for the most part, displayed markedly different attitudes to being in Poland, where they feel detached from local culture, than if they were in another Western country.

#### **4. SUPERORDINACY IN CCM RELATIONSHIPS**

Within the Hofstede paradigm, and CCM literature in large, one of the key components which is missing is extra-cultural (outside of a given culture) power in cross cultural interactions. This power is not the Hofstedian dimension of power distance which refers to the internal workings within a culturally homogeneous organisation, but rather the power dynamic present in cross cultural interaction. It is power discrepancies in which expatriate managers perceive and represent themselves as both managerially and culturally superior. This can be framed in terms of Hurvitz's 1965 superordinate-subordinate role relationships in which individuals see themselves in relationship to the other as dominant, equalitarian or submissive. In the interview process, the expatriate managers were asked to compare their own culture (national, corporate, institutional, etc.) with their experiences of the Polish equivalents in a non-leading fashion. The responses included value judgements and invariably interviewees described their own management culture (national and corporate) as superior and many implied that they felt their own national culture was, as a whole, superior to Polish. Those who compared their Polish experiences most negatively vis-à-vis that in their home country also tended to be the ones who had come to Poland with the most negative preconceptions of the country prior to their placement. Interviewees were also asked, in a neutral, non-leading manner, about workplace integration between expatriate management and local employees. Their responses were framed invariably in terms of Polish staff integrating with what the managers perceived as Western norms. Integration itself is seen by the Western managers as a higher to lower interaction chain. One interview partner, an American director of an IT firm which had recently expanded into Poland, discussed "*the effective transfer of knowledge*" in such a manner that there was no doubt as to who should be, in his opinion, both disseminating and receiving this knowledge. The comment was framed within a story about how he viewed his role in Poland:

*"They've been through a lot – the Poles – and it's been difficult. They say, they think, that they're very entrepreneurial – and they are – but it's not very sophisticated. Not very developed. What we need to do is show them – teach them. It's about the effective transfer of knowledge so that they can develop their systems and their ways of working. And it's nice to be able to do that. You know, to play a part in their development."*

When asked about the integration of his team, the interview partner also echoed the sentiments of many others that the Western managers' perception of an integrated team is, in fact, one which conforms to the manager's own cultural norms:

*"It's getting better. When they learn these things it's easier for us to operate in an efficient way and some of them have been to the states to see what we're doing there – how we do things. I wish we could take them all over cos it would be great for them to be part of it, and to learn, and to see how much better it is when everyone understands. We're getting there though. There's a lot of learning left to do but we're getting there."*

The preconceptions of other Western cultures compared more favourably to those of Poland. The interview partners' opinions differed when asked about their attitude towards a subordinate Pole in Poland compared to a subordinate from another Western country (France, Germany and

Canada were used as examples). Extra-cultural power distance seems to vary based on the preconceptions of the national culture of the person one is interacting with. It is also worth noting that of the 32 interview partners who took part in this study, only two were subordinate to Poles but all managed Polish employees. The behaviour of the Western managers may be affected by the dominant position they almost exclusively hold in such a context. Arrogance and feelings of superiority among individuals (Western managers) have consequences in organisations and produce systems of defence or resistance in those who are subject to such behaviour in such a context (Allen, 2003). Furthermore, the CCM notion of cross cultural integration is undermined by Stahl and Voigt's findings that cultural distance is less detrimental under conditions of higher autonomy and lower interdependency within interorganizational collaborations (2008). Ethnocentrism, the idea that one's own race, nation, group, etc. is better than any other, was evident in the stories told by interview partners about the Poles they interacted with in their workplace. This representation of the Other as inferior in a management context has an Orientalist element (Allen, 2015) in which Westerners in hierarchically superordinate positions represent the non-Western world "as something ontologically inferior to the west, and hence needing firm western supervision, guidance and assistance for becoming fully civilized, and developed/modern. (Banerjee and Prasad, p. 92). Another example illustrating this ethnocentric representation comes from a qualitative study of human resource management practices in foreign corporations operating in China. Chen and Cheung (2008) found evidence of "asymmetrical understanding" between Chinese and non-Chinese managers. Their analysis showed that Chinese managers are expected to be knowledgeable about western business and cultural norms but western managers were not expected have a similar levels of knowledge and understanding about the local equivalent. More geographically relevant is Nelson's 2009 study of German representation of Poland and Poles. He argues that negative stereotypes from the time of the second world war "show an astonishing degree of continuity in spite of dramatically altered historic circumstances" (p. 174) and studies examples of the perception and portrayal of Poland as inherently inferior. Huntington (1993) famously referred to this cultural divide in Europe as the Velvet Curtain of cultural differences. (p. 177)

## 5. CONCLUSION

This paper is based on data from 32 semi-structured interviews with Western expatriate managers in Poland which has been analysed with a view to examining manifestations of power in the representation of Poles by Western expatriate managers. The findings suggest that the managers' perception of an integrated team is actually synonymous with a team that conforms to the managers' own cultural norms and that the Poles with whom the Western managers work are often represented as managerially and culturally inferior. Whilst Hofstede's methodology provides an insight into national business cultures, the model is unable to accurately describe the dynamic relationships present in the cases studied. As an example, according to Hofstede's model of comparing national scores over cultural dimensions, managers coming from various Western countries should face different challenges in dealing with Poles in a business context. According to the data however, this is not the case. Most managers, viewing Poland as a non-western country, feel a bond with other Westerners of a similar status and had surprisingly similar accounts of working with Polish subordinates. Whilst the approach adopted by this paper attempts to engage, in its own way, with the theory of "positive scholarship" in cross cultural management scholarship (Stahl and Tung, 2015), it raises legitimate and observed obstacles to the approach. The question of integration in a cross cultural context raises the question of which cultural systems integration should be directed towards. In other words,

whose integration? In an expatriate management context, managers are often sent from economically more developed, Western countries to those which are less developed or understood to be so. In such a scenario there may be resistance on the part of the expatriate manager regarding integration towards local culture yet, at the same time, an expectation of integration towards the work/management culture of the parent company. Polish employees were frequently represented by the interview partners as managerially and culturally inferior and showing a lack of integration to what the expatriate managers regard as Western cultural norms. The proliferation of the Hofstede paradigm, as well as other methodologically similar models, have led to an assumption that "national cultural identity remains separate and distinct throughout the process of integration" (Boyacigiller et. al. 2004). Rather than lessening difference, the predominant CCM paradigm reinforces it. As Said's Orientalism posited, the cataloguing of difference and subsequent representation on the part of those controlling the discourse (Western CCM scholars in this case), reinforces difference and division. The findings of this paper suggest that such quantification of difference fails to address the underlying representation of the Other in CCM interactions and that changes in managerial behaviours when Western managers are expatriated to Poland, combined with their superordinate positions vis-à-vis the Poles they interact with renders the orthodox CCM approach significantly limited.

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## RECEIVABLES MANAGEMENT IN A GROUP PURCHASING ORGANIZATION

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### **ABSTRACT**

*Receivables are the hardest area in financial management of a company. In general, receivables account for the shortest term, i.e. receivables from customers. Building a proper corporate receivables management policy is the basis for effective management of receivables from customers. The sales staff at the time of sales should act strictly according to the principles set out in the receivables management policy. Otherwise, such a transaction is risky. Large companies in the group purchasing organizations receive large amounts of customer receivables management. GPOs are most often associated with the purchase process, scale effect. However, a common action has a strong impact on building a receivables management strategy. The purpose of this article is to present a strategy for managing receivables from purchasers in GPOs. The analysis was carried out on a group of 40 Polish small and medium-sized traders operating in branch and multi-branch group purchasing organizations. The research was done on the basis of the financial statements for the years 2013-2015. In the study the preliminary financial analysis and selected financial ratios were applied. The analysis showed the advantages and disadvantages of individual short-term receivables management strategies.*

**Keywords:** *receivables, group purchasing organizations, strategies*

### **1. INTRODUCTION**

The key to achieve high liquidity and to build a strong competitive business is managing receivables from customers. The decisions about granting a merchant credit are of great importance for sales volumes and financial liquidity (Sierpińska, Wędzki, 1997, p.230). Merchants credit is a must today, every business must offer it to its customers. Receivables are a form of crediting customers, and the duration of this loan depends on the contractual arrangements. They freeze the company's liquid cash. However, this is a great "weapon" to fight the competition. International competition and the high number of newly created companies in a given area are the main reasons for the financial troubles of companies (Altman, Hotchkiss, 2006, p.28). Extending payment terms encourages customers to make purchases. However, this has a negative impact on the level of costs, the company needs to involve its own funds in financing its customers; it increases the demand for a bank credit. Thus, the costs of managing receivables that reduce profitability arise. Sales decisions about deferred payment are a kind of investment decision (Rutkowski, 2016, p.439). Receivables management is a process whose main objective is to prevent the occurrence of overdue receivables. A company that manages debt claims is competitive in the market because it has free cash. It limits foreign sources of funding to reduce costs. It can pay off faster its counterparts which improves its image in the market. Such a company is credible, it can offer contractors more favorable terms for granting merchant loans. This process starts when the seller decides to sell with deferred payment. Then it consists of complex actions to be taken at all stages, i.e. prevention, monitoring and recovery. Lack of control, badly constructed debt collection system can lead to payment bottlenecks, which in the long run can lead to exhaustion of free cash and liquidity. In order to avoid this situation, business managers should analyze systematically the level of receivables in the company.

## **2. RECEIVABLES**

Receivables are understood as the right to receive benefits of a reliably defined value that results in creation of other assets of the entity. A typical example of receivables are trade receivables and loans (Gierusz, 2005, p. 255). Loans are receivables that have the primary purpose of obtaining business profits in the form of interest. They may appear in the company VAT receivable, but this situation is not common. In general, receivables from customers are the largest share in companies. It is precisely the creation of an appropriate management policy that is the basis for the further development of the company. The simplest division of receivables is the division into long-term and short-term ones. Long-term receivables in companies are also rare. Short-term receivables arise from deferred payment. Short-term receivables cover all trade receivables and all or a part of receivables from other non-financial assets that become due within 12 months of the balance sheet date. The balance of receivables from other companies includes the following items (Nowak, 2017, p.88):

- Trade receivables,
- Tax, customs, social and health insurance and other benefits,
- Other receivables,
- Claims filed in court (so-called disputed claims).

In the structure of current assets very often they reach the highest level. Such situations should be assessed positively, but the worse situation is when the stocks exceed the receivables. Inventory is a component of current assets characterized by low liquidity and their very high share in a company is a threat to liquidity loss. When evaluating the change in the level of receivables they should be compared with the pace of sales changes. A properly used merchant loan to customers allows for faster sales growth than an increase in receivables resulting from the application of extended payment terms (Kowalczyk, Kusak, 2006, p.190). Faster growth of receivables can be a signal of low effectiveness of debt collection services (Kusak 2006, p, 99). Such a situation deteriorates the level of company security. The best financial security situation in the structure of current assets is the high share of cash, receivables and inventory on the last place. However, obtaining a high level of cash on hand is a result of effective debt collection, i.e. a properly structured receivables management policy. In the case of receivables management in purchasing organizations the faster growth of receivables over sales may be due to the specificity of functioning in GPOs.

## **3. GROUP PURCHASING ORGANIZATIONS (GPO)**

Receivables management in GPOs largely depends on the purchasing power of the organization. A GPO is a group of companies making joint purchases. A purchasing group is an entity that uses collective purchasing power to obtain a discount (Yang, Cheng, Ding, Li, 2107, pp. 581-589). They operate in principle on the basis of Japanese keiretsu groups. Vertical keiretsu is one large company in the center and a large number of smaller satellite companies belonging to related sectors of economy (Grabowiecki 2006, p.88). Group purchasing organizations include also the central unit and numerous related companies. Purchasing groups are multi-entity organizations. The most important motives for creating multi-entity organizations are (Śliwa, Przygoda, 2010, p.31):

- Motives related to the removal of internal difficulties,
- Motives resulting from external threats,
- Motives related to realization of development goals.

A GPO is defined as a group of companies from the same or different branches that combine to make a joint purchase (Zimon, 2015, pp:284-290). This is a very simplified term for this type of an organization.

Another definition defines a purchasing group as a group of cooperating companies. They are managed through a specially created central unit which aims to carry out the tasks assigned by the purchasing group companies (Zimon, 2014, pp:319-327). Performing these tasks is intended to provide better financial and security for the purchasing group (Zimon, 2013, pp:68-81). The more extended definition of a GPO is based on Martin Christopher's logistics and supply chain definitions and it is as follows: a GPO is a group of cooperating companies which streamlines the flow of material, information and money from suppliers to final recipients. Participants in such a system form a separate central unit whose main task is to meet the goals set by the companies operating in the system. An important division from the point of view of the efficiency of purchasing groups is the division of the participants into branch and multi-branch groups. This division is important because of the intensity of the most important feature for which shopping groups are assumed, i.e. the scale effect. A purchasing group can be viewed as a third party facilitating the relationship between buyers and suppliers ( Nollet, Beaulieu, Fabbe-Costes, 2017, pp.17-27). The group purchasing organization can be described as a powerful buyer. It fulfills important criteria characteristic for powerful buyers; it buys large quantities (Porter, 2001, p.36). Functioning in the market as a powerful buyer makes every manufacturer have to rely on this kind of organization. One cannot afford to lose such a client. The effective functioning of units in purchasing groups should bring the following financial benefits (Zimon, 2013, pp:68-81):

- Lower costs,
- Increase turnover,
- Improve the efficiency of working capital management.

In GPOs an increase in turnover is the basic advantage that companies should gain. Along with it, there is an increase in receivables. They can grow at a faster pace than revenues, which is due to the provision of long-term merchant loans to customers. Such an opportunity arises from the merchant credit given to the company through a common purchase and the use of the scale effect. In addition, inter-organizational trust is one of the most frequently-discussed success factors for group purchasing (Schotanus, Telegen, de Boer ,2010, pp.51-60). Also, Doucette (Doucette, 1997, pp.183-189) emphasized that members confidence In the purchasing group was clearly a success factor for the group's activities.

#### **4. RECEIVABLES MANAGEMENT STRATEGIES**

In the case of receivables one can distinguish three strategies (Bień, 2005, 223):

- A conservative strategy that seeks to completely eliminate the risk of customers defaulting. It leads to the resignation of customers who are liable for the delay after a few prompts.
- Aggressive strategy provides commercial credit to customers with high solvency risk. Aggressive action increases the chance of winning new customers and gives an opportunity to increase sales.
- Moderate strategy is an indirect solution in the case of receivables management.

The conservative strategy is to serve as a complete security for a company from the risk of insolvency. An application of this receivables management policy requires knowledge of the contractor, his financial situation, his opinion about it. The aggressive strategy is likely to apply to companies that launch a new product into the market. Then it is absolutely necessary. In other cases it can lead to payment bottlenecks.



The moderate strategy is any strategy that deviates from classic strategies that are conservative and aggressive. Very often this is a combination of aggressive and conservative strategies.

## 5. AN ANALYSIS OF RECEIVABLES MANAGEMENT

The analysis of the receivables management strategy was carried out on the basis of 40 trading companies operating in GPOS. The companies were divided into two groups: those operating in branch purchasing organizations and multi-branch ones. The analysis was based on the data for the years 2013-2015. In all the companies surveyed, receivables from customers are the most important item in the structure of receivables. Other types of receivables occasionally occur, in general they are small. The table below presents the turnover ratio of receivables in individual years and the average share of individual receivables in the structure of current assets for the years 2013-2015 in companies forming branch purchasing organizations.

*Table 1: Selected ratios of receivables management in companies operating in branch purchasing organizations (own research)*

Company	Debt turnover ratio 2015	Debt turnover ratio 2014	Debt turnover ratio 2013	Average debt turnover ratio 2013-2015	Share of receivables in current assets 2013-2015
1	60	58	88	69	0,5
2	42	32	35	36	0,2
3	74	75	84	78	0,55
4	76	81	54	70	0,51
5	83	82	80	82	0,45
6	114	124	125	121	0,72
7	39	30	39	36	0,33
8	74	89	47	70	0,55
9	76	84	77	79	0,47
10	75	61	62	66	0,45
11	58	55	60	58	0,49
12	77	78	70	75	0,42
13	55	67	48	57	0,45
14	77	77	72	76	0,35
15	83	82	95	87	0,53
16	76	60	65	67	0,6
17	99	90	105	98	0,54
18	56	65	65	62	0,45
19	79	89	75	81	0,53
20	66	62	88	72	0,44
21	111	104	111	109	0,52
22	93	105	117	105	0,63
23	91	77	80	83	0,45
24	88	78	83	83	0,58
25	26	30	31	69	0,18

The average share of short-term receivables in current assets for all companies is 0,49. The average receivables turnover ratio for the analyzed companies is 73 days. Table 2 shows the results of selected receivables ratios for the analyzed companies operating in multi-branch purchasing organizations.

*Table 2: Selected ratios of receivables management in companies operating in multi-branch purchasing organizations(own research)*

Company	Debt turnover ratio 2015	Debt turnover ratio 2014	Debt turnover ratio 2013	Average debt turnover ratio 2013-2015	Share of receivables in current assets 2013-2015
1	60	62	70	64	0,36
2	54	47	74	58	0,45
3	38	41	62	47	0,3
4	48	44	45	46	0,41
5	30	23	27	27	0,29
6	67	82	68	72	0,6
7	56	45	63	55	0,32
8	91	100	82	91	0,51
9	83	80	80	81	0,4
10	48	58	64	57	0,41
11	57	56	41	51	0,38
12	44	41	40	42	0,37
13	60	84	65	70	0,55
14	95	85	92	91	0,43
15	52	44	44	47	0,35

In multi-branch companies receivables turnover ratios are higher in average years, ranging from 58 to 60 days. Another level are receivables in the structure of current assets, the average result is about 40%. Table 3 outlines what policy applies to receivables from customers and vendor liabilities to individual companies. For this purpose the credit position ratio was used. It is calculated from the following formula:

Credit position ratio = receivables from customers / liabilities towards suppliers

*Table 3: Credit position ratio in the analyzed companies (own research)  
 (Table ends on the next page)*

Branch group	Credit position ratio for the years 2013-2015	Multi-branch group	Credit position ratio for the years 2013-2015
1	2,4	1	9,8
2	2,5	2	0,8
3	1,4	3	0,8
4	2,5	4	1,4
5	1,9	5	0,5
6	1,4	6	0,9
7	2,5	7	1,4
8	2,5	8	2,1
9	3,8	9	2,0
10	4,1	10	7,1
11	2,0	11	0,75
12	4,8	12	0,85
13	1,6	13	1,3
14	4,5	14	1,0
15	1,6	15	0,8
16	1,9		
17	2,6		
18	9,8		
19	2,1		

20	1,3		
21	1,1		
22	2,8		
23	2,8		
24	1,2		
25	3,0		

As one can see in Table 3, it is evident that companies operating in the branch purchasing organizations are lenders and that the level of receivables clearly exceeds the level of liabilities to suppliers. The average result for this group is about 3. The situation is different for companies operating in multi-branch purchasing organizations where often companies are borrowers. Liabilities are higher than receivables, but for the entire group, the credit position ratio is approximately 2.

## 6. CONCLUSION

Functioning in group purchasing groups means close and systematic cooperation. Businesses in GPOs are different as deliveries are made from one producer group. It facilitates the work of the central purchasing group, prevents the formation of divisions within the group and builds the purchasing power of the group, i.e. the effect of scale. This enables companies to obtain low prices for purchased goods and long-term merchant credits or additional early-payment discounts. This provides great opportunities for managing the merchant credit, which is offered to customers. Companies can extend it to keep their partners or win new ones. The analysis showed that this is how the companies operating in GPOs operate. Compared to multi-branch companies they have a high turnover ratio as they try not to collect as soon as possible, and offer attractive merchant loans to their customers. This action raises the level of receivables, which often reaches around 50% in current assets. In branch purchasing groups there are often tactile discounts for early payments, which reduces the level of commitment to suppliers, and when a buyer's credit is extended, the business becomes a lender. Therefore, in the analyzed companies the ratio of the credit position is high. The results of the analysis indicate that in branch purchasing groups managers place aggressive debt management policies with the result that merchant loans are being offered to customers in order to avoid the risk of loss of ability to settle current liabilities. In multi-branch units quick process of debt collection and low share of receivables in current assets point more at the conservative policy. Both strategies for managing receivables in GPOS need to be assessed as safe for the business and somewhat different from the classic definition of conservative and aggressive strategies. On the one hand companies accumulate high levels of receivables and low liabilities; in the second case receivables are collected very quickly to cover current liabilities, which in both cases results in maintaining liquidity.

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## QUALITY OF QUALITATIVE APPROACH FOR HUMAN RESOURCES MANAGEMENT RESEARCH

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### **ABSTRACT**

*In the field of interests of human resources management sciences is not only creating of abstract theories, but also solving organizational problems. This field of science is a collection of various disciplines and sub-disciplines, which results in the existence of multiple paradigms and methodological approaches, and the lack of its own methodological tools and the use of the achievements of many other fields of science. The significance of research in this area is important because of the inadequate state of knowledge resulting from the lack of in-depth research on the methods used in the field of management. The aim of the study is to outline and evaluation of existing scientific achievements on the quality for qualitative research used in the issues of human resources management research based on content analysis prestigious journals in order to answer the following research questions: what is the state of using qualitative methods in the study of human resource management?; what is the level of fulfillment of methodological rigor in qualitative research? The study is descriptive. The data were collected using content analysis from 175 papers published from 2015 to 2017 in human resources management journal. **Keywords:** qualitative research method, rigor, human resources*

### **1. INTRODUCTION**

“Methodology is an exciting discipline of knowledge, which shows the road in the landscape of nescience, conjecture and human need to understand”, but not all roads lead to the aim that is to understand the reality around us (Niemczyk, 2015, pp. 17). “It should be able to choose the right path for a research problem, context and cognitive attitudes” (Niemczyk, 2015). For a long time quantitative methods were dominant in social and behavioural science. Qualitative research began to gain interest in the mid to late twentieth century (Jogulu, Pansiri, 2011). Quantitative approach has been a reasonably unquestioned method for exploring management science because of its reliability and validity (Kuciński, 2014, pp. 195; Babbie, 2005). In contrast, qualitative research as an alternative research approach is still "seeked equal footing legitimacy in the social sciences" (Jemielniak, 2012, pp. 9). Although, it seems that the possibilities and limitations of quantitative and qualitative methods have been established, the level of fulfilment the quality criteria is unsatisfactory (Czakon, 2011, pp. 99). Therefore it is relevant to assess the fulfillment of the research rigour for the applied qualitative approach in the field of human resource management. The original nature of this research is primarily related to the fact that the vast majority of literature on research methodology is concerned with social sciences, including management sciences, without reference to research into the problem of human resources management. The conducted bibliometric analysis and systematic review of prestigious journals on methodology in the field of HRM indicates the scarcity of empirical research and theoretical analysis (Samul, 2017). Thus, the main aim is to outline and evaluation of existing scientific achievements on the qualitative methods used in the issues of human resources management research in order to answer the following research questions:

*RQ1: What is the state of using qualitative methods in the study of human resource management?*

*RQ2: What is the level of fulfillment of methodological rigor in qualitative research in the field of human resources management?*

## 2. QUALITATIVE METHODS IN HRM RESEARCH

Literature analysis in management sciences indicates that the dominant approach is still the quantitative approach (Tab. 1). The qualitative and mixed approach are increasingly popular (Spencer, Ritchie, Lewis, Dillon, 2003; Sale, Brazil, 2004), but these approaches represent a smaller part of research in this area. However in the field of human resources management almost one third of the research is based on a qualitative approach (23%) or a mixed approach (6%).

*Table 1. Frequency of the use of different methods for selected discipline of management sciences*

<b>Selected discipline of management science</b>	<b>Author</b>	<b>Number of journals and years</b>	<b>Mehodological approach</b>		
			<b>quantitative</b>	<b>qualitative</b>	<b>mixed method</b>
International business	Hurmerinta-Peltomaki i Nummela (2006)	4 journals 2000-2003	68%	15%	17%
Strategic management	Molina-Azorin (2009)	1 journal 1997-2006	78%	5%	17%
Marketing	Hanson, Grimmer (2005)	3 journals 1993-2002	75%	11%	14%
Entrepreneurship	Molina-Azorin (2008)	2 journals 2003-2007	76%	16%	8%
Organizational behaviour	Molina-Azorin (2009)	1 journal 2003-2008	85%	7,5%	7,5%
Human resources management	Samul (2016)	2 journals 2013-2015	72%	23%	6%
Management research	Bazley (2015)	2 journals 2006-2014	71,1%	19,3%	9,6%

*Source: own comilation based on (Samul, 2016; Cameron, Sankaran, Scales, 2015; Bazeley, 2015)*

The quantitative approach compared with qualitative has many advantages. First of all, what quantitative research is considered an error, for example an influence of situational factors or a subjectivity respondent and researcher, in qualitative research may be an significant differentiating factor. Furthermore, it has been shown that quantitative research can also be affected by the bias of the researcher and of participants: samples can be manipulated, data can be purposely excluded, surveys can be poorly constructed, and respondents can answer dishonestly (Patton, Appelbaum, 2003). Research is always carried out by an individual - a personality, social context, and various personal and practical challenges and conflicts, all of which affect the research - the choice of a research questions and the use of methods (Bentz, Shapiro, 1998, pp. 4). Thus, rather than presuming a world of simplicity, those who adopt the qualitative approach picture a world of complexity (Orum et al., 1991). Stake (1995) also highlights that the qualitative researcher focus on the instance, trying to pull it apart and put it back together again more meaningfully. Moreover, qualitative research give rich description and strategic comparison across cases, permitting generalization to theory (Yin, 2004), and are more flexible and unstructured compared with quantitative research (Ghauri et al., 1995), and can be often used when a phenomenon is very complex or poorly understood. Qualitative research methods provide deeper insights than is possible using quantitative methods alone (Denzin, 1989). Moreover, Jack i Raturi (2006) claim that the traditional measures like reliability and validity are replaced by the level of symmetry between alternative methods used.

### 3. QUALITY CRITERIA FOR QUALITATIVE RESEARCH

The growing attention to the quality of research methods are caused by: (a) the difficulties of the study of human perceptions, behaviours and phenomena which are generally complex and problematic in social sciences (Babin et al., 2012); (b) the growth of qualitative research and the lack of consensually agreed quality criteria (Spencer, Ritchie, Lewis, Dillon, 2003); (c) the rise of mixed methods research (qualitative and quantitative) and the question of the kinds of quality criteria that might be applied to it (Sale, Brazil, 2004). Research quality, synonymous with rigor (Hays, 2016) is one but not the only criterion for evaluating quality research (Czakov, 2014). It simultaneously determines the quality of the research, the quality of the researcher's work, and the reliability of the research result (Czakov, 2014). There is a strong belief that empirical studies that use rigorous methodological procedures are more important to the advancement of science than studies that do not possess these attributes (Kuskova, 2011) by larger contribution to the literature and potential for citation by others (Judge et al. 2007). Although establishing rigor is a priority, the researcher and readers should determine if research findings are actually trustworthy. Trustworthiness is some commonly used foundational criterion for qualitative research. It has been divided into credibility, dependability, transferability, and confirmability (Lincoln, Guba 1985, Graneheim, Lundman 2004) with techniques for the analysis of methodological rigor (tab. 2).

*Table 2. Criteria and techniques for the analysis of methodological rigor in qualitative study*

<b>criteria</b>	<b>techniques for establishing criteria</b>
credibility	<ul style="list-style-type: none"> <li>• use of triangulation techniques such as multiple sources of evidence, investigators and methods during the data collection or the data analysis phase of the research (Lincoln, Guba,1985)</li> <li>• there is an explanation for the method of analysis (Godoy, 2006; Yin 2010)</li> </ul>
transferability	<ul style="list-style-type: none"> <li>• use of cross-case and, where appropriate, cross-nation analysis in the data analysis stage of the research (Miles, Huberman, 1994)</li> <li>• use of specific procedures for coding and analysis such as symbols, signs and others during the data analysis phase helps to ensure transferability (Yin, 1994)</li> <li>• "thick description" for readers to assess the potential transferability (Lincoln, Guba, 1985)</li> </ul>
dependability	<ul style="list-style-type: none"> <li>• there is triangulation of data between the sources of evidence (Yin (2010); Martins (2008); Lima et al. (2012), Cesar et al. (2010)</li> <li>• use of the dependability audit during the research design phase of the research (Lincoln, Guba,1985)</li> <li>• there is an explanation for the data collection method, including the steps followed, when they occurred, where they occurred, with whom, and in what way (Yin, 2010; Cesar et al. 2010)</li> </ul>
confirmability	<ul style="list-style-type: none"> <li>• retention of the raw data such as field notes, tapes, documents and others during the data collection stage (Lincoln, Guba,1985)</li> <li>• there is reflective commentary (Shenton, 2004)</li> </ul>

*Source: own compilation based on (Marques 2015; Riege 2013)*

Criteria for qualitative research are very often referred to quantitative research criteria, although it has its own, separate hallmarks of rigor (Lincoln, Guba 1985). Thus credibility is similar to internal validity (Lincoln, Guba 1985, Graneheim, Lundman 2004; Ihantola, 2011), and refers to the overall believability of a study or the degree to which research outcomes seem accurate based on the research process (Ihantola, 2011). Transferability, is a form of external validity, relates to the localized generalizability to participants, settings, and time frame similar to those in a study (Lincoln, Guba 1985, Graneheim, Lundman 2004; Ihantola, 2011).



Transferability is the degree to which the results of research can be transferred to other contexts or settings with other respondents (Bitsch, 2005; Tobin & Begley, 2004). Dependability is similar to reliability and refers to the consistency of findings across time and researchers; and confirmability, which is largely an issue of presentation (Lincoln, Guba 1985, Graneheim, Lundman 2004). Confirmability is also the degree to which the results could be confirmed or corroborated by others.

## **4. CONTENT ANALYSIS**

### **4.1 Procedures for data collection and analysis**

In this study, the content analysis of a prestigious international journal "Personnel Review" was conducted on the use of the qualitative approach. Content analysis was chosen as it allows access to individual understanding of quality criteria and the way of its fulfillment in research practice. This journal has been selected for the scope of human resources research, the Impact Factor, and author's full availability to the database. Moreover, the authors have indicated the use of research approach in keywords of "Personnel Review" since the last issue in 2013. It has become the basis for selecting the articles for the content analysis. In total, 175 scientific articles were reviewed in the period 2015-2017 (from no. 44(1)/2015 to 46(5)/2017), of which 31 authors have indicated the use of a qualitative approach. Methodological rigor was understood in this study as the presence of aspects characteristic in Table 2 in each paper in the sample examined. The papers analyzed were evaluated by reading each paper, especially the abstract, methods, and conclusion in 2 point scale: the value one (1) was given when the characteristic was found in the text; the value zero (0) was given when the paper failed to show the characteristic. Thus, the higher point is, the higher the methodological rigor is. The study involved multiple readings (three stages) to explore and analyze the data. First stage focuses on preliminary review of selected journals that allow to determine certain assumptions to limit the subjectivity of the assessment and increase the dependability. The certain assumptions related to the following points:

- (a) criterion procedures of coding: 0 points, when the article contained only information that the data was coded without explaining how or by which the program was used;
- (b) criterion reflective commentary: 0 points when the article contained reflections on only the limitations in the research; 1 point when there were reflections on the methodology approach used;
- (c) criteria 'thick description' for readers to assess the potential transferability was evaluated 'subjectivity' about entire methodology description, in which a qualitative researcher provides a robust and detailed account of their experiences during data collection. In addition, two articles were rejected during this stage because one of them was about research methodology and the other used a mixed approach rather than qualitative one. As a result, 29 articles were further evaluated. The second stage related to evaluate criteria of selected journals in 2 points scale. The third stage was rereading in order to check ensure cohesion.

### **4.2 Findings**

Consequently 29 articles were analyzed with a qualitative approach, which accounted for 17% of all articles. The most commonly used research method was a semi-structured interview or case study, which also included interviews and analysis of organizations' websites, internal documents or observations. Four articles were theoretical and used content analysis. The level of fulfillment of the quality criteria for the qualitative approach is quite good (Tab. 2). Of the ten criteria listed, most articles (62%) meet at least half of them. This means that a significant percentage of the authors are committed to providing the trustworthiness of research by meeting a substantial part of the criteria. However, none of the analyzed articles met all ten criteria.

Among the reviewed articles four of them were theoretical and obtained 0 points for each criterion because of lack the methodology description. There were only general description like this: *“the authors examined relevant research”* or *“the authors review the existing literature”*. There was a lack of information on the choice of literature and justification for this choice. Although, it is often difficult to evaluate the trustworthiness of qualitative content analysis studies because of defective data collection method description and/or analysis description (Elo et al., 2014), qualitative content analysis should also fulfil the quality criteria for quality research.

*Table 3. Number of articles fulfilment of the criteria*

Quantity of criteria	0	1	2	3	4	5	6	7	8	9	10	Σ	min	max	mean	sd
Number of articles fulfilment the criteria	4	0	0	1	6	7	6	3	0	2	0	29	0	9	4,72	2,37

sd – standard deviation

*Source: own compilation.*

The highest level of fulfilment the quality criterion relates with explanation for the data collection method – D8 (Tab. 3). The authors usually very detailed describe the steps of data collection, when they occurred, where they occurred, with whom, and in what way. Much less often they describe the criterion related explanation for the method of analysis (C2). While most articles describe each step of the analysis and analysis tools, for example: *“using NVivo Software”* or *“analysis was conducted in three stages”*, explanation the use of specific tools or a specific analysis procedure was much less likely. The procedure for coding during the data analysis was well described (T4), as well as the method of retention of the raw data (CF9), for example *“All interviews were audiotape recorded, transcribed verbatim and coded (using emerging, open codes); in the second study the computer program Atlas.ti was used for the coding process”*.

The audit trail was the hardest to meet criterion (D7), which was understood as an involving other perceptions from researchers or participants in developing the conclusion of the study. Criterion of cross-case and cross-nation (T3) was also difficult to fulfillment. Much of the research involved one company or several companies in one industry. And only in 2 cases respondents came from different countries. The criterion of reflective commentary was relatively low (CF10). Authors very rarely reflect on the methodology used in the context of its limitations for the phenomenon under investigation. Although some articles received points for these criteria, however, this reflexivity was very general, for example: *„This model could be tested in a quantitative manner in future studies”* or *“further knowledge can be gleaned from quantitative approaches as the field expands”*. Only in one case was written that *“to avoid these issues we moved back and forth between the transcripts, the coding book and observational and methodological notes within the research diary”*.

*Table following on the next page*

*Table 4. Level of fulfillment of the quality criteria for qualitative research*

<i>Description of particular criteria</i>	<i>Number of articles</i>	
	<i>n</i>	<i>%</i>
Credibility		
(C1) triangulation techniques: multiple sources of evidence, investigators or methods during the data collection or the data analysis phase	9	31%
(C2) explanation (grounds) for the method of analysis	11	38%
Transferability	7	24%
(T3) cross-case /cross-nation analysis in the data analysis	14	48%
(T4) procedures for coding and analysis	8	28%
(T5) 'thick description'	3	10%
Dependability	3	10%
(D6) triangulation of data between the sources of evidence (i.e. multiple researchers analyse the same data separately and compared the results)	16	55%
(D7) dependability audit during the research	13	45%
(D8) explanation for the data collection method (i.e. the steps followed, when they occurred, where they occurred, with whom, and in what way)	8	28%
Confirmability	9	31%
(CF9) retention of the raw data (i.e. notes, tapes, documents and others during the data collection stage)	11	38%
(CF10) reflective commentary (i.e. reflexivity about used methodology)	7	24%
	min	3
	max	16
	median	8,5
	standard deviation	4,367

*Source: own compilation.*

## 5. CONCLUSIONS AND LIMITATION

The aim of this study is not to judge evaluated articles, but take discussion about the existing criteria for quality research and its fulfillment. The authors of analyzed articles tried to fulfill these criteria and most of them could do it, but often it seemed very difficult. For example, although coding is a widely accepted practice in the research, it has been criticized for the potential to lose the context of what has been said (Hennekam, Bennett, 2016). The situation with cross-case is similar. Compliance with this criterion seems very difficult, due to the assumption of qualitative research, which is to consider contextuality. By studying many different organizations, context is lost, what is the basis for understanding certain phenomena, such as human behavior. On the one hand the strength of qualitative research is to investigate phenomena in a specific context. On the other hand it may also be a limitation regarding the generalizability of findings to organizations in other contexts. Most of authors emphasized that the findings do not allow generalization to the whole population because of the size of the sample and the method used. As shown in the findings of this study researchers still use more quantitative approach than qualitative approach. Despite the lack of consensus in use of qualitative trustworthiness criteria there is strong evidence that the quality criteria discussed in this paper are conceivable to fulfilment. Based on the findings, it can be compiled a checklist for researchers to put into practice the qualitative research trustworthiness criteria of a study in human resources management. This paper recommends to qualitative researchers to adopt at least two particular criteria in reference each quality criteria discussed in this paper and this will improve the trustworthiness of qualitative research. The present study has certain limitations. One limitation is that this study is does not take into account research paradigms.

Two limitations of this study relate to the choice of the several particular criteria (techniques) used to evaluate papers. Those techniques are relevant to primary criteria, but they are not the only ones. The last limitation, but not least is lack of connection between the aim of the study and used research approach. It is commonly believed that the aims of the study should indicate the method of data collection and data analysis used.

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## THE IMPACT INVESTING ECOSYSTEM IN JAPAN AND SINGAPORE

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### **ABSTRACT**

*Using an adapted Entrepreneurial Ecosystem framework, this study developed a comprehensive view of the impact investing sector in Asia with a focus on Japan and Singapore. For the past decade, impact investing has gained increasing importance as an innovative collaborative approach to address social and environmental issues by using private capital. The study finds that the market scales are small and each country faces unique challenges. For Japan, the culture of giving and the small social sector are the key challenges for developing impact investing. For Singapore, the government's low social expending strategy may limit the development. However, both Japan and Singapore have supportive environments for impact investing due to high-quality human resources, well-developed financial markets and political interest. In particular, the higher total wealth of high network individuals (HNWI) in Japan and the larger donations to charities in Singapore (% GDP) offer rich potential.*

**Keywords:** *Entrepreneurial Ecosystem, Impact Investing, Public Policy, Social Impact Bonds, Social Impact Investment Framework*

### **1. INTRODUCTION**

New approaches to address increasing social challenges are necessary. As national economies develop, the world faces evolving social and environmental needs. Pollution, natural resource exhaustion, income inequality, and increasing healthcare costs are new problems requiring attention across the globe. While the challenges are growing, the traditional solutions that have been relied upon are insufficient — many governments are debt-ridden, and charities and non-profit organizations (NPOs) continue to struggle to raise funds. Fostered by this need for new solutions, impact investing as an innovative cross-sector arrangement presents a way to support the works of the social sector while still generating financial revenue. In this process, impact investors provide capital to the organizations with social purposes (SPOs), aiming at creating both financial and social returns (Bugg-Levine & Emerson, 2011; Nicholls, 2010). During the past decade, effort has been made to build a formal impact investing industry at a global level. Market infrastructures, networks, platforms, and methods to measure social impacts have been established (Jackson, 2013). In addition, academic research has provided empirical evidence that impact investing has been successfully implemented in several sectors and in a wide range of forms, such as private equity, venture capital, debt, and equity (Ormiston et al., 2015). Governmental institutions, such as the European Commission and G8 countries (now G7) led by the UK, have shown their support (European Commission, 2011; SIITF, 2014). The emergence of social impact bonds has also actively included public capital as a practice of impact investing. Across the globe, there are currently 89 impact bonds in play, and a capital of USD 322 million has been raised for the projects (Social Finance UK, 2017). Despite the attention and support, the impact investing sector is still young and faces several challenges, including a lack of sufficient capital and high-quality investing opportunities (Wilson et al., 2015; Achleitner et al., 2011), and the need of more enabling environments, effective

intermediaries, and proper legal frameworks for further growth (Bugg-Levine & Goldstein, 2009; Mendell & Barbosa, 2013; Wilson et al., 2015). To overcome these challenges, more governmental engagement is recommended to shape and boost the market (Mendell & Barbosa, 2013; Moore et al., 2012b; Sunley & Pinch, 2012; Wood et al., 2013). Furthermore, a more tailored academic engagement is needed to support the design of effective interventions. Apart from that, more effort needs to be made to stimulate the development of impact investing globally. Geographically, the major actors in the impact investing market are based in Europe and North America (Jackson, 2013). In Asia, where impact investing is a relatively new concept, it involves few players overall (Asian Development Bank, 2011). There is very limited academic literature focusing on this topic. As social sectors are formulated differently across different countries, further contextual examination for each region is necessary, particularly with regard to Asia. This research thus focuses on understanding the development of impact investing in two Asian countries, Japan and Singapore. The primary attempts of this research are to assess the current scope and scale of the industry in the region, to explore the role of public policy in developing the market, and to offer policy recommendations. For these purposes, this research applies an entrepreneurial ecosystem approach (based on the Babson Entrepreneurship Ecosystem Project (BEEP)) and adapts it to the context of impact investing (based on the Social Impact Investment Framework from the Organization for Economic Cooperation and Development (OECD)). With this approach, a comprehensive overview of the development is presented, possibilities and challenges for impact investing are identified, and the key influencing determinants are evaluated. The highly developed UK impact investing market is used as a benchmark. This paper is organized in four sections: the first section explains the concept of impact investing. The second section provides the methodological framework for evaluating the impact investing ecosystem in the selected countries. The third section analyzes and interprets the relevant findings to answer the research questions: *What are the current developments of impact investing in Asia? Who are the main actors in the market? What are the possibilities and challenges? How can public policy enable the development of impact investing?* The fourth section presents the conclusions and policy recommendations for each country individually.

## **2. THEORETICAL FRAMEWORK**

### **2.1. Impact investing**

The term “impact investing” was coined in 2007 by the Rockefeller Foundation (Harji & Jackson, 2012). It presents a new investment logic that has gained growing attention over the past decade — the impact investors provide capital to social entrepreneurs, actively aiming at creating measurable social impacts with the goal of obtaining financial returns as well (Bugg-Levine & Emerson, 2011; Jackson, 2013; Nicholls, 2010). Following this logic, various investment activities have emerged across the globe. Impact investing is a new political-economic arrangement between the government, business, and social sectors. More concretely, it emerged in line with three trends. Firstly, it is related to an attitude change toward new capitalism (Dacin et al., 2011; Clark et al., 2014). Society now requires a more sustainable and ethical way to develop the economy. For example, consumers in the newer generations demand “good” products that are environmentally and socially ethical (Herman, 2010; Nicholls & Opal, 2005). This change of attitude has stimulated the practice of impact investing, giving financial incentives for investors to create social values, serving as an adaptation of the new capitalism. Secondly, impact investing is seen as the evolution of Socially Responsible Investing (SRI) and Corporate Social Responsibility (CSR) movements (Ormiston et al., 2015). The third trend that contributes to impact investing is the change of the social sector. During the past decades, the social sector has begun to adopt and adapt business techniques in order to address social problems, generating revenue to be more self-sustaining; accordingly, social enterprises have

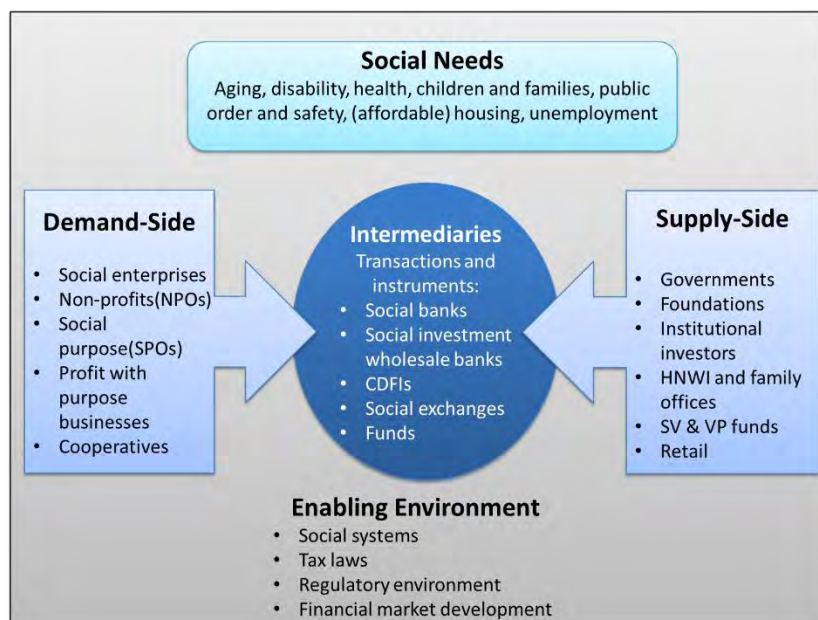
emerged (Borzaga & Defourny, 2001, 2004; Seelos & Mair, 2005; Volkmann et al., 2012). These developments shaped the modern social sector in a way that resembles market economies and created investing opportunities for impact investors. The culmination of these trends shows that impact investing serves as a cross-sector collaborative approach that can create joint benefits for all three participating sectors. For governments, it helps them to solve social problems; for private investors, it responds to the demands of consumers and creates financial benefits; and for the social sector, it provides needed resources and improves their impact. The academic field of impact investing is still young and limited. Research has yet to theorize on the investment structure and clearly define the epistemological boundaries (Moore et al., 2012a). Despite Nicholls' (2010) significant contribution to conceptualize impact investments and examine the investment logic and rationality, impact investing requires further conceptual clarification. At this early stage of development, researchers have diverse understandings of the notion and difficulty providing a precise definition (Höchstädter & Scheck, 2015; Moore et al. 2012a; Wilson et al., 2015). However, as observed from the literature, the general definition centers on three core elements: the creation of both social and financial returns, the intention, and measurable impacts. Namely, the investing activities intentionally provides capital to organizations to generate a "blended value" of both non-profit impacts and financial profits (Höchstädter & Scheck, 2015; Nicholls, 2010). The idea of blended value creation attempts to focus on both kinds of outcomes without trade-offs (Emerson, 2003; Nicholls, 2010), and this idea represents what impact investing aims to achieve (Bugg-Levine & Emerson, 2011). While primarily highlighting the intention and measurement of social impacts, discussions of impact investing usually do not limit the financial returns, where investors can adopt varying strategies for higher or lower levels of financial return rates (Höchstädter & Scheck, 2015; Nicholls, 2010). This research uses this general understanding of impact investing. Under this definition, impact investing can be practiced in a wide range of forms to address social or environmental issues wherever needed. Firstly, impact investing can appear in the form of debt, equity, loans, microfinance funds, venture philanthropy, or hybrid capital (Achleitner et al., 2011; Bugg-Levine & Emerson, 2011; Ormiston et al., 2015). In other words, impact investors can choose from a wide spectrum of investing strategies for any combination of social and financial risks and returns, according to their investing interest and rationality (Nicholls, 2010; Rangan et al., 2011; SIITF, 2014). The flexibility and wide strategy options in the impact investing market allow it to attract various types of investors. A wide range of related terms are utilized interchangeably or with overlapping concepts to describe impact investing (Louche et al., 2012; Wilson et al., 2015; Wood & Hagerman, 2010). The most common ones are social investing and social responsible investing (SRI) (Höchstädter & Scheck, 2015). Despite the use of different terms, the concepts do not differ from impact investing fundamentally (Louche et al., 2012; Wilson et al., 2015; Wood & Hagerman, 2010). The term "social investing" emerged earlier in 2000 and is commonly used in Europe in line with impact investing. It usually covers a broader meaning and includes all investing actions with a social or environmental purpose (Höchstädter & Scheck, 2015; Wilson et al., 2015). The term "SRI" is used to describe a more traditional view of ethical or sustainable investing (Höchstädter & Scheck, 2015). For our research purposes, the two terms are included in the discussion of impact investing, in an attempt to cover the full potential of its development.

## **2.2. The OECD Social Impact Investment Framework**

To explore the landscape of impact investing in the two Asian countries and the role public policy can play in catalyzing its development, a comprehensive understanding of the actors and influencing factors in the impact investing industry is necessary. Because the impact investing market is nascent, the focus of the academic field is usually on measuring the impact of value creation rather than evaluating the entire impact investing market (Jackson, 2013). Hence, there



are limited approaches available for the analysis of current developments. The one approach that is most systemic is provided by the OECD. As shown in Figure 1, the Social Impact Investment Framework by the OECD identifies the elements that make up the social impact investment market (Wilson et al., 2015). It provides a clear overview of the impact investing industry as an “ecosystem”, identifying the relevant actors, investing channels and influencing factors in the market. This concept closely corresponds to this study’s goal to explore the scale and size of the Asian impact investing market. Nevertheless, the framework combines different types of key factors under the same category of the “enabling environment”. Given that this research attempts to explore the impact investing industry for policy-makers, it is essential to examine these core enabling environment conditions in a more organized way, avoiding omissions and without too much focus on the investors, investees, and intermediaries. Therefore, this research reorganized the elements of this framework based on an associated entrepreneurial ecosystem approach.



*Figure 1: OECD's Social Impact Investment Framework  
(Authors; adapted from Wilson et al., 2015)*

### 2.3. The entrepreneurial ecosystem approach

While the existing framework to examine the impact investing industry is limited, this research explores the ecosystem approach utilized in the field of entrepreneurship creation. The entrepreneurial ecosystem approach provides a comprehensive method to examine, support, or stimulate entrepreneurship. It studies the creation of new businesses in a region as the outcomes of a self-sustaining entrepreneurial ecosystem with a unique environment, consisting of various interacting components (Isenberg & Onyemah, 2016; Neck et al., 2004; Stam, 2015). A healthy entrepreneurial ecosystem is believed to lead to job creation and economic growth (Isenberg & Onyemah, 2016; Neck et al., 2004). For public policy, this approach presents a holistic and systemic view, focusing on enabling a self-staining ecosystem that leads to entrepreneurship growth instead of intervening in the business of particular entrepreneurs (Ács et al., 2014; Autio et al., 2014; Mason & Brown, 2014; Stam, 2015). Measuring the existing ecosystem could provide a comprehensive view of the enabling actors, the possible challenges, and opportunities. Hence, mapping the ecosystem could be the first step towards the encouragement of entrepreneurial actions.

This approach is chosen for the following reasons. First, the impact investing sector resembles traditional entrepreneurship activities as it involves the creation of both social and financial values. By considering impact investing an emerging new sector of entrepreneurship, this approach is suitable to help understand current developments, identify the actors, potential and challenges in the market, and consequently provide the information required to design suitable policies. In addition, the concept of examining entrepreneurship like an ecosystem has its similarities with the Social Impact Investing Framework by the OECD. Lastly, previous research has also applied a broader ecosystem approach in the field of modern economics for various sectors with different scopes and objectives (Pilinkienė & Mačiulis, 2014). This study utilizes the entrepreneurial ecosystem framework from the Babson Entrepreneurship Ecosystem Project (BEEP). As presented in Figure 2, the BEEP identifies the key components of the entrepreneurial ecosystem by categorizing them into six domains: policy, markets, human capital, culture, supports, and finance (Isenberg & Onyemah, 2016). These elements form an interactive and self-sustaining environment that leads to entrepreneurship growth (ibid). The BEEP framework was chosen because it focuses more on the interacting actors and factors instead of measuring their performances and impacts, which is more suitable for an industry in an early stage of development. Moreover, it is more general and conceptual, as it does not utilize a defined set of indicators. This allows for more flexibility in the selection of proper indicators, which is necessary given the nature of the impact investing industry.

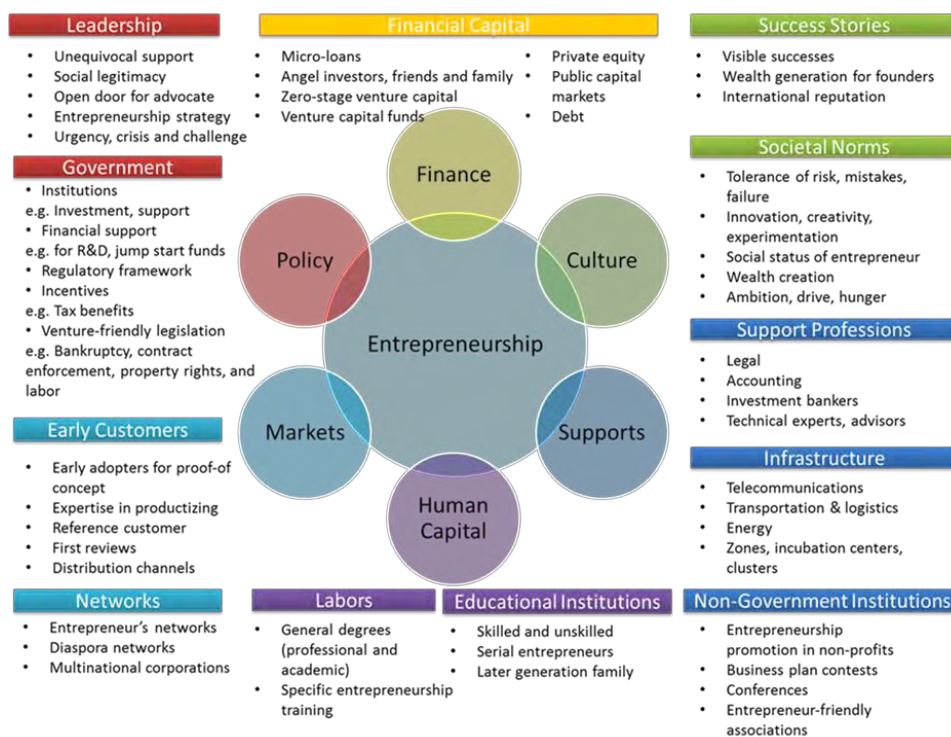


Figure 2: BEEP: Components of the Ecosystem (Authors; adapted from Isenberg & Onyemah, 2016)

A key limitation of this research lies in the applicability of the entrepreneurial ecosystem framework at a national level. While research focusing on national systems of entrepreneurship exists (see Ács et al., 2014), Isenberg (2016), the head of the BEEP project argues that the ecosystem should be observed in smaller geographic units<sup>1</sup> because cultures can differ widely across regions.

<sup>1</sup>For example, cities with a population of less than 2 million (see Isenberg & Onyemah, 2016 for cases).

Although this research agrees with this concern, it is quite difficult to assess the impact investing sector in smaller regions at this stage due to the lack of accessible data and resources. Hence, this research will employ the BEEP framework as a first attempt to provide an overview of conditions within the two Asian countries Japan and Singapore. To further understand the environment and design policies for impact investment, examination at sub-national levels is recommended.

## 2.4. The Impact Investing Ecosystem Framework

Considering that the impact investing sector is different from traditional entrepreneurship, this research combined and adapted the two above mentioned frameworks. Thus, a new framework was established – the Impact Investment Ecosystem Framework, as shown in Figure 3. It is based on the six domains categorized by the BEEP ecosystem framework: policy, markets, human capital, culture, supports, and finance (Isenberg & Onyemah, 2016). The determinants of the OECD's Social Impact Investment Framework have been reorganized into these six domains. Some of the aspects considered in BEEP, but not in the OECD's Social Impact Investment Framework, have been added to complement the domains of this new framework. The environment variable in the market domain, has been added by the authors to acknowledge the fact that impact investments can create environmental value as well. The aspect of networks has been allocated to the supports domain rather than the market domain considering their essential role in supporting the industry and building capacity.

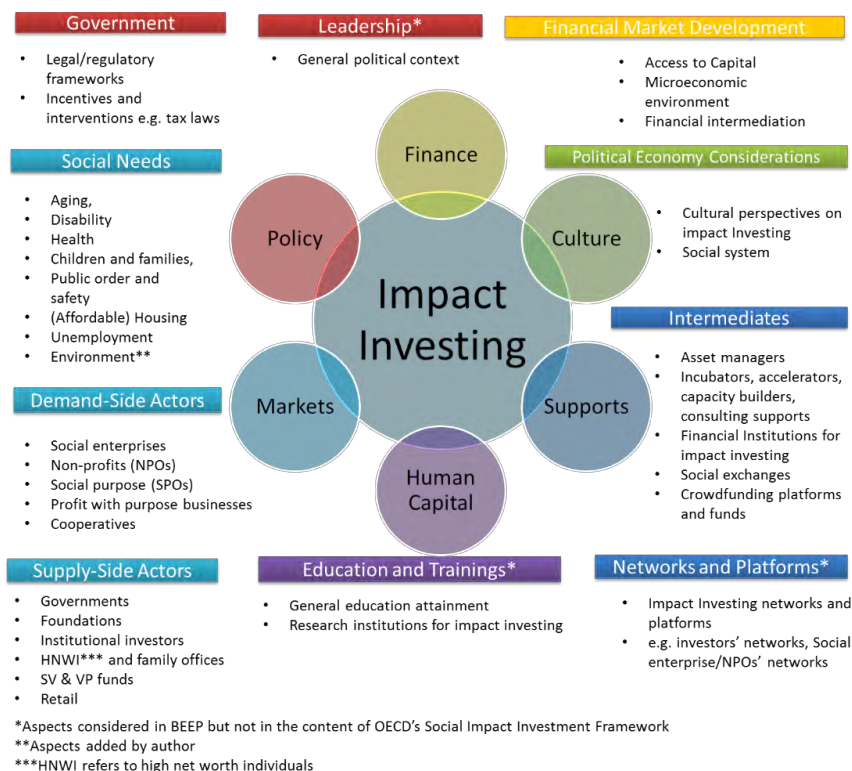


Figure 3: Impact Investing Ecosystem Framework (Authors; adapted from Wilson et al., 2015 and Isenberg & Onyemah, 2016)

## 3. METHODOLOGY

A case study approach was applied to obtain empirical insight into the development of impact investing in Asia. Japan and Singapore were selected as cases. While impact investing is still nascent in Asia, the two chosen countries have relatively active impact investing markets compared to other Asian countries.

Japan is a member of the G8 (now G7) Social Impact Investment Taskforce to catalyze the development of impact investing across the globe (SIITF, 2017), while Singapore is the home of important impact investing networks in Asia, such as the Asian Venture Philanthropy Network (AVPN) and Impact Investment Exchange Asia (IIX). The benchmark for this research is the development of the impact investing market in the UK, which is currently the biggest market across the globe. Furthermore, with the government's support, various research studies and practices were conducted over the years. Consequently, the UK provides the most data on the development of impact investing (Wilson et al., 2015). As a result, it serves as a suitable reference point to make cross-country comparisons. To assess the six domains of the established Impact Investing Ecosystem Framework, a set of indicators was selected. This research used secondary data from well-established cross-country development indicators and official governmental information to assure data credibility. Additional information from key impact investing networks in Asia such as the AVPN, were utilized as a proxy to estimate the market size and identify key players. The policy domain examines the political contexts influencing the impact investing ecosystem in two aspects: leadership and government. The leadership determinant examines the general political context that enables impact investing. It is assessed through the World Governance Indicators (WGI) by World Bank (2016), such as political stability, government effectiveness and regulatory quality. The government determinant refers to the legislation and governmental interventions. It is evaluated through the existence or absence of an appropriate legal framework (legal forms for social enterprises in particular), the key initiatives, laws, and policies that the government has developed in relation to impact investing. This data was collected through governmental publications and the reports published under the Social Impact Investment Taskforce. The determinants assessed in the markets domain are demand (social needs), market demand-side actors, and supply-side actors. A set of indicators were selected to measure the social needs, including the Social Progress Index (the variables of which are health and wellness, personal safety, shelter, water and sanitation, environmental quality, and maternal and child mortality rates) (Social Progress Imperative, 2017), the World Bank indicators (population ages 65 and above, unemployment rate) (2017a; 2017b), OECD's (2017b) GINI Coefficient for income inequality, and the UNDP's (2016) Human Development Index (Gender Inequality Index). The demand-side actors of the market were measured through the number and size of the actors, according to the country-specific forms of related organizations and governmental data. The supply-side actors of the market were assessed by the amount of investments that were utilized by these actors to address social needs. The indicators include the government's social expenditure (OECD, 2017a; Singapore Government, 2017), the budget of charities and NPOs (Cabinet Office, Japan 2016; COC, Singapore Government, 2015; Government of UK, 2017a), total donations to charities (JFRA, 2015; COC, Singapore Government, 2015; NCVO, 2017), total sustainable investment assets (Eurosif, 2016; GSIA, 2016), the size of the impact investment market (Big Society Capital, 2015; Japan NAB, 2016) and the total wealth of high network individuals (HNWIs) (Capgemini, 2016). Additionally, examples of impact investors were collected. The human capital domain, particularly education and training, were assessed through the education index shown in the human development index (HDI) by the UNDP (2016), the years of tertiary schooling according to the Social Progress Index (Social Progress Imperative, 2017) and the Program for International Student Assessment (PISA) by the OECD (2015). Furthermore, several research institutions with a focus on impact investing were examined based on desk research, utilizing information collected by the AVPN (Mohan et al., 2017) and the institutions' official websites. Nevertheless, it was difficult to ascertain whether an institution does research on impact investing. The culture domain in this research includes political economy considerations and the social system.

The cultural perspectives on impact investing were assessed using the World Giving Index (CAF, 2016) as a proxy for citizen attitudes and willingness to engage in solving social problems. The social systems, in this research defined as the political and economic structure of the society, were examined based on Acemoglu and Robinson's (2013) research on the influences of "inclusive" or "extractive" political economic structures. The supports domain uses a set of relevant organizations to analyze the intermediaries, networks and platforms of impact investing in each country and provides a list of examples. The finance domain examines the general financial development. The development was assessed through the World Bank Development Indicators (central government finance: debts) (2017c), the World Economic Forum's Inclusive Development Index (financial intermediation of real economy investment) (2017), and the World Competitiveness Index (macroeconomic environment, financial market development, and market size) (2016). All indicators are listed in the table annexed to this paper. The limitation of this methodology is related to the difficult access to measurable and comparable data for Japan, Singapore and the UK. Because the impact investing industry is at an early stage of development in Asia, there is often insufficient information available.

## **4 RESULTS AND DISCUSSION**

### **4.1. The policy domain**

#### *4.1.1. Leadership: general political context*

Understanding the governments' role in the impact investing ecosystem is essential for creating a positive environment. Generally speaking, the political environments for impact investing in Japan, Singapore, and the UK are enabling. All countries gain positive governance scores in all six WGI indicators by the World Bank (2016), except for Singapore. But although Singapore has a -0.1 score (-2.5 to +2.5) in voice and accountability, it has nearly perfect scores in the other five indicators, which still implies an enabling political environment for governance and implementing interventions (ibid). As for Japan, its regulatory quality (+1.2) and rule of law (+1.5) are slightly lower than those of Singapore (+2.3 and +1.9) and the UK (+1.9 and +1.8) (ibid). Therefore, it might face more regulatory barriers when developing impact investing. For the UK, the score in political stability and absence of violence is significantly lower (+0.6) than the scores for Japan (+1.0) and Singapore (+1.2) (ibid); this could increase uncertainty in the development of impact investing if the political interest changes.

#### *4.1.2. Government: regulatory frameworks for social enterprises*

The existence of enabling regulatory frameworks for social enterprises can directly increase investment opportunities for impact investors. Currently, the legal status of social enterprises is still complex and without a precise definition in the three countries. There has been more progress in the UK. While social enterprises can appear in many forms, a specific form, the community interest company (CIC), was established in 2004 for businesses that benefit the community (Government of UK, 2017b; UK NAB, 2014). In Singapore, social enterprises come in various entities including for-profit and non-profit (The Law Society of Singapore, 2016). However, the government-funded Singapore Centre for Social Enterprise (raiSE) has provided a status for social enterprises with memberships (raiSE, 2017). For Japan, there is no specific legal entity for social enterprises either (Japan NAB, 2014). The closest effort is the report conducted by the cabinet office to define social enterprises and estimate the market scale (Cabinet Office, Government of Japan, 2015). To allow more impact investments, the three countries, especially Japan, should further consider a specific legal framework for social enterprises.

#### *4.1.3. Government: interventions and incentives for impact investing.*

The policy interest in impact investing is evident for all three countries. The UK government is the most active, with a wide range of initiatives, regulations, and policies to support the development of impact investing, including encouraging investors, improving financial environments for social organizations, engaging public actors, building market capacity and infrastructure and creating social impact bonds (see annex). In Japan, two key policies were developed under the initiative of the Social Impact Investment Taskforce, based on the experiences in the UK. Firstly, the government passed a law to enable the use of capital from dormant bank accounts for impact investing purposes. The implementation of this policy is expected by 2019 and is applicable to dormant capital since the end of 2016. The approach is similar to the UK's Big Society Capital (The Japan Times, 2016). Secondly, three pilot projects of social impact bonds were launched in 2015, focusing on family care, aging support, and youth employment (Japan NAB, 2016; The Nippon Foundation, 2015). These developments in Japan are considered an encouraging progress for impact investing. In Singapore, there are policies which imply an indirect, not yet specific political interest in the impact investing market, such as providing attractive tax incentives for donations, supporting social enterprises and the social sector (see annex). In summary, for further development of the impact investing market, the two Asian countries should pursue a comprehensive plan with various types of policies like in the UK.

## **4.2. The markets domain**

### *4.2.1. Demand: social needs*

If social problems are present, there is the opportunity for impact investing to develop a new approach to solve them. Compared with Japan and Singapore, the UK seems to have a greater need to handle social problems in most of the selected areas of this research. However, there is a demand for impact investing in all three countries, although with different focuses and levels of priority. Regarding the aging of the population, there is a high demand for social projects in all three countries. The Japanese society faces the most serious problem of aging: 26% of the population in Japan were above 65 years old in 2015 (World Bank, 2017a). While this figure is lower for the UK and Singapore (18% and 12% respectively), it is still higher than the world average (8.3%) and therefore raises concerns (ibid). For disability and health issues, assessed through the Social Progress Index's Health and Wellness indicators, the three countries gain similar scores, although Japan presents the lowest (79.89 out of 100). The performance of the three countries is acceptable, but there is still a demand for healthcare programs (Social Progress Imperative, 2017). There is a greater demand to improve the welfare for children and families in Singapore and the UK. Singapore presents a higher maternal mortality rate (9.98 deaths per 100,000 live births), while the figures for the UK (9.11) and Japan (5.43) are considerably lower (Social Progress Imperative, 2017). For child mortality, the UK has a higher rate (4.2), while Japan and Singapore have the same rate (2.7 deaths per 1,000 live births) (ibid). In addition, all three countries face the problem of income inequality as they all present figures higher than the OECD average (OECD, 2017a; OECD, 2017b; Department of Statistics Singapore, 2016). Regarding gender, Singapore has a remarkably low gender inequality<sup>2</sup> (0.068), but the figures for Japan and the UK are also low (0.116 and 0.131 respectively) (UNDP, 2016). For public order and safety, all three countries earned high scores in the Social Progress Index: Singapore scored 93.90 out of 100, the score for Japan is 91.66, and that for the UK is 85.45 (Social Progress Imperative, 2017). However, there is still room for improvement, especially in the UK. For house ownership, Japan and Singapore obtained the similar good scores in the indicator of shelter in the Social Progress Index, at 93.25 and 94.28 out of 100,

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<sup>2</sup>The scores of the index: 0 equals to complete equality and 1 equals to complete inequality.



respectively (Social Progress Imperative, 2017). The UK has a lower score of 87.53, due to a much more serious problem of affordable housing compared with Japan and Singapore (ibid). Concerning the job market, the three countries have lower unemployment rates than the world average. The UK has the highest unemployment rate among the three at 4.8% of the total labor force; for Japan it is 3.1%, and for Singapore it is only 1.8% (World Bank, 2017b). For environmental issues, two aspects of the Social Progress Index were examined: water and sanitation, and environmental quality. Japan has the lowest score at 83.82 regarding the set of indicators for environmental quality (ibid). It has a rather low rate for wastewater treatment at 56.53% compared with Singapore's 100% and the UK's 96.34% (ibid). In addition, it has the highest greenhouse gas emissions (ibid). For Singapore, outdoor air pollution-attributable deaths are significantly higher than in the UK and Japan (Social Progress Imperative, 2017). Meanwhile, the biodiversity and habitat protection are weaker. For the UK, while most of the indicators show positive results, the greenhouse gas emissions are much higher than in Singapore. The environment conditions in the three countries are generally acceptable. Yet, there is the demand to improve different aspects.

#### *4.2.2. Demand-side actors*

The set of country-specific relevant demand-side actors for the three countries is annexed. The presence of these organizations implies the potential demand for impact investments. As the types of actors are different in the three countries, this research only compares the numbers for three similar forms — NPOs/charities, social enterprises, and cooperatives/cooperative societies — by adjusting the numbers according to population. Compared with Japan and Singapore (both with around 4 per 10,000 inhabitants), the UK has extremely large numbers of NPOs/charities (25 per 10,000 inhabitants). The UK also has the most social enterprises (114 per 10,000 inhabitants). The results show that the UK has a much more active social sector, which provides higher supply and potential for impact investing. A weaker social sector can be more challenging for impact investing growth, as the society is more likely to rely on a traditional approach (the government) to address social issues, which is especially the case for Japan. However, the Japanese and Singaporean government can still apply impact investing, especially with social impact bonds, where the government is actively involved while reducing governmental burdens.

#### *4.2.3. Supply-side actors*

The amount of social spending can indicate the government's willingness to address social issues and their potential source of supply. In addition, it can indirectly justify the need for a cross-sector collaboration to optimize the use of these resources. Except for Singapore, the levels of governmental social expenditure are high. The governments of Japan and the UK spend over 20% of their GDP on social issues (OECD, 2017a). Singapore, on the other hand, spends only 8.2% of its GDP on social development (Singapore Government, 2017). This indicates that the potential supply for impact investment from the government is more than twice as high in the UK and Japan as in Singapore. The supply for impact investing can also be estimated through the budget of charities and total donations to charities. The charities in Singapore have the highest average budget at USD 4.7 million per year (COC, Singapore Government, 2015), while for the UK it is USD 0.56 million per year (Government of UK, 2017a) and for Japan it is USD 0.43 million per year (Cabinet Office, Government of Japan, 2016). In terms of percent of the national GDP, charities in Singapore receive higher donations than in the UK and Japan (COC, Singapore Government, 2015; JFRA, 2015; NCVO, 2017). This implies that the potential supply for impact investing is higher for Singapore or the UK. Another finding regards the source of donations, namely from individuals or the

corporate/private sector. In Japan<sup>3</sup>, corporate donations are about the same amount as individual donations, while in the UK, corporate donations represent only a small part of the total donations (JFRA, 2015; NCVO, 2017). This additional information is important for developing impact investing because it indicates cultural differences. As another potential supply for impact investing, Japan holds the most HNWI wealth among the three countries at USD 6.57 trillion, while the figures for the UK and Singapore are lower at USD 2.02 trillion and USD 527.1 billion respectively, according to Capgemini's Global Wealth Report (2016). Regarding the amount of actual impact investments, the UK has the largest supply. The Global Sustainable Investment Alliance (GSIA) reflects that the UK currently holds the most sustainable investment assets (7.61% of global assets), whereas Japan has 2.07% and Singapore only 0.02% (GSIA, 2016; Eurosif, 2016). While this calculation has adopted a broader definition for sustainable investment (GISA, 2016), additional information about the market size with a narrower definition of impact investing is available for Japan and the UK. The UK's impact investment value was worth USD 1.92 billion in 2015 (Big Society Capital, 2016), and Japan presented a much smaller market share of USD 0.30 billion (Japan NAB, 2016). These two indicators show that the current impact investing industry in the UK is much more developed compared with Japan and Singapore. However, there are opportunities for the markets in Japan and Singapore to grow, especially when considering the high HNWI wealth in Japan and the larger amount of donations (% GDP) to charities in Singapore. A list of selected impact investors in Japan, Singapore and the UK is annexed. The governments of all three countries have started to participate in the impact investing market, such as the Japan Finance Corporation (JFC) in Japan, raiSE in Singapore, and Big Society Capital in the UK. Compared with Japan, Singapore has more international impact investors, such as the LGT Impact Ventures (IV), LeapFrog Investments, and Bamboo Finance.

### **4.3. The human capital domain**

#### *4.3.1. General education attainment*

The development of impact investing as an innovative approach to address social needs will benefit from better education and human resources, as these factors facilitate innovation (Mariz-Pérez et al., 2012). The Education Index from UNDP's Human Development Index measures the average length of education in a country (UNDP, 2016). The three countries all have high scores. The figure for Japan is 0.842 (on a scale between 0 and 1; 1 being the highest), for Singapore it is 0.814 and for the UK it is 0.896 (ibid). While the figure for Singapore is slightly lower, the country instead presents the highest result concerning tertiary education. According to the Social Progress Index, the duration of tertiary schooling is 1.73 years in Singapore, 1.37 years in Japan and only 0.96 years in the UK (Social Progress Imperative, 2017). To evaluate the quality of education, this study used the OECD's (2015) PISA assessment which targets 15-year-old students in different countries and measures their performance in science, mathematics, and reading. Students in Singapore and Japan presented significantly high achievements in all three subjects, while the performance of UK students was about average for an OECD country (ibid). In addition, only 4.8% of students in Singapore had low performances in all three subjects compared with 5.6% in Japan (ibid). In the UK, 10.1% were low performers in all subjects; this is not much better than other OECD countries (13.0%) (ibid). Singapore and Japan present considerably better results in the above indicators, while all three countries have well-developed human capital to a certain extent. The quality and quantity of human resources in Singapore and Japan are highly advanced, compared with the UK and other countries.

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<sup>3</sup>For Singapore, there is no comparable data on the sources of donations. However, there are available data for individual donations (NVPC, 2016) and sources of donations of above one million dollars (Coutts, 2015).



This provides a positive environment for impact investing. The valuable human capital in Japan and Singapore enables the creation of social innovations. This is especially the case for Singapore, where the performances are outstanding.

#### *4.3.2. Research institutions for impact investing*

Whether there is research interest in impact investing in a country can influence the degree of development, since accessible knowledge is essential for innovative ideas. This research highlights a few examples as a proxy for the environment of impact investing research. Impact investing is a new field with unclear boundaries, therefore this research includes NPOs and philanthropy, social impact, social enterprises, social innovation, and social finance. The AVPN's latest report on the landscape of impact investing in Asia identified the key relevant research institutions in 16 Asian regions (Mohan et al., 2017). Most of the identified research institutions in Singapore are universities, while for Japan there are more non-profit associations and foundations (ibid). In the UK, based on online keyword research, several research institutions exist (see annex). A few research institutions in these three countries have begun to focus on impact investing. It is particularly worth mentioning the establishment of the Social Investment Research Council (SIRC) which consists of five founding members (Big Lottery Fund, Big Society Capital, the Cabinet Office, Citi, and the City of London) and coordinates impact investing research efforts in the interest of key market actors (Big Society Capital, 2015). This is a significant development for impact investing research. However, the field would benefit from further academic engagement. The governments of Japan and Singapore could follow the example of the SIRC initiative in the UK and encourage a research collaboration.

### **4.4. The culture domain**

#### *4.4.1. Culture perspectives on impact investing*

Cultural perspectives examine to what extent civil society is willing to engage in addressing social challenges. The World Giving Index provides insights into the attitudes of citizens with regard to helping a stranger, donating money, and volunteering (CAF, 2016). This could be a proxy for understanding the cultural differences regarding impact investing. Among the three countries, the UK obtains the highest rank for philanthropic activities, ranking in the top eight in the world (ibid). Singapore is ranked 28th; the participation in these activities is approximately 10% lower (ibid). Clearly behind the UK and Singapore, Japan is ranked 114th in the world; only 24% of the citizens in the survey participate in philanthropic activities and the score is 30% lower than that of the UK (ibid). These very different figures demonstrate how the culture of giving differs in the three societies. The UK has a very active social sector that can contribute to solving social problems and further lead to the development of social innovations. The culture of giving is also promising in Singapore, which represents an enabling factor that supports the growth of impact investing. The culture of giving in Japan, on the other hand, seems weak. This could be a key challenge for developing impact investing there.

#### *4.4.2. Social system*

The design of social systems, meaning the general political and economic structures, influences the impact investing ecosystem. Acemoglu and Robinson (2013) have indicated that a nation's development depends on whether their political economic institutions are inclusive of society or extractive for the benefits of a few elites. Inclusive institutions are more likely to promote entrepreneurs and innovations (ibid). Likewise, this can enable social innovations and social entrepreneurship, further supporting the development of impact investing. Based on this theory and the analysis of the World Economic Forum's Global Competitiveness Index (2016), the economic institutions in research are all qualified as inclusive.

The three countries are ranked in the top 10 in the world (World Economic Forum, 2016). To assess the political institutions, the World Bank's (2016) WGI indicators were applied as standards. Japan and the UK's political institutions are more inclusive as they gain positive scores in all WGI indicators. Singapore's political institutions are rather extractive, earning negative scores for voice and accountability. Japan and the UK, where the economic and political institutions are all inclusive, are more likely to enable the development of impact investing. However, Singapore's political economic environment is a special case. While its political power is not well distributed, the government has high quality and efficiency. Moreover, the economic environment is remarkably enabling. As a result, the development of impact investing in Singapore is not limited, though it might be more challenging politically.

## **4.5. The supports domain**

### *4.5.1. Intermediaries*

Intermediaries are important support for the impact investing ecosystem, helping to develop market infrastructures, build capacity, and improve market efficiency. The focus of this research is to determine whether certain intermediation exists between the supply and demand and to identify examples. A list of examples<sup>4</sup> for intermediaries is presented in four categories (see annex). Through this list, this research has collected evidence that intermediaries are currently building the capacity of impact investing in the UK, Japan, and Singapore, with the participation of public, private, and social sectors together. The set of intermediaries is different for the three countries but organizations with similar functions usually exist. In Japan, there seem to be fewer public actors involved in market intermediation. In the UK, the most important examples of governmental actors include Big Society Capital, CDC which provides tailored overseas investment support (CDC Group, 2017) and a pilot P2P Impact Fund established in 2015 which supports social enterprises in accessing crowdfunding platforms (Cabinet Office, Government of UK, 2015). In Singapore, the National Council of Social Service, *raiSE*, and Tote Board are quasi-governmental organizations that provide support to social enterprises and the social sector. The philanthropic crowdfunding platform "Giving.sg." has also been established by the government. In addition, the presence of the social stock exchange platforms in Singapore and the UK gives the two countries a higher level of intermediation than Japan.

### *4.5.2. Platforms and networks*

The existence of networks and platforms is essential for impact investing as they provide information and knowledge that can improve communication and build capacity. A list of networks and platforms, though not exhaustive, is provided in the annex. The three countries have access to platforms with similar functions, from global-level networks to regional or local ones. The AVPN report has identified the key networks and platforms for Singapore and Japan (Mohan et al., 2017). There are fifteen organizations listed in Singapore, but only seven in Japan. From this aspect, it seems that Singapore has more access to impact investing networks and platforms. This result suggests that the Japanese government could consider putting more effort into building infrastructure support for the impact investment market, while it is evident that the intermediaries, networks and platforms are developing in all three countries.

## **4.6. The finance domain**

### *4.6.1. Governments in debt*

The government's financial condition can show whether the governmental resources are sufficient to address the growing social needs. The World Development Indicators provide

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<sup>4</sup>The intermediaries in Japan and Singapore are identified by the AVPN report (Mohan et al., 2017). Additionally, based on keyword research and the information on existing networks, such as the Social Investment Forum (UK) and the Global Impact Investment Network, examples for the three countries are given.

information about the revenue and expenses of the governments, as well as the amount of their debt (World Bank, 2017c). It is observed that all three governments are in debt. This reflects why impact investing is needed in the first place — new solutions are essential for society while there is a lack of traditional resources. The Japanese government has the highest debt (198% GDP) among the three countries (ibid). In the UK and Singapore, the governmental debts are lower at 107.6% GDP and 107.2% GDP, yet still higher than the average of high-income countries (101.1%) (ibid). In addition, the governments of UK and Japan struggle to balance their budgets with deficits. Singapore, on the other hand, keeps a revenue of 2.2% GDP (ibid). In general, there is a demand for impact investing in all three countries because they all face insufficient governmental resources. Especially the UK and Japan could profit from engaging private capital as part of the development of impact investing.

#### *4.6.2. Financial market development*

A well-developed financial market is more likely to support the development of impact investing. Singapore and Japan have enabling financial conditions in general for impact investing growth similar to the UK. With regard to economic development in general, the World Competitiveness Index has shown that all three countries are more advanced than the rest of the world (World Economic Forum, 2016). Notably, Singapore is ranked in the top two in the index, while the UK is in the top seven and Japan in the top eight (ibid). For financial market development in particular, Singapore is ranked in the top two as well, while the UK (top 16) and Japan (top 17) are at about the same level (ibid). However, Japan and the UK have advantages in market size (ranked fourth, and ninth) in contrast to Singapore's relatively small market (ranked 37th) (ibid). Compared with other economies in the world, the three countries have relatively efficient, trustworthy, and confident market and financial systems. The conditions in the two Asian countries create an enabling environment for impact investing. The smaller market size in Singapore does not limit the development of impact investing.

#### *4.6.3. Financial intermediation for inclusive growth*

In addition to the general financial market development, this research further examines the aspect of inclusive economic growth through the "financial intermediation of real economy investment" pillar by the World Economic Forum's (2017) new Inclusive Development Index. An inclusive economy enables impact investing to grow. The results show that the three countries all have medium-high financial foundations and environments for inclusive growth. Singapore, with the highest score of 5.50 (from lowest 1 to highest 7) among the three countries, performs in the top 20% among advanced economies (World Economic Forum, 2017). The UK obtained a score of 4.77 (top 40%), and Japan a score of 4.53 (ibid). The financial system inclusion in Singapore has room to improve, especially when compared with the UK. Namely, it can increase the affordability of accessing capital and financial services in the country. The financial intermediation in Japan is also relatively weak compared with Singapore, the UK, and other advanced countries. Therefore, the efficiency of intermediation from assets to investment opportunities needs to be improved to encourage the development of impact investing.

## **5. CONCLUSION AND POLICY RECOMMENDATIONS**

The elaborated Impact Investing Ecosystem Framework provides a comprehensive overview of the actors in the impact investing market and identifies its key challenges and possibilities. This research has found overall enabling environments in Japan and Singapore for the development of impact investing, although different challenges exist. While the market demand is relatively small compared with the UK due to fewer apparent social needs, the two Asian countries have similar political economic systems, high-quality human resources, and well-developed financial markets. In addition, it is evident that there are policy interests from part of the government. As

Japan faces heavy debt and social expenditures and Singapore has a limited budget for social development, impact investing is beneficial for both countries as a new solution to supplement governmental resources. Essential intermediaries and networks are already developing in both countries to support the market. Consequently, impact investing has great potential to grow in Japan and Singapore. To maximize this potential, public policy plays an important role. Firstly, it is essential that the governments understand how they can influence every determinant of the impact investing ecosystem, e.g. the legal frameworks and existing policies. By supporting enabling factors in all the different domains of this ecosystem, the government can catalyze its development. As the benchmark of the UK shows, public policy can build market capacity, increase demand, encourage investors, and provide capital or shape the social systems to invest private capital in social services.

### **5.1. Japan**

Japan is a country with high governmental social spending. Since it has the highest debt among the three countries and cannot balance its budget, the government should definitely seek alternative resources to help solve the growing social issues. Therefore, the demand for impact investing is high. To promote impact investing in Japan, the following suggestions for the government are given. Firstly, when compared with the other two countries, the key challenges are aging, income inequality, unemployment, and the environment (especially wastewater treatment and greenhouse gas emissions). The government can first examine the current structures of social services in these areas and then provide incentives for impact investments. Secondly, as the Japanese society has a relatively weak social sector, the government should put more efforts in building market capacity and catalyzing private capital. For example, it can become more involved in supporting intermediaries, investing in relevant research, or providing training programs. Additionally, given Japan's unique donation structure, the government can provide tax incentives for the corporate sector to invest in SPOs. The government can also focus on mobilizing the HNWI's in the country because they offer a rich source for impact investing. Thirdly, a legal framework for social enterprises is needed. The regulatory quality and rule of law in general are relative weaknesses of the Japanese governance compared with the other two countries. Lastly, the Japanese government should consider the proposals of the Japan Impact Investment Taskforce which provide a comprehensive plan for impact investing to develop in Japan.

### **5.2. Singapore**

Singapore has the highest quality and quantity of human resources, the most advanced financial market, and a government with good governance compared with the other two countries. Furthermore, it also has more access to international impact investors as well as international and regional impact investing networks than Japan. As a result, the impact investing industry in Singapore is promising. Impact investments can serve as a great additional resource for social problems given the fact that the government has a limited budget. Based on the analysis of this research, the key challenges are aging, welfare for children and families, income inequality and environmental issues (especially outdoor air pollution, biodiversity, and habitat protection). The government can take all domains in the impact investing ecosystem into consideration for designing new interventions and supporting the market in all aspects. Nevertheless, a more comprehensive policy plan for impact investing is recommended because it may offer clear steps to stimulate the industry. In particular, the government can establish a research institution to gain and provide essential knowledge in the field. Lastly, the government can consider introducing social impact bonds to promote impact investing. The implementation of pilot social impact bonds could demonstrate the benefit for society and the cost-effectiveness for the government which would allow Singapore to maintain its low social spending strategy.

### 5.3. Recommendations for further research

While this research has provided insights into the bigger picture of the impact investing ecosystem in the two Asian countries Japan and Singapore and identified key factors, we recommend further research to study the impact investing ecosystem at a smaller scale, namely at local levels. In addition, for effective practices of impact investing, the governments will need to examine the existing regulations and structures of social services in the targeted areas in detail to establish cross-sector collaborative projects. Most importantly, as impact investing is expected to further develop in Asia, it is worth keeping track of its development.

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Annex. Indicators for the Impact Investing Ecosystem Framework.						
Actors/Factors	Data Sources and Dates	Indicators	Unit	Japan	Singapore	UK
<b>Domain: Policy</b>						
<b>Leadership</b>						
General political context	Worldwide governance indicators (WGI) 2015  (World Bank, 2016)	Voice and Accountability	Governance score (-2.5 to +2.5)  [Percentile rank (low: 0 to high: 100)]	1.0 [79.3]	-0.1 [42.9]	1.3 [92.1]
		Political Stability and Absence of Violence		1.0 [82.4]	1.2 [93.3]	0.6 [62.4]
		Government Effectiveness		1.8 [95.7]	2.3 [100.0]	1.7 [93.8]
		Regulatory Quality		1.2 [85.1]	2.3 [100.0]	1.9 [98.6]



		Rule of Law		1.5 [89.4]	1.9 [96.6]	1.8 [93.8]
		Control of corruption		1.6 [91.3]	2.1 [97.1]	1.9 [94.2]
<b>Government</b>						
Legal/regulatory frameworks	Government of UK, 2017b; UK NAB, 2014;; raiSE, 2017; Japan NAB, 2014; Cabinet Office, Government of Japan, 2015	The existence or absence of legal framework for social enterprises	–	No specific legal status  Regulated by the Cabinet Office	No specific legal status  Certification: raiSE membership	Not limited to one specific legal status  Specific form: CIC
Interventions and incentives e.g. tax laws	Japan NAB, 2014; Japan NAB, 2016; The Japan Times, 2016; The Nippon Foundation, 2015; UK NAB, 2014; Government of UK, 2016; raiSE, 2017; Singapore Government (MCCY, 2014a, 2014b, 2017c); Community Chest, 2017; AVPN (Mohan et al., 2017)	Key initiatives, laws, policies, and actions created for impact investing.	–	–	–	–
		Initiatives to support the development of impact investing	–	<ul style="list-style-type: none"> <li>▪ The G8 Social Impact Investment Taskforce</li> </ul>	<ul style="list-style-type: none"> <li>▪ raiSE (2015)</li> <li>▪ National Volunteer and Philanthropy Centre (NVPC)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Social Value Act</li> <li>▪ The G8 Social Impact Investment Taskforce</li> </ul>
		Tax incentives for non-profits and social enterprises	–	<ul style="list-style-type: none"> <li>▪ Furusato Tax (Hometown Tax) System</li> <li>▪ Tax incentives for public-interest corporations, certified non-profit corporations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Tax incentives for Institutions of Public Character (IPCs)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Community Investment Tax Relief (CITR)</li> <li>▪ Social Investment Tax Relief</li> </ul>
		Providing capital to non-profits and social enterprises	–	<ul style="list-style-type: none"> <li>▪ METI: Environmental Community Business Development Program</li> <li>▪ Osaka Prefectural Government: Social Entrepreneur Support Project</li> <li>▪ Japan Finance Corporation: Social business support fund</li> </ul>	<ul style="list-style-type: none"> <li>▪ Voluntary Welfare Organizations (VWOs)-Charities Capability Fund (VCF)</li> <li>▪ Central Cooperative Fund</li> <li>▪ raiSE Impact Finance</li> <li>▪ VentureForGood (Youth)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Social Outcomes Fund</li> <li>▪ The Dementia Discovery Fund</li> <li>▪ Arts Impact Fund</li> <li>▪ Peer to Peer guarantee fund</li> </ul>
		Other financing support	–	<ul style="list-style-type: none"> <li>▪ Enabling the use of funds from dormant bank accounts</li> <li>▪ Credit-guarantee system for NPOs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Donation-matching platform: SHARE as One</li> </ul>	<ul style="list-style-type: none"> <li>▪ Dormant Bank and Building Society Accounts Act</li> <li>▪ Big Society Capital</li> </ul>
		Social impact bonds	–	<ul style="list-style-type: none"> <li>▪ 3 pilot projects</li> </ul>	–	<ul style="list-style-type: none"> <li>▪ 32 social impact bonds</li> <li>▪ Department for Work and Pensions Innovation Fund</li> <li>▪ The Centre for Social Impact Bonds</li> </ul>
		Infrastructure support	–	–	–	–

		Legal reform	--	--	--	<ul style="list-style-type: none"> <li>▪ Charitable Trustees' Duties Reform</li> <li>▪ Investment Intermediaries Fiduciary Duties Reform</li> </ul>
<b>Domain: Markets</b>						
Demand: Social Needs						
Aging	World Bank estimates 2015 (World Bank, 2017a)	Population aged 65 and above	% of total [World average]	26 [8.3]	12 [8.3]	18 [8.3]
Disability Health	Social Progress Index 2017 (Social Progress Imperative, 2017)	Health and wellness (based on: Life expectancy at 60, premature deaths from non-communicable diseases, suicide rate)	Calculated score (low: 0 to high: 100)	79.89	83.78	81.16
Children and families	Social Progress Index 2017 (Social Progress Imperative, 2017)	Maternal mortality rate	Deaths/100,000 live births	5.43	9.98	9.11
		Child mortality rate	Deaths/1,000 live births	2.70	2.70	4.20
	OECD, 2017a; 2017b Department of Statistics, Singapore, 2016	GINI Coefficient (household; disposable income, post taxes and transfers)	0 to 1 (date of data) [OECD average 2014] (complete equality: 0; complete inequality: 1)	0.33 [0.318] (2012)	0.402 [0.318] (2016)	0.358 [0.318] (2013)
	Human Development Index (HDI) 2015 (UNDP, 2016)	Gender Inequality Index	0 to 1 (complete equality: 0; complete inequality: 1)	0.116	0.068	0.131
Public order and safety	Social Progress Index 2017 (Social Progress Imperative, 2017)	Personal Safety (based on: Homicide rate, level of violent crime, perceived criminality, political terror, traffic deaths)	Calculated score (low: 0 to high: 100)	91.66	93.90	85.45
(Affordable) Housing	Social Progress Index 2017 (Social Progress Imperative, 2017)	Shelter based on:	Calculated score (low: 0 to high: 100)	93.25	94.28	87.53
		Availability of affordable housing	% satisfied	76	75	44
		Access to electricity	% of population	100.00	100.00	100.00
		Quality of electricity supply	Scale (low: 1 to high: 7)	6.55	6.81	6.67



		Household air pollution-attributable deaths	deaths/100,000	0.00	0.00	0.00
Unemployment	World Bank 2016 (modeled ILO estimate) (2017b)	Unemployment rate	% of total labor force [world average]	3.1 [5.7]	1.8 [5.7]	4.8 [5.7]
Environment	Social Progress Index 2017 (Social Progress Imperative, 2017)	Water and Sanitation (based on: Access to piped water, rural access to improved water sources, access to improved sanitation facilities)	Calculated score (low: 0 to high: 100)	99.58	100.00	99.74
		Environmental Quality based on:	Calculated score (low: 0 to high: 100)	83.82	87.11	91.88
		Outdoor air pollution-attributable deaths	deaths/100,000	16.83	32.45	22.80
		Wastewater treatment	% of wastewater	56.53	100.00	96.34
		Biodiversity and habitat	Protection (low: 0 to high: 100)	93.25	72.26	98.98
		Greenhouse gas emissions	CO <sub>2</sub> equivalent per GDP	301.27	141.59	237.80
<b>Demand-Side Actors</b>						
Social enterprises NPOs SPOs Profit-with-purpose businesses Cooperatives	Japan: Cabinet Office: (2017; 2015; Public Interest Commission, 2014); Japan NAB, 2014. Singapore: raiSE, 2016; Singapore Government (COC, 2015; MCCY,	Number of organizations	Number [per 1,000,000 population <sup>5</sup> ]	NPOs: 51,508 [405.13] Certified NPOs <sup>6</sup> : 1016 [7.99]	Charities: 2,217 [400.54] IPCs <sup>7</sup> : 633 [114.36]	Charities: 167,109 [2,565.82]
				Social enterprises: 205,000 [1612.38]	Social enterprises <sup>8</sup> : 303 [54.74]	Social enterprises: 741,000 [11,377.44]
				Cooperatives: 36,492 [287.02]	Cooperative societies: 85 [15.36]	Cooperative and community benefit societies: 8,208 [126.03]

<sup>5</sup> The authors calculated all of these based on the World Bank Development Indicators (population total, 2015) (World Bank, 2017e).

<sup>6</sup> Donations to Certified NPOs are eligible for income tax deduction.

<sup>7</sup> IPCs refer to the exempt or registered charities capable of issuing tax-deductible receipts to donors. Donations to the certified IPCs are tax-deductible (Charity Portal, Singapore Government, 2017).

<sup>8</sup> Number of Social Enterprises with memberships in the raiSE.

	2014a, 2017a, 2017b; NCSS, 2017) UK: Government of UK (2017a; Cabinet Office, 2016); Financial Conduct Authority, 2017			<ul style="list-style-type: none"> <li>▪ Social welfare organizations: 19,000 [149.44]</li> <li>▪ Education organizations: 8,000 [62.92]</li> <li>▪ Associations/Foundation: 41,000 [322.48]</li> <li>▪ Public-interest corporations: 9300 [73.15]</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mutual Benefit Organizations: 84 [15.18].</li> <li>▪ Voluntary welfare organizations (VWOs)<sup>9</sup>: 473 [85.46]</li> </ul>	Community interest companies (CICs): 11922 [183.05]
<b>Supply-Side Actors</b>						
Governments Foundations Institutional investors HNWI and family offices SV & VP funds Retail	OECD Social Expenditure (OECD, 2017a; Singapore Government, 2017)	Social expenditure (public)	% of GDP [% of OECD average]	23.06 [21.12] (2013)	8.2 [21.03] (2016)	21.49 [21.03] (2016)
	Cabinet Office, Japan 2016; COC, Singapore Government, 2015; Government of UK, 2017a	Annual charity budget (Japan: NPOs)	total USD [USD <sup>10</sup> per organization]	22.27 bn <sup>11</sup> [432 k] (2017)	10.51 bn [4,742 k] (2014)	93.58 bn [560 k] (2014)
	JFRA, 2015; COC, Singapore Government, 2015; NCVO, 2017	Total donations to charity	USD [% of 2014 GDP <sup>12</sup> ]	12.96 bn [0.0027]	1.82 bn [0.0059] (2014)	11.14 bn [0.0037]
		Individual donations		6.67 bn [0.0014] (2014)	N/A	9.79 bn [0.0033] (2014/15)
		Corporate/Private sector donation		Corporate: 6.29 bn [0.0013] (2014)	N/A	1.35 bn [0.0005] (2014/15)
	Eurosif, 2016; GSIA, 2016	Total sustainable investment assets <sup>13</sup>	USD [% of global assets]	473.6 bn [2.07]	4.3 bn [0.02]	1,742.0 bn [7.61]
	Big Society Capital, 2015; Japan NAB, 2016.	Impact investment market size	USD	0.30 bn (2016)	N/A	1.92 bn (2015)
	Capgemini: Global Wealth Report, 2016	HNWI Wealth	USD [% of global HNWI wealth]	6,571.4 bn [11.20]	527.1 bn [0.90]	2,024.0 bn [3.45]
HNWI Population		Population [% of country's total population <sup>14</sup> ]	2,720.0 k [2.14]	103.6 k [1.87]	552.8 k [0.85]	
Japan NAB, 2016; AVPN (Mohan et	Examples of impact investors	–	▪ JFC	▪ LGT Impact Ventures (IV)	▪ Big Society Capital	

<sup>9</sup> Number of VWOs with membership in the National Council of Social Service (NCSS). VWOs are NPOs (service providers) that benefit the community in Singapore (NCSS, 2017).

<sup>10</sup> All financial values in the table are estimated by the authors and calculated from local currencies to USD with exchange rates: 1 Euro = 1.12 USD; 1 British Pound = 1.28 USD; 1 Japanese Yen = 0.0090 USD; 1 Singapore Dollar = 0.72 USD (achieved through Google Finance, 2017/06/19).

<sup>11</sup> Estimated for the current number of NPOs (51,508) from the average annual income of NPOs by Japan's Cabinet Office in 2015 (Cabinet Office, Government of Japan, 2016)

<sup>12</sup> Figures calculated by the authors based on the World Bank Development Indicators (GDP, 2014) (World Bank, 2017d).

<sup>13</sup> The assets that are professionally managed under responsible investment strategies.

<sup>14</sup> Figures calculated by the authors based on the World Bank Development Indicators (Population total, 2015) (World Bank, 2017e).



	al., 2017); keyword research	(e.g. impact funds, foundations)		<ul style="list-style-type: none"> <li>▪ Nippon Foundation</li> <li>▪ Mitsubishi Corporation Disaster Relief Fund</li> <li>▪ Music Securities, Inc.</li> <li>▪ Gojo &amp; Company, Inc.</li> <li>▪ Fukutake Foundation</li> <li>▪ Inamori Foundation</li> <li>▪ Benesse Corporation Toyota Tsusho</li> <li>▪ Globis Capital Partners, KIBOW</li> </ul>	<ul style="list-style-type: none"> <li>▪ Bamboo Finance</li> <li>▪ Omidyar Network</li> <li>▪ East Ventures</li> <li>▪ LeapFrog Investments</li> <li>▪ raiSE</li> <li>▪ DBS Foundation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Big Issue Invest</li> <li>▪ Esmee Fairbairn Foundation</li> <li>▪ Social Investment Business</li> <li>▪ UnLtd</li> <li>▪ Big Lottery Fund</li> <li>▪ LGT Impact</li> <li>▪ City Bridge Trust</li> <li>▪ Lloyds Bank Foundation</li> <li>▪ RBS MicroFinance Funds (MFF)</li> </ul>	
<b>Domain: Human Capital</b>							
<b>Education and Training</b>							
General education attainment	Human Development Index (HDI) 2015 (UNDP, 2016)	Education Index (0 to 1)	Low: 0, High: 1	0.842	0.814	0.896	
		Mean Years of Schooling	Years	12.5	11.6	13.3	
		Expected Years of Schooling	Years	15.3	15.4	16.3	
	Social Progress Index 2017 (Social Progress Imperative, 2017)	Years of tertiary schooling	Years	1.37	1.73	0.96	
	PISA (OECD, 2015)	Student performance in: Science	mean score [OECD countries' average score]		538 [493]	556 [493]	509 [493]
		Mathematics			532 [490]	564 [490]	492 [490]
		Reading			516 [493]	535 [493]	498 [493]
Low performers in all subjects: (math, reading, and science)		% [% OECD Average]	5.6 [13.0]	4.8 [13.0]	10.1 [13.0]		
Research institutions for impact investing	AVPN (Mohan et al., 2017); keyword research	Examples of research institutions for impact investing	-	<ul style="list-style-type: none"> <li>▪ Fujitsu Research Institute</li> <li>▪ Japan Foundation Center</li> <li>▪ Japan Fundraising Association (JFRA)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Earth Observatory of Singapore, Nanyang Technological University</li> <li>▪ INSEAD (Singapore)</li> <li>▪ Lien Centre for Social Innovation (LCSI)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Centre for Enterprise and Economic Development Research, Middlesex University London</li> <li>▪ Institute for Social Innovation and Impact, University of Northampton</li> <li>▪ iSE</li> </ul>	

				<ul style="list-style-type: none"> <li>▪ Japan NPO Center</li> <li>▪ Nippon Foundation</li> <li>▪ Sasakawa Peace Foundation</li> </ul>	<ul style="list-style-type: none"> <li>▪ NUS Asia Centre for Social Entrepreneurship and Philanthropy</li> <li>▪ Republic Polytechnic</li> <li>▪ School of Social Sciences, Singapore Management University</li> <li>▪ Singapore University of Social Sciences (SUSS)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Marshall Institute for Philanthropy and Social Entrepreneurship, The London School of Economics and Political Science</li> <li>▪ Oxford University, Said Business School</li> <li>▪ SIRC</li> </ul>
<b>Domain: Culture</b>						
Political Economic Considerations						
Cultural perspectives on impact investing	CAF 2016	World Giving Index	Rank (high:1) [Score %]	114 [24]	28 [44]	8 [54]
		Participation in: Helping a stranger		138 [25]	79 [50]	33 [61]
		Donating money		83 [23]	19 [58]	7 [69]
		Volunteering time		55 [23]	54 [23]	22 [33]
Social system	Acemoglu & Robinson, 2013; Global Competitiveness Index (World Economic Forum, 2016) WGI (World Bank, 2016)	Political institutions	Inclusive or extractive	Inclusive	Extractive	Inclusive
		Economic institutions	Inclusive or extractive	Inclusive	Inclusive	Inclusive
<b>Domain: Supports</b>						
Intermediaries <sup>15</sup>						
Funds Independent financial advisors Brokers, dealers Commercial banks Investment banks Social banks Social investment wholesale banks CDFIs Social exchanges Crowdfunding platforms and funds	AVPN (Mohan et al., 2017); Japan NAB, 2016; UK NAB, 2014; Social Investment Forum, 2017; keyword research	Asset managers Incubators Accelerators Capacity builders Consulting support	--	<ul style="list-style-type: none"> <li>▪ Arun LLC</li> <li>▪ Ashoka Japan</li> <li>▪ Entrepreneurial Training for Innovative Communities</li> <li>▪ Hub Tokyo</li> <li>▪ Impact Hub</li> <li>▪ Japan Sustainable Investment Forum (JSIF)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Milaap Social Ventures (SG)</li> <li>▪ National Council of Social Service</li> <li>▪ NUS Asia Centre for Social Entrepreneurship and Philanthropy</li> <li>▪ raiSE</li> <li>▪ Singapore International Foundation</li> <li>▪ Tech For Good</li> </ul>	<ul style="list-style-type: none"> <li>▪ Arts Impact Fund</li> <li>▪ Big Society Capital</li> <li>▪ Bridges Ventures</li> <li>▪ CAN</li> <li>▪ CDC</li> <li>▪ CAF</li> </ul>

<sup>15</sup> The list of intermediaries is not exhaustive. In addition, some organizations might function across the categories.



				<ul style="list-style-type: none"> <li>▪ Japan Venture Philanthropy Fund                             <ul style="list-style-type: none"> <li>▪ Mistletoe</li> <li>▪ NPO Edge</li> <li>▪ NPO ETIC</li> </ul> </li> <li>▪ Social Business Network</li> <li>▪ Social Innovation Park w Social Venture Partners Tokyo</li> </ul>	<ul style="list-style-type: none"> <li>▪ The Impact Hub Singapore                             <ul style="list-style-type: none"> <li>▪ Tote Board</li> </ul> </li> <li>▪ Tsao Foundation</li> </ul>	<ul style="list-style-type: none"> <li>▪ ClearlySo</li> <li>▪ FSE Group</li> <li>▪ Impact Ventures UK (IVUK)</li> <li>▪ Investing For Good                             <ul style="list-style-type: none"> <li>▪ Mårten Wetterberg</li> </ul> </li> <li>▪ NESTA</li> <li>▪ Social Finance</li> </ul>
		Financial institutions for Impact investing, Community development institutions		NPO Banks: <ul style="list-style-type: none"> <li>▪ Community Youth Bank Momo</li> <li>▪ Mirai Bank</li> </ul> Community Foundations: <ul style="list-style-type: none"> <li>▪ The Sanaburi Foundation</li> </ul>	<ul style="list-style-type: none"> <li>▪ DBS Bank</li> <li>▪ Community Development Council (CDC)</li> <li>▪ Community Foundation of Singapore</li> <li>▪ Tan Chin Tuan Foundation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Big Society Capital</li> <li>▪ CAF Bank</li> <li>▪ Charity Bank</li> <li>▪ Community Development Finance Association (CDFA)</li> <li>▪ Triodos Bank</li> </ul>
		Social exchanges	--	--	<ul style="list-style-type: none"> <li>▪ IIX</li> </ul>	<ul style="list-style-type: none"> <li>▪ SSX</li> </ul>
		Crowdfunding and fundraising platforms and funds	--	<ul style="list-style-type: none"> <li>▪ Aizu Solar Citizen Fund</li> <li>▪ Give2Asia</li> <li>▪ Kanagawa Children's Future Fund</li> </ul>	<ul style="list-style-type: none"> <li>▪ Crowdo</li> <li>▪ Give2Asia</li> <li>▪ GiveAsia</li> <li>▪ Giving.sg</li> <li>▪ Indiegogo</li> <li>▪ Milaap</li> </ul>	<ul style="list-style-type: none"> <li>▪ Crowdfunder</li> <li>▪ CrowdPatch</li> <li>▪ Crowdsهد</li> <li>▪ Ethex</li> <li>▪ Hubbub</li> <li>▪ JustGiving Crowdfunding</li> </ul>
<b>Networks and Platforms</b>						
Impact investing networks e.g. Investors/Social enterprises	AVPN (Mohan et al., 2017); Japan NAB, 2016; keyword research	Examples of networks and platforms	--	<ul style="list-style-type: none"> <li>▪ ANDE Japan</li> <li>▪ AVPN</li> <li>▪ British Council East Asia and China region</li> <li>▪ GIIN</li> <li>▪ JFRA</li> <li>▪ JSIF</li> <li>▪ Social Business Networks</li> <li>▪ Tonic</li> </ul>	<ul style="list-style-type: none"> <li>▪ AVPN</li> <li>▪ BoP Hub</li> <li>▪ BRIDGE</li> <li>▪ British Chamber of Commerce</li> <li>▪ CSR Asia (Singapore)</li> <li>▪ Family Business Network Asia</li> <li>▪ Forum for the Future</li> <li>▪ GIIN</li> <li>▪ National Council for Social Service</li> </ul>	<ul style="list-style-type: none"> <li>▪ Edinburgh Social Enterprise</li> <li>▪ EngagedX</li> <li>▪ EVPA</li> <li>▪ GIIN</li> <li>▪ Global Social Entrepreneurship Network (GSEN)</li> <li>▪ Social Enterprise Lancashire Network – Selnet</li> <li>▪ Social Enterprise UK</li> <li>▪ Social Investment Forum</li> <li>▪ Social Value UK</li> </ul>

					<ul style="list-style-type: none"> <li>▪ raISE</li> <li>▪ Singapore Compact for CSR (Global Compact Network Singapore)</li> <li>▪ Singapore Venture Capital and Private Equity Association (SVCA)</li> <li>▪ Social Innovation Park</li> <li>▪ The Impact Hub Singapore</li> <li>▪ The President's Challenge Social Enterprise Award</li> <li>▪ Tonic</li> </ul>	<ul style="list-style-type: none"> <li>▪ UK Sustainable Investment and Finance Association (UKSIF)</li> </ul>
<b>Domain: Finance</b>						
<b>Financial Market Development</b>						
Debt Access to capital Microeconomic environment Financial intermediation	World Development Indicators 2015 (World Bank, 2017c)	Central government finances: Revenue (excluding grants)	% of GDP [High-income countries average]	12.6 [25.3]	18.7 [25.3]	35.1 [25.3]
		Expenses		17.2 [28.0]	16.5 [28.0]	38.6 [28.0]
		Total Debt		198.0 [101.1]	107.2 [101.1]	107.6 [101.1]
	Global Competitiveness Index (World Economic Forum, 2016)	Global Competitiveness Index	Scale (low: 1, high: 7) [Rank high: 1]	5.5 [8]	5.7 [2]	5.5 [7]
		Pillar: Macroeconomic environment		4.1 [104]	6.1 [11]	4.4 [85]
		Pillar: Financial Market Development		4.9 [17]	5.7 [2]	4.9 [16]
		Pillar: Market Size		6.1 [4]	4.7 [37]	5.7 [9]
	Inclusive Development Index 2017: Policy and Institutional Indicators (World Economic Forum, 2017)	Pillar: Financial intermediation of real economy investment	Scale (low: 1, high: 7) [top % comparing with peer countries]	4.53 [60]	5.50 [20]	4.77 [40]
		Sub-pillar: Financial System Inclusion		5.23 [60]	5.23 [60]	5.66 [40]
		Sub-pillar: Intermediation of Business Investment		3.83 [60]	5.78 [20]	3.88 [40]

Source: Authors

## **GASTRIC CANCER SCREENING COST EFFICIENCY ANALYSES USING BIOMARKERS**

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### **ABSTRACT**

*The aim of the research was to analyze cost efficiency of gastric cancer organized and selected screenings of the population in Latvia. During the research there were calculated gastric cancer treatment costs through disease stages of the patients in Latvia. According to the objective of the research there were calculated loss for the national economy caused by gastric cancer without any prevention activities taking into account, the cost of treatment and value of lost years of life. Loss for the national economy caused by gastric cancer is 30 MM annually without any prevention activities, over 150 MM annually with organized screening with trend to increase by increasing participation rate. If voluntarily screening takes place, there are no loss for national economy and gain for the national economy exceeds 1 MM in 7 years period. These results lead to significant conclusions for the policy makers.*

**Keywords:** *Gastric cancer, Efficiency, Screening*

### **1. INTRODUCTION**

Gastric cancer is the third leading cause of cancer death worldwide, with the highest rates reported in East Asia, South America and Eastern Europe. Although early-detection screening is routine in areas with high disease rates no major organization recommends general population screening for gastric cancer. The aim of the research was to analyze cost efficiency of gastric cancer organized and selected screenings of the population in Latvia.

### **2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK**

With the importance of the issue, we can observe many research done and lessons learned. For example, Japan. Gastric cancer is the leading cause of death from cancer in Japan. In 2004, there were 50 562 deaths from gastric cancer; they accounted for 15.8% of the total number of cancer deaths. Since 1983, under the Health Service Law for the Aged, gastric cancer screening has been conducted nationwide for all residents aged 40 years and over. On the basis of the standardized method developed for the Japanese Guidelines for Cancer Screening, the efficacies of various methods for gastric cancer screening were evaluated and the guideline was developed. Four methods for gastric cancer screening were evaluated: photofluorography, endoscopy, serum pepsinogen testing and Helicobacter pylori antibody testing.

On the basis of the analytic framework involving key questions, 1715 articles, published from January 1985 to February 2005, were selected using MEDLINE, the Japanese Medical Research Database and other methods. After the systematic literature review, 10 articles were identified as direct evidence and 49 articles as indirect evidence. The studies that evaluated mortality reduction from gastric cancer included five case–control and two cohort studies for radiographic screening. On the basis of the balance of benefits and harms, the recommendations for population-based and opportunistic screening were formulated. Gastric cancer screening using photofluorography was recommended for both screening programs. The other methods were not recommended for population-based screening due to insufficient evidence. The guideline for gastric cancer screening guideline was developed based on the previously established method. Gastric cancer screening using photofluorography is recommended for population-based and opportunistic screening in Japan. (Hamashima et al., 2008)

Most of the cases in the Western world are diagnosed at late stages when the treatment is largely ineffective. Although several screening approaches have been proposed, including indirect atrophy detection by measuring pepsinogen in the circulation, none of them have so far been implemented, and more study data is required to justify any implementation. Mass eradication of *H.pylori* in high-risk areas tends to be cost-effective, but its adverse effects and resistance remain a concern. Searches for new screening biomarkers, including microRNA and cancer-autoantibody panels, as well as detection of volatile organic compounds in the breath, are in progress. Endoscopy with a proper biopsy follow-up remains the standard for early detection of cancer and related premalignant lesions. At the same time, new advanced high-resolution endoscopic technologies are showing promising results with respect to diagnosing mucosal lesions visually and targeting each biopsy. New histological risk stratifications (classifications), including OLGA and OLGIM, have recently been developed. (Pasechnikov, Chukov, Fedorov, Kikuste, & Leja, 2014) In Korea, the National Cancer Screening Program recommends endoscopy or upper gastrointestinal series for people aged 40 years and older every 2 years. Paper suggests that the incidence of gastric cancer is estimated to be roughly 952,000 cases yearly, making it the fifth most common malignancy in the world, after lung, breast, colorectal and prostate. More than 70% of cases occur in developing countries and half of all the worldwide cases occur in Eastern Asia [1]. The incidence of gastric cancer in the United States is low, especially in non-Hispanic White Americans (4.0 per 100,000 individuals) compared to Koreans (42.5 per 100,000 individuals). (G. H. Kim, Bang, Ende, & Hwang, 2015)

In another paper the data, showing a significant relationship between the history of gastric examinations and severity of gastric cancer, suggests that gastric cancer screening is effective in catching gastric cancer at early stages. It also suggests less than three years for screening interval. (Y. S. Kim, Park, Kim, Yook, & Lee, 2000) Large review of the literature was done by (Areia, Carvalho, Cadime, Rocha Gonçalves, & Dinis-Ribeiro, 2013). A systematic review of cost-effectiveness studies was performed by conducting a sensitive search in seven databases (PubMed, Scopus, Web of Science, Current Contents Connect, Centre for Reviews and Dissemination, Academic Search Complete, and CINAHL Plus), independently evaluated by two investigators. Articles were evaluated for type of study, perspective, model, intervention, incremental cost-effectiveness ratio, clinical or cost variables, and quality, according to published guidelines. From 2395 abstracts, 23 articles were included: 19 concerning population screening and 4 on following up premalignant lesions. Studies on *Helicobacter pylori* screening concluded that serology was cost-effective, depending on cancer incidence and endoscopy cost (incremental cost-effectiveness ratio: 6264–25,881), and eradication after endoscopic resection was also cost-effective (dominant) based on one study.

Studies on imaging screening concluded that endoscopy was more cost-effective than no screening (incremental cost-effectiveness ratio: 3376–26,836). Articles on follow-up of premalignant lesions reported conflicting results (incremental cost-effectiveness ratio: 1868–72,519 for intestinal metaplasia; 18,600–39,800 for dysplasia). Quality assessment revealed a unanimous lack of a detailed systematic review and fulfillment of a median number of 23 items (20–26) of 35 possible ones. The available evidence shows that *Helicobacter pylori* serology or endoscopic population screening is cost-effective, while endoscopic surveillance of premalignant gastric lesions presents conflicting results. Better implementation of published guidelines and accomplishment of systematic detailed reviews are needed.

Regarding cost analysis there are number of literature. A cost-utility economic analysis was performed from a societal perspective in Portugal using a Markov model to compare two strategies: surveillance versus no surveillance. Clinical data were collected from a systematic review of the literature, costs from published national data, and community utilities derived from a population study by the EuroQol questionnaire in terms of quality-adjusted life years (QALY). Population started at age 50, for a time horizon of 25 years and an annual discount rate of 3% was used for cost and effectiveness. Primary outcome was the incremental cost-effectiveness ratio (ICER) of a 3-yearly endoscopic surveillance versus no surveillance for a base case scenario and in deterministic and probabilistic sensitivity analysis. Secondary outcomes were ICER of 5- and 10-yearly endoscopic surveillance versus no surveillance. Endoscopic surveillance every 3 years provided an ICER of € 18,336, below the adopted threshold of € 36,575 which corresponds to the proposed guideline limit of USD 50,000 and this strategy dominated surveillance every 5 or 10 years. Utilities for endoscopic treatment were relevant in deterministic analysis, while probabilistic analysis showed that in 78% of cases the model was cost-effective. As a result it was suggested that endoscopic surveillance every 3 years of patients with premalignant conditions is cost-effective. (Areia, Dinis-Ribeiro, & Rocha Gonçalves, 2014)

### **3. RESEARCH METHOD**

During the research there were calculated gastric cancer treatment costs through disease stages of the patients in Latvia. According to the objective of the research there were calculated loss for the national economy caused by gastric cancer without any prevention activities taking into account, the cost of treatment and value of lost years of life. Calculations of cost efficiency were made for 25-year projection of gastric cancer screening for age group 40-69. Distribution of patients in different stages of disease used in calculations: I stage – 14,5%, II stage – 19,7%, III stage – 22,1%, IV stage – 43,7%. Population forecast data by Eurostat were used in calculations. Parameters of biomarkers used in calculations: overall accuracy – 76,1639, sensitivity – 91,0448, specificity, 71,2159. Discount rate 5.5 was used in calculations. Calculations were made for two scenarios: organized screening of population aged 40-69 every year and selective screening of population aged 40-69. Selective screening would be made for patients with any gastro complaints visiting doctor.

### **4. FINDINGS**

Gastric cancer treatment costs are: I stage – 1895 EUR, II stage – 1915 EUR, III stage – 2108 EUR, IV stage – 941 EUR and reflect significant information for the further detailed analysis of the issue. Treatment costs were calculated as expenses for state budget for the manipulations and medication.

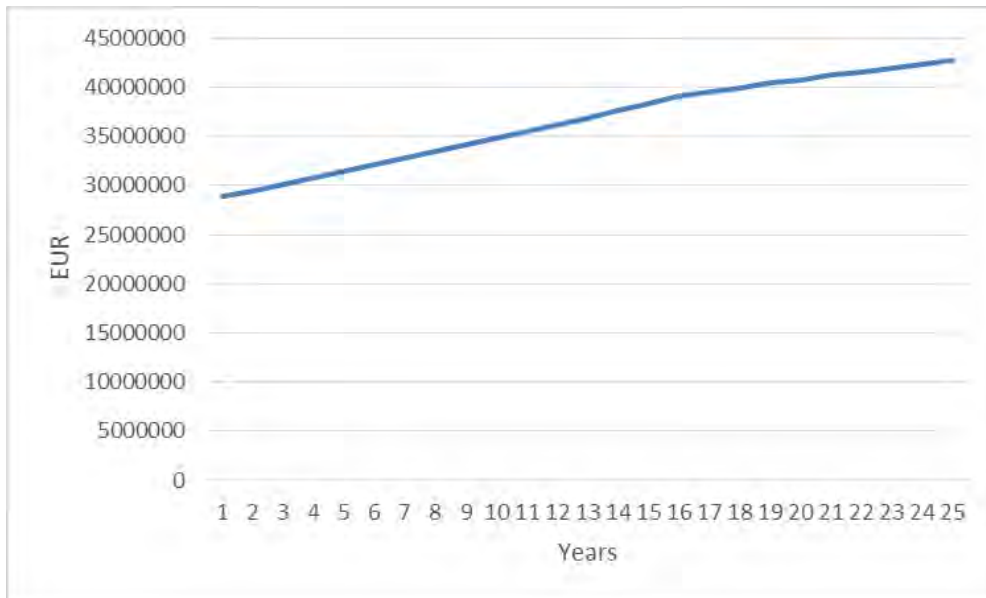


Figure 1: Projected loss for the national economy caused by gastric cancer

Projected loss for the national economy caused by gastric cancer is 30 MM annually without any prevention activities with a tendency to increase. The increase of loss to be explained by increase of treatment cost as well increase of life year value regardless that there is tendency for gastric cancer morbidity to decrease as well projected decrease of population.

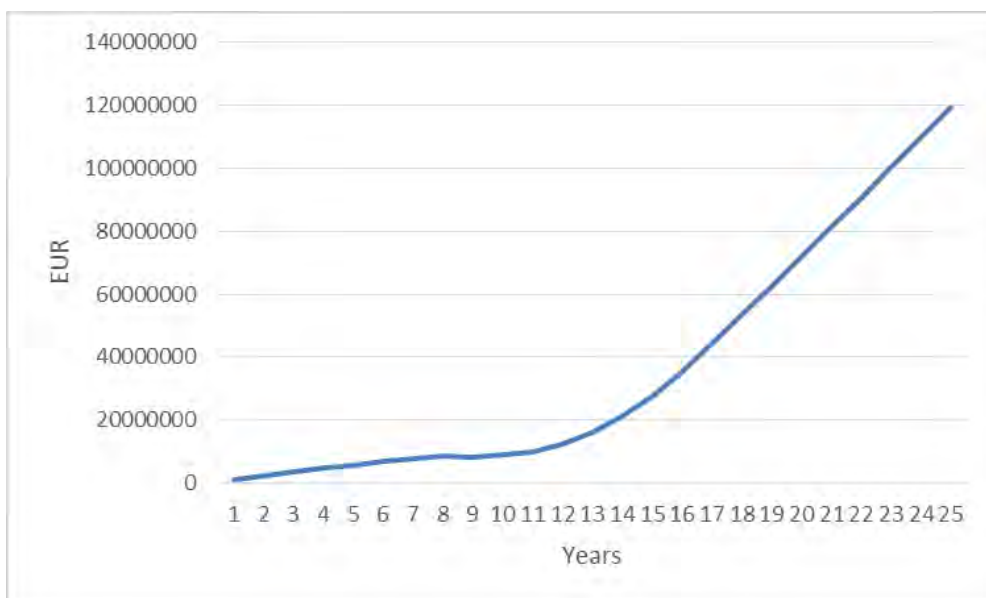


Figure 2: Projected loss for the national economy caused by organized screening of gastric cancer

Projected loss is over 150 MM annually with organized screening with trend to increase by increasing participation rate. The loss of organized screening can be explained by relatively high diagnostic cost, low prevalence of disease.



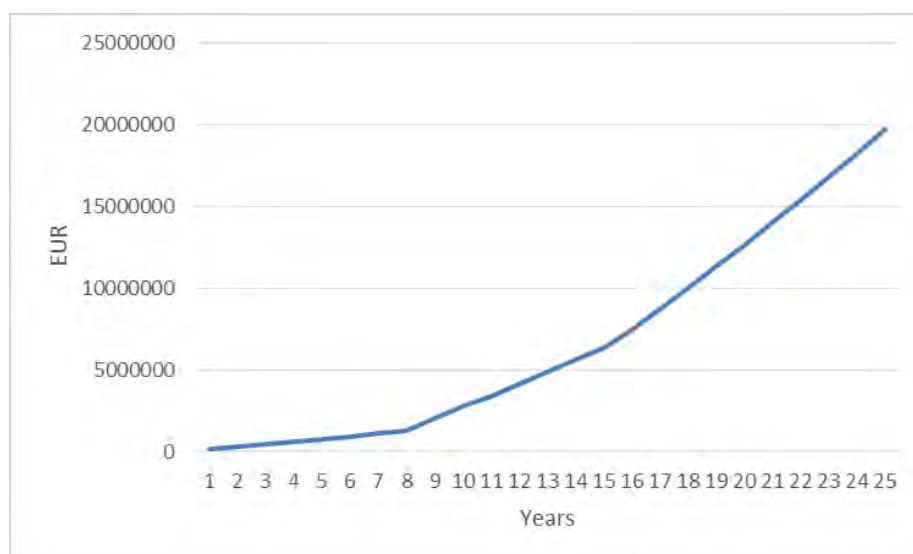


Figure 3: Projected cumulative gain for the national economy by selective screening of gastric cancer

If voluntarily or selective screening takes place, there are no loss for national economy and gain for the national economy exceeds 1 MM in 7 years period. These results lead to significant conclusions for the policy makers.

## 5. CONCLUSION AND DISCUSSION

Organized screening using sample biomarkers for gastric screening is not cost efficient in Latvia, but selective screening is. Explanation for that is relatively low prevalence of disease and high diagnostic cost. Gastric cancer screening cost efficiency would rise if parameters of biomarkers would be improved, but still calculations should be made.

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## ONLINE INFORMATION SEEKING AND TRUST IN DOCTORS: AN EMPIRICAL STUDY

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### **ABSTRACT**

*The Internet allows patients to access a wealth of information that was previously much more complicated to access. Because of online information seeking patients are more informed, adherent and proactive; however, it may also mean they are more demanding, confused or misinformed. The majority of patient Internet users reported that Internet health information helped them to better cope during operative. gave patients more confidence to talk to a physician about their concerns, and finally made them feel more in control. Therefore the the purpose of this paper is to characterise the behaviours associated with searching for health-related information on the Internet and to assess the influence of trust in doctor-patient relationships on this type of activity. The survey was conducted using the CAWI method, on a representative sample of 1,000 respondents who declared having used healthcare services in the previous six months. It has turned out that some of the dimensions of trust in doctors strongly influence patient behaviour, the first two in a negative manner. The study has been conducted as part of the project S/WZ/2/2017 and financed by the Ministry of Science and Higher Education (MNiSW).*

**Keywords:** *doctor-patient relationship, online information seeking, trust*

### **1. INTRODUCTION**

Increasing access to the Internet and its ever more active and all-round usage have caused it to become one of the main sources of health information. Since good health is a vital human need, people seek various ways to cope with their ailments. Traditionally, doctors have always been the main authority in this respect, while professional magazines and books served as supplementary resources (Knol-Michałowska 2014). Until recently, however, access to those alternative sources of information was relatively difficult, which reinforced the asymmetric nature of the doctor-patient relationship. The Internet has introduced a balance in the relationship between physicians and patients by democratising access to medical knowledge (Gałaszka 2012). According to a September 2016 survey by CBOS, the majority (79%) of Internet users looked for information on doctors and medications online, while over a quarter (27%) contacted medical centres and practices in this way. What is interesting, over a half (58%) of Internet users had gone online to supplement or verify the information obtained from their physicians, whereas 17% of the respondents, having made a review of health-related websites, had modified the doctor's recommendations or foregone treatment altogether. Searching online for medical information has become a widespread phenomenon, bringing both positive and negative consequences. Because of this, many publications have been devoted to investigating the effects of the increasing activity of patients, manifesting itself, among other things, in their reliance on the Internet as a source of new knowledge (Blanch, et al. 2005; Stevenson et al. 2007; Doroszevska 2010; Kivits 2006). Far fewer studies, however, clarify the reasons for this kind of behaviour. The usual explanations include the demographic characteristics of the patients and the level of their medical knowledge (Anker et al. 2011). Therefore, it seems relevant to identify other motives of patient behaviour: those which are inherent in the doctor-patient relationship.

The purpose of this paper is to characterise the behaviours associated with searching for health-related information on the Internet and to assess the influence of trust in doctor-patient relationships on this type of activity.

## **2. ONLINE SEARCH FOR INFORMATION BY PATIENTS: A LITERATURE REVIEW**

The Internet allows its users/patients to access information which in the past was difficult to obtain (specialist publications) or comprehend (Blanch et al. 2005). Nowadays, however, thanks to the development of numerous medical websites, those barriers have been eliminated, as a result of which patients are better educated and more aware of their opportunities as well as potential health issues. This prompts them to participate more actively in the therapeutic and decision-making processes (Gerber, Eiser 2001), thus changing the nature of the doctor-patient relationship. The democratisation of medical information is transforming the relationships between physicians and patients because the latter are increasingly becoming 'consumers' who expect high-quality services (Ball, Lillis 2001; Bottles 2000) and are more and more capable of assessing this quality. This, in turn, translates into compliance with medical advice and the results of treatment. Research proves that most patients notice the benefits of broadening their knowledge by means of Internet sources. Most importantly, they feel emboldened to ask their doctors questions related to their fears associated with the process of treatment (Pena-Purcell 2008). Besides this, information obtained online helps them to make more aware decisions concerning the therapy and to be more involved in taking care of their health (Blanch, et al. 2005). Conscious co-participation in the therapeutic process is also conducive to greater responsibility for one's own health (Stevenson et al. 2007) and compliance with medical advice, as it is discussed with the physician and accepted by the patient. Moreover, patients have claimed that information from the web allowed them to lessen the stress caused by the belief that the symptoms they suffered indicated a serious condition, particularly if they had to endure a long wait for a medical appointment (Donnelly et al. 2008; Lopez-Gomez et al. 2012). According to the surveyed patients, attempting to understand the state of their own health did have an impact on their contacts with physicians. First of all, information from the Internet let them be better prepared for conversations with their doctors (Doroszevska 2010; Kivits 2006), ask more relevant questions (Castleton et al. 2011), and better understand what the doctors had to communicate, even if they used professional terminology (Kivits 2006), which helped establish a more partner-based rapport. It also transpired that by expressing doubts resulting from the deepened knowledge of their condition, patients proved to their physicians that they were more involved and more concerned about the state of their health, and as a consequence were more carefully listened to and more seriously treated by their doctors (Bowes et al. 2012; Russ et al. 2011). It is also worth mentioning that the patients generally maintained that the possibility to check information online could contribute to more rapid achievement of positive therapeutic outcomes and helped them better cope with their condition (Newnham et al. 2006). Moreover, Murray et al. (2003; Ybarra, et al. 2008) have proved that patients who look for information online have a better sense of control and higher confidence in their physicians, their decisions and diagnoses, and are more willing to participate in conversations concerning treatment. It should be noted, however, that researchers do not agree on this point. Some studies prove that online search sessions conducted by patients have no bearing on their confidence in doctors (Hu et al. 2012; Iverson et al. 2008; Li et al. 2016), whereas others demonstrate that the more the patients rely on the Internet as a source of medical knowledge, the less they trust their GPs. The authors of that study attribute the observed correlation to lack of access to a trusted physician, hence the intensive online search (Riel et al. 2017). Still other research confirms that patients who obtain information online feel more empowered, and as a result become more active participants of the process of treatment (Xie 2009; Sillence et al. 2007; Tan and

Goonawardene 2017). Without any doubt, communication between a doctor and a patient who takes advantage of Internet sources of medical knowledge is entirely different from that in which the patient does not use this resource. This is why many researchers have devoted their studies to this problem. It turns out that, according to patients, access to medical knowledge improves communication with doctors (Murray et al. 2003), although in the majority of cases, it does not alter the very need of communication with the physician. Patients who have gained some knowledge prior to the consultation are more capable of understanding what their doctors say, even if they use medical jargon (Chiu 2011; Xie 2009). What is more, an informed conversation with a doctor (based on previously obtained knowledge) makes the doctor's message clearer and allows the patients to feel more confident and at ease (Sommerhalder et al. 2009). Similar opinions were expressed by surveyed doctors, most of whom noticed that communication with patients who had sought additional information was smoother (Hollander, Lanier, 2001; Casebeer et al. 2002). A small group of surveyed patients stated, however, that having gained information on their conditions lessened their willingness to talk to a doctor (Norum et al. 2003). Only a minor part of the existing research is devoted to the factors influencing the activity with which patients search for knowledge on the Internet. Most studies focus on demographic and personality-related aspects, as well as on situational factors (access to the Internet, pre-existing levels of knowledge about health problems). There is also very little research into the manner in which trust in the doctor-patient relationship can influence patient behaviour in terms of online information search. Particularly with regard to use of the Internet, females (Drentea et al. 2008), those with higher levels of education (Cotton et al. 2004; Dutta-Bergman 2003), and greater income (Ayers, Kronenfeld, 2007; Pandey et al. 2003) are more likely to search for health information. In addition, health information seeking is often associated with being of a younger age (Ayers, Kronenfeld, 2007; Pandey et al. 2003; Lowrey 2006), or of greater health literacy (Shieh et al. 2006; McCray, 2005; William and Heller, 2007), but also individuals' expectations, goals, beliefs, values, attitudes, emotions and moods, skills, and/or resources (Borgers et al., 1993; Matthews et al., 2002). Other studies indicate that the quality of well-being, self-reported health (Grembowski et al., 1993), and health education for self-management (Lorig et al., 1999) can also influence the willingness to look for information online. Trust in information sources is a factor that seems to determine the use of online resources with an increasing intensity (Hesse et al., 2005; Rains, 2007). Only a few publications mention the fact that trust in one's doctor can encourage or discourage enhancement of one's knowledge based on the Internet. According to Lambert and Loiselle (2007), confidence in a physician makes it easier for patients to ask questions about things they have read about online, which encourages them to constantly extend their medical knowledge. This means that trust in doctors can prompt patients to verify information obtained online (confusing nature of online information) (Higgins et al., 2011). It must be remembered that patients treat knowledge found on the Internet as supplementary to the education they expect to receive in the doctor's surgery, still believing that doctors are most reliable sources of information (Torrent-Sellens et al. 2016). This means that the need to obtain additional knowledge frequently does not result from a negative assessment of the doctor's work and the conviction that he or she has failed to provide sufficient information, but from the eagerness to be a partner in one's relationship with the physician (Wald et al., 2007). Nevertheless, it seems that online search for health-related information can also be an effect of limited confidence in doctors. In such cases, patients strive to reduce their sense of insecurity and risk, seek additional information or attempt to confirm what they have heard from their physicians. However, taking into consideration how multi-dimensional trust in doctors is, it is worth examining which of the dimensions of trust are stimulants, and which are deterrents of patients' online behaviour.

### 3. RESEARCH METHODOLOGY

As was already mentioned, an increasing number of patients treat the Internet as a source of knowledge about diseases, their causes, and ways of managing them. Although access to knowledge is continuously increasing, it is still a layperson's knowledge, sometimes of limited credibility and reliability. Therefore, a doctor should remain the primary source of knowledge about one's condition, and - more and more often - the main reviewer of information found online. Such a role of doctors, however, depends on the level of patients' trust in them. A patient will treat his doctor as the most reliable source of knowledge provided he trusts him. The nature of the doctor-patient relationship is founded on various dimensions of trust: trust in the doctor's competence, his honesty, and the conviction of his benevolence (Mayer et al. 1995). Thus, the purpose of the study was to investigate the impact of the particular dimensions of trust in doctors on the propensity of patients to search for health-related information on the Internet. The statements used in the questionnaire, which measure each variable (trust, seeking health information online) have been developed based on literature study (Table 1). Each statement was presented to respondents with a five-degree Likert scale. In accordance with the results of previous research (Krot 2016), it was assumed that trust is a multi-faceted notion consisting of five dimensions, confirmed by means of factor analysis (the varimax method). Apart from trust in doctors' competences, the analysis allowed the author to distinguish four additional dimensions: control of competences, trust in the benevolence of doctors and the emotional support they offer patients, belief that doctors act in the best interest of their patients, trust in the quality of communication, and trust in doctors' integrity and honesty. The variables belonged to the particular factors depending on the value of factor loadings.

*Table 1: Bibliographical references*

VARIABLE	BIBLIOGRAFICAL REFERENCES
Trust in doctors' competences	Anderson, Dedrick (1990); Dugan, Hall, Trachtenberg (2005)
Control of doctors' competences	Anderson, Dedrick (1990); Dugan, Hall, Trachtenberg (2005)
Trust in benevolence and emotional support	Anderson, Dedrick (1990); Dugan, Hall, Trachtenberg (2005)
Belief in doctors' acting in patient's interest	Anderson, Dedrick (1990); Dugan, Hall, Trachtenberg (2005)
Trust in quality of communication	Anderson, Dedrick (1990); Dugan, Hall, Trachtenberg (2005)
Trust in integrity and honesty of doctors	Anderson, Dedrick (1990); Dugan, Hall, Trachtenberg (2005)

*Source: author's own work on the basis of literature review*

Similarly to other authors (Ha, Lee 2011), using the Internet for seeking information about health is operationalized as three items regarding the belief that the Internet can supplement patients' knowledge, but can sometimes also help 'control doctors' and verify their diagnoses. The survey was conducted in years 2015/2016, using the CAWI method, on a representative sample of 1,000 respondents who declared having used healthcare services in the previous six months. Table 2 sums up the characteristics of the research sample.

*Table following on the next page*

*Table 2: Structure of research sample*

INCOME			GENDER		
	number	percent		number	percent
Up to PLN 1000	79	7.9	women	600	60.0
PLN 1001 to PLN 1400	91	9.1	men	400	40.0
PLN 1401 to PLN 1800	108	10.8	AGE		
PLN 1801 to PLN 2000	110	11.0	18-24	76	7.6
PLN 2001 to PLN 2500	74	7.4	25-34	176	17.6
PLN 2501 to PLN 3000	122	12.2	35-44	175	17.5
PLN 3001 to PLN 5000	158	15.8	45-59	287	28.7
Over PLN 5000	126	12.6	Over 60	286	28.6
Difficult to say	44	4.4			
PLACE OF RESIDENCE			LEVEL OF EDUCATION		
Village	335	33.5	primary	66	6.6
Town up to 100,000 residents	340	34.0	vocational	182	18.2
Town 100,000 - 499,000 residents	183	18.3	secondary	383	38.3
Town over 500,000 residents	142	14.2	university	369	36.9

*Source: author's own work on the basis of survey results*

#### 4. RESULTS

The respondents declared a moderate level of trust in doctors in each of the identified dimensions (the arithmetic mean never exceeded 3.5 in the five-point scale). Among these dimensions of trust, the surveyed persons were most strongly convinced that doctors acted in the patients' interest (3.49), that they were characterised by honesty and integrity (3.35), and that they were competent (3.34). By far the lowest level of trust was related to doctors' benevolence and the emotional support they offered.

*Table 3: Level of trust in doctors in individual dimensions*

Variable	N	Level of trust
Trust in doctors' competences	1000	3,34
Belief in doctors' acting in patients' interest	915	3,49
Trust in benevolence and emotional support	1000	2,97
Trust in quality of communication	1000	3,15
Trust in integrity and honesty of doctors	1000	3,35

*Source: author's own work on the basis of survey results*

The descriptive statistics for all the dimensions are reported in table 3.

*Table3: Descriptive statistics of dimensions*

	SD	M	Seeking health information online	Control of doctors' competences	Trust in doctors' competences	Trust in integrity and honesty of doctors	Trust in quality of communication	Belief in doctors' acting in patients' interest
Seeking health information online	2.69	9.59	1.00					
Control of doctors' competences	2.69	10.37	0.62	1.00				
Trust in doctors' competences	4.87	23.42	-0.20	-0.20	1.00			
Trust in integrity and honesty of doctors	4.36	20.02	-0.18	-0.17	0.62	1.00		
Trust in quality of communication	5.47	22.07	-0.12	-0.15	0.59	0.69	1.00	
Belief in doctors' acting in patients' interest	4.33	20.85	-0.14	-0.11	0.63	0.74	0.66	1.00
Trust in benevolence and emotional support	6.52	26.73	-0.12	-0.12	0.56	0.72	0.74	0.66

**\*\* Correlation significant at 0.01 bilaterally**

*Source: author's own work on the basis of survey results*

A multiple regression model was used in the study. "Seeking health information online" was a dependent variable in the research model, while six dimensions of trust (competence, integrity and benevolence) were used as independent variables along with socio-demographic variables, i.e. age, gender and level of education. In the first stage, it turned out that some factors were statistically insignificant (gender, age, level of education), on account of which an attempt was made at improving the model. Eventually, the model contains four dimensions of trust: trust in quality of communication, trust in one's doctor's competences, belief in the doctor's acting in the patient's interest, and control of the doctor's competences. The determination coefficient equals  $R^2=0.39$  and  $p=0.00$ . Detailed model parameters are presented in Table 4.

*Table 4: Factors affecting patient seeking online health information*

	b*	Standard deviation - with b*	b	Standard deviation - with b	t(826)	p
Constant term			4.68	0.53	8.74	0.00
Control of doctors' competences	0.60	0.03	0.60	0.03	21.67	0.00
Belief in doctors' acting in patients' interest	-0.09	0.04	-0.06	0.02	-2.37	0.01
Trust in quality of communication	0.08	0.04	0.04	0.02	2.03	0.04
Trust in doctor's competences	-0.07	0.04	-0.04	0.02	-1.98	0.05

$R^2= 0.39$   $F(4,826)=132.48$   $p<0.00$  std. error of estimation: 2.09

*Source: author's own work on the basis of survey results*

The results of the analysis showed that trust could variously influence the patients' willingness to seek information online. It turned out that two of the studied dimensions: trust in benevolence and emotional support and trust in the integrity and honesty of doctors did not have an impact on the patients' online research. Their propensity to seek information online was found to depend very strongly and in a statistically significant way on the dimension 'control of competences' ( $p=0.00$ ). This dimension involves the belief that doctors' conduct should be controlled. The stronger this belief, the more patients are inclined to use the web in search of health-related information.

The other dimensions of trust in doctors (trust in their competences, belief that they act in their patients' interest) made the surveyed patients treat their physicians as a basic source of information regarding health and felt less compelled to expand their knowledge through online research. This is because the stronger the confidence in a doctor's competences ( $p=0.05$ ) and the belief that he acts in the patient's interest ( $p=0.01$ ), the weaker the need to supplement knowledge with information from the Internet. What is interesting, there exists a positive correlation between trust in the quality of doctor-patient communication and seeking health-related information on the Internet. Perhaps this signals the beginning of the changes predicted by some researchers. A patient who believes that communication with doctors is based on dialogue which is clear and comprehensive to a layperson, where there is room for questions, clarification of doubts as to the causes of disease, its development and course of treatment or diagnosis, feels encouraged to broaden his knowledge with information he can find online. It is not, therefore, a manifestation of distrust, but a consequence of the new opportunities provided by modern technologies.

## 5. CONCLUSION

An increasing number of patients treat online search for information about health as a way to prepare for medical appointments and as an element of participation in the process of treatment or disease management (Blanch et al. 2005; Kivits 2006; Lopez-Gomez et al. 2012). Internet research can bring many benefits, e.g. increase patients' activeness (Gerber, Eiser 2001), cause them to become more responsible for their own health (Stevenson et al. 2007), or improve their compliance with medical advice. It can also, however, lead to undesirable behaviour, i.e. self-diagnosis or even abandonment of treatment (Anker et al. 2011). Although doctors sometimes express negative opinions about seeking health information online, it seems that the phenomenon is here to stay, particularly as among its consequences is the gradual and inevitable evolution of the doctor-patient relationship (Wald et al., 2007). Gerber and Eiser (2001) use the term 'Internet-informed patients'. Their communication with doctors relies on knowledge obtained from the web, and they expect their physicians to assess the clinical situation and suggest possible solutions. The patient-Web-physician triangulation can impact on the patient empowerment process (De Rosis, Barsanti 2016). Meanwhile, far less attention is devoted to the factors which determine the behaviour of patients online. So far, the changes of the levels of trust in doctors have been mainly studied as an effect of growing democratisation of medical knowledge, whereas the impact of trust on patients' searching for information on the Internet has not been investigated. Therefore, in this paper trust in doctors, being a multi-dimensional construct, is treated as a determinant of this kind of patient behaviour. It has turned out that some of the dimensions of trust in doctors: belief that doctors act in the patients' interest, trust in the competences of doctors, control of doctors' competences, trust in the quality of communication strongly influence patient behaviour, the first two in a negative manner, while the other to in a positive way. The two remaining dimensions: trust in the benevolence of doctors and their emotional support of patients and trust in the integrity and honesty of doctors were found to have no impact on patients' searching for knowledge online. It can be said, therefore, that seeking health-related information online is a manifestation of a low level of trust in the competences of physicians and a weak belief that they act in the interest of patients. On the other hand, patients' trust in the quality of communication with their doctors motivates them to undertake Internet research. The results of an online enquiry can remove doubts regarding the disease, but can also deepen the uncertainty, or even cause strong fears. Confidence in the communicative skills of a doctor creates favourable conditions for free exchange of information and gives patients the opportunity to share their misgivings and anxieties.



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## COMPARATIVE ANALYSIS OF TAX BURDEN FOR TOURISTIC SMBS IN GREECE AND RUSSIA

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### **ABSTRACT**

*Starting from the second part of twentieth century an increasing share of the world GDP is forming by services including tourism. According to the world experts' estimates, tourism as a sphere of economic activity has a great potential for development, however, the implementation of this potential in a certain country depends to a large extent on conditions created by the authorities. In particular, taxation of the touristic business affects its investment attractiveness and competitiveness. The objective of the current paper is the assessment of the tax conditions in the touristic business on the base of comparative analysis of the tax burden of small and medium-sized business (SMB) operating in Attica Region, Greece, and St. Petersburg, Russia, as tour operators or travel agents, has been undertaken. The choice of objects for comparison is caused by the expansion of the touristic exchange between countries and the increase of tourist flows in these cities. In 2016 the Greek Tourism Ministry and Russia's Federal Tourism Agency (Rostourism) signed an agreement to encourage mutual tourist flow, simplify tourism-related formalities and establish contacts between Russian and Greek travel operators. In the paper short description of touristic branch in the countries under consideration is given; legislative requirements and tax regimes for SMB (in general) and the most characteristic for tourism are analyzed; the method of tax burden evaluation is substantiated; tax burden for SMB companies is calculated, processed by statistical methods and interpreted from the standpoint of each country and in comparison. The research methodology consists of logical analysis and statistical methods. The results of research can be used by the authorities responsible for development of touristic branch in the countries under consideration and by the touristic companies working out the plans of cooperation. This research also establishes for the first time a common groundwork, regarding taxation comparison in Russia and Greece, which can be used for building up.*

**Keywords:** *Small and Medium Business, Taxation, Tax burden, Tourism, Tour Operator, Travel Agency*

### **1. INTRODUCTION**

Starting from the second part of twentieth century an increasing part of the world GDP is forming by services. One of the rapidly increasing branches is tourism. According to the UNWTO, the year 2016 was a record - the number of tourists in the world reached 1 billion 235 million people, which is 3.9% more than in 2015. Touristic branch has large impact on the national economy and in some countries it constitutes more than one half of GDP. In general, the touristic branch includes different types of enterprises by the field of activity and by the size of business. The classification methodology proposed by the UN and EUROSTAT suggests only the direct contribution of tourism to a national economy, from the spending aspect (Eurostat et al, 2008). From the supply point of view, there are several industries that offer touristic products and activities, like the ones above.

One of the most important for the present research is classified under the general title “Reservation Services”, which includes travel agencies, tour operators and other providers of equivalent services. Of course, other classifications, like the World Travel and Tourism Council (2017), suggest that indirect contribution should be included, too, as making the picture more complete. For example, items like impact from purchases from suppliers and spending from direct and indirect employees should be included, as well. Touristic branch delivers the services connected to the certain terrain and considering the local situation and environment. In general touristic branch, in particular, activity of tour operators and travel agents, should provide quick and adaptive responses on the demand changes due to the range of factors and also deliver the variety of products and services taking into account local and individual requirements. So the flexibility is compulsory for the effective economy of tourism. This quality is obtained by participation of small and medium-sized businesses which have opportunities to implement their advantages. It should be mentioned that small and medium-sized business is extremely sensitive to the external conditions including those created by authorities and fixed in legislative and normative documents. Taxation is one of the conditions determining the development opportunities for business and its investment attractiveness so the study of tax conditions is topical from the standpoint of the touristic branch’s development. Comparative analysis can be used to examine the prospects of the touristic business development. The objective of the current paper is the assessment of the tax conditions in the touristic business on the base of comparative analysis of the tax burden of small and medium-sized business (SMB) operating as tour operators or travel agents in two countries under consideration. As the objects for comparison SMB firms of Attica Region, Greece and Saint-Petersburg, Russia were chosen. The choice is caused by the expansion of the touristic activity in both regions as well as by widening of touristic exchange between them.

The tasks of the study are the following:

- 1) To analyze touristic branch in the countries under consideration;
- 2) To analyze the legislative parameters of small business (in general) and the most characteristic for tourism in Greece and Russia;
- 3) To analyze tax regimes for SMBs in tourism in Greece and Russia;
- 4) To determine the method of tax burden assessment and to apply this method to evaluate the tax burden by means of statistics;
- 5) To compare the results and to conclude about the role of tax burden and possible consequences.

## **2. DATA AND METHODOLOGY**

The present research confronted from the beginning with a shortage and mediocre quality of data. To be more specific, Russian SMEs data findings defined which data could be used from Greek SMEs, in order to be comparative with each other. The comparativeness drivers that were used are: time range (financial years 2014 - 2015) and SMEs definition criteria. As time range for the sample, 2014 and 2016 financial years are being considered. Now about definition criteria, Russian law imposes lower limits for both years, so Russian criteria were used for adjusting the Greek sample. The reasoning for this choice relies upon the fact that, doing otherwise, larger Russian SMEs should be included, which would distort the results, since larger firms differ significantly from SMEs in every aspect and, at any case, it would be out of topic. The choice of using both criteria, meaning each for each country, would make the research consistent to the concept of comparability, which is a prerequisite. Of course, Russian SMEs criteria involving currency were converted from rubles to euros, in order to efficiently apply them to the Greek database, so that all samples obey to the same rules (the lowest criteria, shown in the Table 1, were used for both samples, which in this case the Russian ones were).

As exchange rate, the annual arithmetic average was calculated for each year, using data from the European Central Bank. The firms in all samples belong in the tour-operators' industry, according to the activity coding for both countries, as it is considered to be one of the most representative branch of the touristic sector in both countries. Geographically, two areas of interest are considered for each country: Attica Region for Greece and the federal city of St. Petersburg.

*Table 1: SMEs definition criteria in Russia and Greece for medium-size firms (in Euros)*

Country	Average employees	Total assets	Total revenue
Greece (L.4308/2015)	≤ 250	≤ 20,000,000.00	≤ 40,000,000.00
Russia	≤ 250	Not a criterion	≤ 19,627,085.38 ≤ 14,690,327.89 (until 12-08-2015) ≤ 29,380,655.78 (from 13-08-2015 and on)

Data for Greek SMEs are being extracted out of the i-mentor database. All firms are SMEs (using the Russian criteria of SMEs) having Activity code 79 (Activity of travel agencies, tour operators etc), settled in the Attica Region. For the year 2014, data for 223 firms were collected, a number that has radically fallen for 2015 (only 37 SMEs). This occurred due to lack of statement publishing obligations for most of the Greek SMEs, following the similarly dramatic changes in the accounting referencing framework, that took place in 2015 (L. 4308/2015), mentioned below. However, this shortage of data does not seem problematic or damaging, since only ratios (rather absolute values) are being used for further analyzing the very phenomenon and, of course, descriptive statistics of those ratios. Russian SMEs data were provided by the tax service of Saint-Petersburg. For the firms using general system of taxation the initial data allowed calculating of tax burden according to the method adopted in Russia. For the firms using simplified system of taxation the paid sum of taxes was not specified so the following approach was suggested. Within simplified system of taxation, the Russian legislation gives the option to the entrepreneur to choose (in advance, though) whether he/she shall be taxed by 15% on total revenue or 6% on net profit. It is assumed that, entrepreneurs, being good planners and insightful, tend to choose in advance properly. For research, SMEs using simplified system of taxation are not excluded from the sample, but rather there applies an ad hoc calculation of tax burden, during which 6% on net profit is compared to 15% on total revenue and the lowest of which is considered as the chosen tax rate (and, hence, tax burden ratio) by the entrepreneur. As a result, the sample for 2014 contains 1941 SMEs, whereas for 2015 it consists of 1780 ones, all having Activity Code 63.30 (Activity of travel agencies, tour operators etc) according domestic classification. The methodology used here consists mostly of describing and comparing the tax burden on tour agency SMEs in Russian and Greece, as mentioned. Description techniques of the two data sets include basic descriptives, such as mean, median, standard deviation, kurtosis and skewness indicators. Moreover histograms are considered, in order to better compare the cumulative frequencies of the two samples for each year, as well as a percentile, also used comparatively. All these measures are applied upon the tax burden index, proposed and applied by the Russian Authorities (On approval of the concept..., 2007). This particular index was chosen among others, since it best fits the available information from the Russian database. It should be mentioned that some Russian researchers suggested other methods for evaluation of the tax burden (Maksimova, 2015) including for particular types of

enterprises (Kozhevnikov and Osadchaya, 2011) but the tax service use the method described below. Other well-known ratios analyzing the same phenomenon are effective tax rates, proposed by Nicodeme (2001) and Martinez-Mongay (2000), who propose a lot of variations of them, mostly under the US GAAP or IFRS; Plesko (2002), in a metaresearch also analyzes alternative measures of corporate tax rates. All of these, however, do not match the present case of interest. The main idea behind this index is that the state is actually something close to a shareholder, taking a share of the firms' total revenue, like other factors do, under the attribute of expenses or capital investors, such as suppliers, utility companies, even banks and real shareholders. The tax burden index used here can be described by the following function:

$$TB_{Country\ t} = \frac{Taxes}{Total\ Revenue} (1)$$

where the numerator includes all the taxes paid by the firm and the denominator includes sales proceeds and non-operating income. Applying the above index upon Greek data was a little trickier than Russian data, regarding differences in framework, so certain adjustments were necessary. For the year 2014, still under the old accounting framework (L. 1041/1980), total revenue was calculated by summing four terms found scattered in the Income Statement: Turnover (TO), Other Profit Account (OPA), Interest and Similar Income (ISI), Exceptional and Extraordinary Items (EEI). The reasoning behind including all this information in the index lies on the fact the index itself requires all revenues available to the firm, regardless if they come from its main activity or others. In 2015 a brand new accounting framework was introduced (L. 4308/2014), which alternated firms' statements from the ground, but the year 2015 was a transitional period with most of SMEs choosing the old depiction of accounting data. As a result, in the 2015 Greek sample all of the firms use the old system. Considering the numerator, a few accounting items were used, too, adjusting the initial one: Income Tax (IT), Other Non-Operating Taxes (ONOT), Other Taxes (OT) and Auditing Differences (AD). The same reasoning as for the denominator lies here, as well. Auditing differences, regardless of the accounting framework, were to be included, since they constitute an actual cash outflow or obligation for tax purposes, which is also in the vein of the present index (Ginoglou, 2014). Other tax items (under the basic income tax law 4172/2013), as the tax deposit (in advance), are not included in the present analysis. The formula applied is the following (t=2014, 2015):

$$TB_{Gr\ t} = \frac{(IT_t + ONOT_t + OT_t + AD_t)}{(TO_t + OPA_t + ISI_t + EEI_t)} (2)$$

### 3. MAIN PROVISIONS AND RESULTS

#### 3.1. Touristic branch in Greece and Russia

The activity of tour-operators and tour-agents is immediately connected with the demand of the touristic services so its study is important both for the current economic indicators of tourism and for the plans of its development. Traditionally, in Greece tourism plays a much more important role than in many countries, according to the World Travel and Tourism Council (2017). Greece is the 40<sup>th</sup> country in relative to GDP size and 18<sup>th</sup> in absolute size. The total contribution of tourism to the Greek total GDP was 18.6% in 2016, with an estimated rise up to 23.8% for 2017. The contribution to employment was 860,500 jobs, which make up 23.4% of total employment, for 2016. Finally, investments in tourism are 15.7% of total investments. According to SETE (January 2017), for 2015, a main year of interest in the present study, tourism contributed to total GDP 26.5% both directly and indirectly, about 46.6 billion Euros in absolute terms. Moreover, while Greek GDP dropped by 2.2 billion Euros, tourism as a branch rose by 1.8 billion Euros in absolute terms, serving as a protective wall against the deepening of Greece's fiscal and financial crisis. Also, 90% of revenues from tourism come



from abroad, contributing, thus, to reducing Greece's trade balance deficit. Finally, regarding the travel agent subsector, it occupies 3.7% of all revenues generated from touristic activities. According to the ECTAA, in 2014 about 3,800 firms worked as tour agents in Greece. Their aggregate turnover was equal to 12,700,000 million Euros. The sector provided 24,000 jobs. According to the Hellenic Statistical Authority (2017), considering the composition of Greek tourism, in 2015 about 87.8% of non-resident arrivals come from European countries. Most of the visitors reach Greece by plane, but also traveling by car is an up-and-coming trend. For this reason, there is a great portion of tourists that come from Balkan countries, due to the proximity of Greece to their country. Traditional markets for Greece, such as Germany, the UK, Austria and France present high per capita expenditure in average. However people from countries such as Switzerland, Australia, the USA, Canada and Russian also tend to add high value to the Greek economy since their per capita expenditure is equal and higher than that of people from Western European countries (SETE, February 2017). Now consider the activities of the touristic branch in Russia. Since 2016 the new methodology of statistic accounting in tourism was adopted in Russia. Unexpectedly the proportion of tourism in GDP calculated by new methodology constituted 3.4% - twice more compared to the results of the former methodology. Nevertheless, tourism is a huge, powerful sector of the Russian economy. It should be mentioned that the data on the touristic branch in different sources and sometimes from the same source in different dates are incomplete and contradictory. Thus, informational reference portal Infox.ru informs that according to different estimates, in Russia there are from 15 to 30 thousand travel agencies, but the data of Federal statistics available on [www.gks.ru](http://www.gks.ru) are even lower than the lower level of estimates. According to Federal statistics during 2011 to 2016 the total number of touristic firms grew from 10,266 to 12,395. The number of tour operators in 2011 was equal to 548, reached its minimal level (445) in 2014 and restored to 549 in 2016, while the number of travel agencies grew permanently and, started from 7,787, reached the number of 9,300 in 2016. 15% of the firms combine the functions of tour operators and travel agents. In Saint-Petersburg the dynamics slightly differs. The number of tour operators in 2011 equaled to 30, reached its minimal level (16) in 2015 and 2.5 times exceed the initial level in 2016 reached 75. The number of travel agencies started from 109, grew for two years, than dropped in 2014 and restored more than twice reached in 2016 the number of 349. 40% of the firms combine the functions. It's evident that the Federal statistics' data on Saint-Petersburg do not coincide with the data of tax department of Saint-Petersburg described in the Data and Methodology and used in consideration within the current research. This fact can be explained, firstly, by the significant number of small firms and individuals working as travel agents without representing information to the state statistics. Secondly, some small firms and individuals could erroneously indicate the scope of their activities when submitting information. Thirdly, the tax department database may contain errors due to manual processing of data. According to some forecasts by 2018, from 20% to 30% of travel agencies may leave the market. The reason is that the profit of agencies has seriously dropped due to decrease in the amount of commission by tour operators. If in 2014 the average commission of the travel agency was about 11% of the tour package cost, today it is estimated at 7.5%. Tour operators explain the commission reduction by the ambition to reduce tours' prices. By the end of 2015, Russian outbound tourism and companies operating in this sector had significant financial losses and lost access to the most popular tourist resorts. The attractiveness of outbound tourism for Russians during the period was steadily declining due to high prices for vacation abroad and an increasingly narrow circle of countries that are available for tourist trips. In the structure of the volume of the tourism market, the largest percentage is occupied by the domestic segment. It constitutes more than 53% of the market as a whole (% of the natural volume). The number of tour operators specializing in outbound tourism decreased from 2,500 in 2014 to 750 in 2016, while the number of tour operators in domestic tourism increased from 700 to 3,700.

In unstable economic conditions, active consolidation of players takes place, this caused that in 2016 the 20 largest companies accounted for 80% of sales. In (Discovery Research Group, 2017) the analysts argue that the volume of the tourism market in Russia in 2016 amounted to 526.421 billion rubles, which is 15% higher than in 2015. In 2015, it equaled 457.757 billion rubles. The volume of the tourism market in Russia in 2016 amounted to 119.601 million people, which is 1.7% higher than in 2015.

### 3.2. Analysis of Tax Burden of Tour operators and Travel Agents

As was thoroughly mentioned above, all statistics are applied on the Tax Burden Index. For both years, the main descriptives for both regions are presented in the Table 2. About 2014, it is rather clear the tax burden that Russian SMBs bear is significantly greater by means of average and median and mode. In Russia, on the other hand, the mode reaching 6% indicates that most of the companies are rather very small and choose to be flat-taxed by 6%, as explained above. The same fact affects the average, which also approaches 5.88%. In both samples for 2014, there is strong positive skewness, reflecting a long distribution tale on the right of the distribution curve, a little longer for the Russian sample. The right tales of both distributions seem to be extremely fat, since both distributions present very high kurtosis, a lot higher for the Russian sample, though. This fact occurs due to a significant portion of outliers, meaning larger SMBs (in terms of total revenues) that provide an equally significant amount of income tax to the states. The general picture for 2015 seems quite similar to that of 2014: smaller mean, median and mode for Greece than Russia, mode and mean around 6%, indicating and confirming in a stronger basis the fact that most of the Russian sample consists of 6% flat-taxed firms. Both the 2015 distributions also present high positive skewness, a little higher than in 2014. The greater difference relies on the kurtosis index which is even higher for the Russian sample, than in 2014. This, most probably, means an even larger number of outlier SMBs, totally outside of the main stream, which the mean, median and mode set.

*Table 2: Descriptive statistics for both regions in 2014 and 2015*

STATISTIC	2014		2015	
	Greece	Russia	Greece	Russia
Mean	2.09%	5.88%	1.65%	6.01%
Median	0.55%	6.00%	0.66%	6.00%
Mode	0.00%	6.00%	0.00%	6.00%
Standard Deviation	3.95%	2.18%	3.33%	2.68%
Kurtosis	20.83872	77.91487	19.59302	97.21385
Skewness	3.923718	5.104044	4.111586	7.448976

Regarding cumulative frequencies (Table 3 and 4), it is clear that most Greek SMBs (about 60%) present only 1% tax burden and nearly 85% of them up to 4% tax burden. In Russia the picture is severely different, since only 6.34% bear up to 4% tax burden. The explanation for Russian SMBs lies on the large amount of “very small” SMBs, which choose to be taxed by 6% and, thus, there is a large concentration around this tax burden rate. The explanation for Greek SMBs is trickier and lies on several causes, which may be all valid and not just one of them:

- high operational and other costs, which compress net profit margin, a fact that leads to low taxable income and income tax,

- low operational revenues as a result of the reduced demand during the financial and fiscal crisis, which hit the Attica tour-operating industry, perhaps disproportionately to other regions (let us say the Greek islands).
- attempts to tax evading and avoidance, which may be a result from many factors, such as low compliance rates for Greek SMBs, high income and other tax rates etc (Georgakopoulos, 2016).

*Table 3: Histogram for both countries in 2014*

Bin	Greece		Russia	
	<i>Frequency</i>	<i>Cumulative %</i>	<i>Frequency</i>	<i>Cumulative %</i>
1%	131	59.28%	81	4.17%
2%	29	72.40%	20	5.20%
4%	27	84.62%	22	6.34%
10%	23	95.02%	1783	98.20%
More	11	100.00%	35	100.00%

Nearly the same state of things for 2015, as for 2014. Even fewer SMBs tend to bear a tax burden ratio up to 4% in Russia, where the numbers seem to be nearly the same for Greece. The same reasoning applies also for 2015, regarding to the differences between the cumulative frequencies of the two samples.

*Table 4: Histogram for both countries in 2015*

Bin	Greece		Russia	
	<i>Frequency</i>	<i>Cumulative %</i>	<i>Frequency</i>	<i>Cumulative %</i>
1%	22	59.46%	68	3.82%
2%	8	81.08%	13	4.55%
4%	4	91.89%	19	5.62%
10%	2	97.30%	1641	97.86%
More	1	100.00%	38	100.00%

The above discussion about cumulative frequencies becomes clearer when comparing the most important percentile milestones (Table 5). It is more than obvious that for each of the important percentiles, Russian firms aggregate at a 6% tax burden ratio. The picture is different for Greece: 25% and 50% of the sample aggregates approximately near 0% and 0.55%-0.66%, respectively. There is also a slight change in tax burden ratios when reaching 75% of the sample. The reduction may reflect the reasons mentioned above.

*Table 5: Percentiles for both countries in 2014-2015*

Country - year	25%	50%	75%
Greece 2014	0%	0.55%	2.31%
Russia 2014	6%	6%	6%
Greece 2015	0%	0.66%	1.41%
Russia 2015	6%	6%	6%

#### 4. CONCLUSION

In Russia the large number of SMBs functioning as tour operators and travel agents are “invisible” for federal statistics but they are registered in regional department of tax service. The most of SMBs under analysis use simplified system of taxation and, though there is no information about what variant of this system the firms apply, there is no one firm for which it could be preferable to use total revenue as the base of taxation. In Greece, a large number of SMEs also exists in the sector. Most of them choose not to publish their statements, especially since the mentioned shift in law. A significant portion of them uses single-entry accounting, a fact that makes their statement analysis impossible. The others mostly present simplified statements which are utilized for statistical purposes. The tax burden calculation adopted in Greece takes into account the different taxes and different sources forming the financial result, so the change in formulation makes it more adaptive and suitable for factor analysis, while the calculations regarding the index for Russian firms is simpler and is directly derived from the authorities. The main conclusion (according to tasks, defined at the beginning) that a researcher can draw from the present analysis is that tax burden, as defined above, seems to be a proper measure for comparing Russian and Greek (or generally EU) SMBs, since proper adjustments are often easier to be made using the plethora of data for SMBs available in EU databases and the Russian state proposes the measure giving the appropriate data for its calculation, or even it is already calculated by tax authorities themselves. Regarding the application on the present research, tax burden is heavier for Russian than Greek SMBs, with reference to the tour operating industry as documented above: in Russia, SMB tour operators pay an average of 6% of their total revenue, whereas in Greece the average is around 2%. This fact is valid for Greece even for more than 80% of the SMBs (again: tour operating). In Russia, on the other hand, there are quite a few “larger” SMBs in the sector that bear more tax burden than the average. In both countries there are not significant changes between financial years 2014 and 2015. The analysis showed that from the standpoint of tax burden the firms in Greece are more homogeneous than in Russia. The method of tax burden calculation adopted in Russia interprets the tax burden as the share of the state in the total revenue of the company. Though income tax is the main tax paid by business and its rate in Greece (29% since 2015 and on) is higher than in Russia (20%) the tax burden, calculated as the ratio of all taxes paid to total revenue, in Russia is in average more than twice higher. The research establishes for the first time a common groundwork, regarding taxation comparison in Greece and Russia, which can be used for building up and expanding to other periods and branches.

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## LEGAL CONDITIONS FOR FOREIGN DIRECT INVESTORS IN POLAND

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### **ABSTRACT**

*Observation of the Polish economic reality of last nearly thirty years prompting the question about the quality of the legal conditions for economic activity carried out by foreign direct investors in Poland. The aim of this study is the characteristics of the changes of legal regulations governing the rules for entry to the Polish market and rules concerning foreign direct investors operating on the market, starting from the early years of the transformation that is from the beginning of the 1990s until present. The author treats the legal conditions as a very important element of business environment. The author believes that, due to current trend in Poland this could be just important. To introduce better the aim of the study the article is divided into four essential parts. Firstly the study includes period prior to political and economic transformation and its legal regulations regarding foreign direct investment, during this period foreign capital was present on Polish market however, on much smaller scale. Secondly creating of a new socio-economic system did not result in voiding duality of legal system for business, e.g separate legal regulations for foreign capital in form of direct foreign investment. The next step was signing of the agreement regarding Polish membership in European structures, during this process challenges arose, concerning conditions of foreign investment in Poland due to signed agreement as well as supply chain issues. And lastly it was equalization of rights for domestic and foreign entrepreneurs that started at the beginning of 2001. To characterise the changes of legal conditions for foreign direct investor in Poland, the methods such analysis, synthesis and comparative analysis are being used.*

**Keywords:** *Business environment, Legal conditions, System transformation*

### **1. INTRODUCTION**

The aim of this study is the characteristics of changes of legal regulations governing the rules of entry and operation of direct foreign investors on Polish market, the study includes period from the beginning of transformation that, is the start of 1990's of the 20th century. Although the world has observed the reduction of importance of the legal conditions in decisions regarding the location of FDI however, the author believes that, in Poland due to the circumstances they could have been very important. Legal system governing foreign capital was not in fact stable (especially in a certain period). The reason of this state of affairs was due to creation of a market system, and adjusting the legal system to it. Further changes in legislations were caused by integration within the European Union structures and the necessity of convergence in the field of law as well. Due to the limited framework of the article the author excludes changes in taxation system of business entities with foreign capital, which were changing together with the basic legislation for foreign capital. She also excludes the issues concerning purchase of real estate by foreigners and ancillary regulations.

### **2. THE LEGAL SYSTEM OF SOCIALISM**

Though the study involves essentially the period initiated by the transformation of the system, it would be difficult to not mention earlier legal regulations regarding foreign capital. Although Polish experience in this matter was subordinated to another economic system, where foreign capital was not allowed to participate in the economy on a large scale however, such phenomenon was not new. Polish experience regarding direct cooperation with foreign capital

prior to 1989 was the most advanced in the region of Central and Eastern Europe, both in terms of system solutions, as well as the real dimension of the FDI. It is thought that these experiences were facilitating further cooperation with foreign capital (Kozłowska, 1999, p. 89). After the Second World War, Poland had nationalized private property, including foreign capital. The socialist legislator, however, maintained a pre-war system of private law including two acts that were setting out rules governing the conduct of economic activity in Poland by entities of foreign legislation. These were regulations issued by the President of the Republic of Poland concerning conditions on which foreign public limited companies, limited partnership with shares (Act from 20th of December 1928) and limited liability companies (Act from 13th of April 1934) were granted an access to the Polish market. Based on above Acts business entities were granted access to the market only by obtaining permit from Minister of Industry and Commerce, Acts also defined legal and organisational form of a company which had to be limited to a representation (Kozłowska, 1999, pp. 89-90). Additionally after the Second World War Commercial Code of 1934 was still valid, Commercial Code set out rules regarding legal and organizational status of other form of foreign capital and its business entities. However, in the new political circumstances practical importance of these regulations were insignificant (Kozłowska, 1999, p. 90). In the post-war history first formal and legal basis for the participation of foreign investors in the economic life in Poland were created in the second half of the 1970's of the 20th century. The cause of such was the relaxation in international relations expressed by setting new rules in final Act of the Conference on Security and Cooperation in Europe (CSCE) in Helsinki (Kozłowska, 1999, p. 90). Among Polish expectations related to the inflow of foreign capital was: transfer of modern technologies, improve supply on the domestic market, export growth, restructuring of the economy (increase in the share of modern types of production), completion of the investment started in 1970's of the 20th century, and debt reduction (Kozłowska, 1999, p. 90). On 06th of February 1976, the Council of Ministers introduced a regulation on the conditions and the authorities responsible for issuing permission to legal and natural person to create representation on Polish People's Republic territory (Kozłowska, 1999, pp. 90-91). Then on 14th of May 1976, the Council of Ministers adopted a regulation on issuing permissions for establishing certain economic activities for legal and natural person that had headquarters or place of residence outside Poland as well as foreign citizens with a permanent residence card in Poland. Permissions included mainly economic areas such as craft, domestic trade, hotel and catering services. This regulation was mainly addressed to the Polish community (Kozłowska, 1999, p. 91). The first post war legal regulation from 26th of May 1976 was Act by the Minister of Finance concerning activity in Poland of foreign business entity but subjected to polish regulations (companies with participation of foreign capital) Act is still in force, this regulation set out rule regarding certain activities in field of trading of currencies by companies with participation of foreign capital. Above Act, not only included trading of currencies but also included rules and regulations of contracts between foreign entities of legal personality and polish counterparts, Act regulated process of establishing companies with participation of foreign capital (Kozłowska, 1999, p. 91). Later, on 07th of February 1979 the Council of Ministers issued resolution no. 24, the resolutions set out rules regarding establishing and activities of companies with foreign capital in the country. Both earlier and current regulations allowed as partners State owned and cooperative enterprises. The regulations however, were not reflected in practice (Kozłowska, 1999, p. 91). At the beginning of the 1980's of the last century, the efforts were made to improve regulations regarding foreign investment, which they will be explained in text below (Kozłowska, 1999, p. 91). On 26th of February of 1982 Banking Act was established, such Act set out rules for formation of Banks as Public Limited Companies, including also companies with foreign capital. Formation of such companies was regulated by above Act and its later amendments but also regulated by other minor regulations (Kozłowska, 1999, p. 92). Later on 06th of July 1982



National Assembly passed a law regarding regulations for economic activities for foreign legal and natural person on territory of Poland. The law included small and medium economic endeavours, the law was known as Polish Companies Act. Act replaced law from 14th of May 1976, and again uniformly treated area of operation of foreign capital, instead of dividing it into separate business entities such as independent companies and partnerships. Having the rank of a law, the Act guaranteed the safety of invested foreign capital. The Act went through further amendments such as in 1983 in area of taxation, in 1985 where companies with the participation of foreign entities were excluded and new modifications were introduced in 1986 as well (Kozłowska, 1999, p. 92). As a result of attempts of the inclusion of foreign capital to the economy, there had been an increase in interest from foreign investors however, there were only small investors. Years between 1976 and 1985 it was the first time in the post war Polish history of opening borders for foreign capital (Kozłowska, 1999, p. 92). The second period was launched along with the preparation of economic reform by the Zbigniew Messner's Government. On 23th of April 1986 National Assembly passed a law on companies with foreign capital participation, which opened the path for the inflow of large capital from abroad. Along with the Act new form of investment appeared called joint ventures, it was understood as companies with participation of foreign capital. The Act allowed establishment of Limited Liability Companies and Public Limited Companies between foreign and Polish legal and natural personalities. It opened up access of other (apart from small and medium enterprise) areas of economy, excluding parts directly related to safety and security, social interests and the natural environment. The law said, that the State-owned enterprises are not the only entities eligible for participation in joint ventures, but did not govern other types of companies eligible for it. The Act from 06th of July 1982 also was valid; the Act that included banking and international contracts regulations (Kozłowska, 1999, pp. 92-93). In efforts to open Polish economy for foreign capital further steps towards liberalisation of the legal conditions were made. As results of such efforts on 23th of December 1988 National Assembly passed the law dealing with economic activities involving foreign entities, the law was significant because applied during the initial period of transformation. The primary objective of the Act was to encourage foreign businesses to invest in the Polish economy; it concentrated on creating stable conditions for doing so. It focused on ensuring foreign entities protection of their property, income and other rights necessary to conduct of investment in Poland. According to such Act foreign capital enterprises could have been established as limited companies and public limited companies. Foreign companies present on Polish market prior to new legislation, were given opportunity to transform their companies according to new standards. The Act gave the possibility for commercial gain by any economic activities involving foreign entities in the field of manufacturing, construction, trade and services, such possibility was subject to authorisation by the Agency for Foreign Investment. Act anticipated the possibility of refusal of authorization by the President of the Agency, if the activities of the future company threatened the economic interests of the State, the safety and the protection of the State, protection of State confidential information, as well as the protection of the environment. One of the important provisions of the Act was the ability to create companies which were fully (100%) owned by foreign entities. The previous law anticipated only, that majority of the company was owned by Polish partners. At the same time, the new law determined a minimum capital share of foreign partner at the level of 20% of company's capital. The value of share capital could not be lesser than 25 million of Polish zloty (prior to denomination) the amount was equal to 50,000 of USD, value was estimated base on exchange rate for that period. In case of exchange rate change the value of capital share of foreign partners was subject to adjustment. Introduction of minimum capital share was in opposition to prior determination of maximum share. The main focus was to increase investment.

Also it focused on debt reduction to the rest of the world by obtaining direct access to foreign currencies, also it concentrated to provide barrier for fictional companies that were created only in order to ensure preferences for domestic enterprises. Despite various tax reliefs and government schemes for foreign investors also various amendments to Act (in December 1989, due to changes in the foreign exchange law, then in July 1990, after the adoption of the privatisation Act) legislation was still not adhering to demands of market economy (Kozłowska, 1999, pp. 93-95).

### **3. CHANGES TO THE LEGAL CONDITIONS FOR ECONOMIC ACTIVITY IN THE CONTEXT OF THE CREATION OF A NEW SOCIO-ECONOMIC SYSTEM**

Creation of market economy would require gradual liquidation of duality of legal system in area of business activity i.e separate legal regulation for foreign investments. However, maintained duality should be considered as part of the transition process to a market economy. As result new law was crated, new law expressed effort to change conditions for investing foreign capital. Act, regarding companies with the participation of foreign capital was passed on 14th of June 1991. Five years later, it was modified with the Act from 29 March 1996, Act regarded amendments in companies with foreign capital participation and amendments in some other Acts. The Act was a leading, and at the same time a special rule limiting the rights of foreign investors to domestic investors. In accordance with this Act, foreign entities may be established only in the form of commercial companies such as companies with limited liability or public limited companies. The general rule was the lack of restrictions on the minimum or maximum thresholds of participation of foreign capital in the company. Foreign entity could own 100% of company share capital, by establishing enterprise together with polish, foreign or both polish and foreign partners, such entity could as well established a company with natural person, legal personality or State enterprise that already was set up on polish market. Also enabled foreign entities to acquiring equities on both primary and secondary market, acquiring equities directly for the private owner and from the State Treasury, State Treasury could always offered the best price during privatisation process. There were exceptions from general rule on lack of barriers for foreign capital. Barriers were related to broadcasting (Broadcasting Act) and communication (on the basis of the law of communications) industry. However, gambling and betting were not available for foreign investors. Foreign investor could only be minority shareholder in company that owned such equities or in in another company operating in this area. One of the most important changes introduced by the Act was departure from the obligation to obtain authorisation from the competent authority of the State for any company with foreign capital. It did not mean lack of control over foreign capital. Together with introduction of new law it was required to obtain a permit from the Minster of Privatisation if company operated in at least one below areas: management of sea ports and airports, activities in the field of mediation and real estate, defence industry not requiring licence, wholesale trade of imported consumer goods, and legal aid services. Later, according to Council of Ministers regulations from 26th of July 1994, it dispensed some of restrictions, however, it maintained requirement of obtaining permission for acquiring shares in two of firstly mentioned above areas. Establishing bank required permission from the President of National Bank of Poland however it also applied to domestic entities. According to amendments of aviation law form March 1996, foreign entities setting up in area of air transport, other aviation services and in the management of the airports required obtaining permission from The Minister of Transport and Maritime Economy. Also, under the Act on companies with participation of foreign capital licence was required in following circumstances: when a company used State property of a legal personality for period more than six months or when it became the owner of the property (it excluded all State property contributed by State Treasury, and that State property was under liquidation according to article. 37 of Act of July 1990 on privatisation of State owned

enterprises, then Act from 30th of August 1996 on the commercialisation and privatisation of State owned enterprises was used) and when public legal personality would have acquired equities in a company and as a collateral to participate in share capital, a person would make in-kind contribution such as an enterprise, a real estate or a part of an enterprise capable of carrying out specific economic tasks (in particular an enterprise or branch). Licenses were issued by Minister of Treasury (previously Minister for Privatisation). The permission under the threat of cancellation could include particular legal conditions, conditions regarded proportions of ownership between Polish and foreign entities (as it was mentioned earlier) or the proportion of votes at the meeting of partners or the general meeting of shareholders. The issuing of such permission could have been denied if it threatened economic interests of the country or country's safety, security or compromising confidential information. Among other key issues of this Act was legal right to unlimited transfer of all profits abroad, as well as legal right to compensation in case of expropriation or use of other means that give rise to an effect equivalent to expropriation (Kozłowska, 1999, pp. 95-99; Kozłowska, 2015, pp. 159-161). In parallel, the basic legal Act governing the conduct of business by foreign investors was the Commercial Code of 1934. In addition, the functioning of the foreign capital was regulated by 70 other legal Acts in the form of laws, resolutions and regulations. Among the most important we need to highlight the following regulations: on the commercialization and privatization of State enterprises, which replaced the law on privatization of State-owned enterprises, on national investment funds and their privatization, on publicly traded securities, and on purchasing real estate by foreigner. The Foreign Companies Act did not violate specific regulations applicable to certain areas such as: banking, insurance and telecommunication. The basic regulations in these areas were as properly: Bank Act, Insurance Activities Act, Communication and Telecommunication Act. All regulations regarding foreign entities operating in Poland were based on Constitutional principles such as economic freedom and the protection of property (Kozłowska, 1999, pp. 95-96).

#### **4. ADAPTING PROCEDURES FOR INTEGRATION WITH EUROPEAN STRUCTURES, AND LEGAL CONDITIONS FOR FOREIGN CAPITAL**

New situation has been created together with signing on 16th of December 1991 European Agreement that affiliated Poland into the European Community; the Agreement came into force on 01st of February 1994. Due to signing new Agreement as well as due to adjustment processes new problem has arisen regarding changing conditions for foreign capital in Poland. Under the Agreement, the European Community (EC) and Poland were to ensure free flow of capital in form of FDI, both in companies established in host country according to host country law and regulations and in companies created as self-employed entity (in the second case until the end of the first stage of the association, i.e. until 31st of January 1999). Poland was given the opportunity to apply a protective clause during the first stage of the association process or during the whole transitional period, protective clause applied to activities that included setting up companies on Polish territory. The protective clause gave Poland rights to suspend provisions of the Agreement, that regarded process of establishing a company in some areas of goods production and services, if such areas were during restructuring process, were in serious difficulties accompanied by social problems, were under threat of eliminations or drastic reduction of share from Polish market, or were nascent areas of industry or services. Most important provisions of the Agreement were obliging parties to not introduce further restrictions in area of currency exchange, by such restrictions understood capital flow and related to this current payments, as well as not to introduce further restrictions to existing regulations. Due to Polish weaker economic position, country could undertake those commitments during second stage of the association.

At the time of signing the Agreement no deadlines were laid out when Poland should apply EU regulations. It was assumed that the full freedom of capital flow would be introduced if the economic situation in Poland would allow. A proper analysis would have carried out in the second stage (1999-2004) by the Association Council to explore the possibility of full application of EU rules regarding free flow of capital (Kozłowska, 2015, pp. 162-163). Negotiations regarding Polish accession and integration with EU began in December of 1997. Polish Government established a framework on the process of harmonization and implementation of EU laws 31st of December 2002 that was the date of country's accession to European Membership. This meant, that by such date Poland should adjust its law and regulations regarding free capital flow restrictions, excluding periods where country requested establishment of transitional periods (*Stanowiska...*, pp. 1,3). It should be noted that, the Accession Treaty allows for the possibility of limiting liberalization between Member States. States may maintain some barriers to capital flows due to the tax system (taxpayers may be treated differently depending on their place of residence or capital investment) when they had to take the necessary measures to combat violations of national law, particularly in taxation and supervision of financial institutions; apply the obligation to report capital flow if needed for administrative and statistical purposes and to take measures for safety and public order (Materials...). In the area of free capital flow Polish position was fully accepted as well as announced implementation of the body of law accumulated by the European Union (acquis, within the meaning of European Union as well as European Community) excluding parts that dealt with acquisition of real estate in the country and the possibility of investing in the air transport sector (due to the serious difficulties involved in the implementation of the two regulations: on the licensing of air carriers and on the access of carriers to intra-Community routes). Poland declared intention to use exceptions to the general principle of free flow of capital, particularly a possibility of using safeguarding measures in area of financial institutions, implementation of specific public policy programs, and the possibility of applying restrictions on third party countries after 31st of December 1993 taking into account article no. 57, Treaty establishing the EC. At the same time Poland reserved rights to report negotiation problems on matter of particular importance for the common good, for instance if used instruments were not falling within a scope of exceptions permitted under EU law. Additionally, Poland declared willingness to undertake adaptations measures in area of international capital flow and payment obligations, in matter that were likely to cause breach of the European law. Importance of coherence between declaration on free flow of capital as well as on other areas of negotiations was very important (Kozłowska, 2015, pp. 163-164). At the end of the 1990s of last century, estimated that alignment of Polish law to the law of European Union in above discussed area was significant, and it was based on general rule of free flow of capital introduced at the beginning of 1999, under Foreign Exchange Act. Existing restrictions on capital flow were few and applied to FDI in the country (for example horizontal FDI as well as several industries) and purchase of real estate by foreigners (*Stanowiska...*, p. 3).

## **5. PROCESS OF EQUALIZING OF RIGHTS BETWEEN FOREIGN AND DOMESTIC ENTREPRENEURS**

Further Act to liberalize economy was the Act from 19th November 1999 the Business Activity Act. It entered into force on 01st of January 2001 (Internetowy...). The Act equalled rights between domestic and foreign entrepreneurs. Term foreign entrepreneur described a foreign national undertaking business activity abroad. By foreign national was understood a natural person who has permanent residence abroad, legal personality established abroad: non-legal entity company in listed above first and second examples with residence abroad. The aim was that foreign nationals under certain conditions (foreign nationals with permanent residency permission, permission to remain, refugee status or with temporary protected status) and based

on reciprocity rule could undertake business activity on Polish territory as Polish citizens could abroad, unless international agreements stated otherwise. In situation where reciprocity rule did not apply, foreign nationals could undertake business activities on Polish territory only as limited partnership, private limited liability company Ltd or as public limited company Plc, as well as they could accede above listed entities or acquire their shares. Entrepreneur could undertake business activity after obtaining permission from company registration office as well as applying several rules i.e. he was obliged to performing activities based on fair competition and in respect to local rules, manners and morals, to protect natural environment and to obtain required concessions and permits. The Act also regulated rules regarding establishment and operation of branches and representations. Based on reciprocity rule entrepreneurs could set up branches only in the scope of their original activity. They could also establish representation but their activities were limited only to promotion and advertisement (Ustawa z dnia 19 listopada 1999 r...). Following Act further liberalising foreign capital was Act from 20th of March 2002 regarding financial support of investment. It regulated rules and forms of providing financial support for entrepreneurs who were investing and creating jobs (Ustawa z dnia 20 marca 2002 r...). Rule was slightly change by Act of 29th of August 2003 by the amendment to the Act on financial support of investment and the Act on the conditions of admissibility and supervision of state support for enterprises (Ustawa z dnia 29 sierpnia 2003 r...). Introduced amendments did not cause major changes for foreign investors; they focused mainly on changes in regards on what types of investments are eligible for financial assistance as well as conditions on which investors could receive such assistance. The rule was repealed on 26th of December 2006 due to new Act of 6th of December 2006 (Internetowy...) on rules and conditions of development strategies, ways of conducting and financing such strategies (Ustawa z dnia 6 grudnia 2006 r...). The most important change was updating the Act of 2nd of July 2004 on economic freedom, which replaced Act from 19th of November 1999. Rule on economic freedom entered into force on 21st of August 2004 (Internetowy...). New Act regulates establishing, operation and termination of business activity on Polish territory, as well as cooperation with appropriate bodies of public administration. It introduced many business facilities for both commencing and operating a business. It removed many ambiguities and restrictions which hindered business activities. First and foremost Act limited number of documents required to start business, it introduced rule to handle certain matters in one place („one place rule”) by so it shortened the time need to complete all formalities, it reduced the catalog of activities requiring concessions (to only six due to protect State interests) and permits, it extended period for which concession was granted, it limited nuisance associated with control. The Act undoubtedly contributed to improving the legal environment of enterprises. Adopted solutions in addition to the mentioned facilities, made it possible to protect more effectively the interests of entrepreneurs. Based on the Act citizens of the other European Union as well as citizens of countries affiliated with European Free Trade Association (EFTA) (excluding Switzerland) (the parties of European Economic Area (EEA)) can undertake and carry out economic activity on the same basis as Polish entrepreneurs (National Treatment). Citizens of other countries may also benefit from this privilege, but only in the following cases: as foreign nationals with permanent residency permission or they obtained permission to remain or refugee status or they have temporary protected status. Other foreign nationals have the right to conduct a business activity (unless international agreements say otherwise) as: limited partnership, limited partnership with shares, private company limited by shares Ltd or public limited company Plc. They can accede above listed entities or acquire their shares. Also foreign entrepreneurs can undertake business activities as a branch or representation. In regards to previous Act definition of foreign national has changed as follows: natural person with residence abroad with no Polish citizenship (previously citizenship was not mentioned): legal personality with residence abroad: organizational unit without legal personality, with granted

legal capacity and with residence abroad (Ustawa z dnia 2 lipca 2004 r....). Additionally economic activities in Poland are regulated by 23rd of April 1964 Act, Civil Code (amended many times mostly in 1990 due to system transformation) also are regulated by 15th of September 2000 Act, Code of Commercial Companies and Partnership. Civil Code regulates civil law partnership; Code of Commercial Companies regulates commercial companies (partnership and capital). Together with Act of 2nd of July 2004 on economic freedom they are the most important among number of regulations regarding economic activities Acts. They offer entrepreneurs a wide range of legal and organizational forms such as: sole proprietorship, civil law partnership, no legal personality commercial partnership, and commercial companies. By doing so Poland fulfils its obligation to enable economic freedom (Materials...). Such obligation results from Treaty establishing European Community article no. 43, it grants entrepreneur rights to appoint any type of business structure that he believes is the most appropriate for him to run. European Community regulations differentiate primary and secondary freedom of establishment. Primary freedom of establishment includes rights to: direct self-employment by individuals from other EU Member States, to establishing and running of businesses or to acquiring shares. Secondary freedom of establishment enables only to geographic expansion by establishing independent subsidiaries dependent from main business such as such as branches, subsidiaries and agencies. Context of forms of business activates is wider as Poland is a member of the European Union, context may spread to areas such as new European structures of cross-border cooperation – European Economic Interest Grouping (EEIG) and ASEP Association gathering European companies (SE) (Ustawa z dnia 23 kwietnia 1964 r...; Ustawa z dnia 15 września 2000 r...; Kozłowska, 2015, pp. 166-169; Materials...).

## 6. CONCLUSION

Process of transformation that started in 1989 meant commencement of new period of development. At first, it was necessary to deal with serious problems inherited from socialism period. The characteristic feature of period of transformation was adaptation of formal regulations to rapidly changing conditions – since the beginning of the 1990s the number of legal acts increased. The European Membership was associated with adaptation of the *acquis* with exception of transitional periods. Such exceptions were contained in the Accession Treaty, they were introduced only on Polish request, as Poland was an economically weaker partner and implementation of all EU standards could have been costly. Shortly before Polish accession to EU increased legislative activity took place. One may concern that the rush accompanying the adaptation of the EU requirements did affect the quality of legislation. Frequent changes regarded to the legal Act that defined condition of conducting business activity. In addition to the main Act during different periods number of other regulations applied, those regulations controlled foreign capital; unfortunately too many regulations are never good. In conclusion, Polish law has been repeatedly changed over time due to further liberalization in almost all areas. Regulations for foreign investors have also changed for better however it did not mean that the changes fulfilled their all expectations. Not all detailed issues must be subordinated to EU regulations.

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## STARTUP AS A PARTNER OF COOPERATION FOR BIG COMPANY IN THE AGRI-FOOD INDUSTRY: ANALYSIS OF FORMS OF COOPERATION ON EXAMPLES

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### **ABSTRACT**

*Currently obtaining and maintaining a competitive advantage require implementation of innovation in companies. This trend is mainly caused by the rapid development cycle of technologies. Thus, there is a question of adaptability especially regarding introducing innovation. It can be assumed that cooperation between entities at various stages of the business development is increasingly important and large enterprises from the agri-food industry are willing to interact with startups. This interaction may allow startups to overcome the difficulties that are emerging at the early stage of the development such as the problem of delivering the reliable proof of concept. The goal of this paper is an analysis of cooperation and use of the synergies between large enterprises and startups especially in order to address needs of innovation in the economy. The cooperation can take various forms, and this paper will discuss selected types of collaboration between large enterprises and startups, which are related to business acceleration activities, co-development, co-branding, acquisitions, and acqui-hire.*

**Keywords:** *acqui-hire, acquisition, agri-food industry, co-branding, co-development, forms of cooperation, startups*

### **1. INTRODUCTION**

The importance of interorganizational cooperation is growing steadily. Cooperation plays a crucial role in the process of creating new products and services, as well as in innovative procedures. Only a small group of companies, especially big one, can afford to work alone (Hamel, Doz, and Prahalad, 1989, p. 133). Interorganizational collaborations make easier to cope with unstable changes, e.g., progressive globalization and competition, the rapid development cycle of technologies, significant know-how diffusion among different organizations, and the impact of digital transformation (Renna and Argoneto, 2012). Engagement between startups and other companies has been a subject of discussion concerning innovation strategies for a long time, and more often concern not only tech-related sectors but also traditional sectors such as the agri-food industry (OpenAxel, 2016, p. 4). We need to underline that competition and cooperation are not mutually exclusive features (Bengtsson and Kock 2000), and the cooperative relationships also take place between competitors. This is described by the concept of “coopetition” (Brandenburger and Nalebuff, 1996), which goes beyond the perception of market activity as a zero-sum game. Competition does not have to mean trying to eliminate or defeat an opponent because it is possible to compete in one area while at the same time working together in another field (Klimczuk-Kochańska, 2016, p. 285). Due to the recent changes in the business environment and customer’s buying behavior, several companies from the agri-food industry have shown interest to collaborate with startups. These entities do not have to operate in the same business field. Therefore, the goal of this paper is a presentation of diverse types of cooperation and use of the synergies between large enterprises and startups, especially in order to address needs of innovation in the economy. The impact of several types of interorganizational cooperation on the innovative activity of companies is briefly discussed in the paper.

Because the cooperation can take different forms, this paper will discuss selected types of collaboration between big companies and startups. Case studies described in further sections of this paper are showing forms of cooperation which are: business acceleration activities, co-development, co-branding, acquisitions, and acqui-hire.

## **2. MEANING OF COOPERATION BETWEEN STARTUPS AND BIG COMPANIES**

Cooperation allows the company to gain a better competitive position on the market. Together with partners, it can work out improvements in the market offer or gain knowledge of new markets. Cooperation is closely related to the organization's proximity, but this does not mean that they have the same level of involvement or type of activity. Hence, it is possible to cooperate with entities of varied sizes and at distinct stages of the development. With reference to J.A. Schumpeter's (2006), it is worth noting that he argued that the claim that large firms were necessary to promote innovation has fostered exploration of the links between innovative performance and market structure. Schumpeter combined firm size and innovation for three distinct reasons. He contended that only large firms could afford the cost of R&D programs and could absorb failures by innovating across broad technological fronts. The author also pointed out that companies needed some element of market control to reap the rewards of innovation (Teece, 1992, p. 4). This approach is based on the assumption made by Schumpeter (2006, p. 106), that the large-scale organization has come to be the most "powerful engine" of progress. However, since the author's time, it seems that a lot has changed in terms of competition. Moreover, while competition is still essential to innovation and economic development, increasingly often there is cooperation between distinct kinds of organizations, which are of various sizes, not only the biggest one. As noted by D.J. Teece (1992, p. 8) innovative new products and processes will not yield value without commercialization. However, commercialization may require access to resources that will make it possible. Without them, this may not happen, and the new solutions will not see the light. Among the necessary resources in this process are listed, among other things, promotion and other marketing activities, the reputation of the organization, after sales support, or even access to distribution channels. Startups usually play most of these rules, which can make it difficult or even impossible to commercialize the solutions they have in their possession. Cooperation can thus facilitate access to these resources. The inherent aspect of innovation is a risk. However, when cooperation is done with other actors, it is possible to risk sharing. The above characteristics of cooperation seem to be particularly interesting for startups. According to research the Startup Poland (Skala and Kruczkowska, 2016), the main customers of startups are other companies. More than 3/4 of the surveyed startups sell for business, half of which are large companies or corporations. There is also a large group of startups that offer solutions for micro and small businesses. As far as business models are concerned, half of the surveyed startups pointed to the Business to Business (B2B) as a used model. Other startups sell both for business and for individual customers (26% of respondents). While 18% of researched startups sell exclusively in the Business to Consumer (B2C) model. Every third researched startup sells its services in the current SaaS (Software as a Service) model (Skala and Kruczkowska, 2016, pp. 24-25). Cooperative relationships that startups have are often factors of their likelihood to survive (Laumann, 1984). By collaborating with a small and innovative startup, the big companies can eliminate their possible competitors as early as possible. This kind of cooperation can also help corporations to improve their own product development processes, and test new ideas. It can be noted that small businesses tend to be more innovative than large firms for three reasons: (1) lack of entrenched bureaucracy, (2) more competitive markets, and (3) stronger incentives. According to Accenture (2015), research on the benefits of collaboration between startups and large companies emphasizes skills and talent, entering new markets, and retraining on in-house R&D investment. It is also important to accelerate disruptive innovation in the company and to

design products and services. On the other side, entrepreneurs expect an extensive range of benefits from collaborating with large enterprises on innovation. These are: getting access to a large corporation's distribution network and customer base, being a supplier for big business, securing investment from corporate venture funds, and getting access to a large corporation's market knowledge. The principal is also working together on joint innovation to develop new products or services. (Accenture, 2015) It seems therefore that while large-firm strengths are mostly material in nature, small-firm strengths are mostly behavioral (Vossen, 1998). Still another issue may be a necessity of close cooperation between the developer of the innovative technology and the user. So even if a startup has a solution which a large company wants to use, it may require them not only to purchase a solution but also to cooperate further. In principle, it can be stated that there may be both simple exchange transactions between entities that cooperate in the development of innovative solutions, and more developed and deeper forms of cooperation such as alliances. Although K.G. Smith, S.J. Carroll, and S.J. Ashford (1995) points out that the more outsourcing of work outside of active interaction is not considered to be cooperation. The purpose of exchange transactions is to supply something – goods, services, technologies – in order to buy companies in exchange for cash. An example can be licensing agreement. The simplest form of cooperation between the company and startup is the procurement of goods and services. This way the startup gets the money for its functioning. Often also contract with a well-known company gives the startup a chance to go into cooperation with other customers. For large companies, thanks to the purchase of a startup's product, it is easy to access a unique technology. Without the need to develop a specific type of competence inside the company and risking the money for an idea that is not sure whether it will succeed, the startup provides a ready solution. Whether the sale to another company of products or services of a given startup has the merit of depending on how much it is necessary to adapt the product to the expectations of the large company. There can be various forms of cooperation. Particularly important are alliances, which are "constellations of bilateral and possibly multilateral contacts and understandings among firms" (Teece, 1992, p. 19). Strategic alliances are agreements between companies to reach objectives of common interest. Alliance partners pool resources and coordinate their efforts into achieving results that cannot be obtained by acting alone (Dussauge and Garrette, 1995). A strategic alliance might include the following (Teece, 1992, p. 19): (1) an exclusive purchase agreement; (2) exclusionary market or manufacturing rights; (3) technology swaps; (4) joint R&D or co-development agreements; and (5) co-marketing arrangements. A strategic alliance denotes some degree of strategic as well as operational coordination. It can be therefore assumed that a kind of strategic alliance is the use of the "white labels" sales model. Identifying products as white labels take place where the sole role of the label is to indicate to the consumer the goods to be dealt with. At present, however, especially many commercial companies, including supermarket chains as well as networks such as Biedronka in Poland, are eager to sell products made under the so-called "private label" or increasingly popular "private brands." This practice is popular in the retail market, and from a startup's point of view it can mean the use of white labels, whose labels only reveal the identity of the manufacturer, but customers buy them because of trust in a particular sales network. Many ICT companies even offer their services in the field of the white label for those consumers who do not want the brand of technology provider to be known. Likewise, future 3D prints of food can be used, using the expertise of specialist companies currently working on such solutions and selling such printers, but only the machine supplier, rather than the food produced on these machines, will be most likely known. In these cases, a large company is a customer who, in principle, besides setting up the terms of buying some product or service from the smaller entity, does not contribute in any other way. In the case of the above activities, there is usually nothing that J. H. Dyer (et al.) (2004) describes as synergy. Taking into account this feature as an important cooperation characteristic, further studies will

be presented in the form of startups and big companies, starting with: (1) searching for and promoting startups – business acceleration activities – which means allocation of some resources of a large startup company in startup; (2) through co-development, co-branding consisting in pooling partners' resources to achieve greater profits, but at the same time they continue to manage their resources independently; and (3) acquisitions and mergers between different organizations, that means linking business partners resources and sharing know-how. Of course, except for the above, some other types of cooperation may be indicated. However, in further sections will be presented case studies of only – in author's opinion – the most common forms of cooperation between startups and large companies.

### **3. EXAMPLES OF FORMS OF COOPERATION BETWEEN BIG COMPANIES AND STARTUPS**

#### **3.1. Business Acceleration Activities**

Big companies could consider investing in startups and outsourcing their product development processes. Often, a large company becomes a startup investor, offering financial and organizational support in various forms. At least five forms can be mentioned (Perlman, 2016): (1) incubators – a place to incubate startup idea, develop its business plan, and prepare the startup for growth; (2) accelerators – a very focused organization in which the startups receive mentorship, education, and networking resources; (3) startup competitions (e.g., hackathons and prize schemes) – they provide opportunity to validate startup concept of product, service, or some idea in front of experienced judges; the prizes for winners can be in the form of money, mentorship, and direct access to some startup support programs; (4) angel investments – for startups they provide some experienced mentor and advisor; and (5) venture capital – these are the funds for limited partners who expect exceptionally high returns on their investment. Different kind of accelerators are forms of partnership between a company and a startup. There is no data regarding what kind of agreements companies are making. Accelerators, incubators, and venture capital are forms of searching for startups (OpenAxel, 2016). As part of such cooperation, a large company gains access to the knowledge that a startup has. By investing in it, it can receive help from the shares it will own in the startup. Many large companies and corporations from the agri-food industry have established funds to support the development of successful startups. For example, the PepsiCo created the Nutrition Greenhouse program (PepsiCo, 2017) that goal is to support emerging nutrition and wellness brands. Among the finalists of the PepsiCo program is, e.g., the French startup Jimini's, which makes protein bars with cricket powder. The startup received a grant and the opportunity to work with PepsiCo for six months to grow the brand. In 2007 the General Mills organized the Worldwide Innovation Network (G-WIN). It contributes to enhance and accelerate its innovation by teaming with world-class innovators, startup accelerators, and other entrepreneurial networks to scout for advantaged technologies (General Mills, 2017). Thanks to the 301 Inc., the venture capital arm of General Mills has invested in the startup of Rhythm Superfoods. That startup was a purveyor of kale, beet, and broccoli chips – all snacks are densely packed with nutrients. Other startups that the 301 Inc. has invested in include the plant-based food maker Beyond Meat, nut milk cheese, yogurt seller Kite Hill, and cottage cheese maker Good Culture. By contrast, Tyson Foods' New Ventures has explored alternative proteins and acquired ownership in plant protein startup Beyond Meat, which was also supported by 301 Inc. (Kell, 2017). Another example is the Danone Manifesto Ventures (2017) launched in June 2016 by Danone. The Danone Manifesto Ventures, Inc. operates as a venture capital firm, and it invests in food and beverage companies. The well-known venture capital company, the Unilever Ventures, focused on young and promising companies. There are brands such as the Froosh (leading smoothie company in Scandinavia) and the SoBe V-Water (vitamin drink with no preservatives, artificial colors, or sweeteners) (Unilever Ventures, 2017). The Tate & Lyle Ventures LP is looking for business

working with technology in the food and beverage industry (Tate & Lyle Ventures, 2017). The Coca-Cola Venturing and Emerging Brands (VEB) has a goal to identify high-potential growth brands in the North American beverage space for investment or ownership by the Coca-Cola Company. The VEB has managed investments and acquisitions in such brands as the Honest Tea and the Fuze, and the commercialization of Illy Issimo ready to drink coffee (Coca-Cola Company, 2017). Orkla Company, one of the largest food groups operating in the Nordic region, has set up an in-house venture Orkla Venture. It is opening the possibility of investing directly in startup companies. It will primarily focus on business concepts linked to consumer-related products, services, ingredients, and processes, as well as the digitalization of both goods logistics and communication. A feature common to all the projects will be that they have an industrial logic. Orkla Venture will have the same relationship with partners as an ordinary venture fund (Orkla, 2017). Similarly, the IKEA Bootcamp Startup Accelerator has chosen to collaborate with, e.g., startup Flying SpArk. It is a startup that develops an alternative protein powder made from fruit flies (Klein Leichman, 2017). The Polish seed fund named Augere Health Food Fund was created by ten investors, including a company from the sector called as the Hortimex. The Hortimex is the supplier of food ingredients. It is a professional representative of the world's leading producers of food additives and ingredients. The Fund is finding for interesting food ideas, but also technologies for the food industry (Szczepańska, 2017). As an example of this type of cooperation with large companies in the agri-food sector, it can be provided partnerships of Polish startups the Nexbio and the SatAgro with the Azoty Group. The Azoty Group is one of the largest producers of nitrogen and compound fertilizers. Its other products, including melamine, caprolactam, polyamide, oxo-alcohols, and titanium white, have a strong standing in the chemical sector, with a broad range of applications across various industries in Europe. The Nexbio has some biotech solutions for the crop protection market. Using standard or dedicated molecular analysis, Nexbio makes a qualitative and quantitative assessment of pathogen DNA present in the plant, to determine the type and number of factors causing plant diseases. It is an alternative solution to visualization of plant conditions, which also enables analysis of pathogenic factors in the soil at the very early stages of disease development when the visual assessment is not possible. This in turn enables tailored selection of plant protection products for more efficient protection. The Azoty Group supports the promotion of the mobile laboratory of DNA (lab on a chip) project called Nexbio; and supported Nexbio in attending in the Chivas Venture and Polish Tech Day 2017 in London (Nexbio, 2017). In 2017, the Azoty Group agreed with another Polish startup SatAgro. The SatAgro has developed a service that allows access to satellite observations made by the NASA, the European Space Agency, and private operators. It processes data separately for each field and provides information that allows users to monitor crop development continually, create application maps for precision sowing, fertilization, and spraying. Under an agreement between the Azoty Group and SatAgro, a pilot program will be launched to inform farms about changes in crop condition based on satellite observations. As a result, customers from the largest Polish chemical group will be able to use the data processing tools for particular crop fields and to manage the farms effectively. The shared application will allow remote monitoring of the crop development, weather, and agronomic monitoring, historical analysis, direct communication with the precision spreader, management of water resources in the soil, and even forecasting of crops (Grupa Azoty, 2017).

### **3.2. Co-development**

Another form of cooperation is co-development. It consists on co-creating a solution between startup and a large company. This situation can happen when the startup has unique competencies, but it does not have a ready-to-sell product. It is then necessary to work with other actors to help develop it into production on a production scale. This often means leaving

the lab with a product that has been prepared by the startup and is currently in the prototype stage. Such cooperation is gaining both sides - the startup can finally launch large-scale production and get more knowledge about a solution. This also allows for a better understanding of the industry. On the other hand, a large company thanks to such co-development is gaining a ready-made technology or product, based on a solution that was not available so far. Employees of a large corporation gain the necessary skills (Edernews, 2017). Co-development was the reason for the French startup Ederna to start a collaboration with the T.I.A. and the Naturex. The Ederna is a high potential new technology company that has patented the next generation of cold concentration technology. This innovative process allows developing new natural functional and food ingredients. The Ederna owns a few patents. Its innovative technology was awarded by the International Union of Food Science and Technology at the Global Food Industry Awards 2016. It guarantees high levels of concentration with full preservation of functional and sensory characteristics of the products (Edernews, 2017). In order for technology to be used on a production scale, it was necessary to work with another entity. Hence, the Ederna start to develop and market a new osmotic concentration process in cooperation with T.I.A. this company is a manufacturer of industrial equipment using the membrane filters. The enterprise designs manufacture and set up industrial plants and pilots for food-processing, bio-ingredients, biotechnologies, cosmetics, and pharmaceutical industry. T.I.A. has incorporated the technology into a machine and the industrialized system. Thanks to co-development, it was possible to create a production line using the idea of the Ederna. The solutions offered by the Ederna in cooperation with the T.I.A. were attractive to the big international company Naturex. It is a manufacturer of ingredients for food and beverage, nutrition, as well as health and personal care industries. The Naturex's portfolio includes colors, antioxidants, specialty fruits and vegetables, phytoactives, and numerous other plant-based natural ingredients (Guillon, 2015). Thanks to cooperation with Ederna and T.I.A., it was possible to improve the long-term stabilization of its blue colorant, which was important for the Naturex. The blue colorant also has a very high concentration, because usually, the process of reverse osmosis can attain a concentration of up to 20% of soluble solids. The process used gives not only a better quality product but also saves electricity and water (Edernews, 2017)

### **3.3. Co-branding**

Co-branding is defined as pairing two or more branded products to form a separate and unique product (Park, Jun, and Shocker, 1996). The alliance worked together, and it is kind of "brand partnership." This strategy allows for introducing new consumer products (Washburn, Till, and Priluck, 2000, p. 59). Because of the fierce competition among manufacturers and retailer. This is a feature necessary especially for fast-moving consumer goods (Helmig, Huber, and Leeftang, 2008). One example of successful use of co-branding in the food sector was the promotion of the NutraSweet ingredient - aspartame used by brands such as Coca-Cola in Diet Coke. This kind of a combination of two brands is attractive for partners because it assures product for consumers. In the end, companies can count on higher profits from selling this co-branded product (Rao, Qu, and Rueckert, 1999). Two startups, LeanBox and Hydration Labs, have formed a partnership for co-branding alternative offer businesses to the traditional employee cafeteria (Bevi, 2017; LeanBox, 2017). The LeanBox provides various companies in vending fridges stock offices with healthy and locally sourced food. Moreover, the goal of the Hydration Labs was to provide a smart water cooler for offices that create filtered still, sparkling, and flavored water. This solution turned out to be something new on the market, and its significant advantage is that the Bevi water cooler is environmentally friendly. The Bevi's coolers enable workers to spike their still or sparkling water with a variety of fruity flavors, so it creates drinks which are customizable. The flavors are unsweetened, zero-calories, or organically sweetened natural flavors.

These drinks are cheaper, healthier, and more sustainable alternative to vending machines or refrigerators stocked with cans. The vending machines filter and bottled beverages at the point of use, instead of a bottling plant. The startup cuts cost variables and the carbon footprint of companies in the beverage vending industry by 80%. All Bevi's machines are Internet-connected, with real-time data flow enabling proactive service and maintenance of Bevi machines. The machines have a touchscreen that lets users to select various types of water, with a selection of flavors such as orange mango, coconut, or a combination of blueberry and cucumber. Inside the machine, there is a system of pumps and valves to tap water from a hose and funnel it through a choice of flavor mixes and carbonation processes. Meanwhile, sensors and software help the Bevi track things such as how much concentrate of each flavor is left, how many beverages are being consumed (Bevi, 2017; LeanBox, 2017). Since 2017 a distribution partnership with the Canteen has been worked out. The Canteen is the USA's leading provider of unattended retail solutions offering vending, office coffee service, pantry, and micro market solutions. The Canteen is an operating company of the Compass Group North America. Thanks to this cooperation the Bevi beverage kiosks have been deployed in the offices of different companies, including, e.g., Apple, AT&T, Fidelity, GE, and Netflix. The company is also starting to sell to new types of clients, including hotels, fitness centers, and schools (Canteen, 2017).

### **3.4. Acquisitions**

Big companies can also become an investor in another entity on a takeover basis. Sometimes the best choice can be an acquisition, where a startup is bought out by a bigger company. According to S. Blank (2014), more mature startups can be sold based on their existing products, product lines, user bases, revenues, and profits. In general, the cases of acquisitions sought in various theories. Especially agency theories predict that the rate of acquisitions is higher when the company is older. It means that very often older companies do not create value for shareholders, and acquisitions will help them with these limitations. On the other hand, neoclassical theories predict that firms acquire to make the best use of their scarce and valuable assets (Arikan and Stulz, 2016, pp. 144-145). It is allowed to access to the assets of the acquirer. The acquisition may be a strategy for creating new product lines or services were up to now the entity has not been operating. It allows the company to enter the new market as the owner of a solution or product. The acquisition company also allows for the extension of the scale of operations, which allows for adaptation to the changing needs of the recipients. Other consequences of the acquisition would be to enable access to a wider customer base. Consequently, the acquirer of the acquirer can often count on increasing market share and accelerate growth. For big companies, acquisitions can also be seen as risk management. Buying their potential competitors as early as possible will strengthen their own market position. The acquisition allows the firm to acquire primarily new technological resources (Prahalad and Hamel, 1990, p. 83), which substitute for the internal development of technological skills (Hitt, Hoskisson, and Ireland, 1990, p. 34). Usually, firms with few technological capabilities are inclined to obtain technology by acquiring innovative firms. Example of the takeover took place with regard to the Algalo startup. The Algalo has developed a unique and innovative method for the efficient cultivation, harvesting and processing of a wide variety of algae that yield active ingredients for use in the food, dietary and clinical nutrition supplements and cosmetics industries including strong antioxidants, lipids, unique proteins and carotenoids which help in maintaining cardiovascular health, a strong immune system, and healthy skeletal and bone structure. The unique technology developed by Algalo is a flat panel bioreactor (PBR). This can be fully automated and enables to achieve fast growth production of algae. Thanks to such construction possible malfunction or contamination in the water might disable a small part but not the entire plant.



Algalo Company maintains collaboration and engagement with several companies in Israel and abroad in few sectors: food additives, dietary supplements, bioenergy, universities, cosmetics companies, aquaculture, and animal feed additive (Algalo, 2017). In 2016 Algalo sold 50% of its shares to the company the Frutarom. The Frutarom is a leading global company operating in the global flavors and natural fine ingredients markets. It is one of the world's ten largest businesses in this market. Algalo's acquisition of shares was a way to continue the implementation of its rapid and profitable growth strategy with emphasis on specialty ingredients for food, nutritional supplements, pharmaceuticals, and cosmetics industries. The Frutarom has exclusive worldwide marketing rights for Algalo products (Frutarom, 2017).

### **3.5. Acqui-hire**

Another type of integration strategies which depend on where the startup is in its lifecycle, presented by S. Blank (2014) is the acquisition of human resources of a startup. This phenomenon is described as *acqui-hire*. It is a combination of words "acquisition" and "hire." According to the Oxford Dictionary (Oxford University Press, 2017), this means to buyout (a company) primarily for the skills and expertise of its staff, rather than for its products or services. It can therefore also be referred to as a talent acquisition. This is a startup purchase to take over the team, without the will to further develop the project. An *acqui-hire* means purchasing a team of smart people, especially engineers, who have worked together successfully. The transferee is hoping that they might augment and accelerate the buyer's business. Many companies see it as a way to quickly acquire proven talent. Top tech companies, such as Google, Facebook, or Cisco has recently started acquiring startups, not necessary for their product or service, but for their talents. In this case startups' original product as well as a startup itself, most likely will no longer exist. Thus, J. H. Dyer, P. Kale, and H. Singh (2004) refer to acquisitions when the importance of the acquired company results primarily comes from the possession of soft and intangible assets that can easily be lost as a result of the acquisition. Most of the time acquisition takes place in relation to early-stage startup because of their intellectual properties or a capable team (Blank, 2014). It can be even though they might still be searching for a right business model. It means that sometimes it can be smarter to acquire a good team than a well-made product. In 2015 the business-to-business logistics service startup the Townrush and food delivery app the SpoonJoy were acquired by food delivery company the Grofers. Both the Townrush and the SpoonJoy will cease independent operations and will be involved in *acqui-hire* talents from startups. The respective teams had rich experience in building and running early-stage tech companies, which allowed buyers to get hold of a large talent pool in one go. The whole procedure allowed the Grofers to diversify its business to food delivery space (Rosenheim, 2015). Another example is the InnerChef, the ready-to-cook meals delivery company, that in 2016 has *acqui-hire* the EatonGo and the Flavor Labs. The EatonGo is an on-demand meal service similar to the InnerChef. It specialized in continental and Indian breakfast and brunches. The Flavor Labs was a food truck company. The InnerChef was building a network of kitchens in various cities. Mobile kitchens help them to get closer to their customers and create an intimate food experience. The EatonGo will give them a foothold in Bengaluru that has emerged as the fast-growing food market in the country because of its cosmopolitan outlook and higher disposable income. With the Flavor Labs, they plan to run mobile kitchens and introduce a food truck in every city where they are now (Sharma, 2016).

## **4. CONCLUSION**

Startups are not full-fledged partners in cooperation with big companies, also in the agri-food industry. Increasingly small businesses in various industries are developing solutions that respond to changes in market trends. Startups thanks to the created technology, products, and services become good partners for large enterprises, who, due to their size and goals with

relation to the core competition have neither the will nor the ability to chase after every new trend. In this situation, the solution is to cooperate with startups, which often requires the commitment of resources by startups and by corporations. On the other hand, sharing resources allows to better match the offer of a large company to the market. Startups are also not without benefits because they benefit from such cooperation. Based on the case studies provided in this paper, three types of cooperation between startups and large companies in the agri-food sector can be distinguished, depending on the motives that drive big firms. The choice of this criterion of analysis is dictated by the fact that, despite all features, still the big companies are “main players” that dictate the conditions and from which it depends on whether the cooperation between the startup and the big company will occur. This is primarily due to the market position of a large corporation as well as the tangible and intangible resources (including foremost knowledge). First, we can point to business acceleration actions - such as accelerators, incubators, and venture capital. These measures mean more commitment of resources by corporations than by a startup. Moreover, a big company is in the role of a partner who is looking for startups and wants to help them - obviously not selfless. This allows for the development of innovating big brands to attract customers. It also gives the opportunity to attract talented people who can develop their ideas through accelerating and incubating activities. The second group of actions is, for example, co-development and co-branding. In this case, the startup as the holder of the product, service or solution is its reseller, but in order to do so it must lay out its resources and bring the solution to a certain level of technological attractiveness (TRL) that a large company is interested in. In this case, the corporation is a client, and cooperation with the startup is based on the principle of, e.g., product co-development that allows to solve business problems faster and at lower risk. The third cooperation pattern is a situation in which a big company is an investor and cooperation with a startup takes the form of acquisitions or acqui-hires. Of course, the case studies presented in the paper do not fully cover the topic of analysis of the complexity of cooperation processes between startups and large companies. It is possible to research models of cooperation or cooperation motivation as well as to make comparisons between various sectors. Undoubtedly, it is worth researching this topic, particularly in relation to the agri-food industry, which, although traditional and low-tech, is quickly learning from others and willingly adopting patterns from other sectors. It must be borne in mind that this area is particularly susceptible to consumer opinions and consumer confidence, which means that not always and not all solutions can be adapted to the needs of the food industry.

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## MOBILE USAGE BEHAVIOUR, A SLOVAKIAN CASE STUDY

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### **ABSTRACT**

*The Internet, specifically the mobile Internet, is a widely discussed and globally relevant topic. Its usage is increasing and has led to an increased interest in Internet search and mobile search websites. This paper outlines a new approach to the better comprehension of the mobile market, extending the assistance in the planning of mobile usage and advertising in the Slovakian mobile society. We believe that digital marketing is not only the future, but it is also the present. We undertook this study to offer customers and companies new possibilities for better perceptiveness of the mobile market. The study presents a new approach to analysing and describing the following topics: Mobile Slovakia; Mobile Profile Groups; Mobile Phone Function; M-Commerce, Surfing the web using mobile phones and apps, Mobile Advertising and Mobile versus Desktop Trade.*

**Keywords:** *M-Market, M-Commerce, M-Advertisement, Mobile and Desktop Trade*

### **1. INTRODUCTION**

Choosing a mobile phone today is an intricate process that involves researching mobile devices, manufacturers, carriers, available features and package plans. There are many different types, styles and models of mobile devices available on the market. We believe that the Internet and digitisation were the preceding steps, crucial for a positive change in society. Developing technological advances, innovation and engagement, greater consumer power and increased competition are some of the enablers for further development. Digital technology can offer tools to maximise human skills. Information and Communication Technologies are transforming our society, using different necessary tools, such as the Internet, mobile computing, clouding and social media. Recent evidence of the papal elections in the Vatican in 2005 compared to 2013, highlights the obvious change in the digital society. It underlines just how advances in technology have increased in those 8 years. In 2013, we notice countless displays of tablets, digital cameras and smartphones (Spiegel online, 2017). This paper examines the entrance of Slovakian citizens into the mobile world. This world needs confident inhabitants who are able to deal with the products, electronic devices and technologies and proactively contend with the advantages and possible risks of utilisation. Further requirements on the way through the mobile world are digital access and the transmission of the utilisation of various products and services. According to the data from the 2016-2017 Global Competitiveness Report, the Global Competitiveness Index in the 2nd pillar infrastructure, in the sub-pillar of mobile cellular telephone subscriptions (100 population), Slovakia ranks 59th in a total of 138 with a growing trend compared to sub-pillar of fixed telephone lines (100 population) of 66th in a total of 138 with decreasing tendency (Schwab, 2016). Several years ago, those who had an own email account were labelled "digital pioneers". In 2015, there were over 863 105 652 websites on the World Wide Web (Internetlivestatscom, 2017), which was invented in March 1989 by Tim Berners-Lee (Berners-Lee, 1989). In August 1998, Google was officially registered (Historycom, 2017) and 14 years later, there was an annual even growth of daily searches. In 2012, Google Zeitgeist reported 1.2 trillion searches worldwide (Google Zeitgeist, 2012). The global market share of desktop users was 42.21 %, compared to mobile and tablet users, which was 57.78 % in June 2017 (Statcountercom, 2017a). The three companies with the biggest global mobile vendor market share in June 2017 were Samsung (33.8 %), Apple (19.37 %) and Unknown (7.35 %).

All these vendors are presented in Table 1 (Statcountercom, 2017b). According to the data from GSMA, the digital transformation presents a clear opportunity for players from across the mobile ecosystem. The results reported that, at the end of 2015, there were 4.7 billion unique mobile subscribers, equivalent to 63 % of the world's population (GSMA, 2016).

*Table 1: Mobile Vendor Market Share Worldwide in June 2017 (Statcountercom, 2017b)*

Company	Share in %
Samsung	33.8
Apple	19.37
Unknown	7.35
Huawei	4.48
LG	3.65
Xiaami	3.29
Lenovo	3.09
Nokia	2.5
Motorola	2.11
Sony Ericsson	1.75

Slovakia's mobile market is served by four mobile network operators, three of which have a pan-European reach. Mobile penetration is relatively high, reaching about 123 % by the end of 2016 (Budde, 2016). Slovakia's market share of desktop users was 42.19 %, compared to mobile and tablet users, which was 57.81 % in June 2017 (Statcountercom, 2017c). The four biggest vendors on the mobile market in Slovakia were Samsung (28.88 %), Huawei (17.15 %), Apple (16.81 %) and Lenovo (12.91 %) (Statcountercom, 2017d). Computer-assisted web interviews (CAWI) were conducted on these developments in the MindTake online panel, with respondents being questioned about the issues and aspects of the mobile world in a specific chosen state – Slovakia. MindTake is a full-service market and opinion research company, operating in Austria and the CEE through a network of representative offices.

## **2. LITERATURE REVIEW**

The traditional comprehension of "mobile" originates from the Latin "mobilis" – "mobile", "able to move freely or easily". In this report, we define a mobile, wireless or cellular phone as a portable handheld communication device connected to a wireless network. These devices allow users to make voice calls, send text messages, run applications and surf the Internet. There are many different devices, manufacturers (e.g. Samsung, LG, Motorola, HTC, Apple, Microsoft, Sony, BlackBerry) and formats. They range from smartphones and PDAs, camera phones and multimedia phones to touchscreens and tablets. According to the Gemius results (2016), mobile Internet users in Europe browse domestic websites most frequently using Samsung devices. The second most popular brand is Apple. The data are from January 2016, from eight European countries. The ranking is based on the number of views on different devices of domestic websites. Samsung is ranked as number 1 on seven markets except Ukraine; the greatest number of website views are in Slovenia. Apple is holding strong. Four brands are fighting it out for 3rd place – LG, Nokia, Sony and Lenovo. The clear winner in January 2016 was LG, which took 3rd place in four of the eight analysed markets – Poland, Slovenia, Croatia and Hungary. Nokia took 3rd place in two markets – Belarus (11.6 %) and Ukraine (9.1 %). Sony and Lenovo took 3rd place in Slovakia (10.2 % of views on Sony devices) and the Czech Republic, respectively (7.8 % of views on Lenovo devices).

The history of mobile telephony goes back to experiments on radio telephony in the US in the 1920s (Kargman, 1978 and Agar, 2003). According to Farley (2005), public mobile telephone history began in the 1940s. The first mobile phones were usually car-bound. In 1947, AT&T launched a highway service between Boston and New York, after the success of the first mobile telephone network in St. Louis (Agar, 2003). The first cellular phone was invented by Martin Cooper and his team; the patent concerned Motorola's 1973 DynaTac (Motorola Annual Report, 1973). Mobile telephony developed in a different manner in Europe. Sweden was an early mover with an automatic system in service in 1956. These MTL (Mobile Telephone Lauhrén) services were located around Stockholm and Gothenburg and could serve 100 subscribers; coverage was in the range of 25-30 km around the base stations. (The Lauhrén System, 2016). The initial decision was to start standardisation work on the future analogue cellular NMT standard in 1969. A working group was set up, called the Nordic Mobile Telephone Group (NMT Group) (Swedish Telekom, 1975). Europe saw the cellular service introduced in 1981, when the Nordic Mobile Telephone System (NMT450) began operating in Denmark, Sweden, Finland and Norway. This was the first multinational cellular system. The analogue cellular system began in May 1978, when the Bahrain Telephone Company (Batelco) began operating the first commercial cellular telephone system (Gibson, 1987). One of the shortcomings of the analogue systems was a serious lack of interoperability. No existing telephone systems could accommodate European cellular systems. The Europeans decided to create a new technology in a new radio band. The new service was of cellular ratio but fully digital and called GSM, which at first was the acronym for Groupe Special Mobile. It is now known as the Global System for Mobile Communications. The mobile wireless generation (G) generally refers to a change in the nature of the system, speed, technology, frequency, data capacity, latency, etc. Each generation has some standards, different capacities, new techniques and new features which differentiate it from the previous one. Early mobile phones refer to the 0G (1946-1980s) which were very expensive and located in cars, trucks or briefcases. The 1st generation (1G (1980s – present date)) mobile wireless communication network was analogue and used for voice calls only. The 2nd generation (2G (1990s – present date)) is a digital technology and supports text messaging. 2.5 G (1990s – present date) was a marketing term. The 3rd generation (3G (2004 – present date)) mobile technology provided a higher data transmission rate, increased capacity and provided multimedia support. The 4th generation (4G (2010 – present date)) integrates 3G with fixed Internet to support wireless mobile Internet. This is an evolution in mobile technology and overcomes the limitations of 3G. It also increases the bandwidth and reduces the cost of resources (Gawas, 2015). 5G is the 5th generation mobile technology and is going to be a new revolution in the mobile market, which has changed the means to use cell phones within a very high bandwidth. Users have never before experienced such high value technology which includes all types of advanced features and 5G technology. This will be most powerful and in huge demand in the near future. We are of the opinion that the reasons for the global expansion of the mobile phone are one-handed utilisation, but limited (input, processing, battery life), rich (sensors, usage), small and truly ubiquitous. Thus, mobile is an amazing technical achievement, meaning that everything is contained in a device which fits into a pocket.

### **3. METHODOLOGY**

Literature surveys are an important method of collecting data. The goal of a survey is to understand respondents' attitudes, knowledge and practice at a point in time or to compare changes over time (Duffett et al., 2012). With the advent of the World Wide Web and electronic mail, the Internet has opened up new vistas in surveying. Rather than mailing a paper survey, a respondent can be given a hyperlink to a website containing the survey. Alternatively, in an email survey, a questionnaire can be sent to a respondent as an attachment.



Fricker and Schonlau (2002) defined three assumptions of web surveys: a) Internet-based surveys are much cheaper to conduct, b) Internet-based surveys are cheaper and c) when combined with other survey modes, Internet-based surveys yield higher response rates than conventional survey modes by themselves. The computer-assisted web interview (CAWI) is a research method which is the result of the evolution of the previously used popular methods, i.e. paper and pencil interviews (PAPI) and computer-assisted telephone/personal interviews (CATI/CAPI). However, via the Internet, CAWI is becoming a research tool. The CAWI method involves the creation of a research questionnaire, which is to be shown on the website in such a way as to be available online for respondents to complete (Mider, 2013). Questions and answers in the questionnaire are standardised and predefined (Fowler et al., 1990). We describe this technique simply as a technique where the respondent follows a questionnaire script provided on a webpage. CAWI allows for the display of images, videos, sounds and even other webpages as visual aids, to ensure that the respondent understands the product or service he is being asked about. These surveys are designed to be self-routing, so the respondent is moved through the survey, depending on his answers to subsequent questions; routing can be simple or incredibly complex. CAWI questionnaires are often seen as a cheaper methodology than face-to-face interviews. In order to analyse the topic of this study, we decided to use this technique in an online panel from 1st June until 7th July 2017. The data were collected from MindTake, sponsored by Cargomind Speditions GmbH in Austria. MindTake online panels operate in Austria and the CEE through a network of representative offices as well as affiliated local partners. MindTake recruits through ongoing surveys and community and media portals, keeps user details in a secure database and can draw on them to create a list of participants for a target-specific survey. Survey participants are rewarded through a loyalty points programme that allocates a varying number of bonus points for the completion of a questionnaire. The points total can be exchanged for gift vouchers or converted to cash, either paid into a bank account or donated to a charity. This company is vigilant about the quality of the panel and uses control measures, such as verification of user data through random post and telephone checks, a monthly limitation on the number of surveys taken, and by running requests for profile updates (MindTake, 2017). In the initial sample 1 002 subjects were interviewed, which is representative of the Slovakian population aged under 60 Years. The duration of the survey was 12.21 minutes (median).

## **4. RESULTS**

### **4.1. Mobile Slovakia**

As forecast, our survey demonstrates that 72 % (almost three-quarters) of all mobile phone users own a smartphone. Surprisingly, in the 50- to 60-year age group, 55 % of this population utilises this mobile device. Mobile phones for private needs are used by 72 %. One-quarter of the interviewees has 2 or more devices, but only 10 % own parallel private and company mobile phones. These findings emphasise the fact that mobile phones are more important than ever. Our study also highlights the fact that tablets are becoming more popular with Slovakian citizens (58 %). Our study clearly shows that 75 % of the examined population has activated Data Packet, 82 % of them are under a contract with a mobile company and 18 % use prepaid cards. This stresses just how important mobile company services are to customers. In particular, from the point of view of mobile marketers and their mobile marketing approaches and apps, the operating system of mobile devices is essential. It was confirmed that, with regard to operating systems, 59 % utilise Android, 16 % iOS by Apple and 5 % Windows. However, the most remarkable result is that that one-quarter of users do not know what operating system their mobile phone functions with.

## 4.2. Mobile Profile Groups

User types differ in terms of the devices, digital products and services they utilise. Our study presents and characterises individual types of users according to the survey results. We were interested in who actually comprise members of the digital society. Our research confirms that there are different user groups, which we divide into the following three categories: *Outsiders*, *Insiders* and *Natives*.

- ***Outsiders***

This user type comprises the oldest age group. Only 8 % of outsiders use the Internet on mobile phones infrequently or not at all. Mobile outsiders are mostly critical because of seeing it as rejective in maintaining social relationships and conducting the tasks of everyday life, 75 % are under the age of 50 years, with women being more critical than men. The main barrier to the use of these devices appears to be a lack of understanding of and confidence in how they function. Our research identified that there are some critical circumstances concerning the use of the mobile Internet for the older population, e.g. reaching retirement age, loss of a partner, relocation of a relative, taking up a specific hobby or interest, physical conditions or health issues. It seems that the younger age groups are most likely to be open to approaches for enabling mobile Internet usage.

- ***Insiders***

This category, comprised of 59 %, typically uses Information and Communication Technologies as functional tools, to be utilised for practical or business purposes. This population group sees technology as being most beneficial for accessing new knowledge and learning. This group sees the mobile Internet as a conscious decision and choice. The most remarkable result to emerge from the data is that 41 % of Insiders are under 40 years of age. As might have been expected, our findings demonstrate that women use the mobile Internet (52 %) more often than the male population (47 %).

- ***Natives***

This is the youngest category of users (33 %), aged between 17 and 29 years, who spend their time on their computers, mobile phones, smartphones or tablets. To them, these are essential communication and information tools. The majority of respondents in this group spend a significant amount of time using technology for recreation, socialising, studying and working. Young people see technologies, and especially the Internet, as a vital part of their social life and the formation of their identity. Interestingly, the correlation of Insiders is contrary to Natives, with 54 % of male respondents versus 41 % of females using the mobile Internet more. 38 % of them are under 20 years of age.

## 4.3. Mobile Phone Function

In our opinion, the functions of mobile phones are important for all aspects of mobile marketing. It is remarkable that Slovaks generally have problems with communication. Our study demonstrates that the use of mobile phone functions decreases in people older than 35 years, because people under 35 years of age use it much more intensively. Further analysis showed that, unexpectedly, 93 % of the respondents' applicated SMS (Short Message Service), sending them through mobile phones. 72 % of them use Instant Messaging e.g. WhatsApp, Hangout, Skype or Viber. The younger population writes and reads short messages more than the older generation. It is important to note that the photo function and videos are secondary important functions for users (84 %).

## 4.4. M-Commerce

For one-third of Slovaks (32 %), the mobile Internet is very important as an information source. Users search the following activities online on mobile devices, as listed in Table 2.

*Table 2: Users activities online on mobile devices in %*

Activities	Share in %
Searched or compared price	60
Searched branch or business	58
Products researched	57
Tracked order status	52
Read ratings	46
Bought or reserved products	32
Proofed availability	28

Shopping on smartphones has not yet been established in Slovakian society, with only 32 % of the population exploiting this possibility. One-third of citizens do not buy any products via the mobile phone. It is significant that respondents use the following payment options: credit card (43 %), Internet banking (37 %) and PayPal (36 %). Our study shows a clear product structure of mobile phone purchases. The most purchased product categories are clothing and shoes (14 %), electronic devices (10 %) and trips (air tickets, hotels) 8 %. The male population does shopping via mobile phone more often than women. The most popular e-Commerce App is ZlavaDna.sk (35 %), Alza.sk (24), Zlavomat.sk (8 %). There is a possibility of paying via mobile phone in Slovakia, called NFC<sup>1</sup>. Only 11 % of respondents make payments through this option (NFC is offered in Slovakia by Tatra Banka and VUB Banka through Orange and O2 (Aktuality.sk, 2016).

#### **4.5. Surfing the Web on Mobile Phones**

Surfing the mobile Internet is more important for citizens than ever. 90 % of the interviewees utilise the Internet on mobile devices (91 % women and 88 % men). Nevertheless, it is plausible that a number of limitations exist. According to the data, the first limitation is that the pages are not optimised to mobile phones (32 %). The second is that the screen is too small (35 %). The third is that roaming costs are too high (37 %). Finally, the loading is too slow (34 %). 73 % of the respondents use the apps referring to their location e.g. Navigation services (Google Maps), Location Based Social Media, Mobile Location-Based Gaming (GeoChaing, GeoSocial, GeoHunters)

#### **4.6. Mobile Advertising**

Mobile advertising is on the advance. However, as expected, our experiment demonstrates that publicity has a disturbing effect. 39 % of the interviewees recognise mobile publicity, but 75 % of users feel it is disruptive. We have to emphasise that, regarding the results, there is generally too much promotion on mobile Internet sites (69 %) and in apps (62 %). Despite the fact that advertising which is suited to the website topic is not disturbing to most of the population, we note that 24 % of the respondents do agree with the statement that Mobile Advertising is disturbing.

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<sup>1</sup> NFC is a wireless technology that allows users to make payments by placing a compatible device like a smartphone or payment card within a few centimetres of another compatible device like a terminal, tablet or other smartphone (Investopedia, 2017).

As might have been expected, our findings reveal that 69 % of mobile Internet users would accept a supplementary package from the mobile provider to block advertisements on the mobile phone.

#### **4.7. Mobile versus Desktop Trade**

As hypothesised, our analysis proves that the main reason for not purchasing via mobile phones are: preferential PC (58 %), too chaotic (42 %), difficult (34 %) and unsafe (27 %). It was found that the top retail sector apps for Slovakian citizens are Billa, Lidl, Moja appka, Tesco and Tchibo. Our research also explains that when the product is too expensive in the retail trade, users prefer to buy it via the Internet on a desktop PC (45 %) or mobile phone (22 %). On the other hand, 31 % of the interviewees firstly inform themselves in advance, then purchase in the stationary trade. We were surprised that users utilise mobile phones in stores for the following activities: use the shopping list (18 %), retrieve information about the product (18 %), obtain information about discounts (20 %), conduct research on prices and products (2 %) and utilise mobile devices for shopping (53 %).

### **5. CONCLUSION**

Mobile market research is growing rapidly (GRIT, 2014), taking a growing share of current approaches, and creating new opportunities. The mobile phone has completely changed society, as demonstrated in the brief history introduced in this work. According to the 2016 data from Statista, it was found that 97 % of respondents in Slovakia used a mobile phone, while 65 % used a smartphone (Statista, 2016). In 2015, the mobile cellular descriptions' value for Slovakia per 100 people was 122.31 (The World Bank, 2015). This study has sought to establish an understanding of the level of Slovakian citizens' usage of mobile devices, as well as to identify barriers and opportunities. Survey respondents reported a high level of mobile devices. The evidence from this analysis indicates the subsequent results that smartphones are the new middle-class devices for citizens, with 72 % of them owning them, and 52 % using tablets. Mobile phone contracts are very popular with 82 % of users. Users surf the Internet using mobile devices more than desktop PCs. SMS is undeniably the most popular mobile phone function. Instant messaging and voice-over apps e.g. Viber, Hangout, Skype and WhatsApp are rising in popularity among the population. The increasing number of users who choose to order products and services online, has led to the implementation of new methods and concepts of online business. Mobile commerce solutions increase the number of users and thus increase the number of potential customers. For one-third of Slovaks (32 %), the mobile Internet is very important as an information source. Shopping via smartphone has not yet been established in Slovakian society, as only 32 % of the population exploits this possibility. One-third of citizens do not buy any products via mobile phones. A cause of this is the growing number of people who are potential victims of cybercrime. For this reason, the implementation of mobile commerce must take security into consideration. Mobile devices are widely used for navigating numerous important life activities, from researching to accessing resources. These devices help users to navigate the world, from turn-by-turn driving directions to assistance with public transit, surfing the Internet, and using social networking. Mobile phones have created a multitasking ability that was never before possible. In conclusion, mobile phones in general provide advantages and disadvantages for citizens, depending on the methods of their utilisation. The sampling survey illustrates that the usage of devices often produces feelings of productivity and happiness (this is especially true for the younger generation), but that many users feel distracted or frustrated (this is especially true for the older generation).

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## **ANALYZING CHARACTERISTICS AND FUTURE POTENTIALS OF BAUXITE PROJECT IN SAUDI ARABIA**

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### **ABSTRACT**

*The Kingdom of Saudi Arabia has minerals resources that are highly diverse, both in terms of their variety and their location throughout the country. The diversification of economic base has been a consistent objective of the Saudi government throughout successive Development Plans especially in the Eighth Development Plan. The minerals sector in Saudi Arabia is one of the economic activities that has already started to achieve this strategic goal of diversification. The Bauxite is considering one of the important industrial minerals in Saudi Arabia, which can be used in the domestic and regional markets. This paper focus on several points as follow: the economic importance of Bauxite, the strategic dimension of Bauxite and its contribution in the economic growth, the geographical distribution of raw Bauxite locations, Highlighting the obstacles facing the investment of Bauxite, and specifying its investing horizons and capabilities in Saudi Arabia.*

**Keywords:** *minerals, Economic Diversification, Bauxite, Saudi Arabia*

### **1. INTRODUCTION**

The Saudi economy is characterized by a single economy, which relies on oil as a major source of national income, as well as an essential element in moving the economic process. This naturally leads to keeping the country's economy at the unstable levels of oil prices and exports in world markets. Therefore, the strategic choice for the Saudi economy is to increase Saudi non-oil exports and diversify sources of income by diversifying the local production base and building a new productive base so that new resources gradually replace oil revenues. In view of the abundance and quality of the mineral wealth of the Kingdom of Saudi Arabia and the lack of efficiency of the mining sector, the importance of the mining industries for strategic materials such as bauxite as a key means of creating a self-productive base that provides vital diversification in the sources of income and ensure economic growth is able to continue away from oil revenues. Such mining projects in the Kingdom will have a positive impact on the national economy and will have a positive impact on many economic sectors such as mining, industry and transportation. These projects will contribute to achieving a degree of self-sufficiency, expand the production base, provide job opportunities for Saudis, effectively contribute to the development of remote areas, and transfer modern technology that contribute to raising productive efficiency, creating investment opportunities for developing production and conversion industries and associated services, To the Kingdom to integrate with existing industries, and to encourage local and global investments specialized in the mining industry. The creation of such industries will encourage the private sector to develop supportive industries and industries. The government has paid great attention to building a strong economic base in which all available mineral resources are exploited and citizens are given all opportunities to progress and benefit from science and technology to achieve the desired goals. The State has established a specialized mineral company Ma'aden to develop the mining industry in the Kingdom of Saudi Arabia This is reflected in the main trends of successive development plans in the Kingdom to find alternatives to income and increase the economic effectiveness of development activities and strengthen the role of the private sector in economic development and training and development and employment of Saudis.



## **2. RESEARCH OBJECTIVES**

This research aims to study the bauxite in the Kingdom of Saudi Arabia as one of the important industrial minerals in the Kingdom, as a geographical study and come out with a number of conclusions and recommendations in this field, by achieving the following objectives:

- 1- To analyze the characteristics of the bauxite in the Kingdom of Saudi Arabia.
- 2- Identifying the geographical distribution of the bauxite formations in the Kingdom of Saudi Arabia.
- 3- To highlight the economic importance of the bauxite and to highlight the industrial activity based on its exploitation.
- 4- Highlighting the reality of the elements to investment in the bauxite in Saudi Arabia and the industrial activity based on its exploitation.

## **3. METHODOLOGY**

In order to analyzing characteristics and future potentials of bauxite project in Saudi Arabia and the role of government policies and planning efforts in the sector's development, and thus the problems and constraints that face Saudi Arabia's minerals sector, various methodologies have been used in this study. These methodologies were influenced by several variables related to the nature of this research. It is often very difficult to gather everything related to the subject under investigation, but sometimes it is impossible when the study relates to a developing country such as Saudi Arabia. Generally, research studies are conducted for the purpose of obtaining data that are not available from other sources regarding a specific area of knowledge. Obtaining empirical data for this research has been achieved by using three different techniques: interviews, documentation and observation. The reason for using three methods is to gather as much information as possible about the evaluated project. Interviews provide in-depth investigation, field observation provides information about the tasks and activities performed inside the project environment, and both documentation and archival records provide related documents which detail the project activities over the past years. The method selected depends on the goals and objectives of the research, the sample of respondents involved, the time set for the completion of the study, and financial considerations.

The following municipalities and ministries have provided a variety of materials and data:

- Ministry of Petroleum and Minerals Resources (MPMR);
- Directorate General of Mineral Resources (DGMR);
- Deputy Ministry for Mineral Resources (DMMR);
- Ministry of Planning (MOP);
- Ministry of Information (MOI);
- Ministry of Finance and National Economy;
- King Abdulaziz City for Science and Technology (KACST);
- Saudi Geological Survey (SGS); and
- Saudi Arabian Mining Company (Ma'aden).

The data used in this research includes numerous official documents and records that were obtained from various government and private sector departments. Needless to say, the Saudi Arabian Mining Company (Ma'aden), the Saudi Geological Survey (SGS) and the Ministry of Finance and National Economy came first, but other departments supplied a great deal of information concerning many aspects of the study. The most important of these data sources were the five National Development Plans (Ministry of Planning), the Statistical Yearbook series, the Private Establishments Census and the International Trade Statistics (Ministry of Finance and National Economy).

#### **4. THE ECONOMIC IMPORTANCE OF MINERALS**

The mining sector has played an important role in the prosperity of nations, whether developed or developing. This importance of minerals increased in the second half of the nineteenth century as the demand for high-grade industrial raw materials rose. There are about fifty countries in the world in which the mining sector plays an important role in the economy. Australia, Chile, Peru, USA, South Africa, and Canada are the leading countries in today's global mining investment. The importance of minerals comes from the essential needs of manufacturing, construction, energy requirements and agriculture, and thus for the sustainable development of a modern economy. Mining has played a vital role in the economic development of many South American countries, including Chile, Peru and Brazil. Relying on Global Development Network (GDN) (2011); since 1990, Chile has been "Latin America's star economy." Chile was considered the largest copper producer in the world by 2008, responsible for 34.2% of world production. From the perspective of world exports, Chile is the greatest exporter of copper in the world, with a participation in global exports that has varied between 37.8% and 40.4% over the last ten years. The mining sector contributes significantly to Peru's sustained economic growth. Peru hosts vast quantities of minerals such as gold, copper, silver, lead and zinc. After more than twenty years of isolation from direct foreign investment, the mining scene is changing as political and economic stability have brought renewed interest in Peru as a resource-rich investment opportunity for foreign companies. Most of the restrictions have been removed and the government has initiated a variety of incentives for foreign investments. Peru is now the world's number one producer of silver and second largest producer of copper, after Chile. Demand for Peruvian raw materials is set to grow rapidly in the coming years, where the scene is set for strong growth from the industry to 2014. Moreover, the sector will grow at an average rate of about 8.9% over the forecast period (Business Monitor International, 2012). Brazil is considered one of the leading industrial nations in Latin America. In 2011, the Brazilian mineral production reached a new record of \$50 billion, which represents a 28% increase over the \$39 billion in 2010. Hence, in 2011 the Brazilian mineral production showed its recovery after the 2009 international economic crisis, which resulted in a decrease in demand for mineral raw materials. Brazil is the second largest producer of iron ore, and the production reached 372 million tonnes in 2010, equivalent to 15% of the world's total (2.4 billion tonnes). Furthermore, Brazil is the second largest producer of manganese ore, with approximately 2.6 million tons of concentrate in 2010, or 20% of the world's production of thirteen million tons (The Brazilian Mining Association, 2011). Minerals are a principle source of income for many developing countries in Africa as well. Africa is endowed with considerable amounts of mineral resources and ranks first or second in quantity of world reserves of bauxite, chromite, cobalt, industrial diamond, manganese, phosphate rock, platinum-group metals, soda ash, vermiculite and zirconium. The continent is also a major global producer of these minerals (The United Nations Economic Commission for Africa, 2012). For example, the diamond remained the most important sector of the mining industry in Namibia, followed by uranium. Namibia is about to become one of the leading producers and exporters of uranium in the world; as a result, uranium mining will become a central feature of the Namibian economy. In Africa, Namibia might soon become the number one producer of uranium after Niger (Hilma, 2009). Mining is a vital sector in the economic development of many industrialized countries such as Australia, United States of America, United Kingdom, Canada and Sweden, which have largely depended on their natural resources for the development of their countries (Alfi and Zagan, 2004). Based on the U.S. Geological Survey (USGS) (2012), in 2011, the value of mineral production increased in the United States for the second consecutive year. Production increased modestly for most mineral commodities mined in the United States, and price increases, especially for precious metals, resulted in increases in the value of production.

Minerals remained fundamental to the U.S. economy, contributing to the real gross domestic product (GDP) at several levels, including mining, processing, and manufacturing finished products. Minerals' contribution to the GDP increased for the second consecutive year. Australia is a world leading mining nation and its minerals sector is Australia's premier global industry. The minerals industry's successful negotiation of the global financial crisis and its harnessing of the opportunities presented by renewed growth in global commodities demand have directly increased Australia's national income and wealth. The Australian mining industry:

- comprises about 8 per cent of Australia's Gross Domestic Product and a similar share of Total Gross Value Added in the economy;
- invests about 15 per cent of Australia's Gross Fixed Capital Formation;
- earns more than half of Australia's total export income - up from about a third early in the decade;
- is a major source of economic activity and jobs in regional and remote Australia.

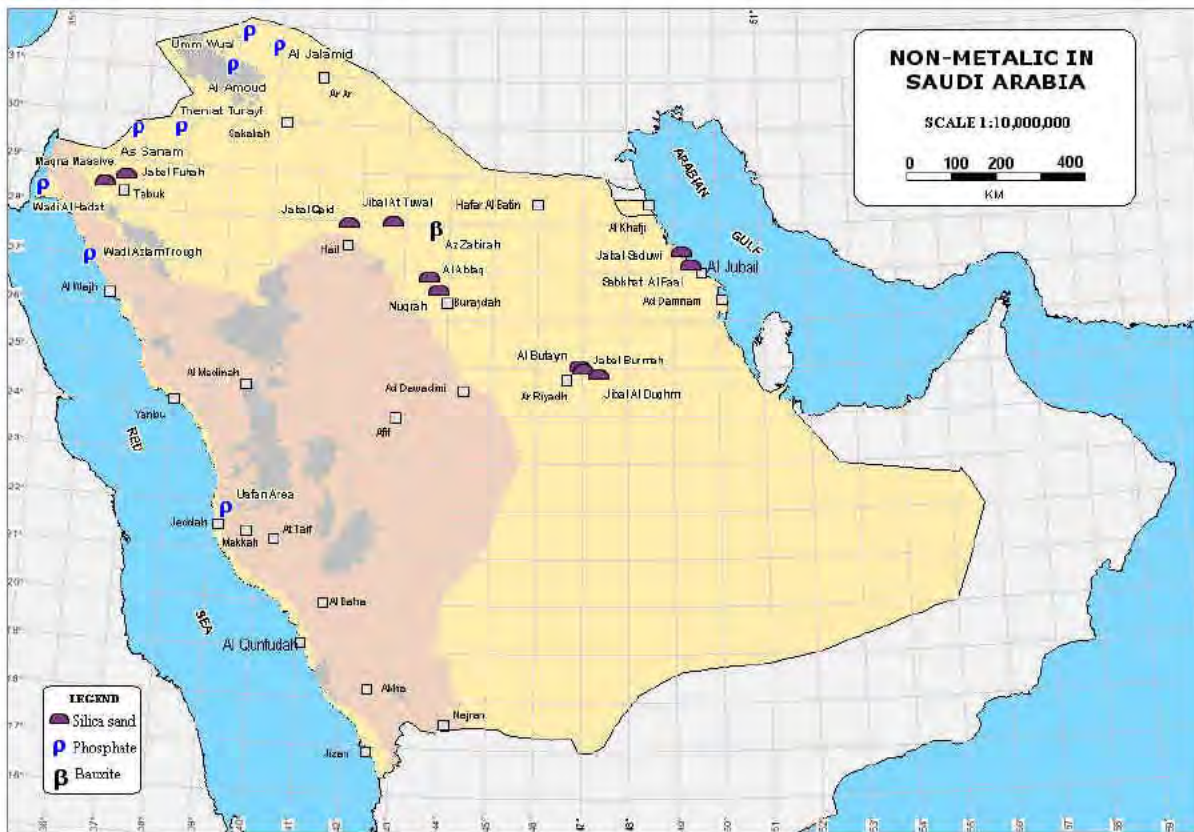
Excluding oil and gas projects, committed projects in the sector amount to more than \$40 billion of investment, with an additional \$122 billion of less advanced projects (Minerals Council of Australia, 2010). The Kingdom of Saudi Arabia has natural resources that are highly diverse, both in terms of their variety and their location throughout the country. According to Dabbagh (2004) the President and CEO of Ma'aden Company, "The Arabian Shield rock formation in the west of the Kingdom is a little smaller than the Canadian Shield, and we are optimistic that it contains a similar amount of riches". So, Saudi Arabia has a large variety of metallic and non-metallic mineral resources that range in size and value occurrences of limited potential to deposits large enough to sustain profitable exploitation.

## **5. THE BAUXITE PROJECT IN SAUDI ARABIA**

The bauxite deposit lies in three main zones: the north zone, the central zone and the south zone, which together span a distance of 105 kilometres between Al-Qassim and Hail. The initial mining is earmarked for the south zone which is near Qibah town about 470 kilometres northwest of Riyadh (see Map 1). Smith (2003) stated that this reserve is the only known bauxite deposit in the Middle East. Bauxite is used in the production of alumina the main feed stock for the aluminum industry. The Bechtel Group carried out an extensive feasibility and marketing study on the deposit. Also, Ma'aden has signed a financial consultancy contract with Riyadh Bank and the Australian/New Zealand banking group to provide financial services for the feasibility study of the Alumina and Aluminum project. In interview with the Mining Manager of Aluminium Project Eng. Al-Shangiti (2006) said that the Aluminium Project includes the bauxite mine, an alumina refinery located on the Ras Al Khair, an aluminium smelter located adjacent to the alumina refinery, a port facility located at Ras Al Khair, and infrastructure at both Az Zabirah and Ras Al Khair to serve the production facilities.

*Figure following on the next page*

Figure/Map 1: Non-Metallic Minerals in Saudi Arabia



Source: Saudi Geological Survey (SGS)

The final feasibility study indicates that Az Zubirah bauxite is estimated to contain 126 million tons with an average grade of 57.3 per cent alumina and 8.2 per cent of silicon dioxide (USABC, 2005). Furthermore, Dabbagh said that the reserves of bauxite are sufficient for over thirty years with an annual rated capacity of 3.5 million tons of crushed bauxite ore. Ma'aden will provide the Az Zabirah project with basic infrastructure in that the energy for the project will be made available via two generators with an installed capacity of 750 KW. Water will be supplied from wells drilled into aquifers at a depth 200 to 600 metres below the site. The personnel accommodation will be in the nearby town Qiba. Efficient earth-moving equipment (scrapers) will be used and the bulk of the ore will be transported by truck to a stockpile alongside three railroad platforms to be loaded onto wagons. Therefore, Az Zabirah bauxite will be dependent on the same railway as the Al Jalamid phosphate, which is the North-South Railway (NSR), to carry the bauxite to an aluminum refinery to be located in the industrial city at Ras Al Khair. Based on the feasibility study indicated that the project should not be limited to the construction of an aluminum refinery, but must aim to develop an integrated industry, because of the availability of bauxite, natural gas, petroleum coke and caustic soda, etc. in the Kingdom. Therefore, both the alumina refinery and the aluminum smelter will be part of Ma'aden's giant industrial mineral complex in Ras Al Khair and the total cost of these projects is estimated at \$3.8 billion including mine development and construction. The project's annual production is estimated at 1.4 million tons per year alumina from processing of the bauxite ore, and 623,000 tons per year aluminum from processing of the alumina, as an initial output, which will then increase by about 200,000 tons per year because the smelter's design will allow for output to be more than doubled. Aluminum project is a joint venture between the Saudi Arabian Mining



Company (Ma'aden) and Alcoa. Once fully completed, the US\$10.8b project will become the largest and most efficient integrated aluminium complex in the world. Five years after its establishment, Ma'aden Aluminium is now a fully integrated aluminium processing complex in a joint venture with Alcoa. This project, which combines a world-class bauxite mining operation, refinery, power plant, smelters, casthouse and rolling mills to support beverage can production and the automotive industry, became operational in 2014. At the front end of the operations, the two-stage crushing plant at our mine in Al-Ba'itha in Qassim Province began operations in May 2014, and delivered the first load of bauxite to our refinery in Ras Al Khair. Further along the process in Ras Al Khair Industrial City, our smelter is now fully operational with all 720 smelting pots receiving power from the newly constructed power plant at Ras Al Khair Industrial City. The casthouse is also fully operational, producing rolling slabs, billets, standard ingots and T-bars, and the rolling mills are now operating to support our can sheet and automotive customers. Aluminum has a variety of uses such as kitchen foil, and high technological uses in the aerospace industry. Dr.Dabbagh indicated that the demand for aluminum is growing due to its characteristic of low weight and increasing use in car manufacture, power cables and paints. The Arabian Gulf area is considered one of the major, potential aluminum production areas. Dr.Dabbagh concluded that the projects will create new employment opportunities for Saudi youth, establish new national financial resources and provide downstream Saudi products of international quality, competitive in international markets (Ma'aden, 2017). To show the economic importance of the bauxite and its development dimensions, we find that the aluminum industry based on bauxite ore in the Kingdom has seen a significant development because the government has given attention to and support for several objectives, including the following:

1. Achieving a degree of self-sufficiency for the industries related to bauxite in general and aluminum industry in particular.
2. Expanding and diversifying the productive base of the national economy.
- 3 - Development of sources of non-oil income away from oil in order to raise the standard of living and the provision of hard currency that can be used in the reconstruction of the country.
- 4 - Transfer of modern technology in the fields of various industries that contribute to raising productive efficiency.
- 5 - Finding new investment opportunities for the development of production and conversion industries and associated services.
- 6 - Attract the private sector and local and foreign capital to contribute to industrial development.
- 7 - Finding large numbers of direct jobs taking into account the multiplication of indirect jobs that will contribute to the elimination of unemployment and its problems.
8. Building a balanced economy capable of coping with global economic fluctuations.
- 9 - Radical changes in the spread and distribution of the population at the level of the Kingdom.
10. Developing new urban areas as development poles away from major economic activity areas.

This shows the extent of interdependence between the economic sectors represented by two main sectors: the mining sector and the industrial sector, so that their complementarity can be seen, which represents a strategic and vital dimension that contributes to increasing economic growth rates and achieving the goals of sustainable development in various fields. Hence, the study of this subject is of great importance, since the raw material of bauxite in the Kingdom constitutes an important strategic commodity, which exploits it primarily as a local demand.

There are many factors that contribute to the success of the policy of industrialization or failure in any country, but there are key elements that resolve the positions both in the area of success or failure, and these elements either be a natural component or human components, therefore must be identified the availability of those ingredients of the bauxite ore and its industrial exploitation in the Kingdom.

## **6. THE ELEMENTS OF BAUXITE INVESTMENT IN SAUDI ARABIA**

There are some natural and human factors that encourage investment in bauxite and its industry in the Kingdom such as the geographical Location which is one of the most important natural factors influencing the enduring of the various mining industries, because the construction of the mineral is determined by the possibility of using and exploiting most of the mineral ores and the industry cannot be located in an isolated area or far from the markets or rugged terrain. Therefore, the distinct geographical location is the most important factor influencing mining production, as the mining area serves a good network of different transport roads, as well as the proximity of minerals from the industrial regions which are the most important markets, as well as proximity to the population centers that represent the source of labor, this will help to exploit these minerals on a large scale and at significant economic costs, giving raw materials the ability to compete with other raw materials produced in regions that do not have a distinct geographic location.

On the contrary, the presence of mineral resources in an extreme geographical location leads not only to the delayed exploitation of these minerals, but to the exploitation of them requires high expenditures required by the construction of infrastructure, whether transport roads, water or electricity networks, or the supply of energy resources, labor and providing services to them. Therefore, all these expenditures resulting from the poor geographical position necessarily lead to higher costs of mineral production and industries based on it, and this is therefore at the expense of profit and affects the ability of raw materials to compete with other raw produced in areas with characteristics of poor geographic location (Zouka, 2005). Regarding the geographical location of the bauxite ore in the Kingdom is suitable for its exploitation because of its proximity and mediation among the most important centers of the population that represent the source of labor, namely the main cities in the Qassim and Hail regions (see map 2), as well as close to the strong road networks and railways that help transport them from their places of use to places of exploitation and manufacture in Ras Al Khair.

*Figure following on the next page*

Figure/Map 2: The North-South Railway of Minerals Projects



Source: Saudi Railways Organization (SRO)

The transportation factor is one of the main factors affecting the mining industry because transport is a service through which the different effects of markets, raw materials and energy in industrial growth are realized. The importance of the transport factor is reflected by its effect on the cost of obtaining sources of energy or raw materials or access to markets. A diversified and low-cost transport network helps the industry grow and develop (Rahban, 2002). The Kingdom's transport sector has become increasingly important during the five-year development plans, with the aim of creating a strong infrastructure for the national economy, enabling it to activate the role of all economic and service sectors in order to transport production to consumption centers or export ports. To exploit the bauxite, the government built the North-South Railway, which is characterized by its large load and low wages compared to other types of transport, extends from Al Jalamid phosphate in the north of the Kingdom to Az Zabirah in Qassim region and then extends directly to Ras Al Khair port on the Arabian Gulf north of Jubail city (see map 2). The main aim is the exploitation of mineral resources located in various regions of the Kingdom, the most important of which is phosphate ore in the Al Jalamid in the north of the Kingdom, as well as the bauxite ore located in Az Zabirah in Qassim region, which is the most important strategic raw materials that the Kingdom seeks to exploit in order to intend its economic base away from oil. The North-South Railway is one of the basic achievements of the comprehensive development process and one of the pillars of the industrial development of mining in the Kingdom, which will show its positive effects in the long term. Government policies play an important role in the exploitation of mineral resources or in the localization of various industries.



Saudi Arabia has made great efforts over the past years to attract local and international investments to exploit mineral resources in order to develop the mining sector and diversify sources of national income. The establishment of the Supreme Council for Petroleum and Minerals and the creation of the General Authority for Investment under the umbrella of the Supreme Council of Economy to assist in the implementation of the state policies for investment activity and provide suggestions to stimulate investment in the Kingdom and provide geological information and economic feasibility studies for investors ( Basfar, 2003). Among the outstanding government policies in the field of mining are the industrial sector financing policy. The Saudi Industrial Development Fund provides short, medium and long term loans for new industrial projects and expansions in existing projects, which may reach 50% of the total project costs.

## **7. CONCLUSION**

This study has shown that the mining sector has great potential to play a leading role in the diversification of the Saudi economy due to the Kingdom's enormous and relatively untapped mineral occurrences, and the increasing demand for raw materials both in domestic as well as international markets. The minerals industry in Saudi Arabia, which includes bauxite, will become one of the main activities attracting foreign investment, and during the next decade it is hoped will be one of the causes of considerable economic growth in the region and the country. The mineral industry will also have several positive effects on the national economy, such as constituting a source of additional revenue for the government, increasing exports and contributing to export diversification, creating new opportunities for the creation of industrial activities in the Kingdom. The fieldwork conducted by the researcher indicates that the Az Zubirah bauxite project will play a major role in Qiba's development. For example, some markets have increased in size and economic activity, and accommodation, filling stations and restaurants have increased. According to Ma'aden the aluminum and phosphate industries will create employment opportunities which will generate 6,000 direct jobs and 40,000 indirect jobs for Saudi citizens who will work in the building and operating of the industry and associated projects. The Saudi labour force, only now being brought to competitive levels, as yet lacks the expertise to meet the construction, exploration and industrial requirements of the minerals sector. Furthermore, the North-South Railway will have impacts on firms not only through transport cost reductions but also through the scope for cost reductions throughout the logistics chain. Also, it will have a positive impact on the labour market through lowering wage levels and increasing the availability of labour because of the reduction in travel time. Moreover, it would also lead to the establishment of many other mineral projects to exploit the Kingdom's vast manganese, iron, nickel, titanium, silica and calcium carbonate deposits.

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## THE MAIN FACTORS OF ATTRACTIVENESS OF LARGE OIL COMPANIES FOR EXTERNAL INVESTORS IN 2004-2013

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### ABSTRACT

*This paper examines the relationship between the investment attractiveness of the oil companies and the various indicators of their financial and economic performance. The research follows a quantitative approach covering 22 large oil companies from 12 countries in 2004-2013. The results of the study shows that when investors make decisions about investments in oil companies, such factors as the change in operating expenses per 1 barrel, level of sales per employee, and the presence of sufficient reserves, but not the current financial performance of oil companies, play a decisive role. This is due to the specific features of the oil industry, such as the long-term and risky nature of investments, and the great importance of oil deposits.*

**Keywords:** *Oil & Gas industry, Firm Performance, Oil Companies, Crude Oil*

### 1. INTRODUCTION

The current economic situation, marked by the presence of unstable external and domestic economic environment, and falling oil prices, forces companies worldwide to take urgent measures to improve their performance in order to survive in the market. "The steep drop of oil prices from over \$100 a barrel to below \$50 in the spring of 2015, caused serious financial difficulties for oil companies, as well as increases their financial commitments, which many of them cannot exercise." (Hayes, 2015). It can be illustrated by the example of the National Company "KazMunaiGas" - one of leading companies in the oil and gas sector of Kazakhstan (Toyshibekova, 2015). For the first six months of 2015 for the same period in 2014, its net profit fell from 210 bln tenge (\$16 mln) to 2.9 bln. tenge (\$1,193 mln), or by 99 percent. The revenue of the company fell by 48% compared with 2014 and amounted to 241 bln. tenge. This reduction was mainly due to a decrease in the price of oil by 47% from \$108.9 per barrel of Brent in the first half of 2014 to \$57.8 per barrel in the same period of 2015, and a decrease in the average price of domestic shipments by 52% from 48 thd tenge per ton in the first half of 2014 to 23 thd tenge per ton in the same period in 2015 (Table 1).

*Table 1. Key performance indicators of JSC National Company "KazMunaiGas" for the first half 2015*

	Units	6 m. of 2014	6 m. of 2015	Change
Price of oil	\$ per barrel	108.9	57.8	47%
Price of domestic shipments	thd tenge per ton	48	23	52%
Net profit	bln tenge (mln dollars)	2.9 (1,193)	210 (16)	99%
Revenue	bln. tenge (mln dollars)	502	241	48%
Total oil production	mln tons	6.103	6.122	100.3%
	thd barrels per day	249	250	100.3%

*Source: Compiled by the authors on the basis of Toyshibekova, 2015.*

In such uncertain conditions, investors need more information about the expected performance of oil companies in order to protect themselves against the high risks associated with investments in the oil and gas industry. Investment attractiveness of oil companies may depend on many factors, notably the provision of reserves, operational and financial results, capital structure, and cost of raising resources from the market. In turn, they can depend on other factors such as oil prices, inflation, etc. The purpose of this study is to identify and determine the level of influence of various economic and financial performance indicators on the investment attractiveness of major oil and gas companies. To achieve this goal, we developed a model of attractiveness of oil and gas companies from investors' perspective. The model is based on the data of 22 large oil companies of 12 different countries for the period from 2008 to 2013. The structure of analyses is as follows. Section 2 represents the literature review. Section 3 gives the methodology of research and description of data. Section 4 describes the construction of an empirical model. Section 5 gives the interpretation of the empirical results. Finally, section 6 concludes.

## **2. LITERATURE REVIEW**

In the market economy, it is equally important to obtain satisfactory financial results as well as validation of the capital market, through the estimation of the market value of the shares of listed companies. The efficient markets theory (EMT) supports the idea the market accurately reflects information about the economic and financial situation of companies (Fama, 1970). The view was that when information arises, the news spreads very quickly and is incorporated into the prices of securities without delay (Malkiel, 2003). However, investors are not always rational, as they do not always correctly interpret the information and have short-term gains in the foreground (Buse and Ştefan, 2014). As a result, pricing irregularities and predictable patterns in stock returns can appear over time and even persist for short periods of time (Malkiel, 2003). Because of availability of a wide range of oil and gas companies, investors have to relate to some simplified indicators that can help them in selecting the most appropriate investment solutions.

### **2.1 A simple indicator of investment attractiveness of oil and gas companies**

All of the performance measures can be considered under the concept of "value-based management", whereby the performance of the company is measured by its return to the shareholders, which includes dividends paid to the shareholder and the capital appreciation of the company (Brealey and Myers, 1988). It is expected that the greater the value to the shareholder, the better the performance of the company is. The price/earnings ( $P/E$ ) ratio measures the amount that investors are willing to pay for each dollar of a firm's earnings. The level of this ratio indicates the degree of confidence that investors have in the firm's future performance. The higher the  $P/E$  ratio, the greater is the investor confidence (Gitman and Zutter, 2012). McCormack and Vytheswaran (1998) tested total shareholder return of the largest oil and gas companies such as *EBITDA* (earnings before interest, tax, depreciation and amortization), *RONA* (return on net assets), after-tax earnings, *ROE* (return on equity), and free cash flow, and financial indicators and found very weak or non-existent relations. More robust relations were established when Economic Value Added (*EVA*) and reserves were introduced in the model. Since the late 1990s, a commonly used measure to assess shareholder return is the return on capital employed (*RoACE*), which is defined as net income adjusted for minority interests and net financial items (after tax) to average capital employed. However, this indicator has a number of problems (Antill and Arnott, 2002). *RoACE* falls in period of investments, and boosts in periods of disinvestments. This causes strong stimulus of oil companies to short-term behavior, which means cost cutting and value-maximization of existing reserves instead of investments in new assets.

The perception of *RoACE* as an important value-driver is not supported by the model, build by Osmundsen, and et al. (2006) on 14 major international oil and gas companies for the period 1990-2003. Another metric used to evaluate the performance of oil companies is the enterprise value/earnings before interest, tax, depreciation, and amortization (*EV/EBITDA*). This indicator relates the value of a company and allows judging the effectiveness of its business, regardless of its debt burden, and the method of depreciation (Gafaiti, 2015). Nevertheless, for oil companies the enterprise value to earnings before interest, tax, depreciation, amortization and exploration expenses (the *EV/EBITDAX* index) is a better indicator. It is similar to the *EV/EBITDA* index but neutralizes exploration expenses. It is widely used in the US in order to eliminate the effect of differences in accounting for exploration expenditures. The production per day (*EV/BOE/D*) can be used as another indicator to evaluate a company's performance, as it is well suited to compare the company with its competitors and allows quickly understand whether it is traded with a premium or a discount. However, this does not consider production on undeveloped properties and the cost of their development (Gafaiti, 2015).

## **2.2 Possible explanatory factors of investment attractiveness**

Chua and Woodward (1994) fail to find support for the (P/E)-model against dividend payout, net profit margin, asset turnover, financial leverage, interest rate, and Beta on the data of the US oil industry in 1980-1990. They tested the stock price against cash flow from operation (following year and preceding year), dividend payout, net profit margin, total asset turnover, financial leverage, interest rate, beta, and proven reserves. They found only future cash flow and proven reserves as statistically significant explanatory factors. By the analysis of US oil and gas exploration companies 1993-1996, Quirin et al. (2000) have found statistically significant relations of earnings and book value of equity with reserves replacement ratio, reserves growth, production growth and the finding costs-to-depreciation ratio. Based on panel data for 14 international oil and gas companies for the period 1990-2003, Petter Osmundsen, Frank Asche, Bard Misund, and Klaus Mohn (2006) revealed that the variation of the stock price in company valuations is mainly explained by the oil price, oil and gas production, and only to some extent reserve replacement. As for the indicator *RoACE*, then the model did not support the general perception of it as an important value-driver. Victor (2007) found that market capitalization of a company as proxy for its performance has strong relations with the total output, and revenues, but not with number of employees and reserves. Performance of companies depends on their capital structure or the share of debt and equity in a firms' capital, as well as the type of debt (long or short term) used by companies. The trade-off hypothesis assumes a positive relationship between profitability and leverage because the optimal debt level will decrease the firm's cost of capital and thus increase its financial performance. The positive relationship has found support by some studies (Roden and Lewellen, 1995; Hadlock and James, 2002); Berger & Bonaccorsidipatti, 2006; Margaritis & Psillaki, 2010). On the contrary, the pecking order theory believes that companies with higher profitability will prefer internal financing to debt and hence a negative relationship is expected between profitability and leverage theory. Empirical evidences supporting the negative relationship between capital structure and firm's performance have been presented by Myers (1984), Titman & Wessels (1998), Fama & French (1999), Booth et al. (2001), Haung and Song (2006), Chakraborty (2010), Salim and Yadav (2012). Some studies have evaluated the risk of the country of origin of companies regarding their cost of capital. Pouraghajan et al (2012) found a significant and positive relationship between the weighted average cost of capital (WACC) and criteria of corporate performance evaluation (*ROA* and *ROE*). However, the study of Regalli and Soana of 122 listed firms at the Stock Exchange of America in 2002, 2004 and 2006 indicated that cost of capital has a significant negative relationship with growth criteria of earning per share and price to earnings ratio but a positive relationship with ratio of market value to book value

of equity. Fluctuations of crude oil price affect economic activities as well as corporate earnings. Dayanandan and Donker (2011) on the example of 200 largest oil and gas companies listed on the US stock exchange in 1990-2008 show positive and significant impact of prices on the performance of oil and gas companies. However, the recent financial crisis negatively influenced oil prices and the financial performance of oil & gas companies in the US. Olivier Manikom and Charles Guillermet (2014) found this negative relation for 11 companies from 10 countries of the Eurozone in 2004-2013. Studying four major oil companies (Exxon Mobil, Chevron, British Petroleum and Royal Dutch Shell) in 2009-2014, Iskakov and Yilmaz (2015) found that the price risk has a profound impact on the long-term sustainability in energy market since price volatility directly affects production cost of crude oil. Because of the low price and high production costs, large oil and gas producers cut their capital costs and launch their divestment plan upon their upstream installations. This leads to delays and cancellations of many oil and gas projects.

### 3. METHODOLOGY AND DATA

#### 3.1. Methodology

As a methodology for assessing the investment attractiveness of a company, we used technique developed by Tolkachenko (2008), but improved by us.

The calculation of the investment attractiveness of a company is carried out in four stages:

Stage I: Analysis of the financial condition of a company with the seven-factor model

It is based on using the 7-s factor model proposed Gilyarovskaya and Sobolev (2000). It, in turn, is based on the model of Dupont, but unlike it reflects the impact on the assets profitability are not three but 7-s factors (Table 2).

The 7-s factors model shows the influence of various operating and financial factors on the change in the return on assets of the company:

$$ROA \text{ (return on assets)} = P(\text{Net income})/A(\text{Assets}) \Rightarrow$$

$$ROA = \frac{P}{S} \times \frac{S}{CA} \times \frac{CA}{SL} \times \frac{SL}{A/R} \times \frac{A/R}{A/P} \times \frac{A/P}{BC} \times \frac{BC}{A}$$

$$ROA = a \times b \times c \times d \times k \times l \times m$$

Table 2. Key indicators of the performance of a company, based on seven-factor model

Abbreviation	Names of variables
P	Net income (= EBIT- interest and tax)
S	Sales
CA	Current assets
SL	Short term liabilities
A/R	Receivables
A/P	Accounts payable
BC	Borrowed capital
A	Assets

Note: Gilyarovskaya and Sobolev (2000)

Thus, the 7-s factors analysis shows the current dynamics of the resulting index and the influence of different factors on the increase or decrease of assets return.

At the same time, in order to ensure sustainable long-term growth of the company, the following specified performance criteria must be maintained:

1)  $\Delta S/S > \Delta A/A$  - the growth rate of the company's sales, should exceed the growth rate of its assets. Compliance with this ratio prevents investments in unprofitable assets.

2)  $\Delta P/P > \Delta S/S$  - the growth rate of the company's net income should exceed the growth rates of its sales. Compliance with this ratio prevents the company from leaving the prospective and profitable market segments.

3)  $\Delta CA/CA > \Delta A/A$  - the growth rate of the company's current assets should exceed the growth rate of its total assets. Compliance with this ratio prevents the freezing of the funds of the company in long-term assets.

Stage II: Determination of the overall index of investment attractiveness of the company

It is carried out by the method of Aniskin (2004). At the beginning, the indices of particular factors changes are calculated and then the integral index of investment attractiveness of the company is determined as the multiplication of the particular indices:

$$IIA = \prod_{i=1}^n IIA_i,$$

where  $IIA_i$  – relative index of a particular factor  $i$ .

The value of the index of investment attractiveness allows investors to conclude whether the firm is attractive or not for investing. If  $IIA > 1$ , then the investment attractiveness of the company is growing for the analyzed period, if  $IIA = 1$ , then it remains unchanged, if  $IIA < 1$ , then the company's investment attractiveness is reducing.

Stage III: Determination of the company's need for investment

The need for investment ( $I$ ) required to ensure the expected sales growth, calculated as the difference between the change in net assets, which depends on the process of production and marketing, and the volume of funds raised from internal sources of the company. In mathematical terms, it is the formula:

$$I_1 = \Delta S \times \left[ \left( \frac{A}{S_0} \right) - \left( \frac{SL}{S_0} \right) \right] - P_1,$$

The net profit of the company ( $P_1$ ) in the next period is calculated by the equation:

$$P_1 = P_0 \times S_1/S_0 \times (1 - t),$$

where

$t$  – income tax rate.

Stage IV: Modelling of economic value added (EVA)

After finding the value of investments needed for the development of the company, it is important to determine how large is the cost of raised funds and what growth of company's market value these investments can provide. It is therefore advisable to calculate the economic value added (EVA). The index is calculated as follows:

$$EVA = NOPAT - IC * WACC = (NOPAT/IC - WACC) * IC = (RoACE - WACC) * IC,$$

There are possible three relations of  $EVA/IC$  with the behavior of investors:

1. If  $RoACE = WACC$ , then  $EVA/IC = 0$ . In this case, the market gain of investors by investing in such a company is equal to zero.
2. If  $RoACE > WACC$ , then  $EVA/IC > 0$ . This means that the market value of a company exceeds its net assets book value that encourages investors to invest in the company.
3. If  $RoACE < WACC$ , then  $EVA/IC < 0$ . This leads to a decrease of the market value of the company. In this case, investors lose the part of invested capital.



The proposed method of evaluation of investment attractiveness of the company since its base laid by two indicators - return on assets and economic value added, takes into account the experience of the company, as well as its expected future activities. However, the ratio *EBITDAX/ACE* seems to be a more objective indicator of an oil company's investment attractiveness than as of *RoACE*, given the eminent features of these companies as high taxes, capital and exploration expenditures. As *EBITDAX/ACE* relates to the company's earnings per unit of invested capital before interest, tax, depreciation, amortization and exploration costs. This ratio is more effective indicator of the performance of an oil company as it determines its investment attractiveness, regardless of its debt burden, fiscal policy, depreciation method and exploration costs. Therefore, the more precise formula for the comparison of oil companies of various sizes and operating in different countries will be as follows:

$$EVA/IC \approx EBITDAX/ACE - WACC,$$

In our study, we use instead of *EVA/IC* a proxy indicator of the investment attractiveness of oil and gas companies – the capital cost per 1 barrel of oil and gas in oil equivalent, because it is easy to calculate. It represents the ratio of capital expenditure to the current production of oil and gas for each company in oil equivalent. This indicator includes only capital expenditures. Given that the oil and gas business is a capital-intensive business, where the share of capital costs in total costs accounts about 60%, such an assumption would be quite convincing. Instead of *WACC*, since such information is difficult to find, we use a number of proxy variables that reflect different costs of investment in oil production in various oil and gas companies.

### 3.2. Data

In this study, we use secondary data, obtained for the period of 2008 to 2013. The data sample includes a set of 22 oil and gas companies of 12 countries (Table 3).

As the data sources were used data of various companies included in the Rystad Energy database, as well as data collected from websites, analytical and statistical materials of companies.

*Table 3. Name of oil and gas companies represented in the sample and their websites*

Repsol (Spain)	Shell (Netherland-UK)	Tatneft (Russia)
ExxonMobil (USA)	Chevron (USA)	Gazprom-Neft (Russia)
Petrobras (Brazile)	Sinopec (China)	KazMunaiGas (Kazakhstan)
BP (UK)	GazProm (Russia)	Eni S.p.A. (Italy)
OMV (Austria)	Rosneft (Russia)	Total (France)
Pemex (Mexico)	Novatek (Russia)	CNPC (China)
ConocoPhillips (USA)	Lukoil (Russia)	
Statoil (Norvay)	Surgutneftegaz (Russia)	

The name of indicators and methods of their calculation are given in Table 4. Some of them are related to the analysis of national oil companies, offered by Paul Stewens (2008).

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*Table following on the next page*

*Table 4. Key variables of investment attractiveness and methods of their calculations*

<b>Variables</b>	<b>Description of variables and method of their calculation</b>
CAPEX	Capital expenditures in current US dollars
Capex_bar_oe_d	The capital cost per 1 barrel of oil and gas in oil equivalent per day. It is the ratio of capital expenditure to the current production of oil and gas for each company in oil equivalent.
Opex_bar_oe_d	Operating expenses per 1 barrel of oil and gas in oil equivalent per day. It is the ratio of current production costs to the volume of oil and gas production for each company in oil equivalent.
Output_cap	Labor productivity per employee. Is the ratio of the volume of oil production to the number of employees.
Sales_cap	Sales in current US dollars per employee. It is the ratio of oil sales to the number of employees in the company.
Roace	Return on investment in the company. It is defined as net income adjusted for minority interests and net financial items after tax (NOPAT), as a percentage ratio of average capital employed or the sum of shareholders' funds and net interest-bearing debt (C).
Ebitda_ace	A measurement of a company's capital profitability. It is equal to earnings before interest, tax, depreciation and amortization (EBITDA) divided by the Average Capital Employed (ACE). Because EBITDA excludes depreciation and amortization, it can provide a cleaner view of a company's core profitability.
RRR	The reserves-replacement ratio shows the covering of the company's production with new reserves of oil. It is calculated as the ratio of the increment proven reserves to the volume of its production. A ratio of 100% means current production is sustainable, above 100% means it can grow, and below 100% means it is likely to decline.
RPR	Reserves-to-production ratio is the ratio of proven reserves of the company to its current production volumes.
Int_sale	The company's ability to perform interest payments on loans. Defined as the ratio of interest paid on the income of the company to its sales. This indicator shows the investment attractiveness of the company from a commercial point of view, as an object that brings a certain amount of revenue per person.
Int_debt	The burden of debt service. It is defined as the ratio of interest payments on loans to the sum of domestic and external debt of the company.
Eff_tp	The efficiency of the technological process the ratio of the selling price of 1 barrel of oil produced by the company to the world price of 1 barrel of crude oil
Price_risk	Price risk is the ratio of the standard deviation of the current price from its average value for the period under consideration by different companies.
Risk_roace	The risk of changes in return on average capital employed (ROACE) is the ratio of the standard deviation of its current value from its average value for the period under consideration.
Risk_ebitda	The risk of changes in return on Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA) is the ratio of the standard deviation of its current value of from its average value for the period under consideration.
Debt_burd	The burden of debt is the ratio of domestic and external debt to net income before tax and interest payments.
Tax_burd	The tax burden is the ratio of tax payments to the company's net income before tax and interest payments.

Our panel data includes 132 observations, which enables us to build an econometric model on. Due the short review period (from 2008 to 2013), the using of a time series proves impractical. To check the data on the collinearity, we constructed a correlation matrix, which shows the relationship between the variables in the sample.

#### 4. CONSTRUCTION OF VERIFYING EMPIRICAL MODELS

The stability of variables was checked by using ADF technique (Augmented Dickey and Fuller). As null hypothesis ( $\alpha = 0$ ) has been selected the assumption that the variable is non-stationary and has a unit root, and as an alternative hypothesis ( $\alpha < 0$ ), the variable is stationary or does not have a unit root. The hypothesis of a unit root can be rejected if the calculated pseudo t value is left of the corresponding critical value, i.e., when  $\alpha < 0$ . In this case, the variable can be evaluated as stationary. It is assumed that when taken together leveled variable values of its changes, it usually becomes stationary.

As the dependent variable, we use *ln\_capex\_bar\_oe\_d*, which shows the change in capital investments per unit of extracted hydrocarbons in oil equivalent. Other variables are explanatory variables. All of them are stationary in levels (Table 5).

Table 5. Results of the test by the ADF method

	Level	1st Diff	2nd Diff
Capex_bar_oe_d	-4.571862***	-12.20171***	-8.615788***
Sales_cap	-3.820016***	-9.800208***	-8.481070***
Roace	-3.377061**	-12.93487***	-11.71208***
Ebitda_ace	-6.219794***	-9.757392***	-8.703843***
Opex_bar_oe_d	-3.021587**	-7.300815***	-7.311846***
Risk_roace	-9.791077***	-10.68793***	-11.94796***
Risk_ebitda	-5.721673***	-11.32204***	-9.550567***
Eff_tp	-3.730476***	-11.15910***	-10.93076***
Price_risk	-7.052074***	-12.86573***	-9.317214***
RRR	-14.36416***	-9.853947***	-11.21179***
RPP	-4.661956***	-13.42808***	-10.13919***
Int_debt	-11.50630***	-9.574966***	-9.045169***
Int_sale	-6.309796***	-10.12673***	-10.03207***
Debt_burd	-9.522690***	-11.60709***	-7.417792***
Tax_burd	-3.482035**	-10.81055***	-8.162513***
Output_cap	-3.480818**	-11.00851***	-7.686966***

Note: \*, \*\*, \*\*\* represent respectively 10%, 5% and 1% significance level.

The relationship between the company's investment attractiveness and its determinants is estimated by the following equation.

$$\begin{aligned} \ln(\text{capex}_{\text{bar}_{\text{oe}_d}}) = & \alpha_1 * \text{ebitda}_{\text{ace}} + \alpha_2 * \ln(\text{opex}_{\text{bar}_{\text{oe}_d}}) + \alpha_3 * \text{int}_{\text{sale}} + \\ & \alpha_4 * \text{output}_{\text{cap}} + \alpha_5 * \text{sales}_{\text{cap}} + \alpha_6 * \text{eff}_{\text{tp}} + \alpha_7 * \text{rrr} + \alpha_8 * \text{rpr} + \alpha_9 * \text{debt}_{\text{burd}} \\ & + \alpha_{10} * \text{tax}_{\text{burd}} + \alpha_{11} * \text{price}_{\text{risk}} + \alpha_{11} * \text{risk}_{\text{ebitda}} + \varepsilon \quad (1) \end{aligned}$$

Besides the main model, we build some models, which contain additional or alternative explanation variables. Their construction helps to eliminate possible multicorrelation between different explanatory variables. For the same purpose, *bar\_oe\_d* and *opex\_bar\_oe\_d* variables were taken in the logarithm form. We excluded *RPP* variable from all models, since it reflects the provision of production with the necessary resources as well as *rrr* variable, but has a low correlation with the explanatory variable *capex\_bar\_oe\_d*. In addition, the *price\_risk* variable was eliminated, as it does not show the correct signs, and reflect not only variation in prices of crude oil, but of refining and petrochemicals products. We also excluded variable *tax\_burd*, which impact on the investment attractiveness of companies is very small.

The constructed base model (Model 1, Table 6) has a strong serial autocorrelation. Therefore, to address it, the autoregression coefficient AR with lag 1 (Model 2) was included in. We also tested the hypothesis regarding the positive impact of company's capital profitability *ebitda\_ace* on the investment attractiveness of oil and gas companies (Model 3). It was negative. This means that this indicator does not affect the attractiveness of the company for investors, and thus not important for decisions about investing in oil and gas companies. Then we have added *output\_cap* to the model to assess the impact of the actual productivity of labor (purified from inflation) on the investment attractiveness of oil and gas companies (Model 4). This variable has a strong influence on the investment attractiveness of oil and gas companies. However, its sign is negative, which contradicts the theoretical expectations. This may be due to the fact, that in the case of high labor productivity, oil and gas companies receive sufficient income and do not need additional investment from outside.

*Table 6. Estimations Results for Oil and Gas Companies Investments for 2008-2013  
 (calculated on the basis of 22 major oil and gas companies)*

Variables	Models					
	1 model	2 model	3 model	4 model	5 model	6 model
Log(opex_bar_oe_d)	0.8894*** (22.6866)	0.8797*** (21.3619)	0.8799*** (21.2933)	0.8799*** (18.9991)	0.8057*** (18.5605)	0.8864*** (20.9507)
Sales cap	0.1365*** (5.0705)	0.0869*** (3.0064)	0.0873*** (3.0050)	0.0873*** (4.2856)	0.1219*** (3.9400)	0.0700** (2.4143)
Rrr	1.1815*** (2.7322)	0.3267 (1.5736)	0.3208 (1.5382)	0.3208 (1.3360)	0.2623 (1.3144)	0.3523* (1.6583)
Int_sale	0.8815*** (3.2050)	0.5224** (2.4664)	0.5413** (2.4966)	0.5413*** (2.6227)	0.8309*** (2.9108)	
Ebitda_ace			-0.0683 (-0.4465)			-0.0198 (-0.1225)
Output cap				-0.0151*** (-3.9254)	-0.0146*** (-3.7010)	
Eff_tp					0.0116 (0.4275)	
Debt_burd					-8.97E-05 (-1.6193)	2.26E-05 (0.5046)
AR(1)		0.7522*** (13.0528)	0.7530*** (13.012)	0.7249*** (11.7081)	0.7229*** (11.4764)	0.7596*** (13.2876)
C	-0.9160** (-2.073)	0.04778 (0.1889)	0.0728 (0.2804)	0.3223 (1.3029)	0.2865 (1.1461)	0.0848 (0.3172)
Observations	132	131	131	131	131	132
Adjusted R-squared	0.837	0.928	0.928	0.936	0.936	0.925
Durbin-Watson stat	0.605	2.072	2.072	2.105	2.086	2.054
F-statistic	169.74	338.59	280.39	317.39	240.34	266.56

*Note: t-statistic in parentheses: \*\*\*p<0.01, \*\*p<0.05, \*p<0.1.*

*Source: Authors' Computations*

In addition, we evaluated the behavior of the model after the addition of variables *eff\_tp* and *debt\_burd*, which reflect the level of technological processes and the level of financial leverage of companies, respectively (Model 5). The first variable *eff\_tp* has the correct sign, but it is not statistically significant.

The second variable *debt\_burd* also shows the correct sign, but it is not significant. This means that the availability of rich resources is more important in oil and gas business than used technologies and the level of financial debt. Then we decided to assess the impact on the investment attractiveness of oil and gas companies *ebitda\_ace* and *debt\_burd* indicators. To do this the *int\_sale* variable was excluded from the model, as it has strong correlations with the last variable (Model 6). In this case, the variable *debt\_burd* shows the wrong sign. However, this does not affect the quality of the model, since in this model this variable is statistically insignificant. The next step was to review the availability of long-term relationship between the variables included in the model. For this, we conducted Johansen Co-integration test. The results of the test indicate that not more than 12 endogenous series from total 15 series are converging in the long run. Thus, the test confirmed the presence of a long-term relationship between selected variables.

## 5. RESULTS

The results of regression are presented in the Table 8. All models, except the first, meet the basic standard statistical criteria. This is indirectly confirmed by the high coefficients of determination (90%), F-statistic (more than 170) and the Durbin-Watson ratio are within the required standards. In addition, the high values of t-statistics in the explanatory variables in all models, except for certain variables, are talking about it. Empirical results support theoretical predications of the model. These results show that coefficients on *Log(opex\_bar\_oe\_d)*, *Sales\_cap*, *rrr* and *Int\_sale* are positive and significant in the main model. This model shows that the change in operating expenses per 1 barrel, the high level of sales per employee, sufficient oil and gas reserves are important conditions for the investment attractiveness of oil companies. Moreover, a positive sign of the variable *Int\_sale* assumes a positive relationship between profitability and leverage, as it decreases the firm's cost of capital and increases its financial performance. This is due to the fact that in conditions of high oil prices in recent years, oil companies have, as a rule, a relatively low level of debt. Model 2 is similar to the first model 1, except of the coefficient AR include with lag. With its help the serial autoregression was removed from the model, which led to a sharply increased explanatory power of the model and its sustainability. As a result, the model determination coefficient has increased from 83.5% to 92.8%, the F-statistic - from 170 to 338, and the Durbin-Watson coefficient - from 0,605 to 2,072. In the third model, contrary to expectations the growth rate of *ebitda\_ace* did not increase the investment attractiveness of the company. Its negative sign indicates this. However, this does not really matter, since it was not statistically significant. We did the same calculations for indicators *RoACE* and received similar results. Before us Osmundsen, and et al. (2006) on the example of 14 major international oil and gas companies for the period 1990-2003 got similar results. It means that understanding the *RoACE* indicator as an important value-driver is not supported by empirical calculations. This gives us grounds to make a conclusion that investors investing in oil and gas companies are more interested in having a stable long-term resource base than the current performance of oil companies. This is because main investors in oil and gas industry are strategic partners, and therefore they are more interested in long-term performance, rather than short-term profitability of companies. This is not surprising, since the prominent feature of the oil and gas business is its high risks due to the long-term nature of investments. Results of the fourth model shows that, contrary to established beliefs, the actual growth of labor productivity in the oil and gas companies (excluding the impact of international oil prices) leads to a reduction of investments in such companies. If the company receives sufficient income, it less needs to raise funds from outside investors. Adding variables such as technological development (*eff\_tp*) and financial leverage (*debt\_burd*) to the model has not improved it, because of low statistical significance of these indices.

Thus we can conclude that the current level of technical development, as well as financial indebtedness of oil and gas companies did not affect the growth of their attractiveness for investors in the period under review. This once again proves that the key criterion for investors who make decisions about investing in the oil and gas business is the availability of oil and gas reserves sufficient for long-term stable operation of the company, rather than its current financial position or economic performance. Adding to the model parameters *ebitda\_ace* and *debt\_burd* instead *int\_sale* did not improve, but rather deteriorated the model. The coefficient of determination fell from 93.6% to 92.5%. However, both variables are not statistically significant.

## 6. CONCLUSION

After analyzing 22 large oil companies from 12 countries over the period of 10 years data from 2004 to 2013, we came to the conclusion that long-term investment decisions in the oil and gas industry differ significantly from those in other sectors of the economy, due to its specific features, such as the long-term and risky nature of investments, a large importance of the raw material stocks and the companies' need to secure the feeding of production. The list of indicators to which investors give high priority, also varies greatly. Our analysis helps to identify the most important of them. A high coefficient of determination of about 93%, obtained for the model, confirms its high explanatory power. It shows that we are correctly identified factors that explain the behavior of investors in the industry. These include the change in operating expenses per 1 barrel, a high level of sales per employee and sufficient oil and gas reserves, which account for 92.8% of the investment attractiveness of various oil and gas companies. Study of the effect *ebitda\_ace* or *roace* on the investment attractiveness of oil companies allowed making a conclusion that investors in the oil and gas industry are more interested in the presence of a stable long-term resource base than in their current financial indicators. This is due to the specifics of the business in the oil and gas industry, that is long-term and where the company's success is related to the availability of sufficient stocks of raw materials. Therefore, in the oil and gas industry, we deal mostly with strategic investors who invest in companies, mainly focusing on long-term results of their operations, rather than their short-term profitability. We also found that in oil & gas industry over the period under review there was a positive relationship between profitability and leverage, allowing companies to reduce their costs of capital and increase their financial performance. This is due to the fact that during a sufficiently long period of high oil prices, oil companies were able to improve their financial situation and to the recent decline in world oil prices have relatively low level of debt burden.

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## **INFLUENCE OF POLITICAL MARKETING CAMPAIGNS THROUGH SOCIAL MEDIA ON POLITICAL ACTIVISM: SPECIAL EMPHASIS ON YOUTH OF PAKISTAN**

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### **ABSTRACT**

*The objective of this study was to analyze the possible relationship of online political marketing campaigns and offline political mobility of the Facebook user. Online political marketing on Facebook was analyzed and check the effect of this marketing effort on offline political activity of the Facebook users. The targeted population was youth of Pakistan between the ages of 18-35 (registered voters). Data on the study variables has been collected through structured questionnaire from 607 comprised of youth who have Facebook account and were interested in seeking online political information. Participants have recorded their responses through online questionnaire. Statistical analysis included reliability test and correlation. The results of the study reveal that the study variables have significant relationship with each other. The findings of the study provide deep insight of the relationship, and magnitude of two data sub sets on the basis of active and passive use of Facebook, and their relationship with real world political activism. Surprisingly, passive users of Facebook were found more active in offline political activities as compared to the active user. The possible reasons, limitations, and recommendation are discussed in the conclusive chapter.*

**Keywords:** *Political activism, Political participation, Online & Offline activism, Youth, Pakistan*

### **1. INTRODUCTION**

This dominating, influential and dynamic class comprises of young adults, male and females, who are educated, aware and want to seek political information. This study will investigate their participative role in real time politics, which will resultantly contribute in facilitating the political marketing planners and executors of different political party. The importance of understanding the profile of this young online user becomes more significant in the next election, to devise a comprehensive political marketing campaign by the political parties. Because this huge number of user will not stop here and it will continue to increase in its number, they will not only have a great impact on election result, but they will also contribute in making opinion about a particular party. They will impact more rigorously in the next election by influencing 'Offline' political process contributors and stakeholders. Facebook is open for all, free of cost and welcome all level of participants. For this particular study, clear categories are necessary on the basis of usage, frequency and time spent on Social Media website like Facebook. The categorization of Social Media was done by Kaplan & Haenlein, in 2010. This classification or bifurcation of social media is based on social presence, media richness and self-disclosure/self-expression (Kaplan, A. M., & Haenlein, M. 2010). On the basis of this, following categories can be divided:



- i. **Active User:** In this category, those users are included who are initiators, posting different videos, images, news and blogs on the Facebook. They act as ‘online opinion leaders’ and contributes a lot in making views of masses related to any issue, personality or news.
- ii. **Passive User:** They are on receiving end, contributing by sharing, commenting and show their intentions on existing available information uploaded by active users. They don’t initiate any string on the Facebook, but wait for someone else to initiate on a particular issue.

Political parties may use Facebook to communicate with public who are eager to listen. Active and passive users may contribute and they are contributing in dissemination of particular information to their local virtual groups and communities. They play as the frontline spokesperson for political parties and spread the word of mouth more affectively as compared to the official representative of any political party. Facebook become the true predictor of the public opinion and sentiments.

### **Research Rationale**

All kind of efforts by the political parties are to engage online user in seeking information and influence, so that this online user may contribute in offline political activities and real time politics. Parties’ online marketing campaigns focus on bringing that online user on the roads and motivate them to contribute. In this study this phenomenon will be explored that is it really happening or not. As we already has the firm believe from the above discussion that social media (like Facebook) is most remarkable thing of this era which not make impossible things possible but also provide a ground for future actions. No precedential evidence exists for the support or against this proposition. This area is still grey and this research will provide a substantial support for the future strategic marketing campaigns and decisions.

### **Problem Statement**

Social Media marketing is the recent induction in the modern marketing techniques, and has significant contribution in devising Integrated marketing Communications. It is dynamic and wide spreading tool of the modern era. In the traditional marketing communication model, the content, timing, frequency and the medium of communication by the organization is in the collaboration of the external agents like advertising agency, marketing research firms, and public relation firms. However the impact of social media is huge and enormous on the conventional way of communication (Anjum, A. H. 2011). Now this situation converges to the more specific way of hitting the target audience, so the political parties are focusing. So the affectivity of social media need to be judged and evaluated through sophisticated research process, so that contributing factor towards the established proposition can be analyzed in more systematic way. The coherence between the conventional media campaigns and new media campaigns is s of great importance, because the message / information transmission becomes different and delivery routes are different. But the strategic objective of the organizations is the same for both. Now learning organizations have to explore the limitation and delimitations of the new media campaign requirements and pitfalls. Any constraint in the way of communication can only bridge by highlighting the possible dimension of the stated issue. This transition from the conventional way of doing marketing communication is changing rapidly. So the key to success is to change marketing strategy at each level (Strategic, tactical and operational). There is a gap exist between the conventional mode of launching IMC (Integrated Marketing Communication) campaign and the new media (Social Media) marketing campaign. It is important to fill this gap by investigating that how much social media political campaign has the impact on real time / offline political activism.

If there is a relationship exists, then further research will explore the dimensions and factor that affect new media political marketing campaign. The purpose of the study is to highlight the political participation of online user in main stream politics, also find out the possibility of relationship of online activism with the offline political activities of the same user.

## **2. LITERATURE REVIEW**

Public is a dissimilar group of people that have an actual or a potential interest and/or impact on organization. (Kotler, P., & Murray, M. 1975). Another school stated this concept in different dimension and stated that Public generally refers to a situational group of individuals who appear and establish in response to a problem. (Wu, M. Y., Taylor, M., & Chen, M. J. 2001). In context with the active group and public opinion, social scientists recognize this activism in more delicate way. The situational theory of publics: non-publics, aware publics, latent publics, and active publics (Grunig, J. E. 1983). According to Grunig, the respond towards a particular situation can be characterized by the classification of Public into smaller segments or classes. In this study, my focus is on ‘active public’, which is considered as the most dominating segment of general public. The impact of this segment can be clearly observable in online activism. The image inside the minds of people, the pictures of their own, of others, of their wishes, drives, and affiliation, are their public sentiments. Those beliefs which are acted upon by clusters of people, or by individuals acting under the name of groups, are ‘Public Opinion’. (Lippmann, W. 1946). According to some scientist, Social media is a collection of Internet-based applications that build on the moral and hi-tech foundations of Web 2.0 and that allow the formation and exchange of User Generated Content (Kaplan, et al., 2010). Some scientist like Aula, professor at University of Helsinki said that Social media is characterized by interactivity – partakers freely send, receive, and share content, which is contributed by other (Aula, P. 2010). It not only gives leverage to seek information but also create opportunities to participate. As increasing numbers of young people interested in becoming expert in use of media tools to express themselves, explore their individualities, and connect with others—to be active makers as well as users of social culture—experts have a chance to inspire young media creators to practice active citizenship (Boyd, D. 2007). The keen acceptance of Web publication, digital video making and online video circulation, social networking facilities, immediate messaging, multiplayer enacting games, online societies, virtual spheres, and other Internet-based media by masses of young people around the world establishes the strength of their aspiration—uninterrupted by adults—to learn digital creation and communication abilities (Rheingold, H. 2008). Researchers like Ryan, Y. (2011), Al-Atraqchi, F. (2011) and Diamond, L. (2010) have detailed work on Egyptian and Tunisian movements and cover the role of social media in these revolts. Blogs, Facebook and Twitter have a significant role in mobilizing youth of such a massive move. Also the political mobility was observable on roads. Public participation is actually the involvement of public in the process of decision-making (Stewart, J., & Clarke, M. 1987). Kathryn Montgomery has worked on network neutrality in reference with the youth digital democracy. She highlighted whether the democratic media does play a vital role in democratizing the youth to express their feelings, consent and expression about any particular issue, while considering the policy, practices and marketplace (Montgomery, 2008). The Internet played a significant role in all these efforts, not only facilitating each initiative with an objective of reaching its target audience but also enabling cooperation among the virtual groups, supporting virtual alliances through linkages and cross-promotion settings, and creating a “youth engagement Web sphere” on the Internet that was enormous in magnitude and more urbane than any before (Bennett, L., & Xenos, M. 2005) The exclusive style of individual expression that differentiates one’s opinion from those of others can be called upon to help link young people’s active participation in ‘identity-formation’ with their prospective commitment with society as citizens.

Moving from a private to a public, opinion can help young people to turn their ‘self-expression’ into a form of public participation (Agre, P. 1998). Public voice is learnable, a matter of deliberately involving in an active public rather than dissemination to a passive audience. This urge and motivation compels youth to be more expressive and passionate (Rheingold, H. 2008). The public opinion of individuals, combined and in discourse with the consent of other individuals, is the basic part of “public opinion.” When public opinion has the influence and liberty to effect policy and grows from the open, lucid, critical deliberation among peers postulated by Jürgen Habermas and others, it can be a vital tool of democratic self-governance (Kellner, D. 2000). James Fishkin at Stanford, Peter Levine at the University of Maryland and John Gastil at the University of Washington have been exploring whether better premeditated practice can help in making better publics (Fishkin, J.S. 2006)

### **Hypothesis**

On the basis of preliminary data gathering and analysis, following hypothesis can be established, in order to find out the relationship between online political activism with offline main stream politics in response to the political marketing campaign on social media.

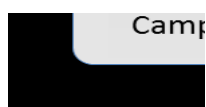
H1: If youth is more politically active on social media then they are more likely to take interest in seeking and sharing political information on this medium than those less politically active on social media.

H2: If youth is more politically active on social media then they are more likely to participate in offline political activities than those less politically active on social media.

### **Theoretical Framework**

Following figure shows the relationship of independent variable of online activism through online political marketing campaign and dependent variable of offline political activism which could possibly depicted by political affiliation and offline political participation.

**Figure 5**



## **3. RESEARCH DESIGN**

### **Population, Sample and Sampling Technique**

The population of this study composed of young voters who are actively participating in the online political activities on social media and involve in civic engagement in different vicinities of Pakistan. According to the official statistics of Election Commission of Pakistan, the total number of electoral roll in December 2011 was 80,724,009, which includes all verified and unverified voters. As per rough estimate, youth comprises of 56.4% of total population. When having such a huge population, non-probability sampling is used by adopting convenience sampling technique. In this technique the survey form was shared with the masses to collect data from maximum number of respondent within specified span of time.

The sample size was 609, from more than 700 respondents. After omitting invalid questionnaire, 609 were left for analysis.

### **Measurement and Instrumentation**

Demographic section of the questionnaire has close ended questions, providing range of figures in few questions and multiple choices in other questions. One multiple choice questions provide the right to the respondent to select more than one option, to explore the number of mediums used by the subject for information seeking. Other two sections of the questionnaire have 6 level bipolar scales for the analysis of active use of social media and political activism by the same respondent. The 6 point scale ranges from 'very often' to 'very rarely'. Respondents can give feedback on the basis of their level of engagement in the political activities. Questions were based on the reserve words for Facebook and direct questions for the offline political participation including public processions, rallies, donations, etc.

### **Data Collection Procedure**

Data was collected through online survey form, and the link of that form was shared on social media and also through personal links to collect responses. For convenience, public and private universities were selected to have access of targeted population.

## **4. RESULT AND DISCUSSION**

### **Validity & Reliability Testing**

Validity refers to the degree to which a test measures what it supposed to measure (Babbie, 1979; Punch, 1998; Maxwell & Loomis, 2003). Valid research is reasonable, reliable, and therefore, defensible. (Johnson & Christensen, 2000, p.207). Construct validity is used because this study focuses on hypothetical construct in which online activism is considered linked with the offline political activism. This assumption can be validating by asking questions with the reserved word for that construct. These reserved words serve as the fundamental predictor to analyze the major domain of the construct i.e. political activism.

Nunnally (1978, p. 245) recommends that tools used in basic research must have reliability of about .70 or better. Instruments used in applied settings; reliability should be at least .80 or better (Nunnally, J. C., & Bernstein, I. 1978). Reliability is analyzed by using Cronbach's alpha; the coefficient of this test shows the consistency in data. The value of alpha for online political activism was 0.897 and for offline political participation 0.931.

### **Hypotheses Testing**

Following results shows that there is a strong relationship exists between both variables in each group (data subsets). The value of coefficient is also significant in both cases and shows a strong association between the observed variables

H1: If youth is more politically active on social media then they are more likely to take interest in seeking and sharing political information on this medium than those less politically active on social media.

H2: If youth is more politically active on social media then they are more likely to participate in offline political activities than those less politically active on social media.

*Table following on the next page*

**Table 9**

***Correlations***

FB Group		FB	PP	
.00	FB	Pearson Correlation	1	.743**
		Sig. (2-tailed)		.000
		Sum of Squares and Cross-products	171.327	149.057
		Covariance	.362	.315
		N	474	474
1.00	FB	Pearson Correlation	1	.529**
		Sig. (2-tailed)		.000
		Sum of Squares and Cross-products	56.399	45.445
		Covariance	.421	.339
		N	135	135

\*\* . Correlation is significant at the 0.01 level (2-tailed).

There is a significant relationship exist between these two variables, which means that online political activism or the influence of online political marketing is as significant as the offline political marketing campaign, because sample response is significant in both cases. The results of 2 tails level of significance, shows that the value is less than 0.01 ( $0.000 < 0.01$ ) which means that there is a significant relationship exists between the observed variables. In case of passive user of group, the relationship between online and offline political mobilization / participation is statistically strong. In case of passive user group, the relation between online and offline political activism is also statistically significant ( $0.000 < 0.01$ ). So the active and passive user's data sets show significant relationship between the offline and online political participation. The result can be derived that there is a strong impact of online political marketing campaign on Facebook users and they shows the same behavior in real politics. No matter they are 'Active' or 'Passive' in the use of Facebook or their active or passive involvement in offline political activities, their relationship does exist and the influence of online political marketing campaign has the significant impact on the user, which is visible in real time politics. In comparison of these data subsets (0.00 and 1.00, i.e. Passive and Active users respectively), the passive users has strong relationship as compared to the Active group. From these results it can be generalized that online political marketing campaign have strong relationship in passive group (value of coefficient is 0.743) as compared to the Active group, which has 0.529 coefficient value. These statistics depicts that political activism in offline politics is influenced by the online political marketing campaign, but it is not the only key motivator for the political mobilization in real politics.

**5. CONCLUSION**

The quantitative analysis of the research presented in the preceding chapters show that there is a significant relationship between online political marketing and offline political participation. This relationship is of two ways that mean it is observed that Facebook users are taking part in offline political activities and also political actors contributing in online marketing of a particular political party. This two way participation serves the basic purpose of any marketing campaign i.e. information sharing. In the participatory media channels like social media website does plays a dominating role in making public opinion about a particular issue. This collective sentiment results in sustainable and long term association with the manifesto of any political party.

This could be considered as the sequence of sequential connected activities which are interdependent and resultantly have huge impact. It starts from individual consent to the collective belief about a particular issue. The number of users increases day by day, so the impact of social media website becomes enormous in coming days. This impact has two folds; one is the influx of users and political mobilizers, and on the other hand the increasing number of online users and motivators. By the increase in popularity of social media websites, like Facebook, political information seekers will defiantly get influenced by the online political marketing campaign, specifically on Facebook.

**Figure 6 – Stepwise formation**



This figure shows the stepwise formation of political affiliation at individual and collective level. All users of Facebook whether they are active or passive, have a significant relationship with the real world political scenario. At the very first step, these users get influenced by the use of social media website like Facebook. It provides them leverage to interact with other fellows similar to their own political views. Then in the next step they got influenced by the online political efforts in the forms of campaign, viral news, dedicated pages, image files, video, external links, embedded material, linked webpages, and cause based events on Facebook. These marketing efforts are considered as the part of overall marketing campaign of a particular political party. This influence on the minds of users compels them share that information with their peers and as well as among the public (technically public and private spheres of the individual). This sharing is not confined to the social media websites, but can also visible in real world politics. There is a strong relationship exists between online political activism with the offline political activities, so online user (active and passive) are interested in repetitive seeking of political information through social media. These two groups are politically motivated as they are seeking political information and also taking part in real world politics. The political affiliation is the consequent outcome of this sequential pathway. An individual can established association and affiliation with any political party or any political view after influenced by Facebook. Social media act as a stimulus and trigger the sentiments of user. An affective political marketing campaign can change or transform the political views of an individual. If the span of that campaign becomes wide (as in the case of social media) more and more people become engaged in it and that individual inclination and affiliation will transform into collective consent.

## 6. RECOMMENDATIONS

### Impact of Online Political Marketing Campaigns

There is a significant role of social media in the expression of political affiliation and its relation with the real world politics, the mere importance is to make social media more reliable, viable, accessible and practical source of political mobility and political participation tool for voters. The prospects are of high importance but the time and other resource are creating hurdle in the way of seeking political information on social networking websites. These constraints and other hurdles should be address. One of the most significant hurdles is the span of time which a user spent on social networking site for seeking political information, which plays a decisive role for the user and determines the time and effort he/she is allocating for the real time political activity. Moreover the participatory role of user is negatively affecting the real world political activism, as it is explored that passive users are more active in real world politics as compared to the online active users. This proposition helps in creating those activities which required relatively lesser time to engage a person online, and provide only relevant information in short time. For this purpose those campaigns would be successful which are based on graphics, written news, tweets, and clip of short time. Also that information would be more beneficial which is related with the real world political activity, like information regarding government policy, rally, political summon, and procession. Also, information about participating in some volunteer activity, social work, and representing political party in some vicinity around would be of great significance. 'Civic engagement' is most appropriate word to describe this recommendation. More the online user is engage in civic activities, more would be the participation in politics.

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## FREEDOM OF MOVEMENT OF UNION CITIZENS IN THE OUTERMOST REGIONS OF THE EU

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### **ABSTRACT**

*The aim of this paper is to present the specific position of the outermost regions of the EU regarding freedom of movement of persons in the EU. Indeed, the nine outermost regions of the EU, despite their geographical distance from the European continent are full part of the EU. Therefore, they are supposed to apply EU law. They nevertheless benefit from some specific measures or derogations because of their specificity. To which extent EU migration law applies to these EU regions located outside the European continent? Can third-country nationals and Union citizens from other Member States move freely to such territories? What are the derogations to the common regime of freedom of movement of persons? Are these derogations justified? The paper will answer to these questions and examine a particular case, the case of Réunion island, a French outermost region located in the Indian Ocean. It will focus especially on the case of Mahoran citizens (from Mayotte island) moving to Réunion island. Indeed, many Mahoran citizens, especially women and children, are moving to Réunion island, with the hope to find better living conditions. They are partly seen by the local population as abusers and less integrated than third-country nationals. The EU concept of Abuse of rights, especially of abuse of social assistance, does not apply to them as it is a purely French internal issue. But their case recalls, by many aspects, the migration of Union citizens from Roma origin.*

**Keywords:** *Freedom of movement, Migration, Outermost regions, Réunion island, Union citizens*

### **1. INTRODUCTION**

The European Union is not only composed of the continental national territories of its 28 Member States. It is also present in the wider world through its outermost regions and its overseas countries and territories. Indeed, the EU possesses nine outermost regions which are situated outside of continental Europe. They belong to France, Portugal and Spain (six French<sup>1</sup>, two Portuguese<sup>2</sup> and one Spanish)<sup>3</sup>. These territories represent in fact the external borders of the European Union, outside the European continent, in the Indian Ocean, the Pacific Ocean and the Caribbean Sea. All these oversea territories which belong to the Member States of the EU don't have the same status. Indeed, oversea countries and territories are not full part of the European Union and have the status of an associated country. On the contrary, outermost regions are full part of the EU. Therefore, their citizens are also Union citizens and their local administrations and subjects are obliged to apply European law. Nevertheless, all these outermost regions benefit from special derogations or benefits because of their insularity, economic and social situations, and remoteness from continental Europe. The aim of this article is to present the specific situation of the outermost regions of the EU regarding freedom of movement of persons. The first part will describe which part of the *acquis communautaire* is applicable to outermost regions. Then it will quote and justify specific derogations to the principle of the EU law's application.

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<sup>1</sup> Réunion island, Mayotte, Martinique, Guadeloupe, French Guiana and Saint Martin.

<sup>2</sup> Azores and Madeira.

<sup>3</sup> Canary islands.

The second part will deal with one concrete example: the migration of third-country nationals and outermost citizens from Mayotte island (a new French outermost region of the EU) to Réunion Island, an older French outermost region.

## **2. THE EXTENT OF EU LAW'S APPLICATION IN THE OUTERMOST REGIONS OF THE EU**

EU law's application in the outermost regions of the EU is clear and derives directly from the EU treaty. The status of outermost region of the EU was recognised in 1997 by Article 299-2 of the Treaty of Amsterdam which stated that The provisions of this Treaty (Treaty establishing the European Community) shall apply to the French overseas departments, the Azores, Madeira and the Canary Islands. Later on, Article 355.1 TFEU<sup>4</sup> recognizes the outermost regions as an integral part of the EU and confirm the application of EU law on their territories. Nevertheless some local specificities might calls for adapted derogations, which are foreseen in Article 349 TFEU<sup>5</sup>.

### **2.1. Local specificities**

Despite their belonging to the EU, outermost regions are quite different from EU continental regions. Indeed, outermost regions belong to the category of less favored regions of the EU. The main differences are geographical (remoteness, insularity or isolation, small size, difficult climate and terrain), economic (fragile and dependant economy, narrow domestic markets, trade deficit, very high costs for transport and communication, slow economic development), social (high population growth, higher level of unemployment higher, medium salary) and historical (different history and culture). For all these reasons, they benefit from the principle of solidarity of the EU which aims to compensate or equilibrate the economic development of the EU. The principle of solidarity towards outermost regions relies mainly on the cohesion policy of the EU inscribed at article 174 of TFEU<sup>6</sup>. They might also be subjected to special regulations from their Member State of affiliation, as it is the case for the dock dues (octroi de mer) in the French outermost regions. Concerning the question of freedom of movement of persons, it is the geographical specificity that explains the derogations to EU law, especially to the Schengen acquis. The argument of insularity was also used by the United Kingdom for refusing to belong to the Schengen area.

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<sup>4</sup> Article 355-1 TFEU: (...) The provisions of the Treaties shall apply to Guadeloupe, French Guiana, Martinique, Réunion, Saint-Barthélemy, Saint-Martin, the Azores, Madeira and the Canary Islands in accordance with Article 349 (...).

<sup>5</sup> Article 349 TFEU: Taking account of the structural social and economic situation of Guadeloupe, French Guiana, Martinique, Réunion, Saint-Barthélemy, Saint-Martin, the Azores, Madeira and the Canary Islands, which is compounded by their remoteness, insularity, small size, difficult topography and climate, economic dependence on a few products, the permanence and combination of which severely restrain their development, the Council, on a proposal from the Commission and after consulting the European Parliament, shall adopt specific measures aimed, in particular, at laying down the conditions of application of the Treaties to those regions, including common policies.

<sup>6</sup>Article 174 TFEU: In order to promote its overall harmonious development, the Union shall develop and pursue its actions leading to the strengthening of its economic, social and territorial cohesion.

In particular, the Union shall aim at reducing disparities between the levels of development of the various regions and the backwardness of the least favoured regions.

Among the regions concerned, particular attention shall be paid to rural areas, areas affected by industrial transition, and regions which suffer from severe and permanent natural or demographic handicaps such as the northernmost regions with very low population density and island, cross-border and mountain regions.

## **2.2. Freedom of movement of persons in the outermost regions**

The outermost regions, remoted from the European continent, are advanced positions of the EU in the wider world, having a strategic role in protecting maritim routes and in defending EU external borders (Valente, 2009). Therefore, their elimination from the Schengen area might be seen as an inconsistency. Taking into account the fact that one of the leitmotivs of the EU is to encourage the insertion of outermost regions into their regional environment, the exclusion of application of EU migration law for third-country nationals entering these territories complicates a lot freedom of movement of persons between the outermost regions of the EU and their neighbouring countries.

As an example, French law and not EU migration law is applicable to third-country nationals entering and residing in the French outermost regions. Therefore, third-country nationals entering the Schengen area are priviledged in comparison to third-country nationals entering the French outermost regions (Rubio 2012). However, there should equality of treatment regarding third-country nationals entering an outermost region or a contiental Member state of the EU. As far as Union citizens are concerned, they do benefit from EU migration law, especially from Directive 2004/38/EC when moving to an outermost region of the EU.

## **2.3. Outermost citizens as Union citizens**

Citizens of the outermost regions of the EU have the nationality of the Member State to which the outermost region is affiliated. The population of French outermost regions are French citizens according to Article 72-3 of the French Constitution<sup>7</sup>. This does not apply to the citizens of the oversea territories of the EU, who are not always nationals of the Member State of affiliation (e.g. British oversea territories). Thanks to their French nationality, Mahoran people can benefit from the French constitutionnal principle of equality, according to which all French citizens should be treated equally. Therefore, Mahoran migrants residing in Réunion island are legally equal to inhabitants of Réunion island: they benefit from the same rights and they are subject to the same obligations.

Thanks to their French citizenship, they also have the Union citizenship according to Article 20 TFUE<sup>8</sup>. Since 2014, Mayotte moving from the status of an oversea territory to an outermost region, the Mahoran population is rightly absorbed by the French continental population and therefore to the Union citizens (M'SAIDIE, 2015). The Union citizenship allows citizens of the outermost regions to use their fundamental right to freedom of movement within the territory of the 28 Member States, according to Article 21 TFEU<sup>9</sup>. They are free to travel and reside on the continental territory of the European Union as well as on the outermost regions of the EU.

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<sup>7</sup> Article 72-3 of the French Constitution: The Republic shall recognise the overseas populations within the French people in a common ideal of liberty, equality and fraternity. Guadeloupe, Guyane, Martinique, La Réunion, Mayotte, Saint-Barthélemy, Saint-Martin, Saint-Pierre-et-Miquelon, the Wallis and Futuna Islands and French Polynesia shall be governed by article 73 as regards overseas departments.

<sup>8</sup> Article 20-1 TFEU: Citizenship of the Union is hereby established. Every person holding the nationality of a Member State shall be a citizen of the Union. Citizenship of the Union shall be additional to and not replace national citizenship.

<sup>9</sup> Article 21-1 TFEU: Every citizen of the Union shall have the right to move and reside freely within the territory of the Member States, subject to the limitations and conditions laid down in the Treaties and by the measures adopted to give them effect.

## **2.4. Specific derogations**

Article 349 on the outermost regions recognizes the specificity and the difficult situation of the outermost regions of the EU<sup>10</sup>. It authorizes derogations to the application of EU law for the outermost consequently to their specific situation. Fortunately, most derogations benefit to the outermost regions as they receive more financial aid as priority regions. But in matters of freedom of movement of persons, derogations do not really benefit to the outermost regions. It rather complicates their situation. Indeed, the Schengen convention adopted in 1990 and implemented in 1995 does not apply to the outermost regions. Article 138 of the Convention implementing the Schengen Agreement of 14 June 1985 states that As regards the French Republic, the provisions of this Convention shall apply only to the European territory of the French Republic and As regards the Kingdom of the Netherlands, the provisions of this Convention shall apply only to the territory of the Kingdom in Europe. The Schengen convention was adopted in order to facilitate freedom of movement within the Schengen territory composed of neighboring countries. But France insisted in not including its outermost regions into the Schengen territory in the names of their specificity. Attention should be paid to the actual needs of the Overseas when derogating from the *acquis*, to take into account the main rationale and principles of European integration and EU citizenship when framing the Overseas *acquis*, and to avoid post-colonialist attitudes in EU-Overseas interactions (Kochenov, 2013).

## **3. THE SPECIFIC CASE OF REUNION ISLAND**

### **3.1. General typology of the migrants**

Most of the foreign residents in Réunion island are third-country nationals from Madagascar (around 55%) and from Mauritius. Most of them are well integrated and have the status of workers. There are also many Union citizens from other EU Members States residing in Réunion island. They are also well-integrated and most of them have the status of workers. Mahoran citizens represent in fact around 20% of the foreign residents. Contrary to the other categories of migrants, their integration is very often problematic and most of them are economically inactive migrants.

### **3.2. Migration of third-country nationals**

Usually, the economic regional context (the outermost region being a rich country in comparison to the neighbouring countries) leads third-country nationals to enter illegally the territory of the outermost regions in search of a job or a better life. This is visible in French Guyana and Mayotte, for example. Illegal migrants are mainly coming from the neighboring countries and travelling either by boat to Mayotte or by foot to Guyana. The geographical position of Réunion does not really allow illegal immigrants to use such ways. That is why, third-country nationals living in Réunion are mostly legal residents and usually, family members of Union citizens.

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<sup>10</sup> Article 349 TFEU: Taking account of the structural social and economic situation of Guadeloupe, French Guiana, Martinique, Réunion, Saint-Barthélemy, Saint-Martin, the Azores, Madeira and the Canary Islands, which is compounded by their remoteness, insularity, small size, difficult topography and climate, economic dependence on a few products, the permanence and combination of which severely restrain their development, the Council, on a proposal from the Commission and after consulting the European Parliament, shall adopt specific measures aimed, in particular, at laying down the conditions of application of the Treaties to those regions, including common policies. Where the specific measures in question are adopted by the Council in accordance with a special legislative procedure, it shall also act on a proposal from the Commission and after consulting the European Parliament. The measures referred to in the first paragraph concern in particular areas such as customs and trade policies, fiscal policy, free zones, agriculture and fisheries policies, conditions for supply of raw materials and essential consumer goods, State aids and conditions of access to structural funds and to horizontal Union programmes.

The detention center for illegal immigrants in Réunion has been empty for a couple of years and should be cancelled for this reason. The situation is completely different in Mayotte where, every year, thousands of illegal migrants arrive by boat from the Comoros islands and where there are not enough places in detention centers. What rules do apply to third-country nationals moving to an outermost region like Réunion island? Before the inclusion of the Schengen acquis into the EU, a third-country national, who was possessing a valid Schengen visa, was not allowed to enter a French outermost region. To enter the territory of Réunion island, for example, the third-country national needed, besides the Schengen visa, a supplementary visa ad hoc. This visa ad hoc was available either in French consulates abroad either at the French prefectures in France. Similarly, a third-country national who had a visa ad hoc to enter an outermost region could not use this visa to enter the continental French territory. He had to require a Schengen visa at the prefecture of the outermost region. In both cases, French préfets played the role of French consuls abroad because they were the competent authorities delivering both Schengen visas and visas ad hoc (Rodier 1999). Hopefully, this complicated freedom of movement to and from the French outermost regions changed with the incorporation of the Schengen acquis into the treaties of the European Union in 1999. As part of the *acquis communautaire*, the Schengen acquis became also compulsory for the outermost regions. French outermost regions are still not part of the Schengen area but have to apply the Schengen acquis. This means that foreigners from third-countries must apply for an entry visa before traveling to Réunion island, and this visa must state that it is "valid for Reunion". Such visa differs from the visa for continental France. On the other hand, foreigners who hold a valid French residence permit do not need a visa to travel to Reunion Island, regardless of the length of their stay. Foreigners not holding a French residence permit but holding a Schengen visa must apply for an extension of visa in order to be able to return to and stay in Reunion. This request is made at the French embassy or consulate in their country of affiliation.

### **3.3. Migration between two outermost regions of the EU**

Besides the migration of third-country nationals to outermost regions of the EU, there is also a consequent migration of citizens from one outermost region to another one. Indeed, many citizens from Mayotte migrate to Réunion island because of poverty and joblessness, in search of a better future for their children. As French citizens coming from one French outermost region and moving to another French outermost region, the situation of Mahoran relies upon French law. It would not be the case if they were moving to a Spanish or a Portuguese outermost region. Then, EU law would apply as it would be considered as the use of the fundamental right of freedom of movement of persons. Contrary to other migrants even third-country nationals, the Mahoran are not well viewed by inhabitants from Réunion island. What could explain the difficult integration of Mahoran citizens? The composition and the characteristics of Mahoran migrants certainly contributes to this situation.

#### *3.3.1. Economically inactive Union citizens, non-self sufficient*

Indeed, Mahoran citizens moving to Réunion island very often belong to the poorest part of the population of Mayotte. They are mainly composed of single women accompanied by numerous children, economically inactive and dependant on the social assistance system of the host country. Mahoran citizens are also moving to Réunion island to get medical assistance as there is an important deficit of medical doctors in Mayotte. They are much poorer than local inhabitants and very often live in unhealthy accommodations or social flats, which leads to a kind of ghettoization of the Mahoran population. Most of them have a low level of education and therefore are unable to speak well French and to find a job<sup>11</sup>.

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<sup>11</sup> 80% of the Mahoran women are jobless.

Mahoran are accused to destroy social flats and to bring violence inside the Réunionese society. That is why studying the migratory flows in the South West zone of the Indian Ocean is, in fine, to study in space and time the construction and inequalities of social protection in this region strongly marked by French colonial and postcolonial history (Roinsard, 2013).

### *3.3.2. Visible minority with strong cultural habits*

Most of the Mahoran are muslims. The religion factor should not engender a bad integration as Réunion island is a multi-cultural and multi-religion society. It seems that the main factors causing the rejection of Mahoran are their extreme poverty and their visibility. Indeed, Mahoran migrants are from the poorest part of the population of Mayotte. Some studies have proved that this lack of integration into a multicultural society like Réunion is due to the feeling of inhabitants from Réunion island that people from Mayotte have just moved for benefit tourism. They are easily visible and recognizable as they have special dresses and make-up. Their situation is a much similar to the situation of Union citizens from Roma origin in continental Europe. On the contrary, inhabitants from Madagascar or Mauritius, who are third-country nationals, tend to melt in the local population.

### *3.3.3 The Mahoran paradox*

The case of Mahoran migrants in Réunion island is very paradoxal. Indeed, legally, they are considered as French citizens and therefore Union citizens, what should grant them nearly total equality of treatment with the local population. They are supposed to be privileged in comparison with third-country migrants or Union citizens from other Member States. In practise, they are viewed worsely than third-country migrants, at least by the local population. Mahoran citizens are not welcomed by the Réunionese population. The local inhabitants see them as benefit tourists residing in Réunion island with the only aim to be granted social benefits. Indeed, the Mahorese are often accomodated in social flats and receive social child care for their numerous children. They are often accused of not willing to look for a job. The French Consttution requires equality of treatment of all French citizens on all the French territory. That is why, they receive social assistance and medical care in Réunion island. The EU concept of Abuse of rights (Article 36 of Directive 2004/38/EC), especially of abuse of social assistance, does not apply to them because of their French nationality. Until recently, their status was »lower« than the one of the citizens from Reunion as Mayotte has just moved on the first January 2014 from the status of an oversea territory to an outermost region<sup>12</sup>. This might explain also a kind of a feeling of superiority of the inhabitants of Réunion island. Despite the reluctances of the local population, local French administrations responsible for the management of foreigners don't officially complain about the presence of Mahoran citizens and there is no massive expulsion or detention of Mahoran citizens as it is the case in continental Europe for economically inactive Union migrant citizens.

## **4. CONCLUSION**

Despite some inconsistencies deriving from the non-inclusion of the outermost regions in the Schengen area despite of the application of the Schengen acquis on these territories, it seems that, in Réunion island, most of third-country nationals or citizens from other Member States are welcome and well integrated. Surprisingly, those who are the less integrated are French and Union citizens from Mayotte island. Here, migration from one outermost region to another one causes more difficulties than migration from a foreign country. The difficult integration of Mahoran people in Réunion island is certainly not due to a high number of migrants (less numerous than third-country migrants) neither to their citizenship (French and Union

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<sup>12</sup> Council Directive 2013/61/EU of December 2013.

citizenship) and neither to their religion (part of the local population is also muslim). The reasons have to be found elsewhere, probably because of their poverty, their economic status and their visibility. The situation of Mahoran migrant is very comparable to the one of Union citizens from Roma origin, very poor, mainly composed of women and children, very often accused to be social tourists and easily recognizable because of their clothes and physical characteristics.

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## SELECTED ISSUES OF SLOVAK BUSINESS ENVIRONMENT

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### **ABSTRACT**

*The quality business environment creating conditions for long-term sustainable reaching of economic growth is the basic condition for the development of business and advancement of competitiveness of the Slovak Republic internationally. Small and medium-sized business presents the unsubstitutable part of the Slovak economy, mainly in the area of job creation and the regional development. Business environment, in its widest understanding, reflects the quality of economic conditions and preconditions for the economic performance of these business subjects. However, in recent years, the quality decline has been observed in the Slovak Republic, what was expressed for example in the evaluation by World Bank or World Economic Forum. It results from research that the ambiguous, often changing legislation, inadequate bureaucratic burden, high tax burden, bad enforceability of law are the most problematic issues. The aim of this paper is to review of the actual state and quality of business environment in Slovakia, but at the same time also critically mention problems that negatively influence by its impacts this part of the national economy.*

**Keywords:** *business, business environment, competitiveness, economy*

### **1. INTRODUCTION**

The importance of entrepreneurship in market economy lies, in particular, in development of the state economy and creation of jobs, which is closely linked to business environment. The term business environment is well-known and highly used. However, its definition is neither simple nor straight-forward, especially with respect to the high amount of subjects who are involved in its creation. In general, it may be stated that business environment reflects the quality of economic conditions and assumptions for economic activity of entrepreneurs (Nováčková, Milošovičová, 2011, pp. 12-14).

It is not exclusively a term of economic nature, as it includes a whole range of different factors. Due to this fact, it requires attention of numerous subjects of public administration, social partners, non-governmental organizations, academic community as well as of international organizations and the European Union (Milošovičová, Nováčková, 2014, pp. 23-24). Creation and development of business environment in the territory of former Czechoslovakia or in Slovakia has not been homogenous, not even in the modern history. The turning point occurred upon change of the social establishment in November 1989 and meant a transit from a planned economy to a market economy. Legislative changes of conditions of conducting business have resulted in substantive incorporation of business subjects. In the years 1990 and 1991 around 400 thousand new small and medium-sized enterprises were incorporated.



These were established mostly by current or former employees of original state or national enterprises (Saxunová et al, 2017, pp. 2636-2637). Incorporation of newly established enterprises has been strongly influenced by the new Act No. 286/1992 Coll. on Income Tax, which caused dissolution of one quarter of these newly established enterprises. In the following period, the number of small and medium-sized enterprises has been fixed at around 300 thousand, only with a small yearly rise (Stoličná, Kočišová, 2017, pp. 3851). There were other important moments for the development of business environment in Slovakia - our integration into the European Union in the year 2004 and adoption of the euro currency in the year 2009.

## **2. BUSINESS ENVIRONMENT - TERM**

When defining the term business environment, it is suitable to step out of certain definitions of economic theorists. One of their opinions is that business environment is everything that surrounds the enterprises, that is economic, political, legal, technical, ethical, cultural and other conditions under which the business process takes place (Juríčková at al., 2006, pp. 63-64). Business environment is understood in a similar way by Strážovská et al. who characterizes it as the surroundings that enclose the business subject and influence its business activities. Furthermore, the theorists emphasize its close connection to competitive environment as well as to governing institutions that adopt legal norms and set the rules and conditions of business activities (Strážovská et al., 2008, pp. 10-11).

The surroundings of enterprise may be viewed not only as national (so called direct) but as global (indirect) as well, as both at the same time influence the process of formation of enterprises as well as conducting of their business activities (Kočišová, 2016, pp. 276-283). Undoubtedly, quality business environment to a great extent depends on performance of the business sector as such. The quality of business environment comes into question when conditions for own initiative of potential entrepreneurs and free entrepreneurship are created. In general, it may be stated that business environment is improved by all measures broadening the freedom of entrepreneurship and vice versa, it is worsened by interventions and limitation of this freedom (Kajanová, Olvecká, 2016, pp. 127). Basic parameters which affect the business environment are:

- private property and its legal protection,
- right of the owner to hold, dispose of and have profits of his property
- guarantee and protection of freedom of entrepreneurship
- efficient and effective law enforcement.

Due to the above-mentioned reasons, business environment together with macroeconomic stability, available infrastructure and human capital, is one of four factors that affect competitiveness. Through competitiveness in particular, attractiveness of each country is perceived from the point of view of foreign investors (Piškanin, 2006, pp. 57). As it results from the report on competitiveness of economy, the greatest competitive advantages of the Slovak economy are especially:

- openness of the Slovak Republic in relation to ownership of enterprises by foreign subjects,
- openness of the Slovak Republic to foreign capital
- good security situation
- adequate infrastructure,
- healthy banking sector and relatively stable interest rates
- good ratio between productivity and cost of labour etc.

On the other side, the greatest competitive disadvantage of our economy is the high rate of clientelism and corruption that is confirmed by conclusions of the World Economic Forum. Furthermore, its progress is hindered by low law enforcement and non-transparent public procurement or low effectiveness by spending of public finances (Nováčková et al., 2016, pp. 1521-1522). Several domestic and foreign researches and studies have been dedicated to standing and development of business environment. The broadest world study aimed at business environment is the Global Entrepreneurship Monitor (hereinafter only as „GEM“), which was carried out in the year 1999. The uniqueness of this research lies in the fact that it is aimed at research of behavior of individuals and their attitudes by beginning to conduct as well as by conducting of business activities. The Slovak Republic became a part of this research for the first time in the year 2011 (Rentková, Janac, 2016, pp. 1975). The national coordinator of this project is the Faculty of Management of the Comenius University in Bratislava, which closely cooperates with its main partner – the Slovak Business Agency (hereinafter only as “the SBA”).

From the last results of this research may be deduced that business activities of our „well-run“ entrepreneurs for the monitored year 2015 decreased substantially and became close to the historic minimum which had been monitored in the year 2013. These findings indicate especially that there is a decrease in the number of those entrepreneurs who were supposed to be in their growth phase and participate at creation of economy. Despite this fact, the Slovak Republic shows in the benchmark evaluation that business activities are above-average. If the crucial conditions in the business environment will not be convenient, it is just a matter of time when business activities decrease, together with economic growth and creation of new jobs (Pilková et al., 2015, pp.200-201). On the other hand, perception of opportunities for entrepreneurship (so called entrepreneurship potential), as another key characteristics of business environment, has recorded a positive growth tendency. The percentage of individuals who see possibilities for self-realization and for reaching success in business has risen. It is probably connected to self-confidence that the Slovaks do not lack. In the last six years, the fear of failure in business has decreased to the value 41,4 % and faith in own abilities has risen. Most of the Slovak participants believed that they have sufficient abilities for beginning of conducting business, whereas in Europe only 43,1 % Europeans see themselves this way (Sulíková, Strážovská, 2016, pp. 2172).

In comparison to previous years, social attitude towards entrepreneurship has remained unchanged. The GEM research confirms, that perception of business environment depends on the nature of the entrepreneur and his ability to adjust to it. Entrepreneurship as a career choice is viewed positively by more than a half of our citizens. However, the growth of business activities is negatively affected by the relatively low view of social status of entrepreneurs. Briefly, another conclusion that the GEM has brought up may be summed up as follows. The percentage of women – as starting entrepreneurs remains stable in the long-run. It is around one third of the total percentage, which is under the European average. Young entrepreneurs who are starting their business activities – persons under 24 years of age - are the only category in Slovakia that exceeds the European average. After a sharp yearly decrease by 6% in the monitoring period of 2015, the Slovak Republic has fallen in this list from the first to fourth place. The research shows that the worst results are in the group of seniors, who express only minimum interest in entrepreneurship (Saxunová, 2014, pp.46-48).

### **3. RESEARCH OF QUALITY AND LEVEL OF BUSINESS ENVIRONMENT**

Business environment and its quality may be defined as a concrete group of factors that are viewed as important by entrepreneurs, are measurable and comparable, not only in a regional, but in a global scope as well.

The Index of Business Environment represents the results of regular monitoring and evaluation of quality of business environment. In the conditions of the Slovak Republic it is carried out by the Business Alliance of Slovakia (hereinafter only as „PAS“). From the perspective of methodology, this index is one of the most objective indexes of quality of business environment. It comprises of three categories that have 33 items in total:

1. category monitors in particular development of legislative and regulatory environment (12 items),
2. category summarizes effects of other outer macroeconomic factors affecting enterprises e.g. monitoring of price stability, movement of exchange rates, fiscal policy or level of infrastructure (11 items),
3. category regards contribution of the entrepreneurs themselves to the development of the business environment (10 items).

Each of these items carries its own weight within the index of business environment, meaning that the index represents a weighed arithmetic average of changes in individual items. Development of business environment in Slovakia was evaluated negatively by entrepreneurs in the first quarter of the year 2016. The actual value of the index of business environment is at the level of 55,2 percentage points, which with respect to the previous quarter represents a decrease by 1,48 percent. It may be reasoned especially by ongoing issues in the field of the judiciary branch, bureaucracy as well as by medialized cases. The entrepreneurs have evaluated positively access to financial resources that has increased the most since the break-out of the 2008, especially due to low interest rates. The second highest rise has been reached with respect to the relation to environment and the entrepreneurs have positively evaluated investment and technological development, level of infrastructure, fulfilling of aims and vision of the enterprise or low inflation. An index of research of business environment (Ease of doing Business Index) has been created by the World bank as well. Their research has confirmed that the impact of improvement of indicators monitored in this index has a direct positive effect on economic growth of the country in question. From the point of view of methodology, the index is built on the basis of empirical analysis of ideal state of regulation. The actual evaluation of individual indicators is based on research of legislation and other regulatory measures adopted by the state. This index is in general composed of ten sub-indexes which comprise: beginning of entrepreneurship, building permits, connection to an electric network, registration of real estate, access to credits, protection of investors, taxes, cross-border trade, enforcement of contracts and insolvency. By research of similar data, the world economic forum does not stay behind as it publishes a global competitiveness report on a yearly basis (Global Competitiveness Report, GCI) which is based on the index of global competitiveness. This document reviews the capability of individual countries to provide for their citizens the highest quality of life by effective use of available resources. This index is created by three sub-indexes as well, out of which each constitutes of several pillars:

1. **Basic conditions** including institutions, infrastructure, macroeconomic environment, healthcare and basic education
2. **Increase in effectivity** including higher education, effectiveness of the market, development of financial markets, technological readiness and size of the market
3. **Innovation and sophistication** including sophistication of trade and subjects and innovations.

#### **4. SELECTED ISSUES OF BUSINESS ENVIRONMENT IN SLOVAKIA**

Development of entrepreneurship is influenced by a broad range of issues of various nature and changes in many of them will require a long time to implement. Cultural prejudice and social norms may be seen as informal hindrances of entrepreneurship as these still exist in the public

sub-consciousness in Slovakia (Milošovičová et al., 2017, pp. 126-129). However, there are much more serious issues that according to the opinion of entrepreneurs and their professional organizations hinder the economic development of the Slovak Republic in a substantial way. The constantly changing legislation may be considered as the most substantial issue, whereas many legislative changes are adopted without thorough consideration of their impact on the business environment, which, besides application issues, causes chaos and eventually leads to further amendments. Even an entrepreneur with legal background is facing huge problems when trying to navigate in these changes. Therefore, we encounter opinions and proposals submitted by entrepreneurs as well as by experts, that legislative changes that concern entrepreneurship and entrepreneurs should be adopted and enter into force once or twice a year (e.g. 1st January or 1st July). In this regard, it is necessary to mention that such regulation would solve the issues of opacity of legislative changes, however it would not automatically mean an increase in their quality (Saxunová et al., 2017, pp. 2636). The same gravity may be credited to the issue of an above-average administrative burden of entrepreneurs. As a result of the efforts of the government of the Slovak Republic to eliminate this issue, the United Contact Points (JKM) at the district level have been created. Their objective is to fulfill three functions:

1. Provision of information on conditions of conducting business activities, procedures of obtaining necessary documents etc.,
2. Receipt of data necessary for beginning of entrepreneurship,
3. Sending of the received documents to relevant state institutions (tax authorities, trade authorities, health insurance companies etc.).

An especially problematic issue, and not only from the perspective of entrepreneurs, is the length of court procedures and law enforcement. The last amendment of the Act on Bankruptcy and Restructuring has been welcomed by positive reactions. It has strengthened the position of the creditors and it is expected that in practice it will bring higher satisfaction of claims of the creditors and a complex speed-up of bankruptcy proceedings. Speeding-up of court proceedings should be achieved by a new procedural code - Act No. 160/2015 Coll. – the Civil Procedure Order, which implements many novelties into the court proceedings, that, according to the explanatory report, are aimed at speeding -up the court proceedings and at making them more efficient at the same time (Ficová et al., 2010, pp. 12). Another often discussed issue, which has been ranked as the unpopular first one in many business surveys, is the high burden of social and health contributions of entrepreneurs that increases the cost of work and has a negative effect of the group of employees with the lowest income. It is an issue which has been pointed out periodically for more than ten years. Such a solution of this issue that would be satisfactory for both the state and the entrepreneurs is according to our opinion not in sight (Roštárová, Janac, 2016, pp. 1888-1889). There are other issues that influence the business environment in Slovakia. Out of these, there may be mentioned for example:

- unstable political environment,
- low quality of education,
- lack of qualified work force,
- insufficient interconnectedness of specialized schools and the labour market,
- insufficient availability of financing,
- high level of corruption,
- low quality of road infrastructure.

## 5. CONCLUSION

The aim of this paper is to evaluate the current standing of business environment in Slovakia. It was necessary to aim attention at numerous negative effects which correspond to conclusions of several researches concerning business environment in conditions of the Slovak Republic. The results obtained by this research are alarming with respect to many

indicators. Pessimism prevails not only among entrepreneurs but also among experts, who are convinced that the quality of business environment in general hinders and limits business activities. The executive branch is blamed for inactivity and chaotic moves in the legislative area. In addition, entrepreneurs are bothered by the already mentioned high level of bureaucracy, tax and social contributions burden and inadequate system of education, corruption or sometimes almost zero law enforcement. However, it is not possible to agree with all of their opinions and proposed solutions, especially if they are convinced that the invisible hand of market, a super liberal Labour Code or elimination of the minimum wage concept would make Slovakia a country with favorable business environment. According to the opinion of the authors, the government of the Slovak Republic is capable of solving several of the above- mentioned issues, however there is a lack in will and interest throughout the whole political spectrum to solve these issues, which otherwise could eventually bring the favorable business environment expected for more than twenty years (Mucha et al., 2016, pp 21 -29)

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## **SPECIAL CHARACTERS OF FAMILY BUSINESSES IN THE SLOVAK REPUBLIC**

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### **ABSTRACT**

*The attention has been paid to business environment and process in the Slovak Republic only a short time since the change of social structure in 1989 that is connected to the entry of market economy. The creation of favorable business environment is a declared effort of the government of the Slovak Republic. Family businesses represent in the industrialized countries mainly in Western Europe, the most productive engine of their economy, because they represent many advantages. The convenient use of marketing tools helps to promote this way of entrepreneurship. The topic of this paper is anchored in the area of marketing, however it also offers the outstanding overlaps into the area of constitutional and commercial law. It has the effects of multidisciplinary and also international legal research of the issue, whose concept and legal regulation remains to a large extent, after years of professional and amateur discussions (not only) in the Slovak legal environment unfinished. The essential legal enactments except the Constitution of the Slovak Republic are Commercial Code and Family Code. The aim of authors is with the help of scientific methods of research, to analyze the chosen issues of family entrepreneurship in the conditions of the Slovak Republic.*

**Keywords:** *Commercial Code, family business, Family Code, family entrepreneurship,*

### **1. INTRODUCTION**

Before the change in social establishment in November 1989 took place, any attempt of family entrepreneurship had been suppressed, especially by legislation. Socialism „successfully“ destroyed traditions inherited from generation to generation that „craft is passed from the father to the son“. In this process, atheization of the society and disrespecting of Christian values contributed to this effect in a negative sense, as the Christian tradition had helped family businesses to be successful in the past. Family businesses started to flourish in Czechoslovakia after the change of social system. Huge development of small and medium-sized businesses has been seen in these years, whereas their birth has been influenced by numerous circumstances, for example by the process of gradual break-down of state enterprises, especially as a result of coupon privatization, as it has led to problems of former employees to provide for their families and to find jobs. Family business were supposed to help increase stability and economic independence of families and to increase attractiveness of business environment (Stoličná, Kočišová, 2017, pp. 3851). Under conditions of the Slovak Republic there have been adopted several economic and political tools supporting small and medium-sized enterprises in recent years, out of which none has been focused on family business exclusively. In contrast to our country, the European Union has adopted several measures with the aim of increasing competitiveness of small and medium-sized enterprises as well as of family businesses. These

legislative measures have been adopted in relation to the report on family entrepreneurship, according to which 85% of all businesses in the European Union are family businesses and that these employ 60% of the employees (Milošovičová, Nováčková, 2014, pp. 23-24). The business process, as well as family businesses are much more developed in western countries, which has been enabled by favorable political situation as well as by the entrepreneurship itself as it has been in place and has been evolving for centuries. These facts should and could inspire our young entrepreneurs.

## 2. FAMILY BUSINESS– TERM AND CHARACTERISTICS

The Slovak legal order lacks a legal definition of the term „family entrepreneurship“ or a „family business“. Therefore we may use only a general legal definition as a guideline. An **enterprise** according to the provision of § 5 Act. Nr 513/1991 Coll. Commercial Code as amended (hereinafter only as „*Commercial Code*“) shall mean a set of tangible, personal as well as intangible elements of entrepreneurship. **Entrepreneurship** according to the provision of § 2 par. 1 of the Commercial Code shall mean systematic activity, carried out independently by an entrepreneur, in his own name, to his own responsibility, with the purpose of reaching a profit. According to the article 2 of the Act Nr. 36/2005 Z. z. on Family as amended a **family** established by marriage is the main cell of the society and the society protects all forms of family in all possible ways (Nováčková, Milošovičová, 2011, pp. 12-14). This traditional definition of a family may be considered obsolete these days due to current social conditions. Some western countries therefore consider not only the institute of family as obsolete (in terms of status and form of a traditional family) but family entrepreneurship as well. Different understanding of the term family is connected to newly defining who is a family member and who is not, e.g. by introducing registered partnerships etc. (Saxunová et al, 2017, pp. 2636-2637). The circle of so called „family businesses“ in Slovakia constitutes of small and medium-sized enterprises that are generally considered to be the highest performing engine of the economy. Economic theory defines them by three basic characteristics:

1. Small and medium-sized enterprises have a relatively low market share and cannot influence the market in a substantial way,
2. Small and medium-sized enterprises are managed by their owners (entrepreneurs), their families and not through a formal management structure
3. Small and medium-sized enterprises are independent enterprises that are not a part of a bigger enterprise.

Criteria for defining small and medium-sized enterprises vary, whereas the most often used, though not the only one, is the number of employees. These perspectives, that are also their differentiating criteria, provide a different view on the question of and understanding micro, small and medium-sized enterprises. The main factors that determine the category of small and medium-sized enterprises are the **number of employees and the turnover or the total assets.**

Table No.1: Categories of Small and Medium-Sized Enterprises

Categories	Employees	Turnover	Total Assets
Medium-sized enterprises	< 250	≤ 50 mil. EUR	≤ 43 mil. EUR
Small Enterprises	< 50	≤ 10 mil. EUR	≤ 10 mil. EUR
Micro-Enterprises	< 10	≤ 2 mil. EUR	≤ 2 mil. EUR

Source: (Srpková et al., 2012, pp.20)

With reference to the above-mentioned, it may be stated that on the European level family businesses were defined only by the number of employees. Frequently, family businesses did not employ more employees than the maximum number defined for a family business in order not to lose the benefits granted by the European legislature. Therefore, this definition is not sufficient anymore. According to our opinion a family business should be perceived in a broader context, taking into consideration type of ownership, way of management and organization etc. (Juríčková at al., 2006, pp. 63-64). Despite absence of a legal definition of the term family business, the characteristics of economic theorists in our country as well as abroad may be used. In the Slovak Republic we may use the definition of a family business as a business subject with at least two generations of a family that are mutually connected by a business policy. The businesses with family ties may be defined as family businesses if one or more of the following traits are present:

- family relations create a bond between the members of the family and determine success of management
- wives or children of the current or former director of the enterprise are members of the supervisory body,
- the most important strategic values of the enterprise are identified together with the family in formal and informal organizational relations,
- all members of the family who participate in business activities feel obliged to maintain and develop the enterprise, also in a situation when the family business is in loss,
- position of each family member in the enterprise results from his/her position in the family,
- career of each family member of the family enterprise (family member) is conditioned by visions and requirements of other family members (Strážovská, 2002, pp. 36-37)

In Western Europe there are several definitions of family businesses in place, out of which we may mention the Dutch definition, according to which a family business is a family business when it fulfills at least two of following characteristics:

- one family owns more than 50 % of the enterprise,
- one family has influence on adopting of decisions and strategies,
- at least two members of the statutory body which manages the company come from one family.

As a comparison three types of theories used in the USA may be presented:

1. family has a substantial influence on management and development of the enterprise and its strategic goal is to pass the enterprise to next generation,
2. family business is owned by its founder and his descendants,
3. family business is a business of several generations; the family owns the business directly, the assets of the business are owned by the family and more than one family member is in the management of the enterprise

In particular the definition of the Massachusetts Mutual Life Company may be pointed out, which characterizes a family business as a business which fulfills at least one of following criteria:



- the owner considers the business a family business,
- the owner has an intent to hand it over to a close relative
- besides the owner, another member of the family works in the business as a regular employee who is a part of everyday management structure of the business (Strážovská et al., 2008, pp. 10-11).

A family business goes through three development phases during its existence:

- a) **start-up** – this phase represents involvement of the first generation of the family in the family business; the founder is so involved in making the enterprise survive that he/she is not dealing with the idea of generation continuity yet
- b) **development of family capital** – the founder influences not only the enterprise, but his/her family; he/she gradually engages his/her descendants in the business activities (second generation of the family),
- c) **development of generation capital** – influence of the founder is more or less indirect, it is in the form of a message, younger members of the family adopt values and attitudes of their predecessor. (Hesková, Vojtko, 2008, pp. 44-47)

### 3. SPECIFIC TRAITS OF FAMILY BUSINESSES

Particularity of family business lies in mutual influence between the family and the business activities. The founder acts as the statutory representative at the same time. Frequently, there is an interaction between the „hard“ business climate and “soft” family ties. It is hard to differentiate and separate the relations in the enterprise that are professional and those that are emotional at home. Therefore the entrepreneur has to deal with the issue of prioritization between doing business and having a personal life. On the other hand, each family has a natural tendency to survive. If it is existentially dependent on the results of its business activities, it usually puts stronger common effort in order to achieve successful results, more so than regular employees would. There is a higher level of trust among family members at the same time, that’s why family businesses have more stability in the long run and survive several generations (Kočišová, 2016, pp. 276-283). The gravity center of business is often so called **family interest** that is created by engagement of more family members in the business activities. A stronger family unit provides for better conditions for transfer of experience from generation to generation. The personal factor is not only a source of stability, but also contributes to tradition, by which strong grounds for continuity for functioning of the enterprise and its future prosperity are created (Kajanová, Olvecká, 2016, pp. 127). Other and not always correct specific traits of family businesses are for example: preferential treatment of family members when it comes to leading positions or flexibility in decision-making. Differences, in comparison to other types of enterprises, may be seen in other aspects as well, e.g.:

- motivation, solidarity and cohesion – it is related to dependence of the family on success in business,
- coordination and organization– respect and support among family members is typical as well as acceptance of informal relation and authorities,
- exchange of information – exchange of information among family members is honest and direct, without any speculations,
- optimization – family members agree easier on setting-up of substantial cost items, e.g. their own salaries,

### **Advantages of Family Businesses**

Due to the fact that family enterprises in conditions of the Slovak Republic are a part of the category of small and medium-sized enterprises (Piškanin, 2006, pp. 57), their advantages are also the advantages typical for small and medium-sized enterprises, for example:

- simpler management structure,
- increase in employment,
- better knowledge of customer needs and ability to solve their specific problems,
- use of regional work force or regional resources.

Many family businesses use their own abilities and skills, therefore they are more flexible in decision-making and may react to changes more promptly. Therefore they are more stable and if stimulated in a right way by the state (especially in the beginning), they will not „pack and leave“ after tax holiday is over (Nováčková et al., 2016, pp. 1521-1522). From the point of view of family members, an advantage of a family business may be seen as a social advantage if compared to families that do not own a business. As in the worst case scenario, the family members may be employed by the family enterprise. Family businesses create a space for self-realization of their founders as well as of the members of the family. Through them a common interest is created, regardless of immediate financial success. Long-term goals are being fulfilled and gradually, continuity and social security may be created in the family together with the interest in not breaking the tradition. Now therefore the number of generations that have passed the enterprise from one to another should be the measure of success of family businesses as opposed to the profit (Pilková et al., 2015, pp. 200-201).

### **Disadvantages of Family Businesses**

Despite the above-mentioned advantages, family businesses carry several risks that may be divided into three main areas. Overlapping of family and work life that may result in problems especially if relations among family members are not honest. Transfer of conflicts from business to family life may occur as well as vice versa. These private disputes may affect functioning of the business and may even lead to its liquidation. Therefore it is advisable that before starting the business, main rules among family members are clearly defined (Sulíková, Strážovská, 2016, pp. 2172). Another problem is caused by legal barriers. In order to eliminate this issue, deputies' attempts to submit an act on family businesses took place in the years 2013 and 2015. By this proposal, three new forms of entrepreneurship could have been introduced in order to support the poorest regions in Slovakia, the regions with the highest unemployment rate or the regions with a low number of job vacancies. The specific condition for business activities of a family business was supposed to be participation of at least two members of the family. Based on this proposal, three types of family businesses were supposed to be established. They should have been derived from already existing legal forms, that is: family trade licenses, family farms and family companies. Besides new legal forms of conducting business, a decrease in income tax by non-taxable basis for each member of the family and investment help for the time period of five years in case that the total number of family members working in the family business is at least 10 should have been introduced. Deficiencies of the proposed concept lay in its lack of system from the point of view of taxes, contributions or investment incentives.

The third and fundamental problem of family business is descendence. It is the most critical phase of life of a family business and frequently its breakage point. The founders usually try to defer this moment as much as possible in order to keep their business activities under their control. The ability to leave the business soon enough and leave it to the successor is more important than it may seem at first sight. From long-term statistics from abroad results that only one third of family businesses survives the generation change (Strážovská et al., 2008, pp. 36-37).

#### **4. SUPPORT OF FAMILY BUSINESSES**

In developed democratic countries of the European Union, education in the field of family businesses exists and not only as a part of university education. Specialized courses where the participants may obtain basic knowledge of accounting, marketing, taxes, personal management, statistics or law are also useful. A system of education in this area requires adoption of several systematic measures. The most complex system of education is in the Netherlands, where the state carries out numerous activities to support and maintain family businesses. Therefore within the framework of support of family businesses we recommend e.g. to promote family entrepreneurship as a form of self-realization or to motivate the young generation to incorporate family businesses and to elaborate a motivational programs for those who have decided to follow their own path (Milošovičová et al., 2017, pp. 126-129). The state should play an important role in support of small and medium-sized enterprises as well as in support of family enterprises and provide assistance especially in the beginnings of their business activities. A model for the system of support could be the one used in developed countries in the European Union. Support of family businesses in the Slovak Republic by the state is provided by the Ministry of Finance in cooperation with the Ministry of Economy, Ministry of Education, Science, Research and Sport and the Slovak Business Agency. The Slovak Business Agency focuses on support of start-ups and development of a start-up ecosystem in the Slovak Republic. Its goal is to stimulate business environment and system of state support and to attract foreign subjects with innovative ideas in order to make investment into start-ups more attractive (Roštárová, Janac, 2016, pp. 1888-1889).

#### **5. CONCLUSION**

Family businesses as a separate legal form do not exist in the conditions of the Slovak Republic. Therefore the number of family businesses is not officially statistically monitored. The proposal of an act on family businesses has not gained enough support to be adopted. The aim of the proposal was to improve business environment for this type of businesses, which is closely linked to a new understanding of the institute of family and overcoming its traditional definition. Despite this fact, family businesses have their unsubstitutable place in our country as well as abroad. Many well-known companies e.g. IKEA, Mc Donald or Versace have started their business in this way. The circle of family businesses is constituted by small and medium-sized enterprises which are often denominated as the „highest performing engine of each economy.“ Family businesses are characterized specifically by mutual influence of family and business activities creating a family interest and strong grounds for continuity of functioning of the business and its future prosperity. Overlapping of family and business life is one of the greatest problems that the family businesses are facing today. It has to be dealt with if the family business wants to survive. The aim of this contribution is to elaborate an analysis of general overview focused on the field of family businesses, its characteristics, specific traits and advantages by using several scientific methods of research. Increased attention has been dedicated to selected issues that may endanger not only the family business but the family as well (Mucha et al., 2016, pp. 11-20).

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## THE PERYIPHERIAL LITERARY MYTH AS A SOURCE OF WORKPLACE CULTURAL CAPITAL

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### **ABSTRACT**

*The paper discusses the selected literary "indicators" of workplace cultural capital which were embodied in the particular Eastern European experiences from the late of 19<sup>th</sup> and the beginning of 20<sup>th</sup> century. This analysis suggests focusing on the pro-entrepreneurial and intercultural, yet provincial, myth of "Lodzermensch". On the examples of writings of Wladyslaw Reymont, Joshep Roth, Israel Joshua Singer and Charles Dedecius, it could be assumed that the Lodzermensch myth can be read as a tale, grown on the Polish provincial territory, of a businessman and worker who are aware of the tension between the "human factor" and the struggle for profit. "Lodzermensch", the cultural heritage carried by the literary narrative of the myth may prove to be important also today as a regional (Eastern European) contribution to cultural issues of contemporary business.*

**Keywords:** *Workplace cultural capital, literary myth, "human factor" in business, struggle for profit*

### **1. INTRODUCTION: LITERARY MYTH AND WORKPLACE CULTURAL CAPITAL**

The aim of the presented paper is to show, based on case study of Central European cultural archetype of "Lodzermensch", how analysis of provincial pro-entrepreneurial myths can enrich the issues of cultural capital in contemporary business. The definition of the myth by Michel de Centreu (1900/ 2008: 135), which defines it as a "fragmentary discourse connected with varied dealings of some society, which express them in symbolic way", was used in this research. The author of the study compares this way of understanding the myth with already existed classical research of Michelle Lamont (1994) considering workplace cultural capital. The author, using Bourdieu's conception of the definition cultural capital during the analysis of business phenomenon, showed that both French and American executives tacitly expect that their employees would behave in the certain ways and profess special values, which construct the morality of work. These two dimensions, behavioral and axiological, create the workplace cultural capital. For those people who do not possess such capital (although officially they are not mentioned at any stage of the recruitment process) it is very difficult or maybe impossible for them to get promoted or even survive at the workplace in the System of Western capitalism. The behavioral aspect of workplace cultural capital is represented by such principles as being punctual at work, being dressed appropriately for interviews, or courteous manners in relation to clients and superiors. The axiological dimension of workplace cultural capital comes down to the beliefs of an employee that allow him to answer the existential question "Why do I work?". According to William Lokhart (2002, 2005), whose publication became the main intellectual inspiration for this article, in the American version of the axiological dimension of workplace cultural capital, there are two alternative aspects. The components of employees' success are both ascetic and in the form of expressive moralism. The first one is a contemporary, secularized form of the traditionally understood Protestant work ethos and results from a belief developing since the beginning of Protestant Reformation. This being that work, just like a prayer, brings the human being closer to God. Today in many cases, God's place is taken by persons' own growth potential. Ascetic moralism can be brought down to the thesis: "I work because my work is the way of my personal development".

A derivative of this approach is a moral directive "Avoid sloth and don't be focused on material enjoyment, but instead - save and invest in future profits." "Material pleasure and leisure should be avoided. Instead of this, the better option is reinvestment of assets and thrift for future profit" Expressive moralism also has religious roots. Lockhart (2002) alongside other authors, places its origin in the conception formulated by American Protestant preachers' teachings from the turn of the nineteenth and twentieth centuries, deriving inspiration from European Romanticism as well. They praised, that natural for human soul (given by God) is the need for play and pleasure. From this perspective, economic activity is aimed at securing the basic necessities of life. It is considered not only desirable but inevitable too. On the other hand, economic activity which is devoted to the pursuit of wealth or emanating from a desire to outdo one's peers is regarded as undesirable. The goal of making money is no longer simply a multiplication of profits but of welfare as well. In a modern version, also for people who do not share religious beliefs, expressive moralism means "I work to have more fun and pleasure".

In this research paper, author tries to discuss that workplace cultural capital- similar and alternative to the American version of it at the same time- has been carried by the pro-entrepreneurial and intercultural, yet provincial, myth of "Lodzremensch" that was developed at the turn of nineteenth and twentieth century on broadly speaking Polish land, when Poland as a state did not exist. The role of "homeland" of the myth was played by Lodz, an industrial city in the central part of contemporary Poland. "The Lodzermensch myth" has been preserved till now in the literature (belle-letters) and memoirs emerging in Polish, Yiddish and German (Ochinowski 2013). The cultural reading of the "Lodzermensch myth" seems to be consistent with the Deirdre McCloskey's idea that nothing like the work of writers helps to understand and "calibrate" economic reality (McCloskey and Ziliak 2001).

## 2. THE ORIGIN OF THE "LODZREMENSCH" LITERARY MYTH

Multiculturalism of the briefly described Lodzermensch myth does not exclude the popularity contributed by a Polish writer. The mentioned writer is Władysław Reymont with his novel "The Promised Land". The most common interpretation of the said novel perceives the book as a dark image of a Lodz businessman. This approach also suggested by Reymont himself in a letter to John Lenartowicz from 1896: "The growth of the city, fortunes, doing business at the American pace, the psychology of crowds coming to prey, their mingling and diffusion, and shaping in one type of so-called Lodzerman, the impact on the whole country, of this aspirator, the polyp which is Lodz. (quoted in *Lodzermensch* ...1998: 32).

Krzysztof Wozniak (*Lodzermensch* ...1998) proposes to distinguish two versions of the "Lodzermensch" myth. The literary, usually negative, which describes the character as a degraded person, who betrayed his own roots and serves only two values: success and money. The second version is a collective memory of the Lodz workers, who attribute to "Lodzermensch" quite distinctive characteristics, above all - hard work, resourcefulness, as well as social sensitivity, expressed for example by taking care of workers' districts, pharmacies, schools, nurseries and similar institutions. However, the literature, and especially Reymont's form of the myth which allows a diverse reading, was also not only filled with negative judgment. For example, Monika Adamczyk-Grabowska (see *Lodzermensch* ...1998: 89) understands the message of "The Promised Land" as follows: "diverging from tradition (...) leads to unhappiness, or even to destruction, but on the other hand, stopping it artificially or preventing change is impossible."<sup>1</sup>

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<sup>1</sup> Adamczyk-Grabowska (see *Lodzermensch* ...1998) attributes a similar meaning to the novel "The Brothers Ashkensazi"

The earlier quoted Reymont's letter corresponds well with this interpretation: "The growth of the city, fortunes, doing business at the **American pace** (emphasis T.O.)". So maybe is it worthy to treat "Lodzermensch" myth as local, peripheral equivalent or rather – more or less- as alternative of the "American Dream"?

### **3. THE INTERCULTURAL FACE OF LODZERMESCH. A JEWISCH CASE**

In 1935, the translation of the novel, written nearly twenty years earlier, by an Austrian writer Joseph Roth - "Hotel Savoy"<sup>2</sup>, was published in Poland. The author, who repeatedly visited and liked our country presented the multicolored profiles of the Polish Jews living in Lodz at the turn of the century. Even taking a quick glance at some of them, allows seeing different faces of "Lodzermensch". Bloomfield, the owner of the hotel embodies a certain version of the fulfilled myth. He no longer lives in Lodz and visits it off and on, like the awaited Messiah.

"- Don't you know Mr. Bloomfield?" – wonders, one of the characters of "Hotel Savoy" - Bloomfield is a child of this city; he is a billionaire in America. The whole town calls: "Bloomfield is coming!" I spoke to his father, as I talk with you now, I guarantee you with my health that it is true (Roth 1924/2002: 29, according to Polish translation by I. Berman).

Febus Böhlaugu is "doing business" on the spot, de facto managing the Jewish capital of Lodz and during the absence Bloomfield wielding the finance. He is indeed a man of success, which he does not admit. Stingy even towards relatives, constantly complains about the lack of cash. His exaggerated complaints, however, are also a testimony of the extraordinary sensitivity of the "Lodzermensch's" soul to the pulse of the economic situation in both macro-and micro dimensions.

"Business does not run well in these times" - says Böhlaugu, worth emphasizing here is that he is talking about the era of prosperity in Lodz before World War I - "When I was little I was getting a bagel with poppy seeds for half a kopeck, bread now costs ten kopecks, children – knock on wood - grow up and need the money, Alexander would like to receive a daily allowance "(Roth 1924/2002: 12, according to Polish translation by I. Berman).

And finally, there is Abel Glanz – a petty saver, who connects artistic and financial sense. He is a Prompter in a small theater, dreaming of becoming a director, and until then - trades currency. He is a frequent guest of Febus Böhlaugu. He talks about his "way of life" very realistically, while summarizing one of the important, if not the most important features of "Lodzermensch's" mentality:

"It is not easy to trade currency (...) You have to risk your life - this is the Jewish destiny (..) This is an enchanted matter" (Roth 1924/2002: 37, according to Polish translation by I. Berman).

By and now, it is obvious that the quoted passage formally uncovers the soul of "Lodzermensch" - or perhaps especially - his poorer relatives. It is about the ability to voice slogans of universal dimension, which have the quality of wisdom, and naturally concluding descriptions of everyday struggles in the reality of the free market.

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<sup>2</sup> I kindly thank Daria Trela, Ph.D. student at University of Warsaw, Faculty of Polish Studies, for her help with the study on „Hotel Savoy” for the purposes of this paper. However the level of my interpretation should not burden her.

Not only in small towns, as Polish poet with the Jewish roots Antoni Slominski wrote, but also in the richer Lodz, where a shoemaker was often a poet, a watchmaker (or currency trader) a philosopher<sup>3</sup>.

In addition, to the mentioned exemplary individual characters of the novel, "Hotel Savoy" preserved also the atmosphere of the street in late nineteenth and early twentieth century Lodz. It was filled with people of the mentioned types, differed by financial status, and achieved successes, but united by a common way of thinking and actions in the free-market reality. Let's quote a part of the main character's thoughts that best captures the atmosphere of those times and realities:

"I kept roaming around, I saw black groups of fleet Jews in kaftans, I heard loud whispers, greetings, energetic expression and long speeches - pens, percentages, hops, steel, coal, lemons, all of this was fluttering, thrown out of from the lips in the air, aimed at the ears" (Roth 1924/2002: 10, according to Polish translation by I. Berman).

Returning to the canon of the myth, this is the human figure of a businessman inhabiting a relatively large industrial city on the Polish territory in the nineteenth century. It is valuable to stress that also in this version, the unconstrained adoption of market rules by Jews did not "sentence" them to self-evident success. Here probably lies the main difference between the "Lodzermensch" myth, and the "American dream". If the reader refers to the literature describing the situation after World War I, when the Polish independence caused the closure of Russian markets for "Lodzermensch" products, he/she can see that the drama of those who failed thickens and becomes social. Undoubtedly, one of the most moving symbols of this occurrence is the image closely linked to the deep crisis of the city, the death of an entrepreneur, described by Israel Joshua Singer on the pages of the novel: "The Brothers Ashkensazi":

"Lodz broke down (...) The King of Lodz Max Ashkenazi, tried along with the city to come back to life but the strong convulsions were ones of a very sick man, as if shimmering, flickering candle's before going out. Nothing could be put back together from the broken pieces of the Ashkenazy's kingdom. It cracked and broke together with the city, just as it was born with him."

The dynamic inclusion of Jews, along with those living on the Polish territory, in the process of modernization has resulted in, what it is worth recalling, the radical "escape from the ghetto."

"Regardless of all the other consequences, the modernization process also brings Jews closer to integration with the rhythm of universal history. It becomes clear that they have never been excluded, but now, their relationship with the Jewish world has strengthened greatly" (Prokop-Janiec 1998: 13), as emphasized in the introduction to the new Polish edition of "The Brothers Ashkenazi".

The dynamic "escape from the ghetto" which carried larger experience baggage of capitalist entrepreneurship than the one of other inhabitants of the Polish territories (except, of course, Germans) in the context of the interplay of other conditions, and recollections of which greatly exceed the subject matters of this paper, brought well-known, dramatically difficult problems to the relationship of Jews and their non-Jewish surroundings.

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<sup>3</sup> See poem by A. Slominski *Jewish Towns Elegy*.



I choose to only signal this issue, citing the voice of Gregorz Krzywiec within the discussion on the book of "Chauvinism in Polish. The case of Roman Dmowski", some years ago published in "Midrasz"<sup>4</sup>, stressed that the economical conflict between the nascent in the late nineteenth century Poles and already settled Jews, was one of the main factors of the popularity of ND<sup>5</sup>. It also seems, that the full analysis of bad relations between Poles and Jews before the Holocaust drama is impossible without producing the materials in Yiddish, at least those belonging to the Jewish Historical Institute, which were not yet the subject of scientific analysis some years ago mentioned in press by the Director of the Institute – Paweł Śpiewak<sup>6</sup>.

However, economic Polish-Jewish relations did not have to be all bad. This paper remains within the issues of the myth, in order to highlight the mythical "potentials of minority" that creates a model of conflict relations between representatives of different cultures in the widely understood business. It might be worthy to reinterpret the "Łodzermesch" myth under the appeal, delivered on a different occasion by Christian Krause:

"History cannot be turned back. However, the consequences which we are ready to draw from it for our present and for the future of our children, are a new challenge for us."<sup>7</sup>

#### **4. THE INTERCULTURAL FACE OF ŁODZERMESCH. A GERMAN CASE**

After years, particularly the "German face" (though not only German) of "Łodzermensch" was revived on the pages of Charles Dedecius' (2008) memoirs, "European from Lodz", as he called himself. As a quoted translator and essayist, he comes back to the beginning of nineteenth century and prosperity of Lodz, after the Government of the Kingdom of Poland included the capital of the region to the group of industrial cities. Due to the excellent natural conditions favoring the production of textiles, the described area quickly became a place of settlement for many entrepreneurs from different regions of Germany and today's Czech Republic. As an example, Dedecius (2008: 18) mentions Meyer, Scheibler, Biederman, Eistert, Schweikert, Heinzl, Konderaman, Horak, Kohn, and Poznanski, "who, over the time, built a whole lot of small and large workshops and factories, contributing to the unprecedented prosperity of the city". German writer, who himself comes from a family of a city government official, and was watching "typical Łodzermensches" from a close (but still some) distance, outlines their balanced portrait. At the same time, showing the accurate sense of what, culturally speaking, is entrepreneurship, and even more generally - widely understood business. Dedecius on one hand, does not hide his admiration for the dynamism and momentous actions of Lodz industrialists, he understands their desire of getting rich, which also favored the development of the city; on the other hand, he is aware of the unavoidable pathologies coexisting with the described processes. This resulted in the creation of probably one of the most beautiful, and yet realistic, synthetic depictions of "Łodzermensch" myth. "Some started from a loom and fifty years later, they were masters of the industrial empire, employing thousands of workers. They lived in palaces like princes, built housing estates, maintained schools, churches, theaters, hospitals, founded artistic and musical associations, made their way to fortunes worth billions, which was of course with the benefit for the city.

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<sup>4</sup> „Midrasz” – cultural Jewish magazine in Poland, currently published.

<sup>5</sup> The quoted opinion was published in „Głos z Sali”. That kind of discussions are in itself mythogenic. Here, I do NOT raise the issue of historical justification of this opinion. ND mentioned in this context is understood as the National Democracy, Polish right-wing political movement active from the latter nineteenth century.

<sup>6</sup> The term Jew stops being a pejorative association. Conversation between Mazurek and Paweł Śpiewak „PlusMinus”, supplement to „Rzeczpospolita”, 26.11.2011. From: <http://www.rp.pl/artykul/365403,760279.html> [08. 01. 2012].

<sup>7</sup> Part of the sermon delivered by Christansen September 8, 2002 in Świdnica. He was then president of the World Lutheran Federation, quoted by Adam Bujak's album (2007). *World heritage. Poland on the UNESCO list*. Cracow: Biały Kruk, p 249.

The golden era of Lodz has begun, a former village and later the second largest city in Poland, after Warsaw. Lodz appears to be telling this story fondly. But of course, wherever there are so many big factories and palaces, there must exist misery and lawlessness" (Dedecius 2008: 18, according to Polish translation by S. Lisiecka)". It is hard to escape the impression, undoubtedly requiring an expert analysis, that the Dedecius' sentence about a career of the village, which has become so attractive to foreign entrepreneurial immigrants that it has quickly grown to the status of a local metropolis, can be treated as a specific metaphor for the general participation of Poland in the processes of modernization. Dedecius, who came from a German-Czech family, during his Lodz childhood had friends, who were representatives of those two nations, but also among the Jews and the Poles. It is the intercultural trait of "Lodzeremensch" (a feature which seemed to be shared by characterized "type" and the rest of the described citizens of the city), which according to the diaries of the cited author, was the primary determinant of Lodz during the interwar period and earlier years.

In this perspective, the essence of considerations regarding "Lodzermensch" may relate to the following reflection by Dedecius (2008: 354 - 355), suggesting that the myth mentioned should be read as a tale, grown on the Polish territory, of an effective businessman more or less aware of the tension between the "human factor" and the struggle for profit, who without a doubt knew how to meet the challenges of globalization. "I owe being brought up in coexistence and cooperation with people of different nationalities, different religions, different origins and different views, to my Lodz school education. To Lodz, the city of my youth, I owe having the right attitude towards work, to daily duties and responsibilities. (Even now, I cannot stand bad work and idleness – in me). Furthermore, there is also the invaluable experience of camaraderie, the joy of life, and "non-idle idleness"<sup>8</sup> (according to Polish translation by S. Lisiecka).

## 5. CONCLUSION

Of course, questions arise about the "benefits" that interest in the "Lodzermensch" myth can give in the context of contemporary business ethics. The issue of globalization underlines one of the potential benefits within reach of nineteenth-century pro-entrepreneurial myths. The works of leading economic history researchers such as Kevin H. O'Rourke, Nial Ferguson or less known Barry Eichengreen, have established that in some aspects, the maximum level of globalization, understood according to modern criteria, took place in the late nineteenth and early twentieth century. It was halted by the outbreak of World War I. The role of imperialism in the "first shot" of globalization remains an issue of dispute (Booth and Rowlinson 2006). It is worthy to emphasize again that "Lodzermensch" as a specific model of businessman has been formed and experienced its "golden age" during the first wave of globalization, which is considered the strongest to date. Cultural capital issues carried by the literary narrative of the myth may prove to be important also today. As an example, we are reminded of the tension between the requirements of the pursuit of profit and respecting religious values, or the related imbalance between the cosmopolitan nature of the practices of modern capitalism and the need to root in local traditions. Therefore, it is valuable to perform comparative studies of cultural archetypes, like "Lodzermensch", but from different countries, regions and civilizations. After all, now it is clear that one of the main problem of intercultural management is an issue how to manage the entrepreneurial potential of foreigners (this question seems to be a forgotten aspect of so warm "problem of refugees").

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<sup>8</sup> Unexpected for me, Dedecius' (2008) indirect suggestion that category of "otium" should be included in the "Lodzermensch" myth is interesting enough that it requires a separate discussion, exceeding the size of this paper, which has a very draft nature. I plan to take up this discussion in the future.

The development of this kind of research could help theoreticians and practitioners of business to face the “postcolonial thinking” syndrome. This phenomenon, which is particularly visible in Africa, also applies to other “peripheries” of modern capitalism, such as still treated as "new" Member States of the EU (Eastern and Central European countries) or for example Islamic countries like Pakistan as well. The author of the paper hopes that his fragmentary research which was partly described here will be helpful in the development of intercultural education and training on workplace cultural capital by comparative study using also peripheral experiences embodied in local literary myths. Call for these studies constitutes the core purpose of the presented paper.

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## GLOBALISATION AND GROWTH: EMPIRICAL EVIDENCE FROM CEE COUNTRIES

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### **ABSTRACT**

*This paper investigates the impact of globalisation on growth in a sample of 9 Central and Eastern European countries. While the previous literature (both theoretical and empirical) does not provide a clear answer on the impact of globalisation on growth, this paper contributes to the literature by investigating empirically this link in the context of Central and Eastern Europe. We apply the recently very popular KOF index of globalisation, as well as its subcomponents on economic, political and social globalisation. Our findings suggest a positive impact of globalisation on growth, this particularly being the case with the economic globalisation.*

**Keywords:** *Globalisation, Growth, Central and Eastern Europe, Panel Data*

### **1. INTRODUCTION**

This paper investigates the impact of globalisation on growth in a sample of 9 Central and Eastern European countries. In the last decade of the 20<sup>th</sup> century, the countries of Central and Eastern Europe (CEE) met with the fall of communism and the shift from a planned to a market economy. In addition to the structural reforms these countries implemented, some sooner, some later, they decided to open their borders on a large scale. Thus, besides structural reforms they also immediately faced the challenge of globalisation. It was held that the inclusion of CEE countries in international flows of goods and capital and liberalization of markets will foster economic growth and convergence of income. However, there are many disagreements between economists about the effects of globalisation. According to Badelley (2006) there are two approaches among economists towards globalisation and economic growth: one is focused on benefits of trade and openness to developing countries, while others point out the constraints and inequalities emerging from globalisation. Garrett (2001) points out that "globalisation is neither the saviour nor the devil" and that there is no model that would suit all countries in terms of strategy for political and economic development. Stiglitz (2002) points out that some rather poor countries have been able to make use of global markets for their growth and development. Milanovic (2003), on the other hand, argues that globalisation is a multifaceted process and cannot be regarded as *deus ex machina*. He states that globalisation has intensified the divergence between rich and poor, and helped the rich to become richer. Thus, we can see that there is a disagreement over the influence of globalisation on economic growth in developing countries. The situation is even more delicate if the process of globalisation has been abrupt as in the case of CEE countries. It is therefore worth investigating whether and to what extent globalisation has contributed to economic growth in CEE countries.

The paper is structured as follows. Section 2 provides a review of theoretical and empirical literature on the impact of globalisation on growth. It also deals with the difficulties related to measuring globalisation. Empirical analysis is conducted in Section 3 with the modelling strategy explained and main findings reported. Section 4 concludes.

## 2. LITERATURE REVIEW

Theoretical findings on the link between globalisation and growth rest on endogenous and exogenous growth theories. Among the first models of growth, the Solow model is based on economic growth being determined by accumulation of capital leading to technological progress (Solow, 1956). However, critics of this theory suggest that technological advance is an exogenous variable. Therefore, during the 1980s, endogenous growth theories began to appear where technological advances were explained with endogenous variables such as production externalities, human capital, and investing in research and development (Lucas, 1988; Romer, 1990; Aghion and Howitt, 1992). Among recent studies, Barro (1997) points out more determinants of economic growth. Grossman and Helpman (2015) consider that globalisation or market integration has a long-term impact on economic growth through the effect of knowledge transfer or technology. The effect of the spread of knowledge in endogenous growth theories is brought out in the works of Romer (1986) and Lucas (1988). Countries that trade intensively exchange technological know-how through their products. Similarly, multinational companies that open up factories in other countries convey their knowledge and technology to those countries. The transfer of knowledge could be understood as arguing in favour of Solow's model, which technology understands as an exogenous one. However, technological advances can be endogenised through technology diffusion. In addition to technology, human capital is among the most important determinants of long-term economic growth. Newer research, such as Jones (2014) and Lucas (2015), suggests that human capital-level differences can be considered as a key factor that differentiates between rich and poor. According to Blanchard and Olney (2017), the structure of trade or export has an effect on the level of human capital. Due to the above mentioned effects, such as the spill-over of knowledge and diffusion of technology, developing countries can increase their growth rates. According to Andersen and Babula (2008) openness can affect economic growth through accumulation of capital (human and physical) and through productivity growth. International trade can affect the productivity growth rate through three channels. First, trade gives access to foreign intermediate inputs or technology. Second, it raises the market for a new range of products and thus promotes innovation. Thirdly, it stimulates the international diffusion of technology (knowledge).

Empirical literature on the effects of globalisation on economic growth can be divided into two groups. The first group embraces empirical research that supports the idea that globalisation is fuelling economic growth. Among the pioneers of such approach is Dollar (1992) who analyzed the influence of openness on economic growth using the real exchange rate as a measure of openness. He concludes that greater openness to international exchange has a positive impact on economic growth. Sachs and Warner (1995) measured openness by combining five different indicators. They find evidence of a significant positive impact of openness on economic growth. Since globalisation not only implies the trade openness of a country, Dreher (2006) introduced a universal index of globalisation, which, along with economic aspects, measures also political and social aspects. He concludes that globalisation has a positive impact on economic growth, significant from the aspect of economic globalisation, while political and social globalisation do not have a significant impact on economic growth. The other strand of empirical literature includes surveys that are sceptical about the connection between globalisation and economic growth. Rodriguez and Rodrik (2001) criticize and revise Dollar's (1992) research by pointing to certain omissions. They question his measures of openness and the robustness of the model. These authors argue that trade liberalization under certain conditions certainly has advantages, but they dispute the thesis that "integration into the world economy is such a strong incentive for economic growth that it can effectively replace the development strategy."

They also question the robustness of the Sachs-Warner (1995) model and come to the conclusion that the model is mostly based on two indicators that are not robust to macroeconomic and political changes and whose interpretation could pose problems. They therefore consider that the Sachs-Warner index of openness cannot faithfully measure the openness of a country. Rodrik (1998) analyzed the impact of capital account openness on economic growth and concludes that greater openness to foreign capital does not affect economic growth. Krugman (1993) points out that international financial integration does not affect economic development.

The most recent studies seem to suggest a positive impact of globalisation on growth. Ying, Chang and Lee (2014) analyzed the impact of globalisation on economic growth of ASEAN countries in the period from 1970 to 2008. As a measure of globalisation, they used the overall KOF index of globalisation, but also applying the subcomponents of economic, social and political globalisation. They conclude that economic globalisation contributes significantly to economic growth of the mentioned countries. Suci et al. (2015) come to a similar conclusion regarding the impact of globalisation on economic growth in ASEAN countries. They conclude that economic and political globalisation have a statistically significant positive impact on economic growth, while social globalisation has no significant impact.

Gurgul and Lach (2014) carried out empirical research on the impact of globalisation and all its dimensions and sub-dimensions on economic growth in CEE countries in the first two decades of transition. Their results suggest that globalisation has a significant positive impact on growth. They also conclude that the most significant and most influential was social globalisation in terms of flow of information. Economic globalisation had a positive impact on growth, mostly with regard to the abolition of trade restraints. They find no significant influence of political globalisation on the economic growth in these countries. Iyke (2017) analyzes trade openness in a panel of 17 CEE countries from 1994 to 2014 and concludes that greater trade openness contributes to economic growth.

Following the most recent studies, we will also use the KOF index of globalisation. At this point, we will briefly explain what it includes and why this is a preferred measure of globalisation. Pioneer studies like Dollar (1992) and Sachs and Warner (1995) used different indices to measure trade openness, the equivalent to globalisation in their perspectives. Dreher (2006) points out that such measuring of globalisation could cause problems because globalisation is a multidimensional process which cannot only be viewed through trade openness. Therefore, he constructs an index which measures overall globalisation including economic, social and political integration. Each dimension of globalisation can be measured by indices and sub-indices. For example, economic globalisation is measured by the sub-indices of actual flows and trade restrictions as seen in Table 1. This table also shows as to how political and social globalisation indices are constructed.

*Table following on the next page*

Table 1: KOF index on globalisation

A.	Data on economic integration	[35%]
	(i) Actual Flows	(50%)
	Trade (in percentage of GDP)*	(23%)
	Foreign direct investment (in percentage of GDP)*	(29%)
	Portfolio investment (in percentage of GDP)*	(27%)
	Income payments to foreign nationals (in percentage of GDP)*	(22%)
	(ii) Restrictions	(50%)
	Hidden import barriers	(20%)
	Mean tariff rate	(30%)
	Taxes on international trade (in percentage of current revenue)	(24%)
	Capital account restrictions	(26%)
B.	Data on political engagement	[28%]
	Embassies in country*	(34%)
	Membership in international organizations*	(34%)
	Participation in UN Security Council missions*	(32%)
C.	Data on social globalisation	[38%]
	(i) Data on personal contact	(24%)
	Outgoing telephone traffic*	(31%)
	Transfers (in percentage of GDP)*	(9%)
	International tourism*	(1%)
	Telephone average costs of call to USA	(33%)
	Foreign population (in percentage of total population)	(26%)
	(ii) Data on information flows	(39%)
	Telephone mainlines (per 1000 people)	(18%)
	Internet hosts (per capita)*	(15%)
	Internet users (as a share of population)*	(18%)
	Cable television (per 1000 people)	(16%)
	Daily newspapers (per 1000 people)	(16%)
	Radios (per 1000 people)	(17%)
	(iii) Data on cultural proximity	(37%)
	Number of McDonald's restaurants (per capita)	(100%)

Source: Dreher (2006)

### 3. EMPIRICAL INVESTIGATION

In this section we investigate empirically the impact of globalisation on growth in the sample of 9 Central and Eastern European countries. As explained in the previous section we use the KOF index of globalisation as our preferred measure of globalisation.

#### 3.1. Modelling approach and the data

In accordance with our discussion and literature review in section 2 we set up a model including the growth rate as a dependant variable and a number of independent variables. Among the variables that might impact on growth we are primarily interested in the effects of globalisation, but in order to have our growth model specified correctly we allow also for other variables used in growth literature. Thus, our model is of the following form:

$$GROWTH_{it} = \alpha + \beta_1 \log GDP_{pc_{it-1}} + \beta_2 KOF_{it} + \beta_3 INV_{it} + \beta_4 \log FR_{it} + \beta_5 INFL_{it} + \beta_6 GOV_{it} + \beta_7 EDUC_{it} + \varepsilon_{it}$$

$$i = 1, \dots, 9 ; t = 1993, \dots, 2013$$

where  $i$  refers to a country and  $t$  to a time period. Dependent variable  $GROWTH_{it}$  represents the growth rate of GDP per capita in country  $i$  and period  $t$ .  $KOF_{it}$  is the main independent variable and it measures the level of globalisation (as well as its subcomponents economic, political and social globalisation). In our model we also include additional independent variables as control variables to avoid misspecification and to have our growth model in line with standard growth literature. Among these variables we include: lagged  $\log GDP_{pc}$ , share of investment in GDP ( $INV$ ), logarithm of fertility rate ( $\log FR$ ), inflation ( $INFL$ ), government consumption ( $GOV$ ) and the percentage of population enrolled in high schools ( $EDUC$ ). These control variables are used due to two reasons. First, in previous empirical research on growth they were found to have a significant impact on growth (Barro, 1997), and second, previous economic studies on the impact of globalisation have also used some of these variables (Dreher, 2006; Gurgul and Lach, 2014). Table 2 below lists all the variables used in our model and the source of these data.

Table 2: Variables description and sources of data

Variable	Indicators used	Source
$GROWTH$	GDP per capita growth rate (%)	World Bank
$KOF$	KOF index of globalisation	ETH -Swiss Federal Institute of Technology
$KOF_{ec}$	KOF index of economic globalisation	
$KOF_{pl}$	KOF index of political globalisation	
$KOF_{sc}$	KOF index of social globalisation	
$INV$	Gross capital formation (% of GDP)	World Bank
$GOV$	Total public expenditures (% of GDP)	World Bank
$INF$	Annual rate of inflation (%)	World Bank
$\log FR$	Logarithm of fertility rate	World Bank
$\log GDP_{p.c.(-1)}$	Logarithm of GDP per capita lagged	-
$EDUC$	Percentage of population enrolled in high schools	World Bank

### 3.2. Results from empirical analysis

In order to investigate the impact of globalisation on growth in CEE countries we apply panel data analysis covering the period 1993 – 2013 and including in our investigation Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania and Slovenia. The model specified in previous subsection is estimated and the results are reported in Table 3 below. It should be noted that we have conducted the formal analysis of the appropriateness of random and fixed effects and the Hausman test in the models that we used strongly advised towards using the fixed effects models. In Table 3 we report our main findings where column 1-4 refer to the same model being estimated but changing the globalisation index used. In model (column) 1 we use the overall KOF index of globalisation, in column 2 index of economic globalisation, in column 3 index of political globalisation and in column 4 index of social globalisation.

Table following on the next page



Table 3: Globalisation and economic growth in CEE countries

	(1)	(2)	(3)	(4)
CONSTANT	217.001*** (28.362)	202.655*** (29.334)	220.591*** (28.885)	229.868*** (28.916)
LOGGDPPC(-1)	-24.352*** (3.077)	-22.442*** (3.104)	-23.405*** (3.140)	-24.850*** (3.150)
KOF	0.236*** (0.097)			
KOFec		0.131*** (0.055)		
KOFpl			-0.029 (0.045)	
KOFsc				0.105* (0.054)
INVESTMENT	0.448*** (0.052)	0.447*** (0.052)	0.471*** (0.053)	0.449*** (0.053)
LOGFR	-1.494 (2.868)	-0.379 (2.818)	0.262 (2.946)	-0.449 (2.839)
INFLATION	-0.003 (0.003)	-0.003 (0.002)	-0.002 (0.003)	-0.002 (0.003)
GOV.CONSUMPTION	-0.731*** (0.140)	-0.686*** (0.139)	-0.689*** (0.142)	-0.763 (0.146)
EDUCATION	-0.030 (0.052)	0.003 (0.049)	0.020 (0.051)	-0.013 (0.051)
Estimation method	OLS/Fixed effect	OLS/Fixed effect	OLS/Fixed effect	OLS/Fixed effect
No of observations	171	171	171	171
Adjusted R <sup>2</sup>	0.771	0.770	0.762	0.768

Standard errors in parentheses

\*\*\*significant at 1% level, \*\*significant at 5% level, \*significant at 10% level.

As for the results, we are primarily interested in coefficients related to globalisation, but before commenting on them let us briefly explore the effects of other variables present in our model. Thus, we can observe a strongly significant negative effect of lagged GDP p.c. across all the models estimated, regardless of the coefficient of globalisation used. This finding is in accordance with theoretical expectations. The same applies to investment which is in all the models found to have a positive and statistically significant effect on growth, confirming the previous findings related to the importance of investment for growth. Government consumption appears to have a negative and statistically significant effect on growth, suggesting that higher government consumption distorts growth. This finding corresponds to a number of theoretical and empirical studies indicating a negative impact of government consumption on growth. Fertility, inflation and education are in our estimations found to be statistically insignificant. Regarding the impact of globalisation, our findings seem to suggest that globalisation in general, as measured by the overall KOF index of globalisation (column 1), has a statistically significant effect on growth with higher level of globalisation leading to higher growth. Economic globalisation (column 2) also has a highly significant and positive impact on growth. The same cannot be said for political globalisation (column 3) where the impact of political globalisation is estimated to have a negative sign, but the effect is not statistically significant. Social globalisation (column 4) is found to have a positive impact on growth, but the effect is significant only at the 10% level of significance. As regards the estimated impact of globalisation on growth in our sample of countries, we can conclude that our results are mainly in line with the findings from other studies finding positive and significant effects of overall and economic globalisation, whilst the political and social globalisation are rarely found to be statistically significant.

In order to check the robustness of our findings and also to investigate the possible effect of the global financial crisis on the link between globalisation and growth we conduct our estimations focusing on the post-crisis period. The results of this exercise are reported in Table 4 below. The results reported in Table 4 are structured as those in Table 3 and we will skip investigating them in detail.

*Table 4: Globalisation and economic growth in CEE countries – post-crisis period*

	(1)	(2)	(3)	(4)
CONSTANT	286.730*** (90.400)	272.673*** (70.778)	325.595*** (124.511)	302.186*** (108.389)
LOGDPPC(-1)	-34.304*** (9.256)	-31.621*** (7.163)	-29.920*** (11.378)	-32.005*** (11.082)
KOF	0.621*** (0.199)			
KOFec		0.635*** (0.123)		
KOFpl			-0.404 (0.745)	
KOFsc				0.123 (0.098)
INVESTMENT	0.796*** (0.163)	0.606*** (0.129)	0.763*** (0.209)	0.797*** (0.200)
LOGFR	-19.489** (8.183)	-5.625 (6.035)	-6.753 (11.514)	-15.309 (9.976)
INFLATION	0.084 (0.243)	0.055 (0.190)	0.106 (0.302)	0.103 (0.291)
GOV.CONSUMPTION	-0.607 (0.579)	-1.345*** (0.477)	-0.617 (0.729)	-0.451 (0.698)
EDUCATION	-0.074 (0.098)	-0.074 (0.076)	-0.111 (0.122)	-0.103 (0.117)
Estimation method	OLS/Fixed effect	OLS/Fixed effect	OLS/Fixed effect	OLS/Fixed effect
No of observations	36	36	36	36
Adjusted R <sup>2</sup>	0.812	0.885	0.709	0.729

Standard errors in parentheses

\*\*\*significant at 1% level, \*\*significant at 5% level, \*significant at 10% level.

As before we will concentrate on the findings related to globalisation. In regard to other variables we can observe that statistical significance and the signs remain mainly as before, with the most notable exception related to government consumption which is now significant only in one case out of four (column 2), while it was earlier found to be significant in all the models. Regarding the effects of globalisation our results again point towards statistically significant and positive effects of overall globalisation (column 1) and economic globalisation (column 2), whilst the effects of political globalisation (column 3) and social globalisation (column 4) are not found to be significant. It should be also noted that the coefficients which were estimated to be statistically significant (overall and economic globalisation) have gained in size possibly suggesting a stronger link between globalisation and growth after the crisis. Whilst this exercise using the post-crisis period may be treated as a possible robustness check, and in itself very interesting, we must call for caution here as we are dealing with the relatively short period and the number of observations drops significantly, so these results should be dealt with extreme caution and taken only as indication. Further research along this line of inquiry may be worthwhile with longer series as data will become more available or a larger sample of countries should be taken into consideration, which was not done here as our focus was on CEE countries.

#### 4. CONCLUSION

This study investigated the impact of globalisation on growth in a sample of Central and Eastern European countries. We applied panel data methodology focusing on nine countries and covering the period from 1993 to 2013. This allowed us to conduct a comprehensive analysis of variables affecting growth with our primary interest on globalisation. Our results suggest the importance of usual determinants of growth with GDP p.c. having a negative impact on growth rate, investment positive and government consumption a negative effect on growth, with the mentioned variables having the statistically significant effects. Fertility, inflation and education were estimated to be statistically insignificant in our growth regressions. Some of these results may be somewhat surprising, especially the absence of the effect of education on growth. In regard to the main interest of this paper, globalisation was found to have a statistically significant and positive impact on growth. This was found to be the case when globalisation was measured by the overall KOF index of globalisation and its subcomponent on economic globalisation, whilst the political and social globalisation were estimated to be insignificant. These findings are in line with the recent literature applying KOF index of globalisation, both when it comes to the effects of globalisation on growth investigated worldwide (e.g. Dreher, 2006) or regionally (e.g. Ying, Chang and Lee, 2014 for Asian countries).

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## **E-COMMERCE FLEXIBILITY STUDIED ON THE BASIS WHAT CAN BE OBTAINED FROM THE CUSTOMER INTERFACE**

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### ***ABSTRACT***

*The turbulent and variable environment, in which businesses operate, requires high flexibility. It allows them to react quickly to changes in market, customer expectations and needs. Flexibility is widely studied, but is not well-known in e-commerce yet. The purpose of this article is to study e-commerce flexibility on the basis what can be obtained from the customer interface without interfering in internal processes. The data source is also the experiment based on simulations of a series of possible customer inquiries to an online seller. Evaluation of flexibility is conducted based on the concept of e-service flexibility described by Jin and Oriaku (2013, pp. 1123-1136). It is proposed to examine the relative information flexibility, the relative flexibility of transaction execution, the relative responsiveness and to compare them with relative e-commerce performance. Six randomly selected Polish online bookstores took part in the study. The multiple case study method is used. Results show a comparative evaluation of flexibility researched e-bookstores, and these were discussed. The study shows that the proposed method of assessment of flexibility is a valuable tool for managing flexibility in e-commerce businesses.*

**Keywords:** *Bookstores, E-commerce, Flexibility, Online stores*

### **1. INTRODUCTION**

The environment, in which businesses operate, is turbulent and variable. Customer needs and expectations are changing. New requirements are set for products and services. Changes in the conditions for business are visible e.g. new legal restrictions are established, new technologies are emerging, there are new business start-ups, the way of competition is changing, some products lose their buyers, while some find new markets. The enterprises operating in emerging sectors, such as e-commerce, are particularly strongly exposed to changes. E-commerce (electronic commerce) is defined as “the production, distribution, marketing, sale or delivery of goods and services by electronic means” (Work..., 1998). The global e-commerce market was estimated to be worth 2.671 billion U.S. dollars in 2016, in 2015 it was 2.273 billion U.S. dollars and in 2014 – 1.895 billion U.S. dollars. In 2014, circa 20% people over the age of 15 were e-shoppers, in 2015 this had grown to circa 26% (Global..., 2016, p. 9; Global..., 2015, p. 9). In developing sectors, significant changes are visible both in the close environment (appear new consumers, competitors and suppliers) as well as in the distant environment (changes in legal regulations or continuous development of technology). This is related to the adaptation of existing laws to the new business, the introduction of new devices to make purchases on-line, the use of new technology of programming etc. The changes in the micro and macro environment demand that companies adapt to the new operating conditions. So that a company responds to consumer expectations, works in accordance with applicable law, uses available technology, and is competitive with other enterprises.

The businesses which can quickly and easily adapt to the new circumstances gain superiority over others. They can benefit from opportunities appearing in the environment and/or limit losses due to avoiding threats. The flexibility of a company is perceived as a factor of success in a constantly changing environment. At the same time, remaining unexplored is the flexibility impact on business operations in the e-commerce sector. Hence, the interest in flexibility and to undertake research on these companies.

## **2. THE CONCEPT OF FLEXIBILITY**

In the general meaning of the term, flexibility is treated as the capacity to respond to changing environmental conditions (Dunford et al., 2013, p. 84). At the beginning, the concept of flexibility was connected only with the functioning of industrial enterprises, which used flexible manufacturing systems (Sawik, 1992, p. 21). Currently, the term is attributed also to service and commercial companies. There are two approaches to company flexibility – active and passive (Eppink, 1978, p. 10). The first is associated with an organization's ability to react to changes which have already taken place in the environment. Then active actions of company have clear implications inside the company and are called internal flexibility. The second one refers to an organization's ability to limit the impact of environmental changes on the company, which have not yet occurred, but can be predicted. Enterprises' ability to have such reactions is called external flexibility. It requires pertinent identification of market trends and taking preventive actions by organization. The concept of two-dimensional flexibility is shown by Leeuw & Volberda (1996, p. 131). In their view, flexibility is seen as a management task and as an organization design task. Consequently, it means both insensitivity to environment changes, and the ability to effectively control and even dominate the environment. Brilman (2002, 391) indicates that evidence of organizational flexibility are the following features: the ability to keep up with different changes in the environment, a capacity to develop faster than other enterprises, an efficient system of exploring customer reviews, rapid response to clients' expectations and requirements, a short decision-making processes in company, staff accepting changes and being accustomed to them. There are three basic dimensions of flexibility (Kasiewicz, 2009, p. 27): 'reaction time, reaction range (depth of the reaction) and cost of adjustment'.

### **2.1 The types and measurement of flexibility**

Some of researches are focused on supply chain flexibility, which is a very beneficial viewpoint from an e-commerce perspective, which in fact, operates mostly as the last link in distribution channels. Duclos et al. (2003) distinguish six components of supply chain flexibility. First is operation system flexibility, which indicates the ability to configure assets and operations to react to emerging trends. Second is market flexibility, meant as the ability to customize and maintain relationships with customers. Logistical flexibility is the ability to cost effectively receive and deliver products, supply flexibility is tied to reconfiguration of supply sources. The final two kinds of flexibility the organizational flexibility as well as information systems flexibility. The former refers to workforce skills and the later refers to the ability to change IT architectures. Another pertinent issue is how to measure a company's flexibility. Koste & Malhotra (1999, pp. 75–93) examined the manufacturing flexibility literature and supposed that for a flexibility dimension (type), the following measures can be specified: the range of possible options, range of heterogeneity meant as depth of differences, mobility – the effort required for transition, like cost and time; and uniformity – similarity of performance outcome, namely quality, cost, and time. The same authors (Koste, Malhotra and Sharma, 2004, pp. 171-196) developed a scale for measuring the flexibility and reduced the four measures to only two – scope and achievability, which can be used to compare a subset of firms with respect to their flexibility and observe the trade-offs within and across all flexibility dimensions.

The measurement of flexibility in mentioned works base on variables expressed by descriptive statements along with seven point Likert-type scales. Types of flexibility for manufacturing companies do not have their counterparts in commercial enterprises. However, Aranda (2003, pp. 1408-1410) indicates the following types of flexibility for service companies: expansion flexibility, distribution of information flexibility, routing flexibility, labour and equipment flexibility, market flexibility, services and servuction flexibility, process programming and volume flexibility. Expansion flexibility is understood as the ability to easily increase the production capacity of a service when it is needed. Distribution of information flexibility is defined as the ability to share information across the company providing a service system. The possibility of using different processing routes to deliver service is termed routing flexibility. Labour and equipment flexibility relies on the ability of employees and machines to perform different operations. Market flexibility means the capability to adapt service delivery systems to market changes. The service and servuction flexibility designates the ability of the system to easily add or substitute services. Process, programming and volume flexibility is manifested in the capability of the system to function unattended for long periods, to conduct operations at different levels of the provided quantity of services. Although not all described types of flexibility are appropriate for the activities of e-commerce companies, some can be used to measure e-shop flexibility. These are distribution of information flexibility, labour flexibility and market flexibility.

## **2.2 The cycle of e-service flexibility**

In the literature, e-business flexibility is not yet studied often. One of the studies proposed a theoretical concept of e-service flexibility dimensions driven from the customer activity cycle (Jin, Oriaku, 2013, pp. 1123-1136). According to this concept, in e-service there are three aspects of flexibility:

1. Information flexibility, which thrives on the information provided to a customer in the pre-purchase stage. First of all, this concerns the information about a product and its availability on a website, including many forms of information, e.g. different views in pictures, descriptions, technical characteristics, and so on. It also includes access to different products on a website and ease of navigation on it.
2. Customization flexibility, which refers to the customer's purchase stage. Customization flexibility is the ability of the e-service provider to offer a combination of products, payment services and delivery, economically and effectively, according to customer interests (Jin, Oriaku, 2013, p. 1128). The authors consider flexibility from the customer viewpoint, which means that this is a variety of options, as many payments methods, wide range of delivery means and destinations, and other amenities and superior functionalities.
3. Customer support flexibility covers post-purchase interactions between customers and e-service. Customer support flexibility mostly thrives on the ability of a service provider to use various communication channels to solve customer inquiries in a fast and low cost manner.

The three aspects of e-service flexibility are to some extent not clear; they are presented as a wide range of options available to the customer, but the authors emphasise that flexibility means achieving the given characteristics without significant cost increase or lowering performance (Jin, Oriaku, 2013, p. 1127). In their model of e-service flexibility, the authors mentioned two 'flexible internal competences' required to support the flexibility aspects, namely logistics flexibility, and IT application flexibility. These refer to the ability of a company to adjust its infrastructure to meet changing customer demand and preferences.

### 3. RESEARCH METHODOLOGY

The idea of the empirical research is to estimate e-commerce flexibility by the information that can be obtained from the website interface as well as an experiment based on simulations of a series of possible customer inquiries to an online seller (Urban, Buraczyńska, 2017, pp. 430-431). The appraisal of the shops' website interface includes following criteria:

- number of communication channels and forms;
- availability of the support by a human in a real-time (hours in week);
- number of presentation forms of product;
- optimization for mobile;
- variety of payment methods (number of available forms);
- variety of delivery channels (number of available forms);
- geographical coverage of deliveries (number of countries/territories);
- availability and scope of price negotiations (percent of discount).

This data is used to research two kinds of relative e-commerce flexibility: relative information flexibility, which refers to acquiring information about a purchase and transaction conditions, and relative flexibility of transaction execution, which refers to all conditions of a transaction.

The simulation of customer requests to e-commerce operators concerns the following issues:

- response to a usual customer request at different times of the day and week by different communication channels: lead response time for usual customer request sent by e-mail on Wednesday early afternoon (in hours), lead response time for a usual customer request sent by e-mail on Saturday after closing of the infoline (in hours); waiting time for connection to the infoline (in minutes);
- response to a request for the addition of a new product to the product group available in the store (in days).

The thus obtained data was used to assess the relative responsiveness of e-commerce.

Moreover, the research tries to determine e-commerce performance. As a kind of approximation the following characteristics are considered:

- Alexa traffic rank;
- number of positive opinions according to ceneo.pl and opineo.pl;
- number of negative opinions according to ceneo.pl and opineo.pl;
- percent of recommendation for the e-shop by opineo.pl.

These are helpful in the evaluation of relative e-commerce performance.

The presented method is used to compare the flexibility of e-shops, and allows the determination of the relative flexibility.

The object of the research are e-bookstores selected from online stores in the database Opineo.pl in the category Books. Only those stores, in which at least half of the groups of products pertain to books, e-books or audiobooks, are recognized as e-bookstores. The following principles were assumed in the selection of online bookstores for research:

1. The e-shops from database Opineo.pl in category Books are sorted by decreasing assessment.
2. The population of e-stores was divided into three intervals with a similar number (approx. 100 shops each).
3. From each of the three groups one e-store at the position 50 was chosen and then checked if it met the condition to qualify it as an online bookstore. If the store did not meet this condition, then another store was chosen and checked. At first, one was chosen from the first unchecked position above, then the first position unchecked below, and again from the first position unproven above and so on – until the store was verified as fulfilling the condition of a bookstore.



4. Next, online bookstores for research were selected (also from each of the three groups) by checking compliance with the condition for an e-bookstore for shops from the first unchecked position above (or below) with respect to the last item to be checked (according to point 3). The selection was carried out in December 2016.

#### 4. E-COMMERCE ENTITIES FLEXIBILITY ACCORDING TO EMPIRICAL RESEARCH

According to the methodology shown, the following e-bookstores were chosen for study: Edugaleria.pl (E-shop A), Siedmiorog.pl (E-shop B), MegaKsiazki.pl (E-shop C), Superksiazka.pl (E-shop D), VetBooks.pl (E-shop E), Tespis.pl (E-shop F). They differ in the offered assortment, target group, scope of activity and come from various ranking positions. All of these e-shops had taken part in research.

##### 4.1 Research results of relative flexibility and relative responsiveness to customer requests

The results of the study were normalized – extreme values were used as boundaries that were divided to assign values ranging from 0 to 100 to each result, whereby the number 0 is the weakest result and means the lowest flexibility, and the number 100 is the highest score and means the greatest flexibility in comparison to other surveyed e-shops.

Research of information flexibility shows that the most popular communication channels were e-mail, phone and contact form. The kinds of product presentation on websites are similar. A photo, short description and extended description of product were the minimum. Most commonly, the availability of online customer service was circa 40 hours a week; only one e-shop, shop C, had no infoline. All the websites of the studied e-stores allowed shopping by mobile phones. Table 1 shows the normalized results and differentiation in information flexibility measures for the researched online bookstores. E-shop B has the highest average relative information flexibility; next are e-shops E and A. E-shop C achieved the fewest points.

Table 1: Relative information flexibility measures [Research data]

Variable	E-shop A	E-shop B	E-shop C	E-shop D	E-shop E	E-shop F
Channels of communication with customers	80	100	0	100	100	40
Presentation of the product	33	100	0	67	100	0
Availability of online customer service	3	3	0	3	0	100
Optimization for mobile	100	100	20	20	20	20
<b>Average information flexibility</b>	<b>54</b>	<b>75.75</b>	<b>5</b>	<b>47.5</b>	<b>55</b>	<b>40</b>

During the measurement of flexibility, it turned out that the most frequently offered forms of payment were direct payment via bank transfer, online payment, debit or credit card and cash on delivery. Payment by instalments was not offered by any of the e-stores. This is understandable, because the unit prices of books are relatively low. In online shopping, the channels of delivery to the customer are very important for buyer convenience. The studied bookstores most commonly offered the following forms of delivery: courier (e.g. DPD, GLS, Pocztex, Siódemka), point of personal pack collection, pack at Ruch, Parcel Lockers (InPost), priority postal pack and economic postal pack. The research identified two geographical scopes of delivery. Some e-shops (A and C) sold their products only on the Polish market. Other e-shops (B, E and F) were ready to sell and send the products they offered abroad.

A different approach was shown also in variable negotiable prices. The research shows the greatest relative flexibility transaction execution for e-shops B, D and E, and the lowest again for e-shop C (Table 2).

Table 2: Relative flexibility transaction execution measures [Research data]

Variable	E-shop A	E-shop B	E-shop C	E-shop D	E-shop E	E-shop F
Forms of payment	50	75	25	100	75	0
Channels of delivery to the customer	67	50	0	100	100	50
Geographical scope of delivery	0	100	0	20	97	88
Negotiable prices	0	100	no data	no data	0	0,25
<b>Average flexibility transaction execution</b>	<b>29.25</b>	<b>81.25</b>	<b>8.33</b>	<b>73.33</b>	<b>68</b>	<b>34.56</b>

Research of responsiveness to customer requests (Table 3) was related to e-mail and infolines, because these are most popular channels of communication for all studied online bookstores. Lead response time for a usual customer request sent by e-mail on Wednesday early afternoon was from a few minutes to over three hours. A similar customer request was sent also by e-mail on Saturday after the infoline closed. In this case, lead response time was from a dozen minutes to close to two days (46 hours). Noteworthy is the fact, that three studied e-shops (C, E and F) had a similar time to the preceding time. An average waiting time for a connection to the infoline (when it is open) was much less than a minute, which is very comfortable for customers. The infoline of e-shop D had a missed call. Only e-shop E offered to add a new product on customer request. Therefore, the research shows that e-shops F and E have the highest responsiveness to customer requests.

Table 3: Relative responsiveness measures [Research data]

Variable	E-shop A	E-shop B	E-shop C	E-shop D	E-shop E	E-shop F
Lead response time for a usual customer request sent by e-mail on Wednesday early afternoon.	94	37	53	0	0	100
Lead response time for a usual customer request sent by e-mail on Saturday after the infoline has closed.	15	16	98	0	95	100
Waiting time for connection to the infoline	60	0	-	0	80	100
Adding a new product	0	0	0	0	100	0
<b>Average responsiveness measures</b>	<b>42.25</b>	<b>13.25</b>	<b>50.33</b>	<b>0</b>	<b>68.75</b>	<b>75</b>

The e-shops had different average results in relative information flexibility, relative flexibility of transaction execution and relative responsiveness.

#### 4.2. Research results of relative e-commerce performance of surveyed e-stores

The e-commerce performance of e-stores was studied based on Alexa traffic rank and data from websites ceneo.pl and opineo.pl. The e-shop positions in Alexa Traffic Rank were from 674 thousand to 17.5 million. The number of positive opinions about the surveyed e-stores in opineo.pl was in the range from zero to over 660. On ceneo.pl, these e-stores had far fewer opinions (from zero to 165), moreover e-shop D and e-shop F were not available on this website. Although both e-shop B and e-shop C had no positive opinions, the second one had 24 negative opinions. This is confirmed in the share of recommendations on opineo.pl. E-shop C had a low level of recommendations (12%); e-shop F had no opinions or recommendations. At the same time, the rest of the studied e-shops had 100% or nearly 100% recommendation from customers. Table 4 shows relative e-commerce performance. The indicated level of internet traffic on a website is high for e-shops A, B, C, D and E. The number of positive and negative opinions is larger on the opineo.pl website than on the ceneo.pl website. Moreover, e-shops D and F are not taken into consideration on the ceneo.pl website.

Table 4: Relative e-commerce performance of surveyed e-stores [Research data]

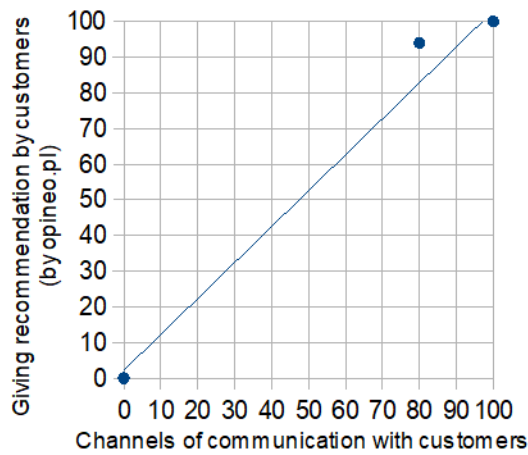
Variable	E-shop A	E-shop B	E-shop C	E-shop D	E-shop E	E-shop F
Internet traffic on website (by Alexa traffic rank)	99	91	100	89	82	0
Positive opinions about e-store (by opineo.pl)	51	100	1	17	11	0
Positive opinions about e-store (by ceneo.pl)	99	0	14	no data	100	no data
Negative opinions about e-store (by opineo.pl)	18	100	0	100	100	88
Negative opinions about e-store (by ceneo.pl)	23	100	0	no data	69	no data
Giving recommendation by customers (by opineo.pl)	94	100	0	100	100	no data
<b>Average e-commerce performance</b>	<b>64</b>	<b>81.83</b>	<b>19.17</b>	<b>76.50</b>	<b>77</b>	<b>29.33</b>

The research shows that e-shops B, D and E have the highest relative performance; e-shop C has the lowest relative performance.

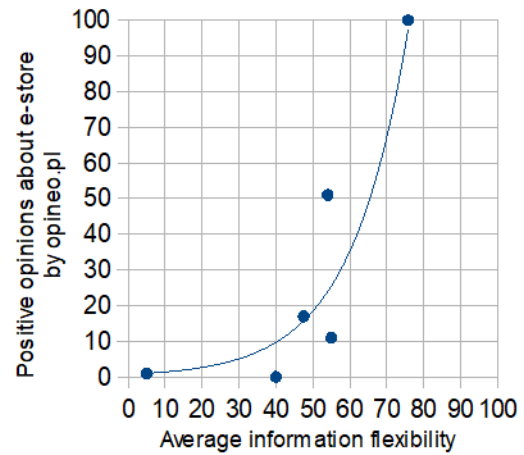
#### 5. DISCUSSION AND IMPLICATIONS

There are some visible relationships between measures of flexibility and performance achieved by an e-shop. For example, e-shop E had the highest rating in the measurement of flexibility and simultaneously it received the one of the highest performance evaluations. On the other hand, e-shop C, which had a poor evaluation of flexibility, had a low performance evaluation and received the lowest percentage of recommendations. A correlation between indicators of flexibility or responsiveness and the performance indicators of e-shop, proves that flexible online shops are perceived as better by customers. Figure 1 shows correlations between selected flexible variables and performance variables. Particularly visible are the linear relationships between the variable channels of communication with customers and the variable of giving recommendations by customers; the variable form of payment and average e-commerce performance; and the variable channels of delivery to customers and negative opinions about e-store. In addition, there is an exponential relationship between the variable average information flexibility and the variable positive opinions about e-store (by opineo.pl).

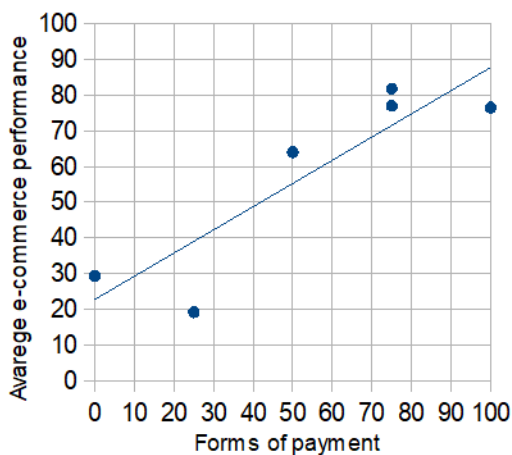




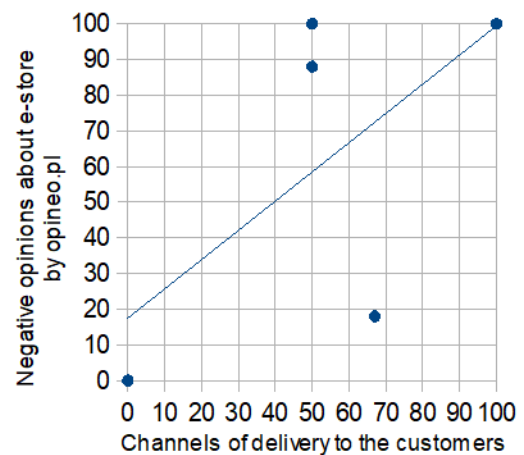
$$f(x) = 1,01x + 2,23$$



$$f(x) = 0,74 \exp(0,06x)$$



$$f(x) = 0,65x + 22,77$$



$$f(x) = 0,82x + 17,52$$

Figure/Chart 1: E-commerce performance of surveyed e-stores [Research data]

Bookstores are characterized by higher or lower flexibility and achieve different performance. The research suggests that high information flexibility is associated with e-commerce efficiency. High relative flexibility of channels of communication with customers implies a high level of recommendation. Higher average relative information flexibility leads to more positive comments on the website opineo.pl. A high level of relative flexibility of payment forms is reflected in high average e-commerce performance. E-shops with more channels of delivery to customers received fewer negative reviews (and a better result in performance).

## 6. CONCLUSION

The results show the value of the research approach taken from the perspective of customer activity, without delving into the internal processes of the e-shop. The customer interface and simulation of customer requests to e-commerce operators are a source of rich information about functioning e-shops. On the basis on these surveys, we can obtain valuable information useful for the assessment its flexibility and responsiveness. Research suggests that there is a positive correlation between flexibility, customer satisfaction and loyalty. But the optimal state of flexibility or importance of individual variables has not yet been established. The methodology of evaluation of e-commerce flexibility shown is a valuable tool for comparative e-shops. It allows comparative analysis of e-shops both with similar and varied assortment of products. The most important thing is that the resulting data can be easily compared between all studied e-shops. The simplicity and low cost of such data collection means that it can be widely used.

The dependence of the state of flexibility tested on the part of customer activity with the flexibility of the organizational processes of the e-shop operator remains unknown.

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# A SYSTEMATICS OF STANDARDISATION IN SERVICE OPERATIONS EMERGED FROM IN-DEPTH INVESTIGATION

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## **ABSTRACT**

*The study aims at recognizing fields and types of standardisation employed in service operations. The in-depth investigation relies upon the qualitative descriptions of standards which exist in 30 service organizations operating in the customer market. The descriptions are provided by service staff during direct interviews conducted by field investigators. The data are processed according to content analysis principles. The four fields of standardisation in service operations are identified, namely: staff visibility, interactions with the customer, process organization, and service processing conditions; they make a framework of standardisation in service operations. Content analysis methodology also allowed the determination of two types of standards typical for service operations. One is standards of state, another is standards of action. Each type contributes in different ways for service operation management.*

**Keywords:** *Operations, Qualitative study, Service, Standardisation*

## **1. INTRODUCTION**

Service operations have many features which make them a distinct object of management studies. Customers in services are directly engaged in the service process; they are consumers and co-producers at the same time, so hundreds of specific management techniques and many so-called management approaches have their special application in service operations. Standardisation in service operations is one of the management techniques which are definitely worth focusing research attention on, and exploring its service specificity. Many forms of standardisation are widely utilised in manufacturing organizations. But standardisation in services, in its meaning of standardising the field operations, is not widely elaborated in the scientific literature. This is a kind of negligence because standards are often used by managers, particularly in geographically dispersed chains of service spots. Also, Lean Management, which exploits standardisation very much, has rising popularity in service companies. The study aims to elaborate the basic typologies of standards in service operations. This elaboration is conducted from the point of view of line service staff, who are the object of the qualitative investigation in this study.

## **2. STANDARDISATION IN SERVICES**

Standardisation in business organizations is a widely known method, and has been used for a long time. Ford's famous flow production line was based on far-reaching work standardization (Ford, 1988). In manufacturing operations standards occur in many ways, e.g. as work methods, amount of output, measurable technical characteristics of products, and settings of production machines. In the manufacturing industry, the standardisation of components, called commonality or modularity (Krajewski, Ritzman, 2005), makes a separate standardisation field which is almost not applicable in services. According to the service literature, a standard is a routinized process with well-defined tasks and an orderly flow of customers (Fitzsimmons, Fitzsimmons, 2008, p. 77). The standardisation helps to provide uniformity in service quality because the process is easier to control. Another author perceives service standards as a key strategic element which captures what is important to customers in a way that is meaningful to employees (Berry, 1995, p. 247).

The blueprints methodology is perceived as a powerful management tool in the service industry (Bitner et al., 2008). It is probably the most widespread approach to service standardisation. Some authors point out that most services defy standardisation because of their variability and unpredictability (Haksever et al., 2000). The reason is mostly rooted in the fact that services are co-produced – they emerge with the simultaneous participation of the customer. According to research, service employees, during the co-creation process, do not always know what the customers really require (Jylhä, Junnila, 2014), so standardisation understood as routinization becomes challenging. Standards may act as internal and external; they might communicate to a customer the quality of services and at the same time help in achieving this quality level (Disend, 1991). For example, the slogan - a restaurant promises to deliver a pizza in 30 minutes or clients can get 3 dollars off - performs in this way. Anderson (1999) recognizes three typical standards that are employed in services: transactional standards, outcome standards, and status standards. Sarkar (2008) mentions two types of standardisation in Lean Service: (1) the service standard process as a method of doing work in a constant cycle time, (2) the standard operations display as a visualised sequence of process steps. It is symptomatic that standardisation in services is very poor in theoretical work as well as in empirical research, and this field is dominated by experts' publications for practitioners. In Lean Management, which is becoming increasingly used in services, standardisation is a corner stone. Hino (2006) calls standardisation 'Toyota's DNA' as Toyota is an unmatched model for Lean Management. Lean Management's road to services is still in a nascent stage and needs much more research because of the service products' immanent characteristics (Gupta et al. 2016). Lean Service needs much basic work on notions and definitions, as well as clarification of principles (Suárez-Barraza et al. 2012; Gupta et al. 2016). These literature voices make studies on standardisation in services still promising and important for practice. A glimpse at the literature suggests that there is no clear view on standardisation in service organization, and that the Lean approach might be particularly inspiring in this field.

### **3. RESEARCH METHOD**

One of the methods allowing an in-depth insight into the investigated issue is the Critical Incident Technique. Scholars mention that the Critical Incident Technique can be employed to investigate many different aspects of a service over the duration of an encounter's enactment (Wong, Sohal, 2003). This technique is based on getting people to tell stories about things which have happened to them (Lockwood, 1994). The stories gathered from the respondents are transcribed and analysed according to content analysis principles. The respondents in this study were recruited from randomly chosen service companies operating in customer service markets. The dominant service sectors are: retailing, financial services, restaurants and leisure, renovation services, and health care. Managers from 30 service spots were interviewed with open-ended questions. The question asked of them was as follows: 'Describe as comprehensively as you can the standards that you know exist in your service spot.' During the answers, a direct interviewer asked some situational questions aimed at gaining comprehensive descriptions of service standards. The answers were recorded and transcribed. 61 service standards were identified in gathered stories.

### **4. WHAT IS STANDARDISED? - FIELDS OF STANDARDISATION**

Performing according to content analysis principles, at the beginning open coding was employed. It is an analytical process through which concepts are identified and their properties are discovered in data (Strauss, Corbin, 1998, p. 101). The main point of interest of stories analysis and forming categories was the question: What exactly is standardised? The content analysis relied on repeatedly studying and categorising the stories on standards to identify exactly what organization sphere/problem is standardized.

Finally, as an output of open coding, 19 categories emerged from the stories on standards reported from the investigated services (see ‘Subcategories’ in Table 1). These 19 categories were further analysed in terms of linking them at the level of properties, as an axial coding step of content analysis suggests (Strauss, Corbin, 1998). So four categories of service standards were identified as they are listed in the column ‘categories’ in Table 1, and categories emerged from open coding become subcategories. The output of the coding process with the frequency of occurrence in stories is summarised in Table 1 below.

Table 1: Categorization of service standards

Item No	Subcategories	Freq.	Categories	Freq.	Perc.
1	Staff outfit	18	Staff conditions	23	38%
2	Staff appearance	5			
1	Conversations with the customer	8	Interactions with the customer	19	31%
2	Customer treatment	7			
3	Customer service process	2			
4	Telephone calls	2			
1	Selected process steps	3	Process organization	11	18%
2	Service sequence	2			
3	Access to information	2			
4	Sales techniques	1			
5	Documentation	1			
6	Security	1			
7	Support activities	1			
1	Cleanliness	3	Service processing conditions	8	13%
2	Visual identification	1			
3	The order	1			
4	Technical requirements of the process	1			
5	Interior decoration/design	1			
6	Location of the service points	1			

Between the four categories of service standards the most represented in the data is the category referring to **physical conditions which service staff should meet**. The category ‘Staff conditions’ appeared in the stories 23 times, and is composed of two subcategories – ‘Staff outfit’ and ‘Staff appearance’, wherein the former is noticeably much more numerous. The data show that the physical/visual characteristics of services staff are most often the objects of standardisation in the studied services. Companies want to have a unified staff outfit as well as set particular requirements for some spheres of the body’s appearance. Identified standards referring to a type and state of clothing worn by employees, and the appearance of selected parts of the body, most of all it concerns hands, nails, hair, and tattoos. One of the service staff reported standards of staff conditions as a long list of dress code requirements and several body appearance requirements. In the story she reported, among others: *A woman should wear a blouse with a white collar, (...) over the blouse she can wear a jacket (black shade, garnet, grey), it cannot be a sweater. (...) The hair should be cut short, (...) if you have hair longer than half the shoulders, it must be carefully tied. (...) A man’s beard should not be longer than*



*two centimetres* (banking service). This standard is introduced in the service spot by the head office of a bank. In most cases the standards are set to enforce the wearing of the company's uniforms in an appropriate manner and state. It is noticeable that the standard of the staff outfit always exists as 'came from the outside', which means the service staff from spots had no influence on it. These standards are stable for a long time. They might change along with company brand renewal; the descriptions suggest that staff conditions standards' main purpose is to strengthen the company's image. Another category, with 19 references in the stories by service staff, is about **how to interact with customers during service provision**. This category encloses four subcategories: 'Conversations with the customer', 'Customer treatment', 'Customer service process', and 'Telephone calls'. In fact, the category 'Interactions with the customer' includes four key spheres for interacting with customers in a service provision: direct conversations between staff and the customer, telephone conversations in the same relation, customer care, and activities performed directly with the customer. The most represented is the subcategory referring to direct conversations with the customer. The subcategory devoted to conversations with customers (8 references) groups standards aimed at ensure that during conversations service staff communicate appropriately and show necessary respect to customers. This category is closely tied to another one, 'Customer treatment' (7 references). These standards regulate some staff behaviour while being in contact with customers. They are mostly about wording, symbols, gestures and courtesy towards customers. Selected quotations from one of the respondents are as follows: (*..*) *At the entrance customers meet employees (security guards) who greet them. With a smile, they should say to the customer 'good morning/afternoon', which gives a sense of customer interest. (...)* *The employee comes to the customer asking if (s)he can help. If the customer is not interested in help, the employee informs him/her that (s)he would be happy to offer his/her assistance, but does not press the customer, as it may discourage him/her* (house appliances supermarket). This set of standards is introduced as training provided by the company's head office. Two more subcategories in this category are noticeably less numerous. The subcategory 'Customer service process' is very similar to the one about customer treatment, but there is one distinct difference: standards in this subcategory give clear guidance step by step on how to treat a customer. In standards, there are full sequences on how to treat a customer from the entrance to the spot, to complete the service transaction. The subcategory 'Telephone calls' refers to standards specifying nodal points and conditions of the part of the service process performed via telephone. The third standards category is about selected important issues for the **organizational side of carrying out the service process** ('Process organization' category). Some of them are expressed in a general manner, but in the end-to-end scope, as in the standards grouped in the subcategory 'Service sequence'. In others, only a part of the service process is chosen for standardisation. In these cases process activities are described in a detailed manner, as is done in the subcategory 'Selected process steps'. Some fragments of the standard referring to the service sequence reported by a respondent are as follow: *After the customer's needs clarification, we make a preliminary pricing of the door written on the design document using the 'technical data sheet'. On the technical data sheet, we write down all the necessary information that affects the final price of the door. (...)* (*...*) *Upon receipt of the order, the sales representative consults the customer and informs her/him about the remaining payment of the order* (door installer operating online). This standard encloses the whole service process steps from the first initial step - contact with a customer, to the final payment. It exists in a company as a formal procedure. The category 'Process organization' is made up of subcategories (7 items) which are not numerous. Apart from those mentioned above there is 'Access to information', which is about particular conditions of sensitive information handling in the service process, 'Sales techniques' - a set of guidelines on how to use sales techniques while serving customers, 'Documentation' - how to proceed and keep documentation archived within a service process,

‘Security’ - a set of rules to follow in the process for securing the safety of customers, and ‘Support activities’, which concerns the steps of a process supporting a main service process. The fourth, not numerous, group is about standards defining some kinds of **conditions to fulfil while processing a service** (category ‘Service processing conditions’). The category comprises six subcategories. The first one these concerns standards of keeping clean some spheres of service facilities which are particularly important while performing a service process (subcategory ‘Cleanliness’). Closely related to this subcategory is another one – ‘The order’, this is standard to keep in order some particular service areas, like desks and surroundings where customers are met. The next three subcategories are about formal standards introduced/required by the central office of a chain companies, franchising systems included. These standards establish the visual side of the material sphere of service provision, including the location of service spots. These are the following subcategories: ‘Visual identification’, ‘Interior decoration/design’, ‘Location of the service points’.

#### 4. FUNCTIONAL DIFFERENCES BETWEEN STANDARDS

The in-depth study of standards existing in service companies has shown that there are four typical spheres of setting standards in the service system. Another issue is an insight into the characteristics of standards reported in stories. According to Strauss and Corbin (1998), the axial coding is focused on looking for dimensions which join together (sub)categories and on the other hand differentiat them, allowing the discovery of different poles of features. This issue was the further step of content analysis on the field data. Each subcategory groups quite homogeneous standards, so that the second wave of axial coding was based on already extracted subcategories. During further content analysis attention was focused on the fundamental and clear functional characteristics of recognized service standards. It was noticed that some of the standards aim to ensure some particular state of some service system components. On the other hand, others aim to ensure particular patterns of behaviours in the service system. So two types of service standards may be extracted: standards of state, and standards of action. The lists of subcategories referring to standards of state and standards of action are presented in two columns in Table 2 below.

*Table 2: Functional differences between service standards*

<b>Standards of state</b>	<b>Standards of action</b>
Staff outfit	Conversations with the customer
Staff appearance	Customer treatment
Cleanliness	Selected process steps
Access to information	Customer service process
Visual identification	Service sequence
The order	Telephone calls
Technical requirements of the process	Sales techniques
Interior decoration/design	Support activities
Documentation	
Security	
Location of the service points	
<b>Number of standards</b>	
35	26

According to the data, the standards of state are more popular, and the qualified subcategories represent 35 references in stories, while standards of action group subcategories with 26 references to standard descriptions. The standards of state provide the bundles of characteristics of service systems elements. These are characteristics of tangible elements, and as far as possible it is easy to unambiguously check their status. In some cases, these service characteristics are measurable in the technical sense, but it does not happen often because it is mostly not necessary. The standards of state are designed to be easily verified visually, and this is crucial for its practical usability in the service field. Standards from this group inform ‘**What?**’ is the desirable state of service system to serve high value and quality services. One typical example of standards of state concerns the outlines of appearance indoors and outdoors of service spots. One of the respondents reported as follow: *Inside there are delicate shades of green (...). Tables are made of wood or wood-like material. (...) The restaurant logo consists of a yellow letter X on a red background* (restaurant). This example was reported by a member of the customer-contact service staff, so it is not as exact as that provided by the central office of the chain. In this case all decoration elements are defined in terms of colours, material types, shapes, etc. – precisely and fully verifiable. Standards of action provide many kinds of patterns of behaviours within the service system. Mostly, these behaviours directly regard relationships with customers, but not always. Standards describe stapes, some detailed actions, whole or a part of the service process sequence, rules that must be followed for action, as well as guidance, for treating customers during service provision. These standards often appeal to the effects that should be achieved thank to actions, for example a delighted customer. The standards are definitely less verifiable compared to the standards of state. Generally, standards of this type are focused on ‘**How?**’ to behave/operate in the service system. A fragment of a story by a member of staff is as follow: *A guest needs to be approached from the right-hand side (...). In our service, it is a standard nice welcome and goodbye when a guest is entering and leaving our spot* (restaurant). It is symptomatic that these service standards are expressed using many words referring to human relationships and referring to human mood.

## 5. DISCUSSION

The prevailing view in the literature is that blueprints (Bitner et al., 2008) are the main approach to standardization in service companies, and blueprints are visual projections of service process flow. The Lean Service approach suggests that the most appropriate standardisation consists of work organization according to the cycle time and visual presentation of the process sequence (Sarkar, 2008). The latter is almost identical to blueprints. This study, obtaining the empirical data from line service staff working for consumer service companies, does not notice the time standards at all, and standards similar to blueprints are qualified to two subcategories (‘Selected process steps’ and ‘Service sequence’) referring to 5 (out of 61) cases in reported stories. This means, first of all, that the standardisation seen from the literature perspective differs greatly from the standardisation perceived by service line staff. In the literature there are very few concepts systematizing standards existing within service operations, and none of them is driven from empirical data gathered from a service companies sample. Some practical systematics, based on expert experience, like that proposed by Anderson (1999), do not consider the intensity of standards exploitation in companies. This study suggests that service staff conditions are the widest exploited service operations standardisation field. This is probably one of the first issues when service managers/designers are considering/planning standards in service operations. It can be suggested that the four fields of standardisation, namely staff conditions, interactions with the customer, process organization, and service processing conditions, make a framework for service operations standardisation. It also forms valuable suggestions for managers concerning what spheres/issues within the service organization can be efficiently standardised.

The functional view on standardisation shows that managers can generally standardise service operations defining ‘What?’ must be kept or ‘How?’ the service staff must perform. It is considered that the intangible components of services are less susceptible to standardization; this is mostly because of the unpredictability of the human to human interactions which occur in service (Haksever et al., 2000). Indeed, there is a misbalance in the number of standards in two identified types: 35/25. The standards of state are more popular, probably because these kinds of standards are focused on issues which are easier to capture in standards, and more concrete and verifiable. But the observed number of standards of action allows us to consider that service activities can also be efficiently standardised. Organizational/work standards are very often perceived in the context of quality assurance in the organization. The demonstrated two types of standards (state and action) led us to discover some analogies to quite a classic theory of service quality which determines two of its components: functional quality and technical quality (Grönroos, 1984; Lehtinen, Lehtinen, 1991; Grönroos, 2007). The technical component of service quality includes ‘What?’ the customer gets from the service as a result of interaction with the service company. The functional component of service quality is responsible for ‘How?’ the technical output is delivered to the customer. Both components are responsible for customer-perceived service quality. The functional service quality component is very coherent with standards of action. These standards clearly support this service quality component. Between the technical component of service quality and standards of state some noticeable differences occur. The component of quality concerns only the tangible outputs which are touchable by customers, whereas standards of state concern a wider spectrum of service components, including, e.g. staff outfit, and service spot visual identification. The literature also sees in standardisation a means of organizational knowledge transmission (Hino, 2006). This very important view on service standardisation considers competitiveness and business development. The two types of standards recognised in this study also carry a different load of organizational knowledge within the service organization/chain. The in-depth study of the standards descriptions shows that just standards of action are responsible for more difficult service issues, so these kinds of standards carry more precious knowledge in the service organization/chain.

## **6. CONSLUSION**

The research shows a distribution of standardisation intensity in customer service companies. From the in-depth investigation two standard systematics emerged. One of them takes into consideration service system spheres as standardization objects. Four types of standards present four vivid components of the service system, namely: service staff physical qualities, interactions between service staff and customers, organization of the delivery of services, and physical conditions of service delivery. They definitely do not exhaust the whole spectrum of the service system, but from the point of view of standardization they are of prime importance. This is quite clear when managers decide to standardised these considered spheres, most of all those spheres which are susceptible to standardization, and important enough in terms of gaining positive customer experience. The second typology of standardization recognizes two approaches to standardization: one is standardisation by defining a state, and the other relies on descriptions of course of action. The latter approach appears more challengeable, but at the same time more important from the point of view of customer experience and organizational knowledge. Managers exploit both of these standardisation strategies, but the first one appears to be more popular. This division of standards refers to a very important management issue: methodologies of standardization in services; this is an interesting issue that should be subjected to academic research. The achieved categorizations can be valuable as an input for quantitative research.

Investigations of intensity and levels of dissemination of standards in particular service industries can be interesting. Moreover, functions of standardisation in service companies, and the influence of standardisation on business performance are interesting. The study has a list of limitations. Most of them are consequences of the qualitative research approach employed for this study. For example, attention was also turned to subcategories with a single standard qualified to them, but it was considered interesting because in the qualitative in-depth approach, these cases still provided some new insight into the researched issue. The main originality of this study is that the proposed typifications are routed in empirical data, and not only in the author's practical experience.

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