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Beker, Víctor A. (Ed.); Lackovic, Ana (Ed.); Pavelin, Goran (Ed.)

## Conference Paper

Economic and social development : 40th International Scientific Conference on Economic and Social Development : book of proceedings : Buenos Aires, 10-11 May 2019

## Provided in Cooperation with:

Varazdin Development and Entrepreneurship Agency

*Reference:* (2019). Economic and social development : 40th International Scientific Conference on Economic and Social Development : book of proceedings : Buenos Aires, 10-11 May 2019. Varazdin, Croatia : Varazdin Development and Entrepreneurship Agency.

This Version is available at:

<http://hdl.handle.net/11159/3017>

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# Economic and Social Development

40<sup>th</sup> International Scientific Conference on Economic and Social Development

## Book of Proceedings

Editors:

Victor Beker, Ana Lackovic, Goran Pavelin



Universidad de Buenos Aires  
Facultad de Ciencias Económicas



كلية العلوم القانونية والاقتصادية والاجتماعية - سلا  
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Faculté des sciences juridiques  
économiques et sociales-sale

ISSN 1849-7535



9 771849 753006 >

Buenos Aires, 10-11 May 2019

**Varazdin Development and Entrepreneurship Agency**  
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Buenos Aires, 10-11 May 2019

**Title ■** Economic and Social Development (Book of Proceedings), 40<sup>th</sup> International Scientific Conference on Economic and Social Development

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**Publishing Editor ■** Domagoj Cingula

**Publisher ■ Design ■ Print ■** Varazdin Development and Entrepreneurship Agency, Varazdin, Croatia / Facultad de Ciencias Economicas, Universidad de Buenos Aires, Buenos Aires, Argentina / University North, Koprivnica, Croatia / Faculty of Management University of Warsaw, Warsaw, Poland / Faculty of Law, Economics and Social Sciences Sale - Mohammed V University in Rabat, Morocco

**Printing ■** Online Edition

**ISSN 1849-7535**

The Book is open access and double-blind peer reviewed.

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## A MULTIFACED ANALYSIS OF FOREIGN TRADE IN VARIOUS TIME TREND

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### ABSTRACT

*The aim of the article is to analyze term in Europe in different time perspectives. In addition the aim of the article is indication using the appropriate tools and models of factors having the greatest and least impact on the development of this phenomenon in different time horizons. Trend analysis and long and short period dependencies in trade globalisation are based non-linear ordering and wavelet analysis. A discrete wavelet was used for wavelet analysis of the time series studied. In the process of discrete wavelet transformation, the received signal is divided into so-called approximation and detail. Approximation is then subjected to a subsequent division into further approximation and detail, while details are not subject to further divisions. In this way, the signal is presented as the sum of the approximation of the last level and the details from all levels.*

**Keywords:** foreign direct investment, globalization, trade, wavelet

### 1. INTRODUCTION

Foreign direct investment is an “investment from one country into another (normally by companies rather than governments) that involves establishing operations or acquiring tangible assets, including stakes in other businesses. The purchase or establishment of income-generating assets in a foreign country that entails the control of the operation or organisation. FDI is distinguished from portfolio foreign investment (the purchase of one country’s securities by nationals of another country) by the element of control. Standard definitions of control use the internationally agreed 10 per cent threshold of voting shares, but this is a grey area as often a smaller block of shares will give control in widely held companies. Moreover, control of technology, management, even crucial inputs can confer de facto control. FDI is not just a transfer of ownership as it usually involves the transfer of factors complementary to capital, including management, technology and organisational skills” (“Foreign Direct Investment Definition from Financial Times Lexicon”. [lexicon.ft.com](http://lexicon.ft.com)). In the top ten countries with the largest GFICA<sup>1</sup> index value in 2018, the following countries were included: United States - 76.1; Switzerland - 73.9, United Kingdom - 72.8, Hong Kong - 72.5; Netherlands - 71.1, Singapore - 71.0, Germany - 71.0, Sweden - 70.0, Denmark - 69.5, Canada - 67.2. The following countries close the ranking: Benin - 28.6, Ethiopia - 27.7, Cameroon - 27.6, Venezual - 26.8,

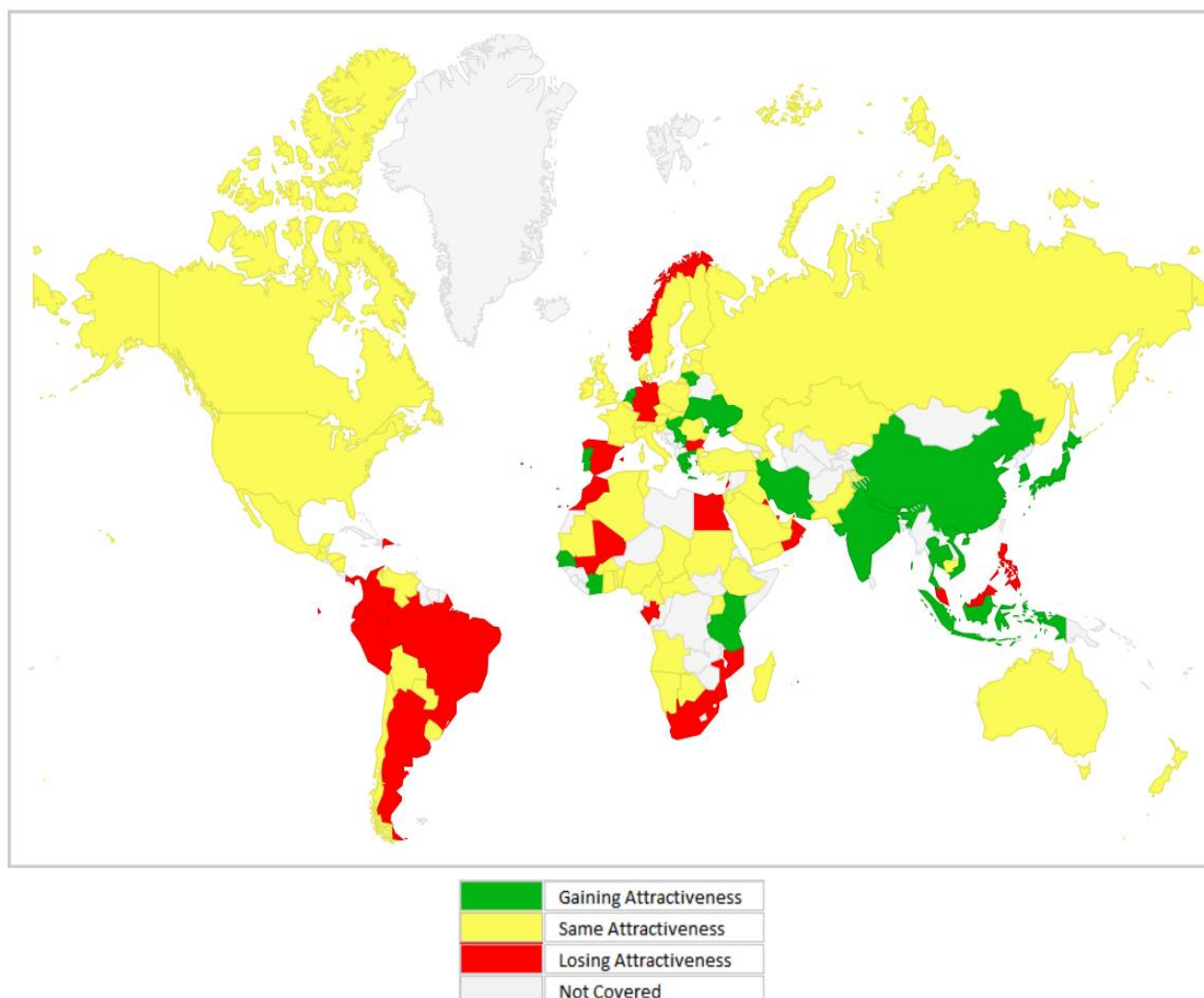
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<sup>1</sup> The purpose of GFICA index is to measure and study, in an ongoing manner, 8 world regions’ attraction as FDI destinations by means of quantitative indicators, while at the same time comparing each group performance with an extended group of different countries and relevant geographical areas. This study shall be carried out on a yearly basis, thus enabling the monitoring of each country’s development with respect to different categories considered to cover the most important pillars that MNEs bear in mind when making investment decisions. The index aggregates and provides the requisite information for FDI allocation decisions. The results shall obviously serve as a support tool in assessing the reasons boosting or slowing down foreign investment in a considered region of the world. The attractiveness analysis benchmarks the attractiveness of 109 countries to receive FDI allocations representing 97% of the world inward FDI stocks and covers a total of 60 indicators structured around 11 FDI key drivers covering three pillars which aim to group together the main sources of competitive advantage that internationalization offers to MNEs: Prerequisites indicators, Underlying Indicators and Externalities Indicators. The three pillars are described below. The ranking provides the evidence for which factors a considered region/country stands behind and has to improve them in order to become more attractive.



Sudan - 25.2, Mauritania - 24.6, Iraq - 24.2, Yemen - 23.2, Chad - 16.5, Cent. African Rep. - 14.7 (see fig. 1).

*Figure 1: Rank variation from 2017 to 2018*



*Source: GFICA*

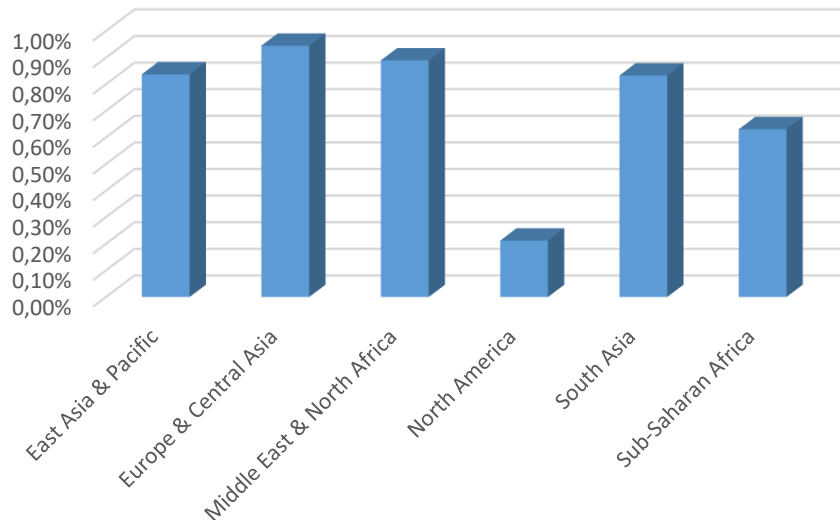
The article presents an unconventional approach to trade, namely through the prism of trade globalization. Trade (in percent of GDP): sum of exports and imports of goods and services measured as a share of gross domestic product. The study was limited to countries that are part of the European continent.

## 2. TRADE GLOBALISATION INDEX

Trade globalization is understood at work through the prism of the KOF trade globalization index as follows: “The sub-dimension trade globalisation includes variables that measure the exchange of goods and services over long distances. We use the sum of exports and imports of goods as a share of GDP, the sum of exports and imports of services as a share of GDP and a variable that measures trade partner diversification in goods trade. Trade partner diversification is computed as the inverse of the average Herfindahl-Hirschmann trade partner concentration index for exports and imports of goods. Herfindahl-Hirschmann trade partner concentration index is computed as the sum of squares of trade partner shares in exports and imports respectively for a given country. The more dispersed the trade of a country over different trade partner is, the higher the value in the variable.

The variable therefore favours countries whose export and import structure is globally oriented as compared to countries that primarily trade regionally (Gygli, et al., 2018)". Trade globalization index since 1970 has been growing by 0.818% on average. The largest increase in trade globalization is in Europe & Central Asia - 0.94%, and the smallest in North America - 0.21% (Fig. 2).

Figure 2: Average annual rate of change



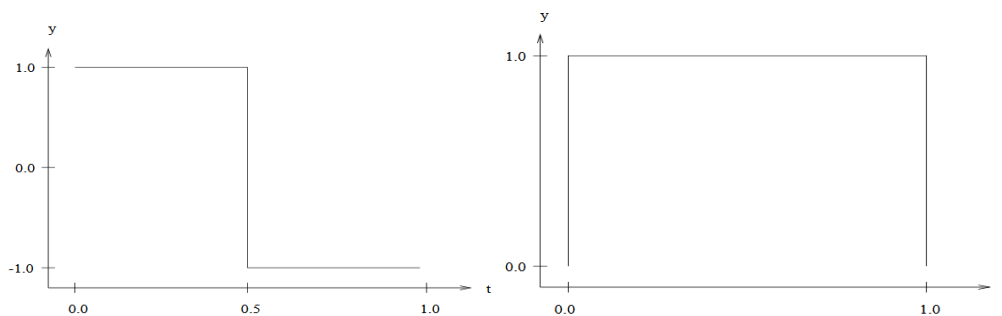
Source: Own elaboration

### 3. EMPIRICAL ANALYSIS

#### 3.1. Research tool

The research analysis was based on a wavelet analysis with a discrete wavelet (see, among others, Hadaś-Dyduch 2015a, 2015b, 2016a, 2016b, 2016c, 2017) and non-linear ordering. Non-linear ordering consists, from the geometric side, in projecting objects placed in a multidimensional space of variables into a plane. It does not allow to set the hierarchy of objects, but only to define for each of the objects, similar objects. The simplest wavelet is the Haar wavelet. In 1910 Alfred Haar introduced a function which presents an rectangular pulse pair. After that various generalizations and definitions were proposed. In 1980s it turned out that the Haar function is in fact the Daubechies wavelet of order 1. This enabled to introduce the Haar wavelet, which is the simplest orthonormal wavelet with compact support. It should be mentioned that the Haar wavelet has an essential shortcoming: it is not continuous. In the points of discontinuity the derivatives do not exist, therefore it is not possible to apply the Haar wavelet directly for solving differential equations (Babolian & Shamsavaran, 2009).

Figure 3: Haar wavelet and Haar scaling function



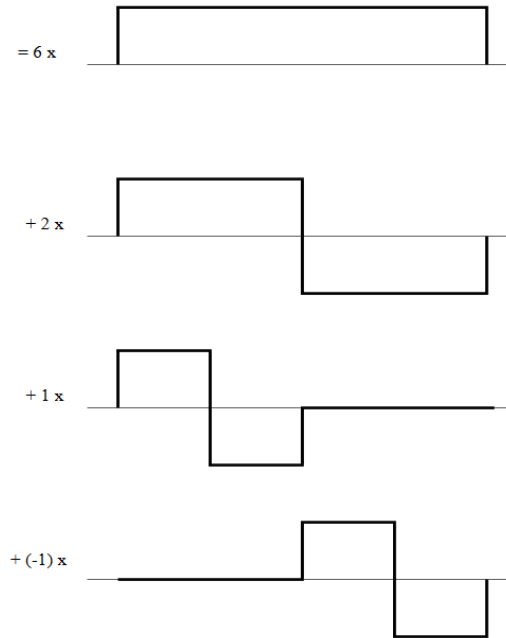
Source: Own elaboration

The Haar wavelets family for  $t \in [0,1]$  is defined as follows (Lepik, 2007):

$$H_i(t) = \begin{cases} 1 & \text{for } t \in \left[\frac{k}{m}, \frac{k+0,5}{m}\right) \\ -1 & \text{for } t \in \left[\frac{k+0,5}{m}, \frac{k+1}{m}\right) \\ 0 & \text{for other } t \end{cases}$$

Integer  $m = 2^j$ ,  $j = 0,1,2, \dots, J$  indicates the level of the wavelet;  $k = 0,1,2, \dots, m-1$  is the translation parameter. Maximal level of resolution is  $J$ . The index  $i$  is calculated according the formula  $i = m + k + 1$ ; in the case of minimal values  $m = 1, k = 0$  we have  $i = 2$ ; maximal value of  $i$  is  $i = 2M = 2^{J+1}$ . It is assumed that the values  $i = 1$  corresponds to the scaling function which  $H_1 \equiv 1$  in  $[0,1]$  and vanishes elsewhere.

Figure 4: An example of Haar transform



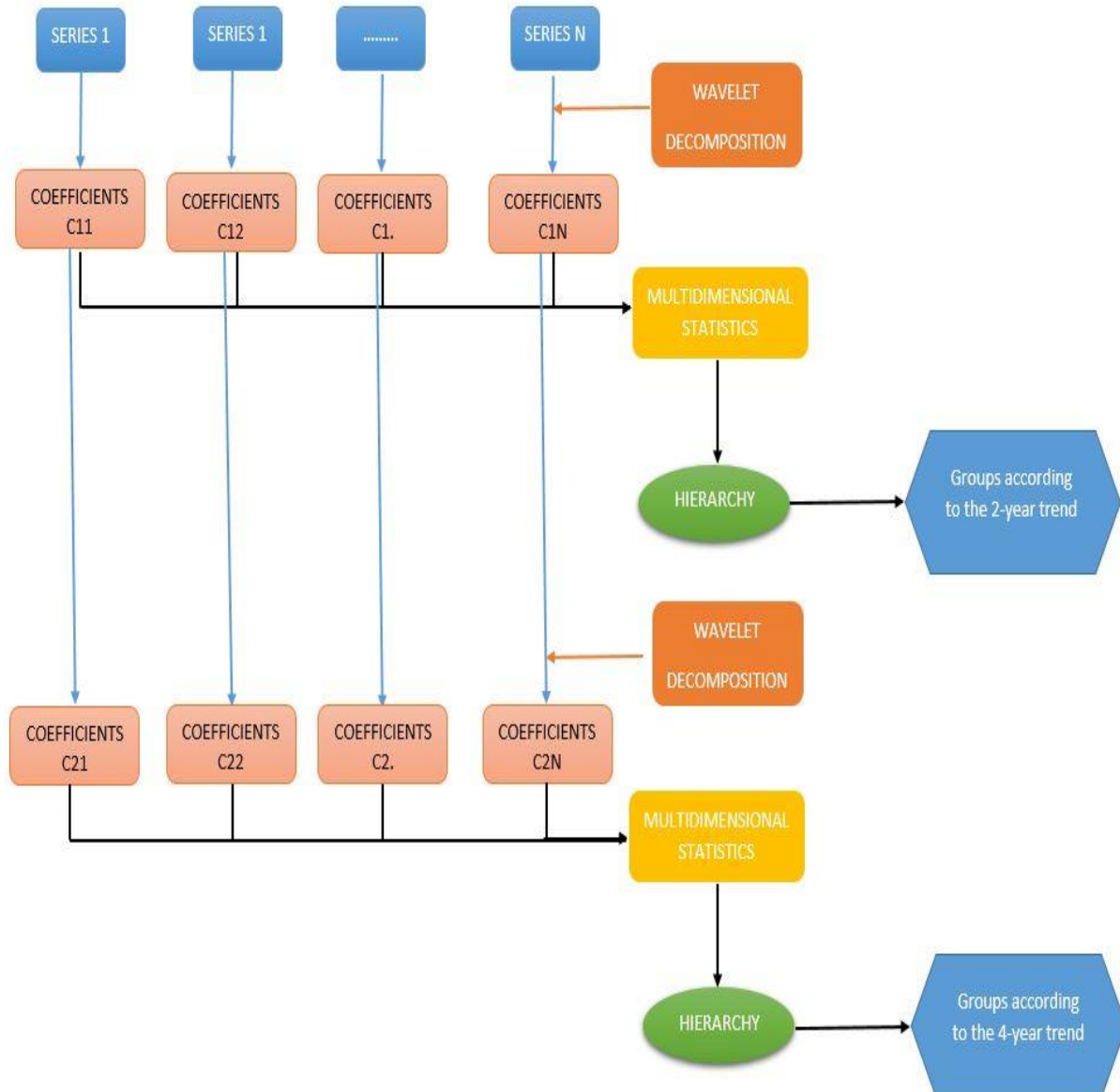
Source: Own elaboration

### 3.2. Description of the algorithm

Wavelet analysis and nonlinear ordering were used for the study. The algorithm constructed for this study was subjectively named WWK (see Fig. 5). The algorithm combines wavelet analysis with nonlinear ordering. Wavelet analysis in the described algorithm allows the decomposition of the series, and then the evaluation of the phenomenon in various time oscillations around the trend. On the other hand, the introduction to the non-linear ordering algorithm allows for classification of series obtained from the wavelet analysis, into clusters according to oscillations around various time trends. Thus, the ranks were first expanded to include a number of observations equal to a multiple of 2. Then the algorithm of a discrete wavelet transform was applied. The obtained coefficients were introduced into the classification algorithm, obtaining on the output clusters of countries with the closest links around the 2-year trend. Then further wavelet decomposition was made, obtaining the coefficients necessary to create clusters containing countries with the closest oscillation around the 4-year trend. The central idea of the wavelet transform analysis in this algorithm is to decompose a signal into different levels of resolution (this process is known as multiresolution).

The multiresolution representation provides a simple hierarchical framework for the interpretation of the information in the time series. At different resolutions, the details of a signal usually characterize different physical structures of themselves. At a coarser resolution, these details generally characterize large structures that provide information and with the increase of the resolution finer details are obtained.

Figure 5: Framework of algorithm

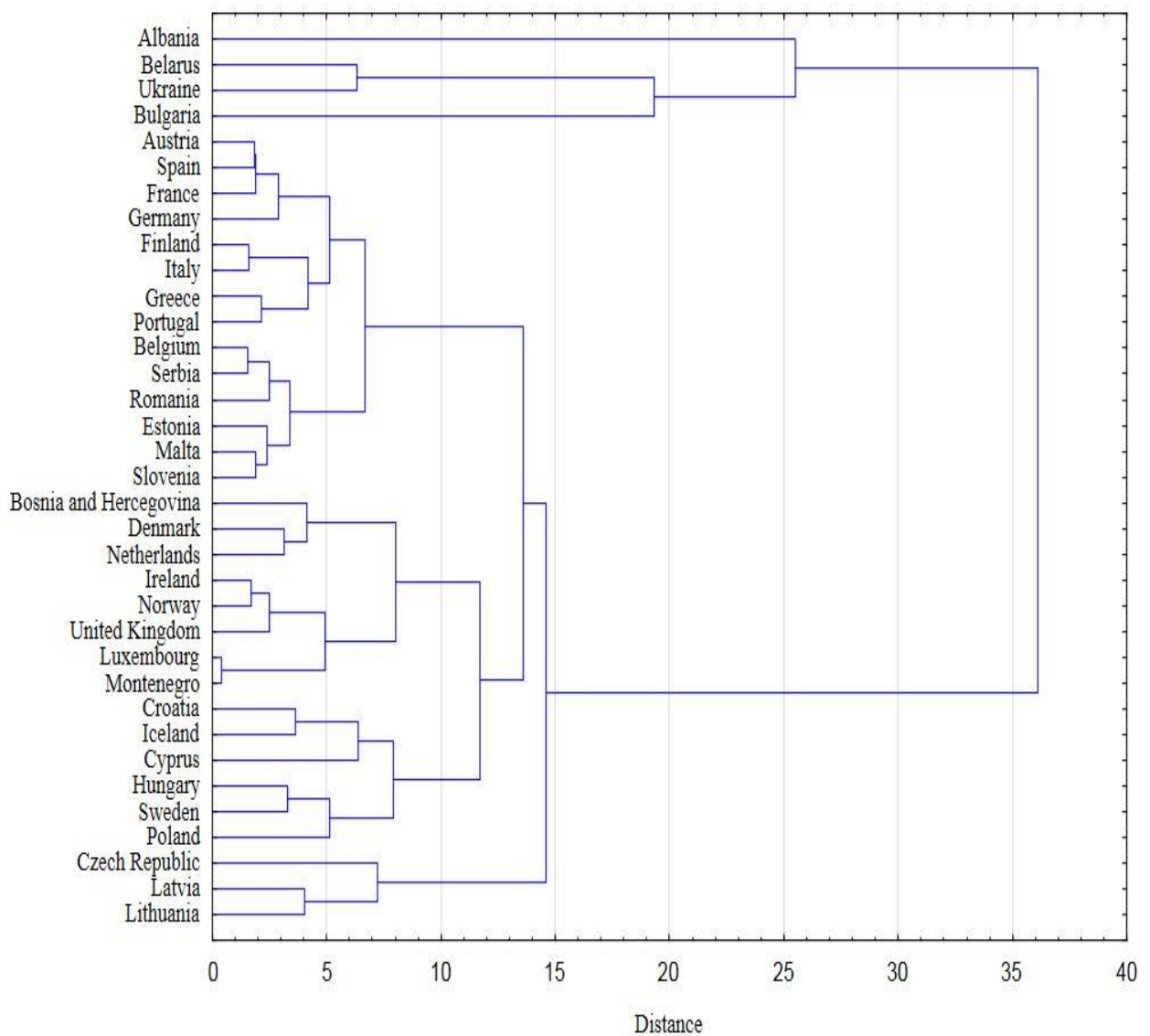


Source: Own elaboration

### 3.3. The research results

The algorithm application described in chapter 3.2 allows for the construction of clusters containing groups of similar countries in a given time trend and also for the following conclusions. Albania, Belarus, Ukraine, Bulgaria are countries that have a similar trend of "trade globalization" in the 2-year trend. A separate group is made up of Austria, Spain, France, Germany, Finland, Italy, Greece, Portugal (Fig. 6).

*Figure 6: Application results of the algorithm. Classification of the countries of the European continent according to the oscillation around the 2-year trend.*

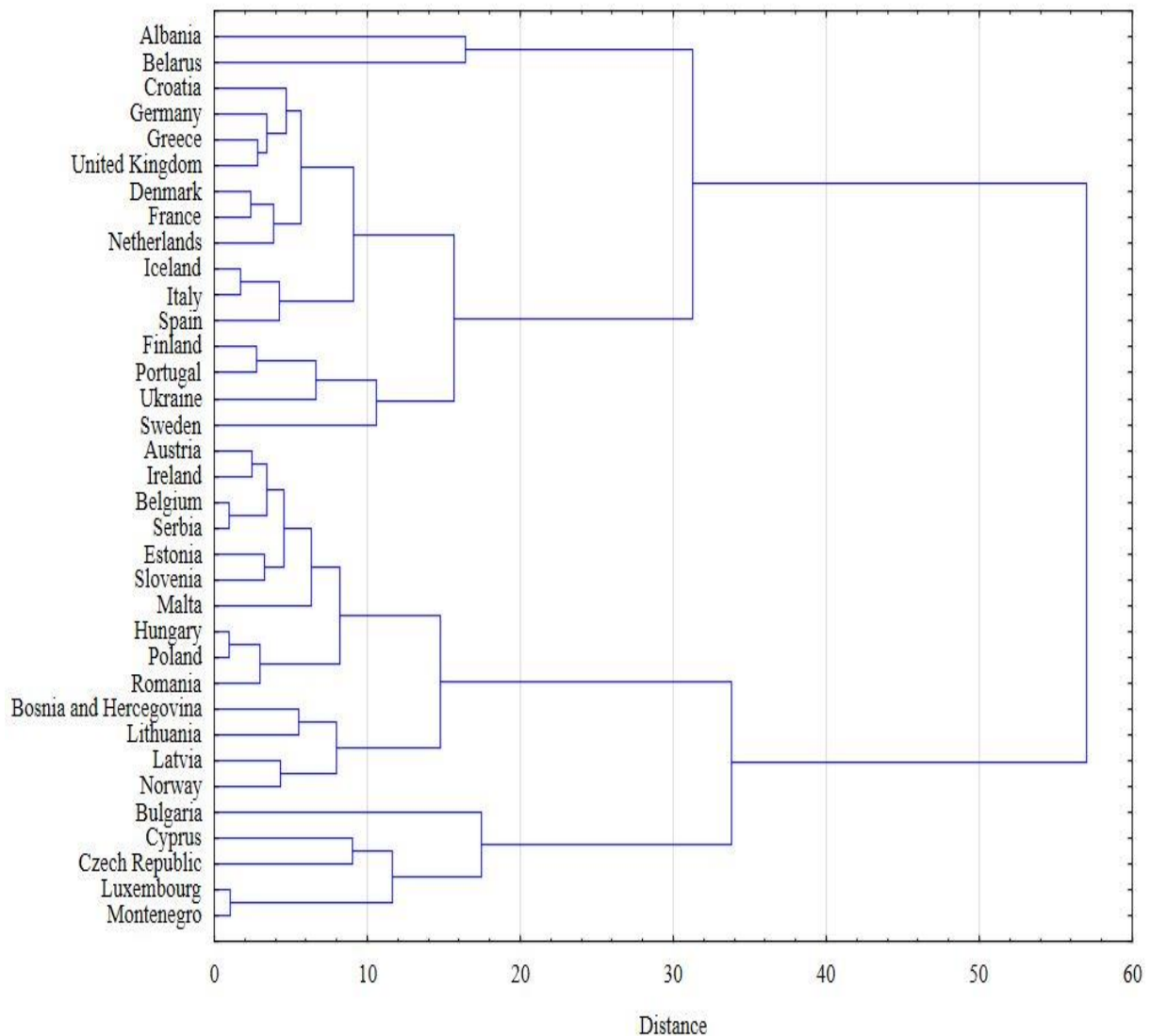


*Source: Own calculations and simulations*

Analyzing Trade Globalization oscillations around the 4-year trend, we get that countries like Croatia, Germany, Greece, United Kingdom, Denmark, France, Netherlands, Iceland, Italy, Spain have a similar development trend (see: Fig. 7). A separate group is made up of Albania and Belarus.

*Figure following on the next page*

*Figure 7: Application results of the algorithm. Classification of the countries of the European continent according to the oscillation around the 4-year trend.*

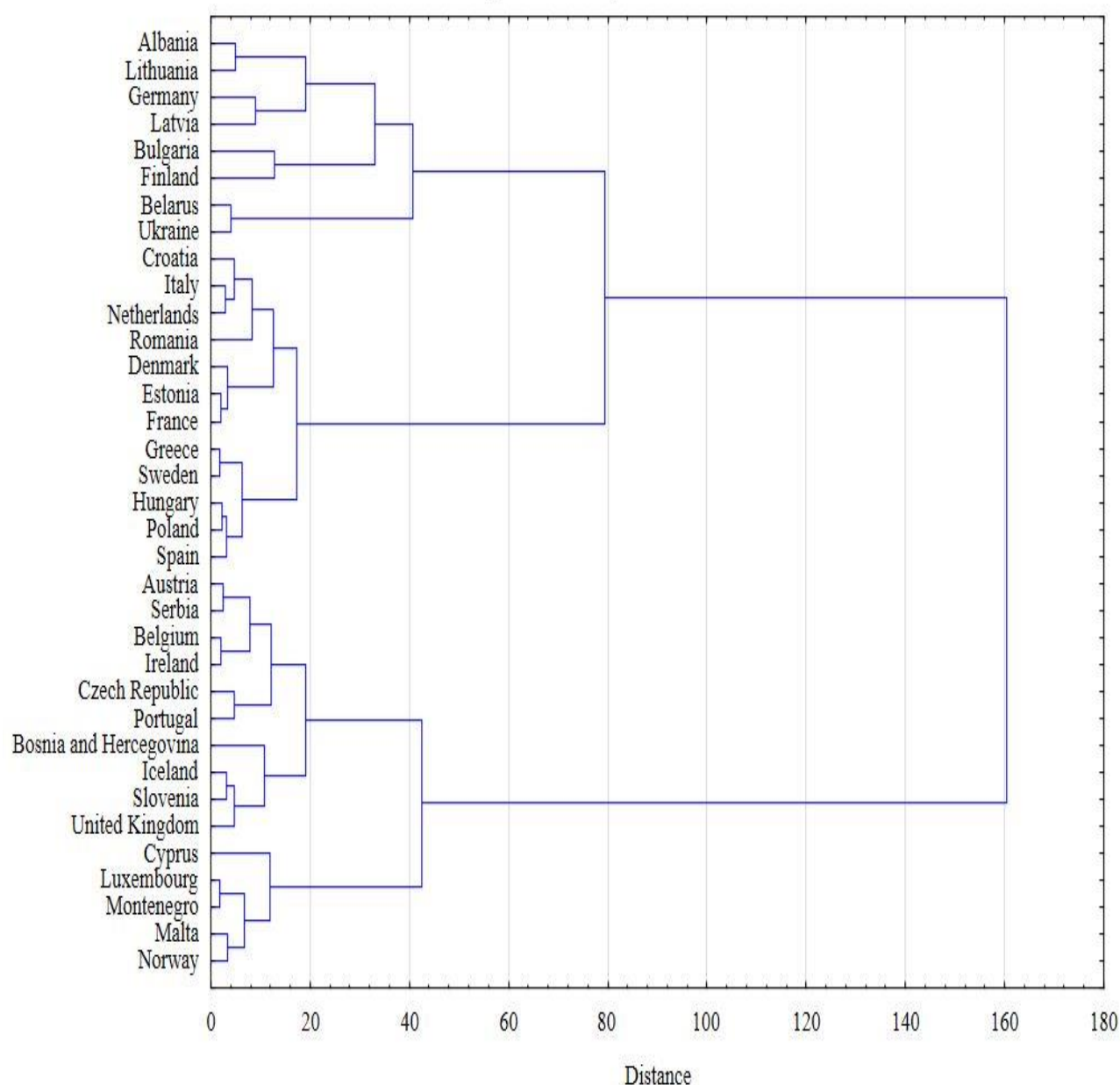


*Source: Own calculations and simulations*

Analyzing the oscillations of Trade globalization around the 8-year trend, we get that Albania, Germany, Latvia, Bulgaria, Finland, Belarus, Ukraine have a similar development trend.

*Figure following on the next page*

*Figure 8: Application results of the algorithm. Classification of the countries of the European continent according to the oscillation around the 8-year trend.*



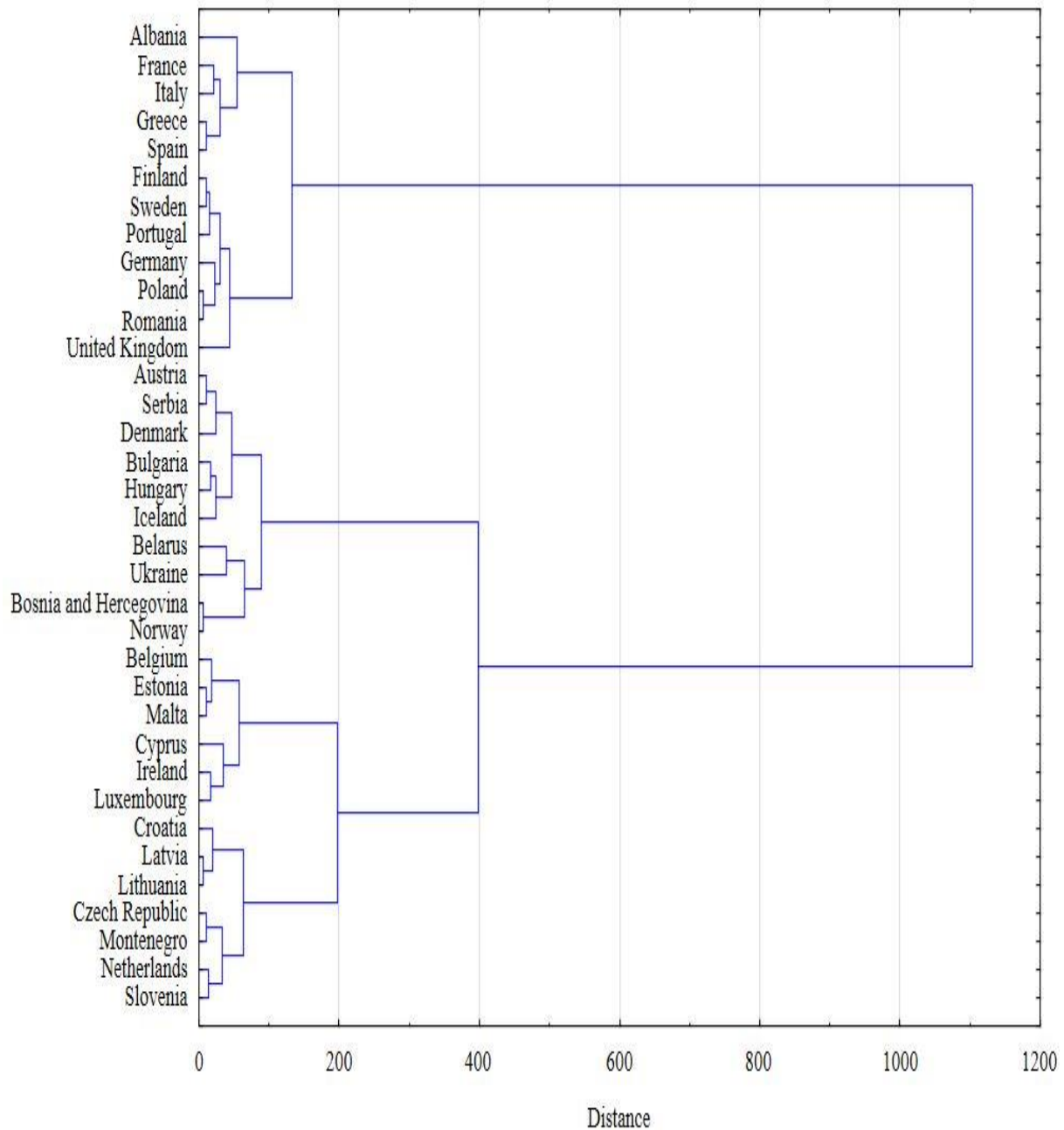
*Source: Own calculations and simulations*

In the long-term trend with similar volatility, there are countries: Albania, France, Italy, Greece, Spain. As a separate group, you can classify: Finland, Sweden, Portugal, Germany, Poland, Romania, United Kingdom.

*Figure following on the next page*



*Figure 9: Application results of the algorithm. Classification of the countries of the European continent according to the oscillation around the long-term trend.*



*Source: Own calculations and simulations*

#### 4. CONCLUSION

The article classifies the countries of the European continent according to the trade globalization index. The countries that are the most similar in terms of the trend have been merged into groups. Four classifications were made: 2-year trend, 4- year trend, 8-year trend, long-term trend. The subject matter is important. In the economic field, many advantages of the globalization process are underlined. Optimists do not perceive any threats, on the contrary - they believe that the global economy is becoming more and more open and integrated internally thanks to the globalization process, which is served by international trade, free flow of capital, technology, information and organizational solutions, and even ideas and standards. The advantage of globalization is the rationalization of activities in line with the principle of



maximizing costs and minimizing losses. Decisive is reducing the costs of information flow: "it accompanies this process by reducing the costs of obtaining and transmitting information, and thus increasing the possibility of access to modern technology for an increasing number of countries and societies".

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# THE IMPACT OF BRANDING ON CONSUMER SATISFACTION IN MOBILE TELECOMUNICATIONS SERVICES

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## ABSTRACT

*Current research suggests that consumers are looking for brands that provide them with a unique, experiential and memorable experience. The companies are making significant efforts to build brands that can attract customers, create mutual trust, satisfy customer needs and subsequently induce the purchase. The efforts of the companies are focused on building the relationships based on satisfaction and trust, resulting in customer loyalty. The ability to maintain the customers is key in terms of the future survival of the companies. Satisfied customers generate higher profits from a long term perspective with regard to their lifetime value, and they increase the volume of their purchases over time. Our research focuses on the brands marketed by mobile service providers. The aim of our research was to analyze the relationship between the brand experience, satisfaction, trust and loyalty to the brand. When drafting the aim of our research, we used the existing theoretical knowledge on the issue. Our research was based on the existing research conducted abroad, which we applied to our conditions. To do a thorough analysis of the relations, we have created a statistical model in IBM AMOS 23.0, in which we included a number of variables and analyzed their estimated impact. Our findings allow for a certain degree of generalization, which allows us to formulate the conclusions. Despite the above, we are aware of the need to deepen our research and extend the sample size in the future.*

**Keywords:** Brand, Branding, Brand trust, Brand experience, Brand loyalty, Brand satisfaction

## 1. INTRODUCTION

It is generally assumed that for a company to successfully advance its products and services, it must take into account its own expectations but also the ideas and expectations of the target group. Additionally, it must also follow the competition, current trends, market situation, opportunities and possible threats, to which it must adequately respond to prevent possible complications. Each brand has its own identity, story and vision of what it wants to achieve, how to behave on the market and make the general public notice, try and continue to buy its products for their quality, and build a reciprocal and mutually beneficial relationship with it. In order for the brand to become a market leader or to approach this position, the company cannot become complacent and satisfied with its current position. It must constantly innovate, widen its commercial offering, introduce novelty products that make it stand out against the competition and bring it the desired competitive advantage. For the purposes of our work, it is necessary to realize that branding and brands are two different concepts that cannot exist independent of each other (Adamson, 2011, pp. 17). The concept of a “brand” has a large number of definitions.

For the purpose of our work, we have decided to use the following definitions. A brand can be defined as a name, expression, sign, symbol or design, or a combination thereof, which seeks to identify the products or services of one seller and differentiate them from the competition (Slávik et al., 2013, pp. 208). Each brand is therefore created with a certain identity, i.e. its name, graphical representation, unique meaning and expectations. Because no brand has a guaranteed place on the market, it is necessary to cultivate it with respect to the actual market situation to strengthen the long-term viability and uniqueness of the brand (Horáková, 2008). Similarly, a brand can be defined as a common name or symbol, which is an important means when creating a positive image of the brand and differentiating it from the competing products (Kotler, 2004). A brand can be divided into two groups of elements. The first one is the rational element, which addresses the left half of the brain, and represents the visible component of the brand. This may include the improvement of quality, counseling, or the greatest possible availability. The provision of high quality goods and services is one of the main objectives of the companies in winning a competitive advantage. The second group is represented by the emotional element, which addresses the right half of the brain – the intuitive one – and can represent the brand character, honesty and openness (Příbová, 2000). It is also known that the brand is a unique and important driving force for the consumers and can be conceived as one of the important strategic and critical assets of the company. When a company offers its customers a valuable brand, the consumers tend to pay more for owning the brand, visit this company more often, share more positive news about the brand and recommend it further. Therefore, the brand managers are trying to create strong brands (Alan, Ebru, 2014). The brand allows the companies to create their own loyal group of customers and maintain their market shares. Loyal customers are loyal to the brand, willing to make repeated purchases and recommend the brand their area (Aysel et al., 2012).

## **2. BRANDING**

Branding is an important marketing tool that serves to distinguish and maintain a competitive advantage, it is also a strategic attempt to "personify" the products, giving them the history and personality. Branding can be defined as a science of lending the brand value to products and services and making a difference, which arises mainly from the added value, which is lent to the product as a result of past marketing activities for the benefit of the brand. The brands are a result of the branding process, in which the product or a set of products is charged with certain characteristics that act primarily as marketing arguments. The brand value then lies in the way people think and personalize with the product the brand is associated with (Lury, 2004, Kotler 2007, Keller 2007). The brand is not built by chance, but it is a product with carefully implemented – either explicitly or implicitly – series of logically linked steps with the consumer (Theurer, Tumasjan, Welp, Lievens, 2018). One of the key factors of branding is the customer trust to the brand, which means that the final purchase is always decided in the mind of the customer (Hommerová, 2015).

### **2.1. Brand identity**

Brand identity can be defined as a relatively permanent characteristic of the brand, which often identifies what is promised to the customers (He et al., 2012). The brand management bodies argue that brand identity must resonate with the customers, differentiate the brand from the competitors and indicate what the organization can and will do over time (Aaker, 2018). A brand tends to have a strong and attractive identity when its identity and prestige is broader than the identity and prestige of the competitive brands (Homburg, Klarmann, Schmitt, 2010). Brand identity determines its positioning, i.e. a process in which the brand actively settles in the mind of the consumer, and value proposition, i.e. value proposition of the brand. It is at the heart of everything, and it reflects the brand value for the customer through rewards and benefits (Slávik

et al., 2013). Positioning is a psychological matter. It is a conscious and subconscious perception of the customer, whose aim is to position the given brand at a specific place in the customer's mind and create a connection that clearly profiles the brand compared with the competing brands (Horáková, 2008). The determination of positioning often includes a precise description of the core brand values, which are a set of characteristic abstract associations, features and benefits, and their mantra. This is usually made up of a short word/expression, which expresses the most important aspects of the brand and its core values (Keller, 2007). Another equally important concept in brand identity is its personality – this focuses on what the brand says about the consumer and how the consumer feels with the brand. The consumers prefer the brands whose values reflect those that they themselves respect and want to be associated with them. This means that brand personality can foster a speedy understanding of the brand values in the consumers (Chernatony, 2009).

## **2.2. Brand building**

Branding begins with capturing the essence of the brand idea. The strongest brands are those that built a different meaning of the brand and reduced it to a simple and clear idea that the consumer can understand in a split of a second. When communicating the idea of the brand it is crucial to create a differentiated awareness of the brand in a way that is comprehensible within and outside the organization. If we want the brand to be successful, it is necessary to closely link the business strategy with the idea of the brand (Adamson, 2011). The second step in the brand building process is the organizational culture and design, which is part of the corporate culture identity. The organizational culture of the company should motivate the employees and ensure loyal behavior in them. It should also increase the consistency of the brand and its performance and build trust in the brand. This means that a strong organizational culture contributes to the economic success of the brand (Chernatony, 2009). It is important to determine the brand aim. For example, it can be creating a positive association, awarding quality of the brand, building brand loyalty, achieving higher profits and long-term relationships, etc., creating a strong brand. Brand strength is the relative power to attract the customers to a particular brand over the competing brands and other products attributes. The aim of branding is to become a shortcut in the decision making of the consumer (Adamson, 2011; Woodside, Walser, 2007). When building branding, we should not forget that it is necessary to audit the external environment due to the fact that the organization needs to understand what customers want, how to best meet their expectations - success in today's highly competitive environment is determined by ability to understand the customer and their needs and desires (Bulanda et al. 2018), establish long-term and mutually beneficial relationships with the distributors and battle the competition. This is followed by internal implementation of the brand, which deals with the structure of the organization to be able to fulfill its objectives. Lastly, it is the implementation of the resources of the brand, where we include the creation of the brand name and the choice of communication tools and resources (Chernatony, 2009).

## **3. BRAND EQUITY**

Brand equity should be defined in terms of marketing effectiveness that is unique to each brand. The concept of brand equity highlights the important roles of the brand in marketing strategies. Concept of brand equity is described in many papers and books and its content is defined by a variety of dimensions. Most experts regard brand awareness, perceived quality, brand associations, functionality, customer loyalty and brand image as the most important (Světlik, Vavrečka, 2016). The concept of brand equity is connected with a plethora of definitions. We only mention some of them. Brand equity depends on the social status of the organization, which presents the given brand. The perception of brand equity from the customer's perspective is important because its strength lies mainly in what the consumers think, how they feel with it

or what they found out about it. Brand equity is part of brand management, i.e. how a brand is perceived by the customers and how their knowledge affects their relationship and behavior to the brand. It is defined as a differentiated impact that the knowledge and brand awareness has on the customer behavior based on brand marketing. In the context of brands, brand equity can also be a financial term because the very end result and the specific financial value of the product or service goes beyond the physical and production costs and is realized through the action of the brand (Kotler, Keller, 2013). The consumer perception of brand value is largely based on what the perception components the brand has and how these are perceived and accepted by the consumers.

### **3.1. Brand experience**

The concept of brand experience is not a new phenomenon. Experience with the brand is an important act that creates a relationship between the consumer and the brand (Khan, I. Rahman, Z., 2015). It is conceptualized as impressions, feelings, knowledge and behavioral responses induced by brand impetuses, which are part of the brand design and identity, packaging, communication and environment. Brand experience can also be defined as consumer perception when having a contact with the brand – whether it is the brand images that are presented through advertising during the first personal contact, or the level of quality relating to the personal treatment they receive. In brand experience, it is the knowledge and behavior – the responses and other stimuli caused by the brand in the consumer – that are part of brand identity. (Alloza, 2008; Minkiewicz, et al.; Nadzri et al., 2016). Experience with the brand is not a concept of emotional relationship. Experience is the feelings, knowledge and behavioral responses induced by the stimuli associated with the brand. Over time, brand experience can result in emotional ties, but emotions are just one of the internal outcomes of stimulation that result in an experience. Therefore, brand experience differs from brand evaluation, commitment, involvement, attachment and the consumer's enjoyment. Brand experience is also conceptually and empirically differentiated from brand personality. Unlike customer satisfaction with the brand, experience does not occur only after using the brand, but whenever there is a direct or indirect interaction of the consumer with the brand. In addition, experience with the brand may not be surprising, it may be expected, but also unexpected (Sahin et al., 2011). In brand experience the psychological aspect, i.e. the associations linked to the brand, such as thoughts, feelings, perceptions and attitudes that are associated with the brand and result in the experiential aspect, is also emphasized. This consists of the sum of all experiences from all experience points with the brand, which is termed "brand experience", i.e. cumulated experience with the brand, which represents mutual evaluation of the interaction with the customer (Slávik et al., 2013). Brand experience and the conceptualization of development are very important for the understanding and management of concepts of trust and loyalty to the brand. Experience with the brand can be positive or negative, short-term or long-term. Experience with the brand may also have a positive impact on consumer satisfaction, trust and loyalty to the brand (Zarantenello, Schmitt, 2000; Ha, Perks, 2005).

### **3.2. Brand satisfaction**

The customer faces and meets the brand under different conditions and at various stages of their lives. These conditions affect the customer's relationship to the brand. It is well known that consumers prefer the products that match their image and express their personality or characteristics through the products that match their own image. When the consumers perceive that the brand is of a high quality, they show a growing interest in it and are associated with the brand, consequently resulting in increased customer satisfaction and loyalty (Foroudi et al., 2017). Satisfaction is a positive affective response to the results of prior experience. Satisfaction was derived, and the position was created as part of prior experience, which in turn affect the

future purchases – it is a cyclical pattern (Bennett et al., 2005). The consumer's positive attitude develops as a result of his/her consumption of certain products, and it is called “satisfaction”. Customer's satisfaction with the brand is a foreshadow of customer loyalty to the brand (Keller, 2013). Increased competition in product marketing forces the companies to think about differentiating their strategies to attract, secure and maintain their customer base. The differentiation strategies used by the companies include the personalization of products to meet the individual customer needs. Customization has become increasingly popular especially when compared to standardization because customization allows the consumers to create the product to the extent that is appropriate to satisfy their desires and increase their satisfaction (Jin et al., 2012). For the companies to be able to boost satisfaction with the brand, they should provide the consumer with experience-based offerings, which should be personal, engaging, compelling, memorable and create intense positive reaction (Iglesias et al., 2011). Satisfaction is an essential, but not the only component of consumer's brand loyalty. Satisfaction with the brand can be considered a forerunner of brand trust and loyalty, but to achieve it before brand trust may be difficult (Agustin, Singh, 2005).

### **3.3. Brand trust**

Brand trust is defined as willingness of an average consumer to rely on the ability of the brand to fulfill its function. Brand trust can be defined as a strong factor that is detrimental to building the corporate success (Chaudhuri, Holbrook, 2001; Alan, Kabadayi, 2014). Brand trust has two dimensions. The first dimension of brand trust and confidence has a technical nature, or it is based on competencies, and it includes the ability and willingness to keep the promises and meet the consumer's needs. The second dimension consists of assigning the brand with good intentions in relation to the interests and welfare of the consumers, such as unexpected problems with the product. Consequently, a trusted brand is the one that consistently keeps its promises and values to the consumers in how the product is developed, manufactured, sold, repaired and advertised, and even in times of trouble when a certain typological crisis of the brand can be noted (Delgado, Ballester et al., 2003). Trust is essential in building a strong relationship between the consumers and brands and it is positively associated with brand loyalty. It is a lasting factor in the mind of the consumer (Sahin et al., 2011). The consumers develop trust in the brand based on the positive beliefs regarding their expectations about the performance of the organization and products that the brand represents (Ashley, Leonard, 2009). Trust reflects the cumulative effects in the course of time on loyalty on the market with a high level of commitment and services. It equally reflects the offering of the businesses towards consumers (Chiou, Droge, 2006; Alan, Kabadayi, 2014). Brand trust is the forerunner of brand commitment. In other words, trust and confidence should be linked since confidence is essential in relational exchanges and commitment is also important for building strong relationships between the brands and consumers (Shanin et al., 2013).

### **3.4. Brand loyalty**

Brand loyalty can be defined as a deep obligation causing a repeated purchase of the same product or service despite the situational influences and marketing efforts, which may trigger a change in consumer behavior. Brand loyalty is defined as a measure of consumer loyalty to a particular brand regardless of the marketing activities of the competing brands. Brand loyalty is included in the conceptualization of the own brand phenomenon, which is used in assessing the performance of the brand (Sahin et al. 2011; Yoo, Donthu, 2001). The relationships between the consumers and brands are of two types: cognitive and affective, and they both affect brand loyalty. Brand awareness, perceived quality, and a clear, effective brand identity or and building various customer programs or clubs can all boost brand loyalty. Brand loyalty has a major impact on marketing costs, which means that it is less expensive to keep loyal customers than

to attract new ones. A common mistake of the companies, which is also expensive, is that they are trying to attract new customers while neglecting their current customer base. Loyalty is therefore also a kind of barrier against the competitors because attracting and changing customer loyalty comes at a high cost (Nyffenegger et al. 2014; Aaker, 2003). Brand loyalty plays an important role in the perception of the brand on a highly competitive market. Loyalty refers to the attachment of the consumers to the brand. Research suggests that there are two types of brand loyalty: attitude and behavior. Behavioral loyalty reflects the consumer behavior in the repurchase of a particular brand, and attitudinal loyalty expresses the attitude of consumers to certain products or services, subject to the satisfaction and behavior concerning the trends and buying behavior. The level of loyalty is high when the consumers actively communicate with the brand (Foroudi et al., 2017; Reinartz, Kumar, 2000). Brand loyalty develops brand strength, it creates an opportunity to buybacks and make the brand less sensitive to competitors, i.e. it creates the barriers to their entry (Matzler et al., 2008).

#### **4. METHODOLOGY**

In our research, we were inspired by the article of Sahinom et al. published in 2011 in *Procedia – Social and Behavioural Science*. However, we concentrated on the field of communications services. We did it on purpose, because thus we would be able to determine all the factors (trust, satisfaction, experience) on brand loyalty, which is very important in telecommunications services. We chose all the important brands, like Telekom, Orange, O2, 4ka, Juro!, Tesco Mobile and FunFón. Nowadays, there is an important factor of brand parity influencing the market. Nevertheless, it would be very interesting to find out if there is a statistically significant correlation among the factors. We chose a questionnaire as a main collection technique. The questionnaire consisted of 44 questions divided into four basic groups (brand experience, brand satisfaction, brand trust and brand loyalty). The respondents were chosen randomly and were asked to respond to the questions using a 5 point Likert scale (1 = strongly disagree; 5 = strongly agree). Subsequently, the data were processed in IBM AMOS 23.0 in order to build a suitable statistical model.

*Table following on the next page*

Symbol	Question (observed variable)
Q_1_1	This brand makes a strong impression on my visual sense or other senses.
Q_1_2	I find this brand interesting in a sensory way.
Q_1_3	This brand does not appeal to my senses.
Q_1_4	This brand induces feelings and sentiments.
Q_1_5	I do have strong emotions for this brand.
Q_1_6	This brand is an emotional brand.
Q_1_7	I engage in physical actions and behaviours when I use this brand.
Q_1_8	This brand results in bodily experiences.
Q_1_9	This brand is not action oriented.
Q_1_10	I engage in a lot of thinking when I encounter this brand.
Q_1_11	This brand makes me think.
Q_1_12	This brand stimulates my curiosity and problem solving.
Q_2_1	I am very satisfied with the service provided by this brand
Q_2_2	I am very satisfied with this brand.
Q_2_3	I am very happy with this brand.
Q_2_4	I am very satisfied with the service provided by this brand.
Q_2_5	This brand does a good job of satisfying my needs.
Q_2_6	The service-products provided by this brand is very satisfactory
Q_2_7	I believe that using this brand is usually a very satisfying experience
Q_2_8	I made the right decision when I decided to use this brand.
Q_2_9	I am addicted to this brand in some way
Q_3_1	This brand takes a good care of me
Q_3_2	X meets my expectations.
Q_3_3	I feel confident in X
Q_3_4	X never disappoints me
Q_3_5	X guarantees satisfaction
Q_3_6	X would be honest and sincere in addressing my concerns
Q_3_7	I could rely on X to solve the problem
Q_3_8	X would make any effort to satisfy me
Q_3_9	X would compensate me in some way for the problem with the product
Q_4_1	I intend to buy this brand in the near future
Q_4_2	I intend to buy other products of this brand
Q_4_3	I consider this brand as my first choice in this category
Q_4_4	The next time I need that product, I will buy the same brand
Q_4_5	I will continue to be loyal customer for this brand
Q_4_6	I am willing to pay a price premium over competing products to be able to purchase this brand again.
Q_4_7	I would only consider purchasing this brand again, if it would be substantially cheaper
Q_4_8	Commercials regarding to competing brands are not able to reduce my interest in buying this brand.
Q_4_9	I say positive things about this brand to other people
Q_4_10	I recommend this brand to someone who seeks my advice
Q_4_11	I intend to recommend this brand to other people
Q_4_12	I consider this brand my first choice in the next few years
Q_4_13	They carry products I am looking for
Q_4_14	I get good value for my money

*Table 1: Observed variables*

#### 4.1. Goal of the research

The main purpose of the research was to build a statistical model and determine relationship among brand experience, satisfaction, brand trust and brand loyalty in telecommunications



industry. The research design was based on findings from previous research, which was conducted by Sahin et al. (2011). All the telecommunications companies in the Slovak Republic were included in the research. The research consisted of four partial goals articulated in five hypotheses, based on other researches.

#### 4.2. Hypothesis

In the article, we have formulated five research hypothesis according to our research objectives and goals as follows:

H 1: Brand experience is positively influencing the brand satisfaction.

Marketing activities of the brand influence the perception of consumers, what they know and what they feel. The consumer satisfaction influences the brand excitement and thus can positively influence the brand satisfaction (Oliver, Rust, 1997). Satisfaction is a positive active reaction to a previous experience (Sahin et al., 2011).

H 2: Brand experience is positively influencing the brand trust.

Brand experience is vitally important for understanding and managing brand trust, as well as the brand loyalty (Brakus a kol., 2009). Brand experience can be both positive and negative, and also short term or long-term. Brand experience can positively influence consumer satisfaction, brand trust and brand loyalty (Zarantenello, Schmitt, 2000).

H 3: Satisfaction is positively influencing the brand loyalty.

The quality of the relationship between consumer and brand can be defined as a relationship between consumer and the brand as a partner. It can be measured by the power of the mutual relationship (Algesheimer et al., 2005). Brand satisfaction subsequently leads to higher brand loyalty as defined by Bennett, 2001 in Sahin et al. (2011).

H 4: Brand trust is positively influencing the brand loyalty.

Brand trust is usually defined as a consumer conviction about services reliability (Agustin, Singh, 2005) and relative value can be defined as a perception of offered advantages compared to costs and risks, consumers are going through during the decision making process. Brand trust is the result of the trustworthy, which can subsequently lead to higher loyalty and repeat purchases. Trust is an important factor of building strong relationship between consumer and brand and leads to brand loyalty (Fournier, David, 1999).

H 5: Brand experience is markedly influencing brand loyalty positively.

Brand experience can positively influence consumer satisfaction, brand trust and brand loyalty (Zarantenello, Schmitt, 2000). Brand experience leads to brand loyalty and higher profits. It can stimulate loyalty by emotional connection through convincing context. The context is the touchpoint where the consumer experience with brand is created (Morrison, Crane, 2007), where consumer experiences the services.

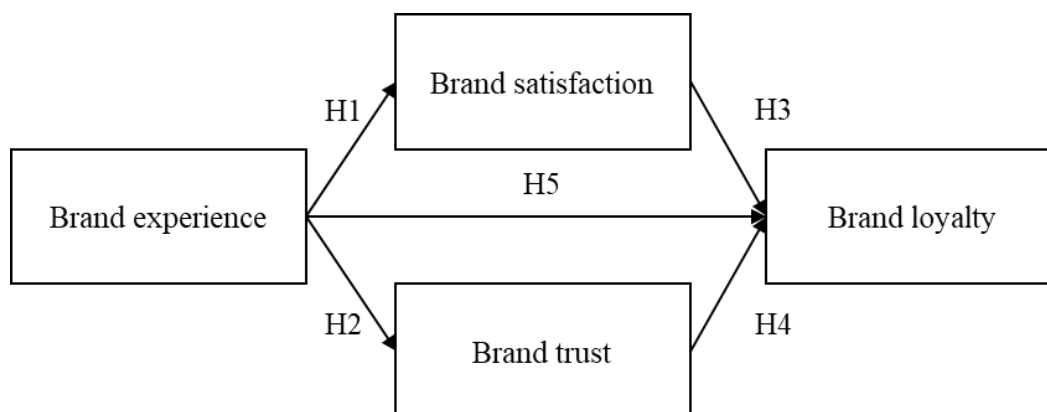


Figure 1: Research model by Sahin et al. (Sahin et al., 2011, p. 1293)

The hypothesis are based on the Sahin's research model (Sahin et al., 2011). The model as well as the hypothesis are shown in the figure 1. However, we assume that the relationship among observed variables are mutual as shown in our statistical model (figure 3). All the variables from Q\_1\_1 to Q\_4\_4 are observed variables as collected from our questionnaire. Brand experience, satisfaction, trust and loyalty are latent variables (common factors) determined by the answers from our questionnaires. We assume, that there are also unobserved variables (unique factors) influencing our statistical model (from Q\_1\_1e to Q\_4\_4e).

#### 4.3. The sample of the research

The sample of the research consisted of 200 consumers of the telecommunications services brands. There were 81 men (40,5%) and 119 women (59,5%) in the sample.

		N	%
Valid	Men	81	40,5
	Women	119	59,5
Total		200	100,0

*Table 2: Gender of respondents (Own research)*

As far as the demographics are concerned, the average age of the respondent was 26 years. Most of our respondents had a bachelor's degree (70; 35,0%) and secondary education (67; 33,5%). There were also 30,0% of master's degree holders and only 1,5% respondents with an elementary education.

		N	%
Valid	Elementary	3	1,5
	Secondary	67	33,5
	Bachelor's degree	70	35,0
	Master's degree	60	30,0
Total		200	100,0

*Table 3: Education of respondents (Own research)*

## 5. RESULTS AND DISCUSSION

In the figure 2, we show the model created using SPSS AMOS to illustrate the relationship among observed, latent and unobserved variables. We focused on determining the influence of observed variables (questions in questionnaire) on latent variables (factors) in order to explore the mutual relationship among variables. We also took into consideration the influence of unobserved variables, which can determine the whole statistical model and the output. It is clear that almost all the observed variables markedly load the latent variables (Table 4). We highlighted those variables, which loaded the factor most. Regression estimates can be viewed upon as factor loading. Furthermore, we also determined squared multiple correlations which can be interpreted as a percentage of variance accounted for by observed variables (Table 5).

*Table following on the next page*

	Symbol	Estimate	Symbol	Estimate
Brand Experience	Q_1_1	0,64	Q_1_7	0,75
	Q_1_2	0,53	Q_1_8	0,60
	Q_1_3	-0,01	Q_1_9	0,43
	Q_1_4	0,63	Q_1_10	0,77
	Q_1_5	0,88	Q_1_11	0,80
	Q_1_6	0,85	Q_1_12	0,71
Satisfaction	Q_2_1	0,85	Q_2_6	0,88
	Q_2_2	0,87	Q_2_7	0,78
	Q_2_3	0,71	Q_2_8	0,83
	Q_2_4	0,89	Q_2_9	0,47
	Q_2_5	0,86		
Brand Trust	Q_3_1	0,85	Q_3_6	0,86
	Q_3_2	0,84	Q_3_7	0,83
	Q_3_3	0,79	Q_3_8	0,86
	Q_3_4	0,79	Q_3_9	0,71
	Q_3_5	0,88		
Brand Loyalty	Q_4_1	0,74	Q_4_8	0,62
	Q_4_2	0,65	Q_4_9	0,78
	Q_4_3	0,77	Q_4_10	0,86
	Q_4_4	0,84	Q_4_11	0,79
	Q_4_5	0,87	Q_4_12	0,87
	Q_4_6	0,58	Q_4_13	0,76
	Q_4_7	0,44	Q_4_14	0,83

Table 4: Standardised regression weights (Own research)

We can conclude that *brand experience* is mainly influenced by brand aroused consumer emotions and feelings (78%). It is also important for customers to think about telecommunications services (63%). As far as the *brand satisfaction* is concerned, the satisfaction (79%) is highly dependent on the overall services provided by the telecommunications brands. Consumers choose the brands, which are able to meet their needs (77%). And if so, consumers feel that they have made the right decision (69%). Another important factor of brand loyalty is a *brand trust*. It is loaded mainly by the ability of brands to fulfil our requests and expectations (70%). Customers expect telecommunications brands to be honest and sincere (76%) and to be able to solve customer problems (68%). To put it another way, brands should do the best to satisfy their customers (75%).

Figure following on the next page

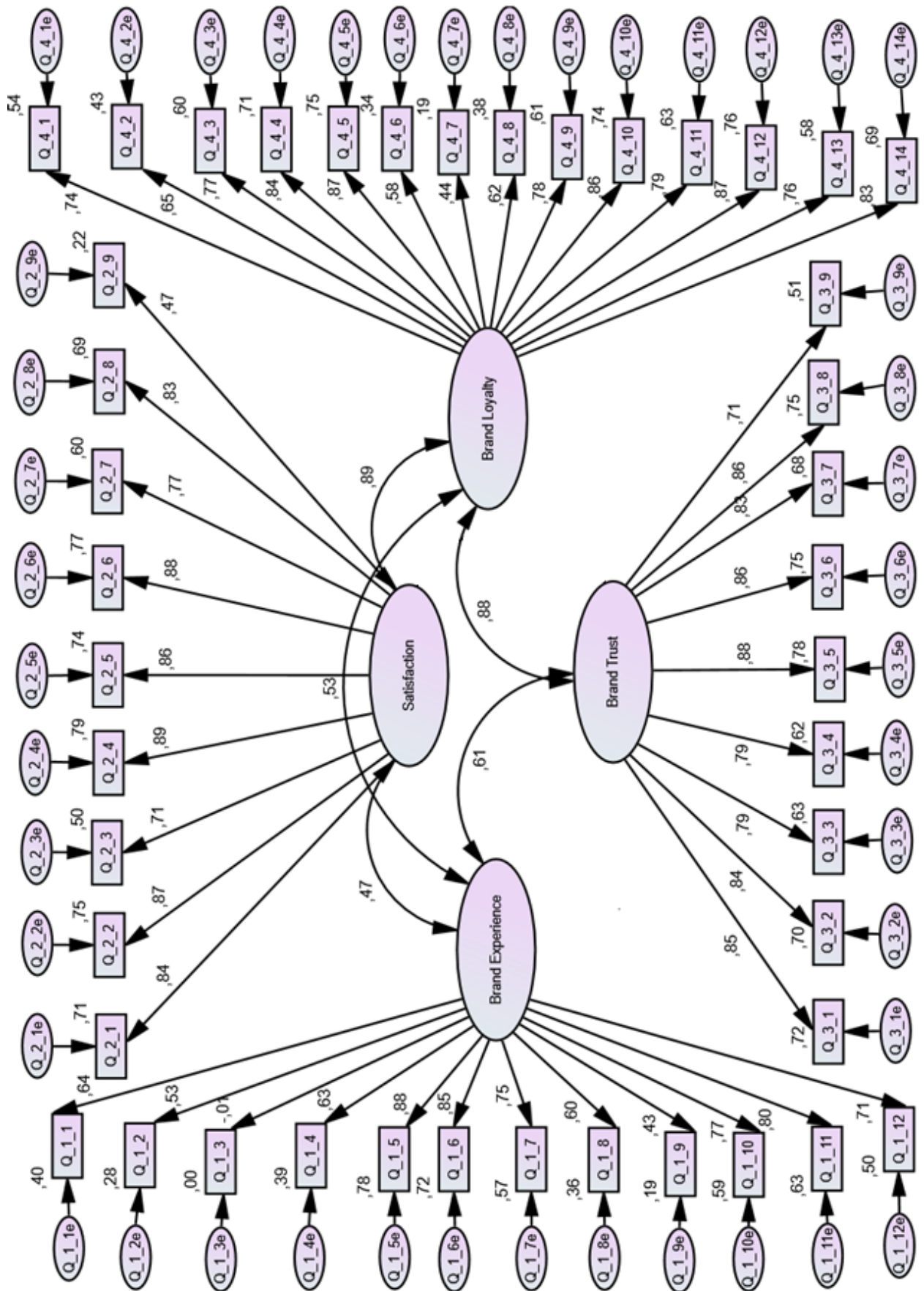


Figure 2: Path diagram of standardised estimates (Own research)

Symbol	Estimate	Symbol	Estimate
Q_1_5	0,78	Q_1_1	0,41
Q_1_6	0,72	Q_1_4	0,39
Q_1_11	0,63	Q_1_8	0,36
Q_1_10	0,59	Q_1_2	0,28
Q_1_7	0,57	Q_1_9	0,19
Q_1_12	0,50	Q_1_3	0
Q_2_4	0,79	Q_2_8	0,69
Q_2_6	0,77	Q_2_7	0,60
Q_2_2	0,75	Q_2_3	0,50
Q_2_5	0,74	Q_2_9	0,22
Q_2_1	0,71		
Q_3_5	0,78	Q_3_7	0,68
Q_3_6	0,75	Q_3_3	0,63
Q_3_8	0,75	Q_3_4	0,62
Q_3_1	0,72	Q_3_9	0,51
Q_3_2	0,70		
Q_4_12	0,76	Q_4_3	0,60
Q_4_5	0,75	Q_4_13	0,58
Q_4_10	0,74	Q_4_1	0,54
Q_4_4	0,71	Q_4_2	0,43
Q_4_14	0,69	Q_4_8	0,38
Q_4_11	0,63	Q_4_6	0,34
Q_4_9	0,61	Q_4_7	0,19

Table 5: Squared multiple correlations: (Own research)

*Brand loyalty* is most often referred to as an important factor of repeat purchases (71%) or as a factor for brand recommendations (74%). Customer usually consider these brands as a good value for money (69%). Overall, all the factor loading turned out to be important for the factors. However, we identified one question „This brand does not appeal to my senses“, which would be excluded from our future research. According to the built statistical model, we conclude that there are very important correlations identified in our statistical sample (Table 6).

			Estimate
Satisfaction	↔	Brand Loyalty	,89
Brand Loyalty	↔	Brand Trust	,88
Brand Experience	↔	Brand Trust	,61
Brand Experience	↔	Brand Loyalty	,53
Brand Experience	↔	Satisfaction	,47

Table 6: Correlations (Own research)

As far as the loyalty is concerned, satisfaction ( $r = ,89$ ) and trust ( $r = ,88$ ) are of the highest importance. We can conclude, that satisfaction and brand trust are vitally important for consumer's decision making. In other relations, we can see lower levels of correlations. Nevertheless, still there are moderate to high correlations between brand experience and satisfaction ( $r = ,47$ ), loyalty ( $r = ,53$ ) and trust ( $,61$ ).

## 6. CONSLUSION

Based on the statistical evaluation of our results, we found that there are significant relationships between experience, satisfaction, trust and loyalty. Therefore, based on our results, we can assume that if a brand wants to achieve the satisfaction of its customers, it should first ensure a positive, strong and experiential customer experience. Brand loyalty is the result of a unique experience, customer satisfaction with the brand and a belief that the brand is doing everything for the customer's happiness and satisfaction. Trust is another important factor. Trusted brands are selected by the consumers when they need to solve existing problems. The outlined relationships and interdependencies are manifested in all analyzed brands of the companies providing telecommunications services. Based on the results, we can confirm the existence of a positive relationship between the relations formulated in the research hypotheses.

H 1: Brand experience is positively influencing the brand satisfaction.

Hypothesis 1 assumes a relationship between brand experience and satisfaction. Our research suggests that the surveyed factors exhibit a slight (moderate) relationship. The value of  $r = 47$  (two-tailed) shows a slight closeness. Consumer satisfaction is heavily influenced by other factors such as the ability of brands to satisfy customer needs, honesty and sincerity.

H 2: Brand experience is positively influencing the brand trust.

The second hypothesis stated that there is a relationship between brand experience and brand trust. In the case of this hypothesis there is a strong correlation between the monitored factors ( $r = 61$ ). If the brand is capable to appropriately build trust and credibility (honesty, sincerity) and ensure the welfare and customer satisfaction, it is then reflected in the positive experience with the brand, which are subsequently reflected in a higher degree of brand loyalty.

H 3: Satisfaction is positively influencing the brand loyalty.

In the third hypothesis we identified the strongest relationship. This hypothesis dealt with the impact of satisfaction on loyalty. The relationship is positively correlated ( $r = 89$ ). Based on this coefficient, we can state that brand satisfaction has a highly positive effect on brand loyalty. If the consumer has a positive experience with the brand that stems from the services provided and feels that the brand does its job well, this is manifested through repeated purchases. The consumers perceive the brands as good value for their money.

H 4: Brand trust is positively influencing the brand loyalty.

The fourth hypothesis assumes the existence of a relationship between trust and loyalty. The relationship between brand trust and brand loyalty is positively correlated. A value of  $r = 88$  indicates that the monitored variables have a high rate of closeness. The consumers first select those brands that are capable of producing a high level of mutual trust as a result of positive satisfaction of consumer needs. If the consumers perceive the brand as honest and trustworthy, there is no reason to change it. Loyalty is then also reflected in a higher likelihood that the consumers will recommend such brands to friends.

H 5: Brand experience is positively influencing brand loyalty.

The last hypothesis stated that there is a relationship between brand experience and brand loyalty. This claim was verified through the statistical model (Figure 2) created by us. The relationship between experience and loyalty is positively correlated, but compared to the other monitored relationships, it only exhibits medium closeness ( $r = 53$ ). It is natural that loyalty is the result of several factors. In the case of brand experience, we have identified the primary emotional impacts associated with the brands. In terms of brand loyalty, these do not play such an important role in the consumer and in the brands selected by us as does trust and satisfaction.

However we are aware that there are several limitations in our research. The size and nature of the research group does not constitute a representative file. On the other hand, we have attempted to outline the research design that could be reproduced on a larger sample size to achieve representative results. In our research, we were inspired by the existing research carried out abroad. In general, there is always a risk in applying international research locally. Our research relies on the statements that might not be the best way to assess the impact and future consumer behavior. Overall, it would be necessary to develop a detailed understanding of the relationship between brand loyalty and other variables associated with the marketing relationship. Therefore, we are aware that the relevance of our conclusions needs to be focused on other factors that may influence the monitored variables. For starters, it is the following factors of consumer perception: association with the brand, its perceived quality, image of the country the brand comes from and overall brand awareness.

**ACKNOWLEDGEMENT:** *The paper is a part of the research project VEGA 1/0502/17 "Consumer personality and its impact on emotional behaviour and decision making", solved at the Department of Marketing and Trade, Faculty of Economics and Management, Slovak University of Agriculture in Nitra.*

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## GLOBALIZATION OF THE WORLD ECONOMY: FEATURES OF THE CURRENT STAGE

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### ABSTRACT

*The last few decades, if not a century, globalization has been one of the key processes and the main feature of the development of the world economy, and it is here that all the fundamental changes in the economic policies of the leading world powers are significantly reflected. The current stage of globalization is characterized by such a policy of several countries, which leads to the destruction of established economic ties, increased protectionism, sanctions wars, increased economic instability, and a general slowdown in GDP growth rates. There is an increasing opinion expressed more often about the impasse of the globalization process and the advent of the de-globalization of the world economy. The authors set out to confirm or refute this point of view. At the beginning, it was analyzed the dynamics of the index of the globalization level of countries of the world (using the KOF Index of Globalization), reflecting the scale of integration of a country into the global political, economic and socio-cultural space according to its different components. Then there was an analysis of the distribution of benefits from globalization between countries. It was revealed that the largest companies today relate differently to their foreign direct investment, since the digital economy allows them to operate on a global scale and act on foreign markets with virtually no physical presence there, so the need for foreign assets to do business abroad is significantly reduced. New technologies lead to changes in the content of international business transactions, and completely new multinational business models are emerging. The authors come to a conclusion that nowadays there is an obvious slowdown in globalization processes. However, it is temporary in nature and primarily concerns traditional assets, while transnational flows of new assets, caused by the 4th industrial revolution, are fundamentally strengthened. It can be assumed that there is a new stage of globalization, where the driver is digital technology that fundamentally change the ideas and approaches to the placement of production forces in the world, seriously reformat the existing value chains, change the model and strategy of business development.*

**Keywords:** *de-globalization, globalization, globalization 4.0, KOF Index of Globalization*

### 1. INTRODUCTION

Globalization has become an important real aspect of the modern world system, one of the most influential forces determining the course of development of the planet. According to the prevailing point of view on globalization, not a single action, not a single process in society (economic, political, social, etc.) can be considered as limited only as such (as such). It affects almost all spheres of public life, including the economy, politics, ideology, social sphere, culture, ecology, security, as well as the very conditions of human existence. The processes of global development, in which the structures of national production and finance become interdependent, are accelerated as a result of an increase in the number of external transactions. Globalization, which has covered all regions and sectors of the world economy, has fundamentally changed the ratio between the external and internal factors of the development of national economies in favor of the former.

No national economy, regardless of the size of the countries (large, medium, small) and the level of development (developed, growing or transitional), can no longer be self-sufficient, based on the existing factors of production, technology and capital requirements. No company is able to rationally form and implement the economic strategy for its development without taking into account the priorities and norms of the behavior of the main participants in the world economic activity. Although the concept of globalization is often found in the economic literature, globalization processes are ambiguous. We shall present only two points of view. M. Castells, professor of sociology at the University of California (USA), defined globalization as a “new capitalist economy”, listing the following as its main characteristics: information, knowledge, and information technology are the main sources of productivity growth and competitiveness; this new economy is organized primarily through the network structure of management, production and distribution, rather than individual firms, as before; and it is global. Globalization is sometimes presented as a rather narrow concept: the process of convergence of consumer preferences and the universalization of the range of products offered throughout the world, during which global products crowd out the local ones. From the point of view of the authors of this article, the globalization of the world economy is understood as the increasing interdependence and interaction of various spheres and processes of the world economy, expressed in the gradual transformation of the world economy into a global market for goods, services, capital, labor and knowledge. The modern globalization of the world economy is expressed in the following processes:

- deepening of the internationalization of production, which is manifested in the fact that the manufacturers of many countries of the world participate in the creation of the final product in different forms and at different stages;
- deepening of the internationalization of capital, which consists in the growth of international capital movement between countries, primarily in the form of direct investment, the internationalization of the stock market;
- globalization of the productive forces through the exchange of the means of production and scientific, technical, technological knowledge, as well as in the form of specialization and cooperation, connecting economic units into complete production-consumer systems;
- formation of a global material, information, organizational and economic infrastructure, ensuring the implementation of the international cooperation;
- enhancing the internationalization of exchange on the basis of deepening the international division of labor, increasing the scale and qualitative change in the nature of traditional international trade in materialized goods. The service industry is becoming an increasingly important area of international cooperation;
- increasing the scale of international labor migration. People from relatively poor countries find application as unskilled or low-skilled labor in developed countries;
- the growing internationalization of the impact of production and consumption on the environment, which causes an increase in the need for international cooperation aimed at solving the global problems of our time.

The attitude to globalization is very ambiguous, and sometimes diametrically opposed. This is connected with the different points of view on the prospects for the development of the globalization processes, on their consequences, in which some see a serious threat to the world economic system, while the others see a means of further progress of the economy. Undoubtedly, the consequences of globalization are both positive and negative, and therefore in this article, in addition to the characteristics of the current stage of globalization, attention is paid to the study of the threats that these processes bear.

## 2. CHARACTERISTICS OF THE CURRENT STAGE OF GLOBALIZATION

There are various ways to quantify the globalization processes in the global economy. In particular, the developed integral indicators covering various aspects of globalization provide an insight into the degree of involvement of the national economy and the entire world economy in the international economic relations. Thus, they single out the globalization index of the countries of the world, calculated according to the methodology of A.T. Kearney's consulting company, together with the political journal Foreign Policy, Global Connectedness Index, developed by the IESE Barcelona Business School Professor Pankaj Ghemawat, commissioned by the logistics company DHL, Ernst & Young and The Economist Intelligence Unit Globalization Index, CEIP, MGI (Maastricht Globalization Index) and NGI (New Globalization Index) indices, as well as the corruption perception, quality of life, economic freedom indices, etc. From our point of view, the four globalization indexes most in demand are: the A.T. Kearney / Foreign Policy Magazine's Globalization Index; KOF Index of Globalization; CSGR Globalization Index, developed by the Center for Globalization and Regionalization Studies at Warwick University (Coventry, England); sociological index of globalization (Global Index), proposed by a team of scientists from the Otto-Friedrich University in Bamberg and Leipzig University (Germany). All of them offer a set of specific indicators reflecting the economic, political, cultural, social, technological aspects of globalization (this set is somewhat different for each organization). Of the four indices presented, the KOF index is the most informative, constantly updated and having the largest temporal coverage. It was created in 2002 at the KOF Swiss Economic Institute with the participation of the Swiss Federal Institute of Technology. The project manager is A.Dreher, Professor of Economics at Ruprecht-Karls-University Heidelberg, Germany. The KOF index measures the economic, social and political aspects of globalization. It is used to monitor the changes in the level of globalization of different countries over a long period. Currently, the information on the level of the KOF globalization index is available for 195 countries and covers the period from 1970 to 2016. The data presented on the website of the KOF Swiss Economic Institute, allow us to estimate the dynamics of the index and its components not only for individual countries, but also for the world as a whole. The index is periodically modified. Thus, in 2009, the list of primary variables was expanded compared to the original version and the way of their normalization was changed. All the countries surveyed using this index were initially assessed by 23 indicators, grouped into three main groups in accordance with the aspects of globalization:

- economic globalization (world trade and international investment volume, trade flows, tariff policies, restrictions and taxes on international trade, etc.);
- social globalization (the level of cultural integration, proportion of foreign population, the development of information and communication infrastructure, the volume of cross-border remittances and international tourism, etc.).
- political globalization (the membership of states in the international organizations, the participation in international missions (including the UN missions), the ratification of the international multilateral treaties, the number of embassies in the country, etc.).

The globalization index was calculated as the sum of these components with the weights of 36, 39 and 25%, respectively. In 2018, the KOF globalization index was significantly modified. It currently makes a clear distinction between the so-called de-facto and de-jure globalization, each of which separately considers the same three aspects of globalization, namely economic, social and political globalization. The de-facto globalization covers transboundary flows and actually measured activities, de-jure globalization considers activities and policies that are the main driving forces or barriers to these flows and activities. For example, international trade in goods and services reflects actual globalization, while customs and other trade barriers characterize de-jure globalization.

The distinction between de facto and de jure globalization is taken into account not only within the general index, but also in each subcategory of the index. The overall index is calculated as an average for the de-jure and de-facto globalization. The list of variables included in the index was revised and expanded: instead of the previous 23, it now includes 42. The de-facto globalization index is measured by 24 indicators, among which are the volume of trade in goods and services, high-tech exports, the number of foreign students, the number of McDonald's restaurants, IKEA stores, participation in the UN missions, etc. The de-jure globalization is estimated by 19 indicators, among them in particular are: trade duties, the number of telephone users and the Internet services users, gender equality, education costs, participation in international organizations. Depending on their significance, all these variables are assigned corresponding specific weights. The final index value is calculated as the sum of economic, social and political globalization with equal weighting factors (33.3%). The index measures globalization on a scale from 1 to 100. In the area of economic globalization, trade and financial globalization stand out. Trade de-facto globalization is determined on the basis of an analysis of the volume of trade in goods and services. The level of trade de-jure globalization is influenced by the regulation of the world economy: customs duties, taxes and trade restrictions. The actual financial globalization reflects the volume of direct and portfolio foreign investment, and de-jure includes the investment restrictions, international investment agreements, etc. In the field of social globalization, a distinction is made between the interpersonal, informational, and cultural globalization. Political de-facto globalization is measured by taking into account the number of embassies and international non-governmental organizations, as well as the participation in the UN peacekeeping missions; de-jure globalization contains the variables oriented towards the membership in the international organizations and international treaties. In our study, we used the improved version of the KOF globalization index and data for the years 1970-2016 recalculated with its account (Fig. 1). In the whole world the index rose by 5.28 points in 1970-1990, and in 1990-2000 by 8.92 points, in 2000-2010 by 7.25 points, that is, the pace of globalization accelerated from the beginning of the 1990s: from 1990 to 2016, the index increased by 17.75 points. The historical maximum of globalization of the world, from the point of view of experts, falls on 2007.

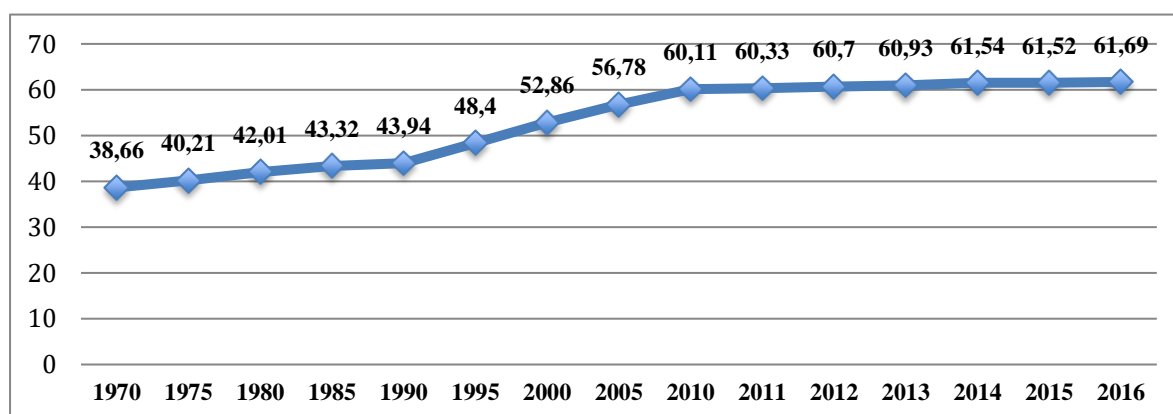


Figure 1: KOF Index of Globalization Worldwide, 1970-2016

Globalization continues to evolve, but at a much slower pace than before. The global financial crisis and the subsequent recession slowed its development. Since 2010, the analyzed index has increased by only 1.58 points. In 2016, the most recent year of calculating the index, the level of globalization grew very insignificantly compared with the previous year (by 0.17 points). Analyzing in more detail the data for 2016 (Table 1) characterizing the structure of the KOF index, it should be noted that the economic globalization was at a much lower level than social and political globalization. And the minimal value was shown by trade globalization.

*Table 1: The structure of the KOF Globalisation Index, 2016 (www.kof.ethz.ch)*

	<b>Overall</b>	<b>De facto</b>	<b>De jure</b>
KOF Globalisation Index	61,69	58,35	64,2
Economic Globalisation	58,9	60,54	57,1
Trade Globalisation	57,92	55,26	60,39
Financial Globalisation	60,02	65,64	54,04
Social Globalisation	63,49	59,17	68,01
Political Globalisation	62,59	55,78	68,84

Comparing 2016 with the previous year, it is necessary to note a slight improvement in terms of both de-jure globalization and de-facto globalization. At the same time, de-facto trade globalization, that is, cross-border exchange of goods and services has declined, although de-jure globalization, that is, the regulation of world trade has improved. In contrast, the growth of financial globalization is mainly due to international financial flows, that is, actual financial globalization, while financial globalization de-jure has remained unchanged. The information presented in Table 2, clearly shows that in the leading economies of the world the globalization index, which demonstrated a steady increase in 1970–2000, subsequently began to slow down its growth (especially after 2010). Moreover, in the countries with developing and transitional economies, this process started later (on the eve of the 2008–2009 crisis) than in the developed countries. In 2016, Switzerland was recognized as the most globalized country in the world, followed by the Netherlands and Belgium.

*Table 2: KOF Globalization Index, 1970-2016 (www.kof.ethz.ch)*

	<b>1970</b>	<b>1980</b>	<b>1990</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
Belgium	75,77	79,68	81,11	87,88	88,54	90,02	90,04	89,92	89,89	90,97	90,46	90,50
Netherlands	74,49	80,68	80,25	87,62	87,99	88,96	89,24	89,54	89,84	90,69	90,97	90,97
Switzerland	72,49	76,27	79,00	88,71	88,64	89,23	88,50	90,31	90,40	90,87	90,82	91,17
UK	68,83	79,19	79,49	87,11	88,23	88,62	89,04	88,97	89,06	88,89	89,08	89,35
Austria	66,11	72,38	75,80	87,23	88,27	88,04	88,39	88,57	88,07	89,24	88,78	88,95
Germany	67,86	72,83	73,11	85,29	86,91	86,90	87,18	87,29	87,30	87,64	87,57	88,17
France	65,38	73,69	75,66	84,20	84,83	86,30	86,43	86,75	86,53	87,61	87,33	87,20
Singapore	54,02	65,66	71,88	79,82	79,09	85,51	85,22	85,39	85,30	83,00	82,91	83,38
United States	72,54	63,58	70,59	78,19	79,48	80,18	80,90	80,73	81,07	81,59	81,66	82,10
Poland	42,49	50,90	53,35	69,63	76,88	78,28	78,38	79,33	79,74	80,62	81,14	81,20
Korea, Rep.	33,63	47,81	50,65	69,21	71,58	76,99	78,08	78,51	78,36	79,27	78,95	79,23
Japan	48,74	55,53	57,51	68,68	71,73	74,51	74,68	75,47	76,26	76,56	78,31	78,37
Russia	-	-	46,17	65,73	67,26	69,92	70,13	70,63	71,43	70,87	72,20	72,29
Argentina	49,19	51,75	51,01	68,12	67,31	67,11	66,37	64,61	65,08	65,23	64,74	65,89
China	22,63	26,89	37,47	53,73	62,67	63,41	63,67	63,70	64,36	64,79	64,23	64,48
India	30,15	32,74	32,97	47,30	55,84	60,97	61,67	61,81	61,85	61,82	61,29	61,18
Brazil	40,58	43,39	43,77	53,12	57,53	60,57	60,44	60,55	60,18	60,82	59,20	59,24

One of the hypotheses explaining the effect of reducing the growth rate of globalization is that the global crisis has shown the inconsistency of these processes and returned the need for the development of national industries in the first place. The “de-globalization” hypothesis is quite popular and attracts the attention of governments, especially to justify the protectionist measures. However, the very presence of de-globalization in the global economy did not find clear evidence. The results of the data analysis on the KOF-index indicate that, in general, the globalization process continues, although it has significantly slowed down since 2007. The data confirm a certain stagnation in this sphere, which allows some researchers to declare the global economy de-globalization. The analysis of the globalization process in the context of the individual countries shows that it also proceeds ambiguously: some countries show a slowdown in globalization or its decline, in other countries, on the contrary, this process is gaining

momentum. The current stage of globalization is characterized by such a policy of several countries, which leads to the destruction of established economic ties, increased protectionism, sanctions wars, increased economic instability, and a general slowdown in GDP growth rates.

### **3. ANALYSIS OF BENEFITS DISTRIBUTION FROM GLOBALIZATION BETWEEN COUNTRIES**

An urgent need is the formation of a global world economic, legal, informational, cultural space for the free and effective activities of all business entities, the creation of a global market for goods and services, capital, labor, economic convergence and the integration of individual countries into the global economic complex. Though, it is most likely, that a truly global market will not be achieved even in decades, and it may not take place at all for a variety of political reasons. The world economy is a polycentric structure, covering more than 200 national state entities, the development of which is uneven. There are 2 worlds that exist in parallel: an international and self-sufficient economy, the interconnections and interdependencies between some parts of this structure are asymmetric, different groups of countries are drawn into the world integration processes at varying degrees and far from being equal. The world economic space remains substantially heterogeneous due to the increasing technological gap between the countries. In the developed countries, the fifth and sixth technological modes prevail, in the medium-level countries - the fourth and fifth modes, and in the countries of the world periphery, the preceding modes prevail. On this basis, the countries that have emerged ahead, using the most efficient technologies, export high-tech goods and services to the countries with the low and medium level of development, while receiving huge super-profits. As it was already noted, the globalization processes in the global economy are perceived and evaluated differently. They are most often welcomed in the developed countries and raise serious concerns in the developing world. This is due to the fact that the benefits of globalization are unevenly distributed. Modern globalization processes are developing, first of all, between the developed countries and only secondarily cover the developing countries. Globalization strengthens the position of the first group of countries and gives them additional advantages. At the same time, the deployment of globalization processes within the framework of the modern division of labor threatens to freeze the current situation of the less developed countries, which become objects rather than subjects of the globalization processes. Consequently, the degree of the positive impact of globalization on the economy of individual countries depends on the place they occupy in the world economy; in fact, rich countries or individuals receive the bulk of the benefits. The unfair distribution of the benefits of globalization engenders the threat of conflict at the regional, national and international levels. There is no convergence or equalization of income, but rather its polarization. Back in the mid-1990s, the emergence of a new model of the world — 20:80 world, one-fifth society — was noted. 80% of all the resources were controlled by the so-called “golden billion”, which covered only one fifth of the world's population (including the USA and Western Europe - 70% of the world's resources). The thriving 20% of countries managed 84.7% of the world GNP, their citizens accounted for 84.2% of the world trade and 85.5% of savings in domestic accounts. The heterogeneity in the world in recent decades has been further aggravated. For example, in 2018, 84.1% of the world's wealth belonged to only 9.5% of the richest people, and the well-being of the remaining 90.5% of people did not exceed 16% of the world wealth. Since 1960, the gap between the richest and poorest countries has more than doubled, which statistically confirms the failure of any promises of justice in helping the developing countries (Martin G.-P., Schumann X., 1996, pp. 52-53). The developed countries, using openness and globalization in their own interests, are seeking to consolidate the existing status quo. The desire of the United States to strengthen the unipolar world raises great concern. Not surprisingly, in the Arab world, for example, globalization is associated with the “Americanization” of the world system, the “new

colonialism”. The interdependence characteristic of the world development at the beginning and in the middle of the twentieth century was replaced by the one-sided dependence of the “third world” on the “first”. The heterogeneity of the world is manifested in the following: in the 1990s, 358 billionaires owned the same wealth as 2.5 billion people combined, almost half of the world's population. Over the past decade, the number of billionaires in the world doubled and in 2018 reached 2,208 people, and their fortunes increased by \$ 2.5 billion daily. The financial condition of 3.8 billion of the world's poorest people equaled the capital of the 26 richest people. As reflected in the report of the international charity and humanitarian organization Oxfam, in 2018, the wealth of the founder of Amazon Jeff Bezos, the wealthiest person in the world, reached \$ 112 billion. The fact that only 1% of it was equal to the budget allocated to health care in Ethiopia with a population of over 100 million people, tells us about the scale of this sum of money. There is evidence that globalization ultimately benefits only 14.5% of those living in the Western world, while such regions as India, Southeast Asia and Latin America are not very much affected by it.

#### **4. NEGATIVE CONSEQUENCES OF GLOBALIZATION PROCESSES**

Given the uneven distribution of the benefits of globalization, the negative consequences of these processes in a particular country will significantly depend on the place that this country occupies in the global economy. In this regard, it is possible to distinguish three groups of threats, dangers, and potential problems arising at the present stage of the development of the internationalization of activities, depending on which countries they may spread to. First of all, the dangers of globalization that exist for all countries are highlighted, then they can potentially arise in the less developed and, separately, in the developed countries. As the problems potentially capable of causing negative consequences of the globalization processes in all the countries, the following can be mentioned:

- uneven distribution of benefits from globalization in the context of individual sectors of the national economy;
- ability to transfer control over the economies of countries from the sovereign governments into other hands, including to more powerful states, TNCs or international organizations;
- possible destabilization of the financial sector, the potential regional or global instability due to the interdependence of national economies at the global level.

The most painful consequences of globalization can be felt by the less developed countries belonging to the so-called world periphery. Globalization for such countries creates, in addition to the above, many other problems:

- increase in technological lag behind the developed countries;
- growth of socio-economic stratification, marginalization (i.e., the destruction of state society, which is the process of disintegration of social groups, the breakdown of traditional ties between people, the individuals losing objective belonging to a particular community, a sense of belonging to a particular professional or ethnic group);
- impoverishment of the bulk of the population;
- increased dependence of the less developed countries on the stability and normal functioning of the world economic system;
- ability of the states to conduct a nationally oriented economic policy limited by TNCs;
- growth in foreign debt, primarily to international financial organizations, which impedes further progress.

As it was already noted, the greatest gains from the participation in globalization belong to the developed countries that have an opportunity to reduce production costs and focus on producing the most profitable high-tech products, transferring labor-intensive and technologically dirty



production to the developing countries. But they also suffer from the processes of globalization, which, if not controlled, will increase the unemployment, increase the instability of financial markets, etc. The most discussed problems that potentially occur in the developed countries in connection with the processes of globalization include:

- rising unemployment as a result of:
  - the introduction of new technologies, which leads to a reduction in jobs, increases social tensions;
  - changes in the structure of production and relocation of mass release of labor-intensive types of goods to the developing countries, which is hard on the traditional industries of these countries, causing the closure of the production there;
  - increased labor mobility;
- TNCs that have come to the forefront often put their own interests above state ones, as a result of which the role of nation-states weakens and some functions are transferred to various supranational organizations and associations.

According to many experts one of the biggest threats to globalization processes is the rising unemployment. Sometimes very pessimistic estimates and forecasts are given. As an example of such predictions, one can cite the statements from a book written by the editors of the "Spiegel" weekly magazine, G.-P. Martin and H. Schumann, called "The Trap of Globalization: An Attack on Prosperity and Democracy", which was once very popular in the West. It predicted that 20% of the population will be sufficient for the functioning of the world economy in this century. More labor force is not required. A fifth of all job seekers is enough to produce the essential goods and provide all the expensive services that the world community can afford. These 20%, no matter what country they live in, will actively participate in the life of society, earn and consume, and, perhaps, you can add to them about one more percent of those who, for example, inherit big money. Those 80% who remain out of work will have enormous problems (Martin G.-P., Schumann X., 1996, p. 20). The following significant threat is associated with labor mobility. The mass migration of the population, acquiring a global character, is becoming a serious source of aggravation of the socio-economic situation in the world. According to the UN, if in 2000, 173 million people lived outside their home countries, then in 2017 there were already 258 million migrants. The influx of cheap labor from outside intensified the competition in the labor market of the developed countries, which led to an increase in the interethnic relations and the growth of nationalism in these countries. The negative consequences of the free movement of labor have long been recognized as a potential hazard, and today in many countries it is considered quite real. Therefore, almost all states have introduced some form of control over the free movement of labor.

## 5. GLOBALIZATION 4.0

In the modern scientific world, there are various approaches to describing the essence of globalization, different interpretations of its content, as well as different time frames that determine the evolution of the globalization processes themselves. The concept of globalization 4.0 by Klaus Schwab - a German economist, the founder and long-term president of the World Economic Forum in Davos, draws attention. He actually laid the foundation for understanding the fundamental changes that are happening in the global economy, changing the human condition and are capable of qualitatively transforming the globalization process itself. Following him, the scientists from different countries have clearly shown that the international community is entering a period of scientific and technological breakthroughs in various fields. Developing this thesis, the Spanish researcher A. Ortega calls the coming period of globalization "technologization". The innovativeness/innovation and super-technology are becoming the main features of globalization 4.0.

The 4th Industrial Revolution inevitably acquires a global, all-pervasive nature and more or less affects all the countries of the world. It opens up truly unprecedented opportunities, since it forms a solid material base for technical progress. It cannot be fenced off by the customs barriers and other protectionist measures. It is assumed that the modern states and the business community will move from the concept of “production and consumption” (the quintessence of globalization 3.0) to the concept of “sharing and caring”, which should become the ideological core of globalization 4.0 (Schwab, 2018). It is important to note that the basis of globalization, its main driving force is international companies. They are the main subject of the globalization processes, since it is for them (especially for the multinational and global companies) that the foreign economic activity is in most cases more important than the internal operations. The growth of the corporations and the level of their internationalization by all indications have not reached the saturation point. The growth rate of trans-nationalization of the largest international companies is not slowing down. But at the same time, there has recently been a shift in the balance between, on the one hand, the growth rates of foreign assets and company employees, and, on the other hand, foreign sales, which are growing much faster than the former. In the digital economy, the competitive advantages of the countries that attract foreign investment are changing: companies are less reliant on such factors as cheap labor, are more oriented toward the availability of skilled personnel and cheap energy. The nature of the companies selling their goods and services abroad, and the very nature of production, are radically transformed. Using digital technologies the international corporations are able to contact with foreign consumers and sell them their products without the serious investments in real infrastructure in foreign markets. Consequently, in the field of the international production, there is a gradual shift from international commercial operations with the export of capital in the form of FDI to the operations based on contractual terms. All this does not confirm the concept of de-globalization, but rather characterizes the features of the current stage of the globalization processes.

## 6. CONCLUSION

What does globalization ultimately bring companies and countries — a threat or a new opportunity? An unequivocal answer to this question is almost impossible, because the balance of positive and negative consequences is constantly changing. However, the reality is that globalization is an objective phenomenon of modernity that can be slowed down by means of economic policy (which is happening now), but it cannot be stopped or “canceled”, because such is the imperative requirement of the modern society and the scientific and technological progress. Speaking of globalization as an irreversible and objective process, we mean the development trend, which is not always straightforward, but with zigzags at certain time intervals, with reverse motion, with phenomena that can sometimes be described as de-globalization. The process resembles a spiral, achieving the development at a higher level at the next turn. As a result of the study the authors concluded that at present there is a clear slowdown in the globalization process. However, it is temporary and primarily concerns traditional assets, while the transnational flows of new assets, caused by the 4th Industrial Revolution, have significantly increased. It can be assumed that a new stage of globalization has arrived, where the driving forces are the digital technologies that fundamentally change the ideas and approaches to the deployment of the production forces in the world, seriously reformat the existing production and supply chains, change the model and strategy of business development.

**ACKNOWLEDGEMENT:** *The publication was prepared with the support of “RUDN University Program 5-100”.*

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## COMPROMISE OR ELSE: MANAGING CONFLICTS IN THE NEGOTIATION PROCESS

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### ABSTRACT

*Business negotiations form an integral part of daily business operations for managers at all hierarchical levels. In this context, negotiators are often faced with dealing with different types of conflicts with the opposite party. The main aim of this paper is to identify the ways managers solve the conflicts that emerge during the negotiating process. An additional aim of the paper is to identify the factors that influence the choice of conflict management strategy. For that purpose, the survey has been conducted among 256 Croatian managers. The results of the study reveal five factors that affect the manner in which conflicts are resolved. Those factors consist of company size, hierarchical level of the manager, aims of the negotiating process, negotiator's autonomy and the importance of teamwork.*

**Keywords:** *compromise, conflict management, negotiation*

### 1. INTRODUCTION

Conflict is an integral part of human interaction that can occur in any setting. In particular, Raines (2013) stresses that to be human is to experience conflict within ourselves, between individuals, and among groups. The origins of conflict can be both heterogeneous and complex. In that context, Gamble and Gamble (2013) emphasize that conflicts may arise from perceived individual differences, scarcity of resources, rivalries, relationship disagreements, and misinterpretations. According to Axelrod and Johnson (2005), the central concepts that are involved in creating conflict consist of contradiction of interests, perception of threat or loss, mutuality, and interdependency. In addition, Doherty and Guyler (2008) assert that conflict is ultimately about a drive for some kind of change in the status quo. Similarly, Barsky (2014) argues that conflict can be viewed as an opportunity and motivation for change. Although conflicts can take various forms, they usually have an escalation and de-escalation phases even though the phases could be circumstantially different (Sibanda, 2010). Conflict is an important social concept and one of the major organisational phenomena (Rahim, 2011). Moreover, conflict management is an unavoidable part of a manager's role in organisation (Lang, 2009). Furthermore, it has been accepted that conflict is the norm rather than the exception in organisations and that achievement of absolute harmony is impossible (Uher and Loosemore, 2004). As argued by Novais and Carneiro (2016), organisational conflict is rooted in peoples' perceptions of themselves, others, the situation and the organisation as a whole. Additionally, the conflict process is greatly influenced by organisational culture (Di Pietro and Di Virgilio, 2013). Nowadays, discussions are led about how the managers can deal with conflicts (Raines, 2013). In that sense, conflict management skills are of the utmost importance for managers. There is a considerable amount of literature on conflict management.

It mainly focused on three key themes: conflict at the workplace and conflict management styles, cultural differences in conflict management, and conflict management in practice (Ma et al., 2008). More recently, Caputo et al. (2019) pointed out five key themes surrounding conflict management research, i.e., negotiation, mediation, trust, conflict management styles and performance. With reference to organisations, conflicts can result in serious consequences. As regards outcomes of conflicts in organisations, Rahim (2011, p. 6) distinguishes functional and dysfunctional ones. In that context, some of functional outcomes include stimulating innovation, creativity, and change, improving organisational decision-making process, finding alternative solutions to a problem, enhancing individual and group performance. On the other hand, dysfunctional outcomes comprise of job stress, burnout, and dissatisfaction, reduced communication between individuals and groups, damaged relationships, reduced job performance and increased resistance to change (Rahim, 2011, p. 7). The main aim of this paper is to identify the ways managers can solve the conflicts that arise during the negotiating process. An additional aim of the paper is to determine the factors that influence the choice of conflict management strategy. This paper is structured as follows. After the introduction, the second section brings insights into three conflict resolution styles, i.e., dominating, avoiding and compromising as well as cross-cultural differences in conflict management. Research methodology is outlined in the third section whereas the fourth section brings out the research results. Finally, in the last section some conclusions have been drawn upon.

## **2. INSIGHTS INTO CONFLICT RESOLUTION STYLES**

The importance of conflict management skills lies in managing individuals at different levels, when making decisions and working effectively in the various team environment of today's organisations. The styles of handling interpersonal conflict in organisations can be quite different. Conflict style refers to one's preferred response to conflict. However, different conflict styles are useful for different purposes (Barsky, 2014). Furthermore, the impact of communication as a conflict resolution mechanism should be emphasized. In such context, Eisenkoph (2018) asserts that conflict resolution is less successful even in the long term if initial conflict intensity is rather high. In addition, Pazos (2012) outlines that commitment to team goals is a significant predictor of successful conflict management. As observed by Nesterkin and Porterfield (2016), team support plays an important role in protecting the team from the negative effects of conflict and contributes to the development of team cohesion. Chung-Yan and Moeller (2010) stress that focus should not be only on managing the conflict, but also on the psychosocial costs when adopting particular conflict styles. In the literature, there are many classifications of different styles of handling conflicts. McCollum (2009) divides conflict management styles into five groups: submissive, evasive, collaborative, competitive and cooperative, while Lambert and Myers (1999) identify four conflict-resolution styles, i.e., avoidance, competition, adaptation and cooperation. However, Blake and Mouton's conflict resolution grid is among the most popular means to depict preferred conflict resolution styles. It includes five distinct styles, i.e., dominating/competing, integrating/collaborating, accommodating/obliging, avoiding, and compromising (Gamble and Gamble, 2013). In this paper, a special emphasis will be placed on dominating, avoiding and compromising styles. Individuals with a dominating conflict style have a high confrontation orientation (Shehan, 2016). As stressed by Merrell (2008, p. 161), dominance as a style of dealing with conflict is characterised by the need to "be right" and to feel in control. Furthermore, dominant individuals tend to cut the other person off and try to dominate the argument. They may also threat or intimidate the other side in order to stay in control. In other words, a high concern for self and a low concern for others is the main characteristic of the dominating style (Chen and Ma, 2002). According to Fenn and Gameson (2003, p. 371), dominating style is identified with win-lose orientation or with forcing behaviour to win one's position.

The use of this conflict resolution style can be justified in case of minor issues or when an immediate decision is needed. However, when used repeatedly over time, the dominating style does nothing to foster cooperation and may even deepen and expand conflict in an organisation (Stark and Flaherty, 2011). In addition, this style is found inappropriate when both parties are equal in status or power (Gaylor, 2013). Contrary to the dominating style, the avoiding conflict style is characterised by a low confrontation orientation (Shehan, 2016). Specifically, the avoiding style is low on concern for self and for others and, therefore, leads to a lose-lose situation. On the one hand, avoiders tend to deny the existence of conflict. On the other hand, they may recognize conflict existence but make efforts to withdraw from the conflict. By avoiding the conflict, avoiders are inclined to satisfy neither their own needs nor the needs of others (Barsky, 2014). In addition, avoiding also occurs when one or both parties acknowledge that conflict exists and react by postponing the conflict (Carter, 2006). However, avoidance can be appropriate in situations when an issue is too small or trivial to warrant management concern (Carson et al., 1997). On the other hand, this style is inappropriate when the issue is important, when it is someone's responsibility to make a decision, or when a decision is needed quickly (Gaylor, 2013). Compromising style of conflict resolution can be described as intermediate in concern for self and others (Bond, 2010). According to Fenn and Gameson (2003, p. 375), the main features of compromising style include the following: (a) goals of parties are mutually exclusive, (b) parties are equally powerful, (c) consensus cannot be reached, (d) integrating or dominating style is not successfully done, and when there is a need for temporary solution to a complex problem. Compromisers prefer solutions that are partial wins, for themselves and for others (Barsky, 2014). In other words, people who are prone to use compromising style believe that it is better to get something rather than nothing. In that sense, compromising may be seen as cooperative problem solving in some cases (Dow and Taylor, 2008). Moreover, compromise tends to foster better relationship than competition, but not as well as it is in the case of collaboration. However, it is not appropriate to select compromising style when a problem is complex and requires problem-solving skills or when one party is more powerful than the other (Gaylor, 2013). The emphasis on independent and interdependent self construal should be highlighted. In that sense, Gudykunst (2004, p. 282) argues that emphasizing the independent self construal is positively associated with using the dominating style, whereas emphasizing the interdependent self construal is positively associated with using the avoiding and compromising conflict styles. Further, Cheung et al. (2014) have found for dominating and avoiding styles to be less influential in achieving functional negotiating outcomes than when using integrating style, whereas compromising style was found to be a practical approach in conflict resolution. The relationship between conflict management styles and actual behaviours in negotiation is of the utmost importance, in particular in a cross-cultural context (Ma, 2007). It is generally accepted that conflict styles are culturally determined. Consequently, managers should consider cultural differences in conflict management when diagnosing and intervening in conflict situations in different cultures (Doucet et al., 2009). In addition, unfamiliarity with the cross-cultural differences in conflict resolution styles may result in frustration with the manners of other parties (Blume, 2017). The cultural dimensions of individualism and collectivism can be predictive of a preference for a particular style of conflict resolution (Thomas, 2008). Studies on cross-cultural conflict management reveal different findings regarding conflict styles and the influence of cultural factors on the differences in conflict management styles. For example, individuals from the United States are more likely to use dominating style of conflict resolution than those from Japan or Korea (Bond, 2010). In the context of China, managers at different levels were found to adopt different conflict management styles when dealing with their subordinates, peers and superiors (Chen, Xu and Phillips, 2019). In addition, integrating and compromising conflict behaviours of Chinese managers were found to be positively related to the job satisfaction (Chen et al., 2012).

However, there is evidence that East Asian individuals differ from each other when resolving their interpersonal conflicts. Koreans, compared with the Chinese and Japanese, were more likely to use a compromising style. In addition, the Japanese, compared with the Chinese and Koreans, were less likely to dominate and were more likely to oblige their supervisors (Kim et al., 2007). Regarding the preferences for conflict management styles of Thais, avoiding and obliging conflict management styles were the most utilised ones (Boonsathorn, 2007). As regards Turkish managers, different findings can be found. On the one hand, integrating and compromising were found to be the most preferred conflict styles (Özkalp et al., 2009). On the other hand, Turkish managers are more likely to use collaborating style, instead of compromising or avoiding as expected from a collectivistic culture (Ma et al., 2010). In addition, many scholars have recognized the role played by emotions in conflict resolution (Halperin, 2014). As regards affective choice of conflict management styles, positive moods and feelings were found to be related to the preference for more cooperative strategies (Montes, Rodríguez, Serrano, 2012).

### 3. RESEARCH METHODOLOGY

For the purpose of this study, an empirical survey was conducted on the random sample of the managers in Croatian companies from March to June 2017. Before conducting the main survey, a preliminary survey was carried out to assure that all questions and measurements were correctly structured. As the aim of this paper is to determine the existence of relationship between conflict resolution styles and suggested predictors, the proposed model consists of six variables (Table 1).

*Table 1: Variables and measurements [Authors' analysis]*

<b>Variable</b>	<b>Measurement</b>
Conflict resolution style	Dominating Avoiding Compromising
Company size	Micro Small Medium-sized Large
Hierarchical level	Middle management Top management
Negotiating aims	Only on short run On short run and occasionally on the long run Equally on short and long run Predominantly on long run
Negotiator's autonomy	No autonomy Low autonomy Moderate autonomy High autonomy
Teamwork	Never Occasionally Always

Conflict resolution is a dependent variable. Managers were asked about the most frequently used conflict resolution methods in the course of negotiation process by choosing between dominating, avoiding and compromising style. Other five variables are independent ones. The variable company size is included in the study as it generally influences organisational behaviour. The criterion for the size of the company measurement is the number of employees.

Micro companies have less than 10 employees, small companies less than 50 employees, medium-sized ones less than 250 and large companies have 250 employees or more. Hierarchical level is the second independent variable in the model. It is measured at two levels, namely middle and top management. The aims of negotiations are observed through the time horizon. The managers were offered the scale ranging from only short run aims to predominantly long run aims. Variable negotiator's autonomy refers to a perception of one's autonomy given in the four-point scale including no autonomy, low autonomy, moderate autonomy and high autonomy. The affinity to teamwork is assumed to be important for conflict solution. In that sense, the respondents were asked to state how often they negotiate as a part of a team. The sample consisted of the companies listed in the Croatian Chamber of Commerce register. The questionnaires were sent to the managers via e-mail. Out of the total amount of 1110 questionnaires sent, 256 valid questionnaires were received, giving the return rate of 23 %.

#### 4. RESEARCH RESULTS

The data gathered from the questionnaires were analysed through the Statistical Package for the Social Sciences (SPSS) version 20.0. Table 2 shows descriptive statistics of the variables. The minimum, maximum, mean and standard deviation are calculated.

*Table 2: Descriptive statistics [Authors' analysis]*

<b>Variables</b>	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
Conflict solution	256	1.0	3.0	2.801	0.5345
Company size	256	1.0	4.0	1.805	0.9827
Hierarchical level	256	1.0	2.0	1.637	0.4819
Negotiating aims	256	1.0	4.0	2.914	0.6863
Negotiator's autonomy	256	1.0	4.0	2.805	0.8683
Teamwork	256	1.0	3.0	2.430	0.7586
<b>Valid N (listwise)</b>	256				

The sample frequencies are summarised in Table 3. The majority of respondents were dealing with conflict through the compromise (86.3 %). As regards the company size, more than half of the companies that were surveyed employed less than 10 employees. Two thirds of the respondents held top management positions. Almost similar share of respondents (64.1%) have tried to achieve short run and long run aims, suggesting that they place the same importance to the both short and long run aims. A half of respondents stated that they enjoyed moderate autonomy during the negotiating process. Almost 60 % of managers always negotiated as a member of a team.

*Table following on the next page*



*Table 3: Sample frequencies [Authors' analysis]*

Variable	Frequency	Percent
<b>Conflict resolution</b>	<b>256</b>	<b>100</b>
Dominating	16	6.3
Avoiding	19	7.4
Compromising	221	86.3
<b>Company size</b>	<b>256</b>	<b>100</b>
Micro	132	51.6
Small	63	24.6
Medium-sized	40	15.6
Large	21	8.2
<b>Hierarchical level</b>	<b>256</b>	<b>100</b>
Middle management	93	36.3
Top management	163	63.7
<b>Negotiating aims</b>	<b>256</b>	<b>100</b>
Only on short run	10	3.9
On short run and occasionally on long run	42	16.4
Equally on short and long run	164	64.1
Predominantly on long run	40	15.6
<b>Negotiator's autonomy</b>	<b>256</b>	<b>100</b>
No autonomy	25	9.8
Low autonomy	51	19.9
Moderate autonomy	129	50.4
High autonomy	51	19.9
<b>Teamwork</b>	<b>256</b>	<b>100</b>
Never	42	16.4
Occasionally	62	24.2
Always	152	59.4

Before proceeding to a more complex analysis, correlation between dependent variable of conflict resolution and independent variables was evaluated (Table 4).

*Table 4: Correlation coefficients [Authors' analysis]*

Variables	Conflict solution
Company size	-0.164**
Hierarchical level	0.236**
Negotiating aims	0.146*
Negotiator's autonomy	0.220**
Teamwork	0.144*

\*\*Correlation is significant at 0.01 level (2-tailed)

\* Correlation is significant at 0.05 level (2-tailed)

As can be seen from Table 4, there is a statistically significant correlation between variables. The relationship between company size and conflict resolution is negative, suggesting that larger companies tend to pursue such resolution for their own benefit regardless the (dis)satisfaction of the opposite party. All other independent variables show a positive relationship with the conflict resolution. Negotiators at the highest level in the organisational hierarchy are searching for compromise when conflict in the negotiation process occurs. Similarly, if a negotiator has a preference towards long run aims, he/she will be more likely to strive for win-win outcomes.

Additionally, negotiators who work in a team are prone to adapt compromising style of conflict resolutions. The next step in the analysis is multiple linear regression in order to evaluate the effect of five predictors (company size, hierarchical level, negotiating aims, negotiator's autonomy and teamwork) and conflict resolution as a dependent variable. The equation of multiple linear regression for this particular model looks as follows:

$$Y_5 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 \quad (1)$$

where are:

$Y_5$  = conflict resolution value,

$X_1$  = company size observation,

$X_2$  = hierarchical level observation

$X_3$  = negotiating aims observation

$X_4$  = negotiator's autonomy observation

$X_5$  = teamwork observation

According to Table 5, the five predictors (company size, hierarchical level, negotiating aims, negotiator's autonomy and teamwork) explain 12 % of the dependent variable.

*Table 5: Summary of multiple linear regression [Authors' analysis]*

<b>R</b>	<b>R<sup>2</sup></b>	<b>F change</b>	<b>Sig. F change</b>
0.346	0.120	6.817	0.000

The results of multiple linear regression model are given in Table 6. From these results, conflict value for each item may be predicted as follows:

$$Y_5 = 1.788 - 0.028 * X_1 + 0.190 * X_2 + 0.098 * X_3 + 0.110 * X_4 + 0.066 * X_5 \quad (2)$$

*Table 6: Multiple linear regression model [Authors' analysis]*

	<b>Unstandardized Coefficients</b>		<b>Standardized Coefficients</b>	<b>t</b>	<b>Sig.</b>
	<b>B</b>	<b>Std. Error</b>	<b>Beta</b>		
Constant	1.788	0.241		7.422	0.000
Company size	-0.028	0.036	-0.052	-0.779	0.436
Hierarchical level	0.190	0.074	0.171	2.575	0.011
Negotiating aims	0.098	0.047	0.125	2.084	0.038
Negotiator's autonomy	0.110	0.038	0.179	2.928	0.004
Teamwork	0.066	0.042	0.094	1.553	0.122

It can be observed that, as it was the case in Table 4, predictor company size has negative influence on dependent variable while other predictors have positive influence on dependent variable. The third step in statistical analysis is the evaluation of relative contribution of each predictor to the conflict resolution variable (Table 7).

*Table following on the next page*

*Table 7: Summary of hierarchical regression [Authors' analysis]*

	<b>M1</b>	<b>M2</b>	<b>M3</b>	<b>M4</b>	<b>M5</b>
R	0.164	0.245	0.277	0.334	0.346
R <sup>2</sup>	0.027	0.060	0.077	0.111	0.120
R <sup>2</sup> change	0.027	0.033	0.017	0.035	0.008
F change	7.019	8.914	4.621	9.762	2.411
Sig. F change	0.009	0.003	0.033	0.002	0.122

Each predictor is added to the following order: M1 company size, M2 hierarchical level, M3 negotiating aims, M4 negotiator's autonomy and M5 teamwork. Negotiator's autonomy has the highest relative contribution and makes it 3.5 %. The second highest contribution refers to predictor of hierarchical level (3.3 %) whereas the third is company size with the contribution of 2.7 %. Finally, negotiating aims contribute with 1.7 % and the least contribution comes from teamwork predictor accounting for just 0.8 %.

## 5. CONSLUSION

Nowadays, conflict resolution skills are crucial in selecting the appropriate resolution style, responding appropriately to the conflict and solving problems more efficiently. Consequently, it is important for managers to better understand their own conflict management style in order to improve responses to conflict, to increase the objective outcomes of negotiations and to prevent the conflict happening. In addition, by assessing their own conflict style, managers can develop greater control over their response to conflict situations as they become better at coping with the conflict situations. The paper contributes to the existing literature by providing new insights into the conflict resolution styles and the factors that affect conflict resolution style of Croatian managers. Company size, hierarchical level, negotiating aims, negotiator's autonomy and teamwork are proved to be solid predictors of the conflict resolution. Negotiators who represent large companies are more likely to use a dominating style when resolving conflict. Furthermore, negotiators who are positioned higher at the hierarchical level are more in favour of reaching a compromise solution. Similarly, compromise is a strategy of choice for negotiators who have shown preferences towards long run negotiation goals. Satisfaction of all negotiating parties makes a good foundation for any future business arrangements. Negotiation autonomy allows a certain amount of flexibility and room for looking for a compromise solution. Finally, negotiators who work in a team use a compromising style when dealing with conflict. Our results are consistent with previous findings suggesting that compromising conflict handling style was the most frequently used style among Croatian employees overall (Pološki Vokić and Sontor, 2009). Based on such findings, it can be observed that additional research is still needed to better identify the determinants of the conflict resolution behaviour. Apart from the three conflict resolution styles examined in the paper, the future work should also take into account accommodating and collaborating conflict styles. Furthermore, additional managers' characteristics should be taken into account, e.g. their age, gender, level of education, work experience, profession, styles of communication, and risk-taking propensity. In addition, variables such as company's market position, ownership, industry competition or geographical location have not been examined in the paper. Therefore, the future research could be extended by including these variables. Despite the limitations, the findings could be helpful in future studies on this topic, particularly in the Croatian context.

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## **DETERMINATION OF DOMINATING PROJECT COMPETENCES AIMING TO ENHANCE ORGANIZATIONAL COMPETITIVE ADVANTAGE**

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### **ABSTRACT**

*The competitiveness of organisations depends among others on the efficient deployment of continuous and one-time processes, whereby a one-time process usually represents a project. Regardless of the organization type, which may compete as project-oriented structure that delivers to the market by performing commercial projects, or where project-oriented processes are internally performed aiming to increase its competitiveness, each one operates through project-based activities. To answer each organizations' operational challenge, which is to increase project-based organization efficiency, it is of key importance to enhance their project management process. It usually encompasses the entry strategy or project orders, project preparation, project implementation management, and all other linked activities that are aiming to achieve planned direct or indirect economic effects deriving from project implementation deliverables. Since all kinds of management are dependent of human potential and its quality, it is of ultimate importance for project-based business to develop the specific individuals' competences optimized for any project stage. This primarily refers to development of project competences, whereby their importance has been recognized by numerous scholars that are researching the project management field. Aligned with previously said, the aim of this paper is to determine dominating project competences composite derived from leading project management standards by use of multiple criteria comparative analysis. As research delivery deriving from this paper, organizations are provided with key project competences assortment which should optimally sought to be developed at employees aiming to increase the efficiency of performing project-based activities. This may ultimately result in achieving higher level of their competitive advantage.*

**Keywords:** *competitive advantage, project management, project competences, project-based business success, competitive advantage*

### **1. INTRODUCTION**

Organisations are nowadays competing in different markets and are therefore constantly in search of their competitive advantages. Many authors (Crawford, 2005, Omvidar, 2011, Ahadzie 2009) agree that project processes are of exceptional importance for successful business, and an increasing number of business systems organise their business activities in this way with the aim of achieving their goals more efficiently in the dynamic surroundings they operate in.

Since organisations organise an increasing number of their business activities through projects the need for project managers increases as well. Project oriented organisations need successful projects and in order to achieve this they need project managers, whom authors like Crawford (2005), Ahadzie (2009), Miteray (2015), Loufrani-Fedida (2014) and many others consider a key factor of project success and organisation success alike. Standards based on competences have been developed by many global project management associations such as: International Project Management Association (IPMA) (IPMA Individual Competence Baseline for Project, Programme & Portfolio Management Version 4.0. from 2015), Project Management Institute (PMI) (A guide to the project management body of knowledge – PMBOK guide from 2017 and Project Manager Competency Development (PMCD) Framework), Association for Project Management (APM) (APM Body of knowledge and APM Competence Framework), Australian Institute of Project Management (AIPM) (AIPM Competency Standards for Project Management), Project Management Association of Japan (PMAJ) (A Guidebook of Project & Program Management for Enterprise Innovation (P2M)). Thus the aim of this paper is to typologically present the elements of project competences according to the aforementioned leading global organisations which are dedicated to the development of project management and to conduct a comparative analysis. By implementing the results of this paper, organisations will have an insight into the competences which they should develop in their project managers, and this would result in a higher success rate of their projects and indirectly in achieving a competitive advantage on the global market. This paper consists of four parts. After this introduction, the second section provides a theoretical overview of the project management competences according to the standards of the leading project management organisations. After that the research results are presented after having conducted a comparative analysis of competences, and finally some concluding thoughts of the authors of this paper are given.

## **2. THEORETICAL OVERVIEW**

In contemporary times project management represents an increasing challenge and requires skills, knowledge and behavioural attributes of project managers necessary for identifying project requirements, setting clear and achievable goals, establishing balance between quality, scope, time and cost, adjusting plans and approaches to different stakeholder expectations and efficient project management in uncertain and unexpected situations (Pandya, 2014, Ramazani, 2015, Ahsan, 2013, Jabar, 2018). In addition, the complexity is furthermore observed in managing R&D, innovations and firms' absorptive capacity (Vlasic et al, 2019). Loufrani-Fedida (2014) defines competence as the ability of an individual, a team or a company to mobilise and combine resources, such as knowledge, skills and behaviour with the aim to implement activities in a certain situation. Ahsan (2013) explains competences as components which include knowledge, skills and ability with the aim of improving performance. Zadeh (2016) defines competences as a concept related to the person and the behavioural dimensions which are the basis of a competent performance. In order to help project managers to solve practical problems and respond to the increasing interest for project management competences many professional associations have developed their standards and good project management practices for assessment, development and certification (Farashah, 2019, Crawford, 2005). Kerzner (2009) even emphasizes that 21st century organisations will replace job descriptions with competence models because project management job descriptions emphasize the expectations from the project manager, while competence models emphasize the specific skills needed to produce deliverables. This part gives a theoretical overview of project management competences. The competences will be presented through the typologies of the leading global project management organisations.

## 2.1. Project Competences According to International Project Management Association (IPMA) - Individual Competence Baseline Version 4.0

According to the latest International Project Management Association (IPMA, 2019) global standard for basic individual competences for managing projects, programmes and portfolios, the IPMA Individual Competence Baseline Version 4.0 from 2015, competence is the implementation of knowledge, skills and abilities in order to achieve the desired results, whereby these terms can be defined as follows. Knowledge is the totality of all information and experiences an individual possesses. Skills are specific technical abilities which enable the individual to perform a task. Ability implies efficient delivery of knowledge and skills in a certain context. These three notions are interconnected, whereby skill represents the possession of relevant knowledge and ability represents the possession of relevant skills and knowledge and includes using them in practice in the right way and at the right time. IPMA (2019) defines four levels of certification, in which an individual needs to prove a certain level of acquired competence: Certified Project Management Associate (Level D), Certified Project Manager (Level C), Certified Senior Project/Programme/Portfolio Manager (Level B), Certified Project/Programme/Portfolio Director (Level A). Competences are divided into three key areas (Figure 1), whereby each area is focused on a different aspect of competence, and jointly they make an integral and balanced individual. Competence areas are (IPMA ICB 4.0, 2015: 26.-29.):

1. People competences: these consist of the personal and interpersonal competences required to successfully participate in or lead a project, programme or portfolio. There are 10 elements of competence: self-reflection and self-management, personal integrity and reliability, personal communication, relation and engagement, leadership, teamwork, conflict and crisis, resourcefulness, negotiation, result orientation.
2. Practice competences: these are the specific methods, tools and techniques used in projects, programmes or portfolios to realise their success. There are thirteen competences which refer to projects: a project, programme or portfolio design, goals, objectives and benefits, scope, time, organisation and information, quality, finance, resources, procurement, plan and control, risk and opportunity, stakeholders, change and transformation.
3. Perspective competences: under this heading come the methods, tools and techniques through which individuals interact with the environment, as well as the rationale that leads people, organisations and societies to start and support projects, programmes and portfolios. There are five competence elements: the strategy, governance, structures and processes, compliance, standards and regulation, the informal power and interest, the culture and the values.

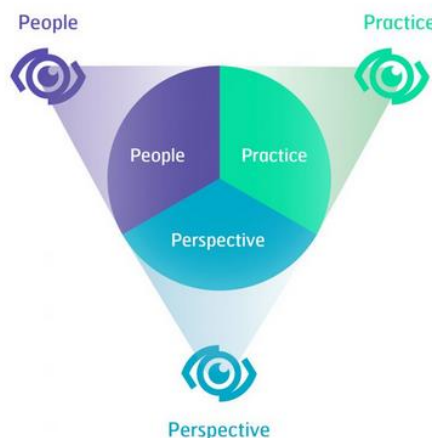


Figure 1: The IPMA Eye of Competence (IPMA ICB 4.0, 2015)



## 2.2. Project Competences According to Project Management Institute (PMI) – A guide to the project management body of knowledge – PMBOK guide and Project Manager Competency Development (PMCD) Framework

Project Management Institute (PMI, 2019) in its basic document and standard entitled A Guide to the Project Management Body of Knowledge, whose latest version dates from 2017, describes key components of a project which result in its successful completion, if it is managed efficiently (PMBOK, 2017:17-18): project life cycle, project phase, project gate, project management, project management process group, project management knowledge area. The PMI certification system (2019) consists of eight levels: Project Management Professional (PMP), Program Management Professional (PgMP), Portfolio Management Professional (PfMP), Certified Associate in Project Management (CAPM), PMI Professional in Business Analysis (PMI-PBA), PMI Agile Certified Practitioner (PMI-ACP), PMI Risk Management Professional (PMI-RMP), PMI Scheduling Professional (PMI-SP). PMI studies (PMBOK, 2017:56) implement the Project Manager Competency Development Framework on the competences necessary for project managers, by using the PMI Talent Triangle shown in Figure 2. The Talent Triangle is focused on three key skill groups with their corresponding elements:

1. Technical project management - the knowledge, skills, and behaviours related to specific domains of project, program, and portfolio management. The technical aspects of performing one's role are: agile practices, data gathering and modelling, earned value management, governance, lifecycle management, performance management, requirements management and traceability, risk management, schedule management, scope management, time, budget and cost estimation.
2. Leadership - the knowledge, skills and behaviours needed to guide, motivate and direct a team, to help and organisation achieve its business goals: brainstorming, coaching and mentoring, conflict management, emotional intelligence, influencing, interpersonal skills, listening, negotiation, problem solving, team building.
3. Strategic and business management - the knowledge of and expertise in the industry and organization that enhanced performance and better delivers business outcomes: benefits management and realization, business acumen, business model structures, competitive analysis, customer relationship and satisfaction, industry knowledge and standards, legal and regulatory compliance, market awareness and conditions, operational functions, strategic planning, analysis, alignment.

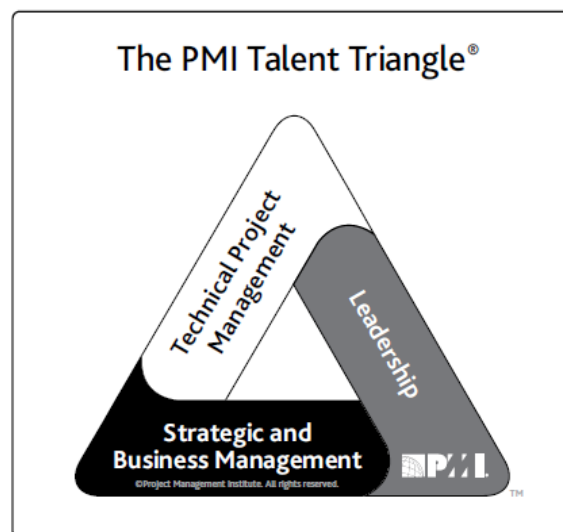


Figure 2: PMI Talent Triangle (PMBOK, 2017)

### **2.3. Project Competences According to the Association for Project Management, UK (APM) – APM Body of Knowledge and APM Competence Framework**

Association for Project Management UK (APM, 2019) through its document APM Body of knowledge offers knowledge connected with the profession of project, programme and portfolio management. At the moment of writing this paper the latest version of APM Body of knowledge, 7th Edition (APM, 2019.) has still not been published, so the 6th edition from 2012 is still in use. This publication is divided into several chapters with corresponding topics and gives an introduction and instructions for areas considered to be of key importance for the discipline of managing projects, programmes and portfolios. APM BOK is divided into four main chapters: Context, People, Delivery and Interfaces, and includes a total of 69 topics. With the aim of developing project competences in people who participate in projects, APM also published a document called APM Competence Framework (2015) in which 27 competences considered important for the area of project management have been described in detail, whereby for developing each competence the knowledge and the possibility of implementing it are very important. The competences included are the following: ethics, compliance and professionalism, team management, conflict management, leadership, procurement, contract management, requirements management, solutions development, schedule management, resource management, budgeting and cost control, risk, opportunity and issue management, quality management, consolidated planning, transition management, resource capacity planning, governance arrangements, stakeholder and communications management, framework and methodologies, reviews, change control, independent assurance, business case, asset allocation, capability development, benefits management. Certificates offered through APM (2019) are Project Fundamentals Qualification (PFQ), Project Management Qualification (PMQ), Project Professional Qualification (PPQ), Project Practitioner Qualification (PQ), Project Risk Management Single Subject Certificate, Earned Value Management Certification (EVM), Project Planning & Control.

### **2.4. Project competences According to the Australian Institute of Project Management (AIPM) - AIPM Competency Standards for Project Management**

Australian Institute of Project Management (AIPM, 2019) also cares about the development of the profession and the competences of people participating in the project management process, primarily on Australian territory. Accordingly, in 2008 the AIPM standards for competences for the project management profession were developed, the AIPM Competency Standards for Project Management. This is a standard developed in accordance with the AIPM project managers' certification system, consisting of five basic levels: Certified Practising Project Practitioner (CPPP), Certified Practising Project Manager (CPPM), Certified Practising Senior Project Manager (CPSPM), Certified Practising Project Director (CPPD), Certified Practising Portfolio Executive (CPPE). For each of the levels there is a document which is part of the competence standard. Most of the main competence groups are the same for all levels, while the main difference is the extent to which they need to be developed for each certification level and whether it is about a project or a programme. Having in mind the large number of elements in each group of competences in the continuation we bring only the main groups AIPM considers important for each certification level. The main competence groups listed for the CPPP (AIPM, 2008), CPPM (AIPM, 2010) and CPPD (AIPM, 2011) levels are: scope management, time management, cost management, quality management, human resource management, communication management, risk management, contract and procurement management. For the CPPM and CPPD levels there is an additional competence of integration. For the CPSPM level the competence groups are the following (AIPM, 2016): advanced project management practices, project governance, project context, organisational change, engagement and influencing, project leadership.

The standard for the CPPE level recognizes the following units (AIPM, 2014): identify, categorise and prioritise project and programs, assess and select opportunities and balancing the portfolio, manage and review portfolio performance, govern the portfolio, manage portfolio resources, manage portfolio communications and change, manage portfolio risk, lead the portfolio.

### **2.5. Project competences according to the Project Management Association of Japan (PMAJ) – A Guidebook of Project & Programme Management for Enterprise Innovation (P2M)**

Project Management Association of Japan (PMAJ, 2019) as a relatively new organisation, founded in 2005 when Project Management Professionals Certification Center (PMCC) and Japan Project Management Forum (JPMF) merged, is also one of the organisations which develop the project management profession. PMAJ has also developed its standard, A Guidebook of Project & Program Management for Enterprise Innovation (P2M), upon which their certification system is based. According to the P2M system of knowledge and competence, PMAJ conducts certification for the following four levels: Project Management Coordinator (PMC), Project Management Specialist (PMS), Project Management Registered (PMR) and Project Management Architect (PMA). In the P2M (PMAJ, 2005a and 2005b) document the following eleven key areas have been recognized: project strategy management, project finance management, project system management, project organisation management, project objectives management, project resources management, risk management, project information technology management, project relationship management, project value management, project communications management.

### **3. RESEARCH**

As previously mentioned, the aim of this paper is to typologically present the elements of project competences according to the leading global organisations which are dedicated to the development of project management and to conduct a comparative analysis. As a part of our research methodology a cross comparison analysis resulting with a systematised overview of the leading global standards for project management vs. typical project competences is produced and presented.

*Table following on the next page*

Table 1: A comparative analysis of project competences according to global standards (by the authors)

Standard name and year	IPMA Individual Competence Baseline Version 4.0. (ICB 4), 2015	A Guide to the Project Management body of Knowledge (PMBOK), 2017	APM Body of Knowledge, AMP Competence Framework, 2012	AIPM Competency Standards for Project Management, 2008	A Guidebook of Project & Programme Management for Enterprise Innovation (P2M), 2005
No.	COMPETENCES				
1	self-reflection, self-management	agile practices	<b>Compliance</b> <i>ethics, professionalism</i>	scope management	project strategy management
2	personal integrity, reliability	data gathering and modelling	team management	time management	project finance management
3	<b>personal communication</b>	<b>earned value management</b>	conflict management	<i>cost management</i>	project system management
4	<i>relations and engagement</i>	<b>governance PPP</b>	leadership	quality management	<i>project organisation management</i>
5	<b>leadership</b>	lifecycle management	procurement	<i>human resource management</i>	<b>project objectives management</b>
6	<b>teamwork</b>	performance management	<b>contract management</b>	<b>communication management</b>	<i>project resources management</i>
7	<b>conflict and crisis</b>	requirements management and traceability	requirements management	<b>risk management</b>	<b>risk management</b>
8	<i>resourcefulness</i>	<b>risk management</b>	solutions development	<b>contract and procurement</b>	<i>project information technology</i>
9	negotiation	<b>schedule management</b>	<b>schedule management</b>	integration	<i>project relationship management</i>
10	result orientation	<b>scope management</b>	<i>resource management</i>	advanced PM practices	<b>project value management</b>
11	PPP design	<b>time, budget and cost estimation</b>	<i>budgeting and cost control</i>	<b>project governance</b>	<b>project communications management</b>
12	<b>goals, objectives, benefits</b>	brainstorming	<b>risk, opportunity and issue management</b>	project context	
13	<b>scope</b>	coaching and mentoring	quality management	<b>organisational change</b>	
14	<b>time</b>	<b>conflict management</b>	<b>consolidated planning</b>	<b>engagement and influencing</b>	
15	<i>organisation and information</i>	emotional intelligence	<b>transition management</b>	<b>project leadership</b>	
16	<b>quality</b>	<b>influencing</b>	<b>financial management</b>		
17	finance	interpersonal skills	<i>resource capacity planning</i>		
18	<i>resources</i>	listening	<b>governance arrangements</b>		
19	<b>procurement</b>	<b>negotiation</b>	<b>stakeholders and communication management</b>		
20	<b>plan and control</b>	problem solving	frameworks and methodologies		
21	<b>risk and opportunity</b>	<b>team building</b>	reviews		
22	<b>stakeholders</b>	<b>benefits management and realization</b>	<b>change control</b>		
23	<b>change and transformation</b>	business acumen	independent assurance		
24	<b>strategy</b>	business models and structures	business case		
25	<b>governance, structures, processes</b>	competitive analysis	asset allocation		
26	<b>compliance</b> <i>standards, regulation</i>	customer relationship and satisfaction	capability development		
27	the informal power and interest	industry knowledge and standards	<b>benefits management</b>		
	the culture and values	<b>legal and regulatory compliance</b>			
28		market awareness and conditions			
29		operational functions			
30		<b>strategic planning, analysis, alignment</b>			

Table 1 shows project competences derived from five global standards for project management. It can be easily noticed that the number of project competences ranges from eleven to thirty. The grey fields show the project competences recognized as being key in two or more standards. Italicised and underlined competences are the ones which partially overlap in two or more standards. In the continuation web ring, a list of project competences which can be found in multiple standards:

- all five (5) analysed standards include risk management.
- four (4) standards include project competences referring to communication within the project and communication with the stakeholders, risk and opportunity management and governance.
- three (3) standards include competences referring to: leadership, teams and team management, quality management, procurement and contracts, control and controlling change, budget and cost, organisation changes, scope and project scope management, project time management, conflict management, benefits management, compliance, planning
- two (2) standards include competences referring to: stakeholder management, crisis management, benefits management, project and earned value management, strategy management, negotiation, schedule management, influencing.
- Competences included only in one (1) standard are: self-reflection, self-management, personal integrity, reliability, result orientation, PPP design, finance, the informal power and interest, the culture and values, agile practices, data gathering and modelling, lifecycle management, performance management, requirements management and traceability, brainstorming, coaching and mentoring, emotional intelligence, interpersonal skills, listening, problem solving, business acumen, business models and structures, competitive analysis, customer relationship and satisfaction, industry knowledge and standards, market awareness and conditions, operational functions, requirements management, solutions development, frameworks and methodologies, reviews, independent assurance, business case, asset allocation, capability development, integration, advanced PM practices, project context, project system management.

It can be concluded that the grey fields show those project competences which must be developed in employees who participate in project business, while they are followed by italicised and underlined competences. By developing the aforementioned competences, which should be developed in persons working on projects, it is definitely possible to contribute to the project success in an organisation and thus indirectly contribute to the organisation's competitive advantage on the global market.

#### 4. CONCLUSION

Numerous organisations are project-oriented, and this is the reason why they need competent project managers. Contemporary project-oriented business is characterised by the challenges which put the project manager in the position of the person crucial for the success of the project and thus of the organisation, as well. Therefore, project managers are expected to have developed various project management competences. The aim of this paper is to typologically present and comparatively analyse project competences according to the leading global project management associations, the competences which intensely develop this profession. Insight into the project competences analysis can provide organisations with key competences recognized as the ones which a successful project manager should have and accordingly plan the future development of their employees who participate in projects. Besides the systematisation of the necessary project competences which have generally been recognized as the key for successful project management, it is necessary to conduct more detailed research

and determine which competences dominate in which sectors and whether there is a need to redefine the list of project competences regarding e.g. the size of the organisation, the industry, the type of project etc.

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## AN EMPIRICAL EVALUATION OF LABOUR TRENDS AMONG THE CROatian YOUTH

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### ABSTRACT

*This paper analyses the case of the youth unemployment rate in the Republic of Croatia. The paper does so by using an empirical framework that is largely based on conducting a survey of 200 individuals aged up to 30 years of age who are preparing to enter or have entered the Croatian labour force. Through the following survey and by conducting a literature review of the existing research, this paper aims to consider relevant factors that have impacted the lack of satisfaction that has led to several negative phenomena on the labour market. These phenomena include brain-drain, a small participation rate that threatens the long-term sustainability of the Croatian pension system, and no incentives for employees for meeting specific goals. Based on the results of the conducted survey and performed literature review, this paper recommends that employers ensure more specific measurable goals for employees, solicit feedback from employees, provide incentives for specific work-related education and implement other measures that may help employees be incorporated in conducting relevant business processes.*

**Keywords:** Croatia, youth unemployment, labour market, structural imbalances, survey

### 1. INTRODUCTION

The purpose of this paper is to assess factors relevant to the youth unemployment rate in Croatia and to evaluate how young people in Croatia perceive certain aspects of the job market. In the aftermath of the Great Recession, which hit Croatia hard, the youth unemployment rate has spiked in numerous less-developed countries in the European Union (EU). The EU has implemented several measures to help curb the unemployment rate and in recent years, most European countries have experienced a steady rate of economic growth. As of July 2018, Croatia is among the countries with the highest youth unemployment rate at 22.6% (Eurostat, 2018). Aside from the issue of a high youth unemployment rate, Croatia also suffers from the “brain drain” phenomenon where many young and educated people are leaving Croatia to work in other EU member-states. This poses a structural issue for the economy as a whole as the participation rate within the overall populace in Croatia is barely above 50% with roughly 1.4 million people employed in 2017 with a total labor active force of roughly 1.6 million according to the Croatian Bureau of Statistics (2018). This is stressing the existing system of retirements and forcing the country to gradually increase the age at which an individual can retire with all benefits.



If Croatia is to reverse these trends, it needs to implement reforms that will encourage a growth of jobs which require a higher level of education. It also needs to implement reforms that will help attract foreign investment and encourage a more positive business climate. In general, both employers and employees in Croatia frequently complain of a rigid administrative system that should be amended (Petak and Petek, 2009). This paper aims to evaluate and empirically assess the reasons why young employees and students believe that the business environment in Croatia is not effective. After evaluating the rationale they provided by implementing a combination of qualitative and quantitative methods, the paper will focus on identifying relevant policy recommendations that will reiterate the need for reform in the way employees approach the business environment and ensure that employees are motivated in conducting work-related tasks.

## **2. METHODOLOGY**

This paper is based on a methodological approach of conducting a literature review that, together with the discussion, combines existing research and evaluates the practical difficulties of participating in the Croatian labor force. The design of the survey is largely based on evaluating relevant forms of motivation as specified in relevant work-related theories of motivation including Hertzberg's Two-Factor Theory as revised by Hertzberg (1968) and by using modern interpretations of Hong Tan and Waheed (2011), Haruna (2013) and Riley (2005). To provide a quick overview, Hertzberg believed that there were two sets of factors that impacted motivation that can generally be divided into motivator factors and hygiene factors (Hong Tan and Waheed, 2011). Hertzberg (1968) believed that while both factors impacted motivation, their impact was largely separate. According to most modern interpretation of Hertzberg's Two-Factor Theory, hygiene factors include essential elements such as an individual's salary, benefits, and relationships with other workers and managers (Hong Tan and Waheed, 2011). On the other hand, motivator factors may be slightly more difficult to quantify as they include factors such as feeling recognized in the workplace and an individual's perception of their overall career potential (Hong Tan and Waheed, 2011). While Haruna (2013) conducted a survey and concluded that motivator factors are more relevant for work performance than hygiene factors, this paper takes note of this conclusion but aims to assess both factors as equally relevant. Riley (2005) emphasizes that motivation is largely an intrinsic trait and that increasing outside influences such as providing incentives or a larger salary will not directly lead to an increase in motivation. The goal of many survey questions is to provide a theoretical context and possible policy solutions to many common concerns among young Croats aiming to enter the labor force or who have recently started working. Due to the constant alleged influence of politics on the Croatian labor environment, this survey will also test the relevance and views of Croatia's youth concerning the impact of politics on workplace conditions. The paper is based on the following initial hypotheses, with failure of confirming the research hypothesis leading to the acceptance of the null hypothesis:

- Hypothesis 1: A number of hygiene factors, as defined by Hertzberg's Two-Factor Theory, especially the salary of individuals, causes young Croats who have entered or are considering entering the labor force to evaluate the overall work environment in Croatia as negative.
- Null hypothesis: Several relevant hygiene factors, as defined by Hertzberg's Two-Factor Theory, especially the salary of individuals, have no statistically significant connection to how young Croats who have entered or are considering entering the labor force to evaluate the overall work environment in Croatia as negative.
- Hypothesis 2: Hygiene factors, as defined by Hertzberg's Two-Factor Theory, are more relevant in making decisions when evaluating the quality of the conditions in the labor environment than motivator factors.

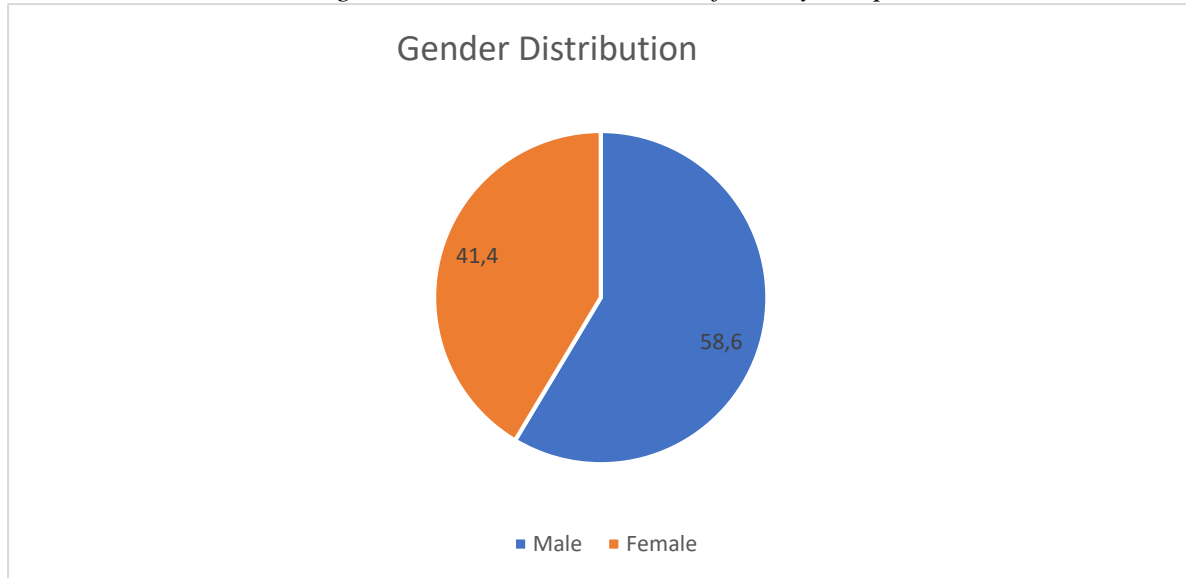
- Null hypothesis: Hygiene factors, as defined by Herzberg's Two-Factor Theory, are not statistically more important than motivator factors when evaluating the quality of the conditions in the labor environment.
- Hypothesis 3: Individuals who are considering entering the Croatian labor force or have recently started working; recognize the relevance of the STEM field and new digital technologies as a relevant force in the labor market.
- Null hypothesis: Individuals who are considering entering the Croatian labor force or have recently started working, see no gains in studying STEM fields in comparison to other relevant fields and see no relevant gains from digital technologies.
- Hypothesis 4: Individuals who are considering entering the Croatian labor force or have recently started working; find the impact of politics to be highly negative on the Croatian labor environment.
- Null hypothesis: Individuals who are considering entering the Croatian labor force or have recently started working; do not perceive a significant impact of politics on the Croatian labor environment.

These hypotheses, as constructed by considering the work of Herzberg (1968), Riley (2005), Haruna (2013), Hong Tan and Waheed (2011), as well as considering relevant input on youth unemployment by Vogel (2015), Van Mol (2016) and others have been essential to developing the empirical framework of this paper. The survey, after controlling for factors such as gender, education, and other basic demographic traits, will evaluate factors relevant to Herzberg's Two-Factor Theory and the theoretical hypotheses as determined by the paper. In order to fully evaluate the hypotheses, the paper will use closed-ended survey questions that will allow for easier statistical analysis of the results of the survey respondents. Due to the large volume of survey respondents that will be at least  $N=150$ , the use of close-ended questions will provide more adequate input than conducting open-ended questions, where the volume of information may be inadequate for testing the theoretical hypotheses. The survey will be conducted by using random sampling in an online poll. While such an approach may be deemed inadequate, due to the fact that the target population of the analysis of this paper is a population younger than 30, this may be the most effective means of reaching a larger number of potential respondents.

### **3. RESULTS AND DISCUSSION**

Upon completing the survey, the total number of respondents was  $N=200$ , which fulfilled the initial requirements as set by the paper. While there are minor discrepancies in terms to demographic and other basic traits, most of these factors are acceptable and within the margin of error. The gender distribution of the sample is shown in Chart 1.

*Figure following on the next page*

*Figure 1: Gender distribution of survey sample*

*Source: Survey conducted by the authors*

While there is a minor gender discrepancy, this issue does not invalidate the overall research finding. Additionally, other relevant factors are considered in Table 1.

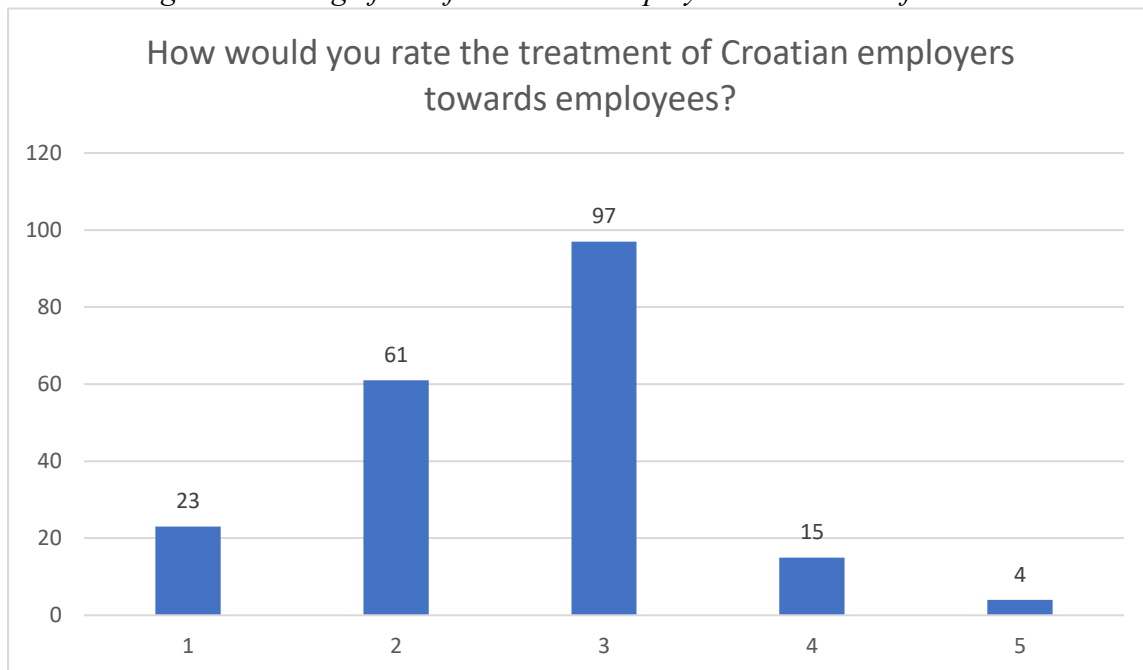
*Table 1: Factors concerning income and education (as % of survey sample)*

Occupation						
Employed	Self-employed	Student	Unemployed	Occupational training		
32	3.5	44	18	2.5		
Education level						
Primary education	Secondary education	Higher expertise	High expertise	MSc	PhD	
0.5	33.5	17.5	39	8.5	1	
Income in Croatian Kunas (HRK)						
0 - 3000 HRK	3000 - 4500 HRK	4500 - 6000 HRK	6000 - 8000 HRK	8000 - 10000 HRK	10000 – 12500 HRK	12500 and more HRK
57.3	15.6	11.6	7.5	3	1.5	3.5

While there are some minor discrepancies between the survey sample and the actual Croatian youth population, the paper can mostly find that the survey sample is generally representative of the Croatian population in the age group considering becoming an active member of the Croatian labor force. Some minor discrepancies include the unemployment rate in the observed category that is actually closer to 22% according to the Croatian Bureau of Statistics (2018), while it is 18% in the survey sample. Overall, the survey sample is slightly less paid than the actual Croatian population of that age. Some initial survey statistics point out potential problems as 56.6% of the survey sample graded the overall quality of Croatian education with 3 on a scale of 1 to 5 when asked to evaluate the quality of the educational system in Croatia. When calculating the average grade provided by survey respondents, the grade is 2.78, indicating a significant problem with the perception of Croatian youth with the quality of the education system and how it effectively prepares individuals for the demands of the labor market. This largely conforms with many of the problems mentioned by Vogel (2015) between the demands

of the labor market and the education provided by relevant institutions. On the other hand, there appears to be a small discrepancy between the evaluation of the holistic education experience in Croatia and the evaluation of the relevance of STEM fields. 88.5% of the survey sample emphasized that they believed that STEM was the most significant field of study, despite the fact that only 33% of the survey sample self-identified as studying an area related to STEM. Additionally, the relevance of digital marketing, social media, and similar factors in business was evaluated with an average grade of 4.32 on a scale of 5 by the survey sample. This effectively confirms Hypothesis 3 of the paper than emphasizes that the young Croats interested in entering the labor force or who have already started working are aware of the relevant of digital technologies and the general service sector to the labor market and the economy of Croatia. In regards to Hypothesis 4, it is slightly more difficult to verify the initial claim. There are some concerning factors, including the fact that the survey sample rates the overall relevance of the policies of the Croatian Employment Bureau with an average grade of 2.38, showing a significant lack of faith in the relevant institutions of the Croatian political system that are integral to the development of a healthy labor market. Despite the fact that there are numerous methods in which members of the Croatian youth interested in participating in the labor market can participate in programs by the Croatian Employment Bureau, 81% of the survey sample self-identified as never participating in any form of such a subsidized program. It is also relevant to take note of the fact that 86.4% of the survey sample believes that the current wages they receive is not suitable for the complexity of the tasks they are paid to carry out. Such findings show that Croatian employees are not motivated through either of the key categories of Herzberg's Two-Factor Theory as can be seen through the interpretation of Figure 2. The vast majority of respondents evaluated Croatian employers with a grade of 3 and such a grade was provided by 47.7% of the survey sample.

*Figure 2: Rating of satisfaction with employer's treatment of subordinated*

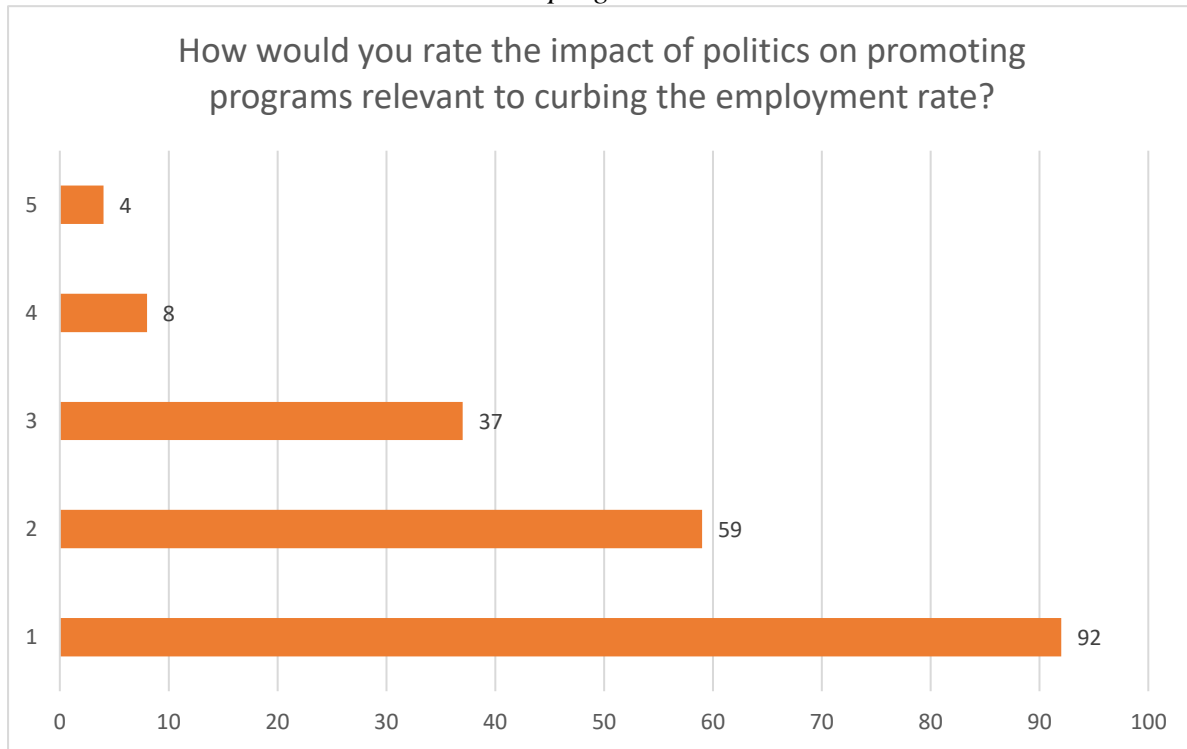


*Source: Survey conducted by the authors*

This shows a clear trend that Croatian employees are not satisfied with the hygiene or motivational factors in their workplace. This argument can be additionally supported by the findings in terms of Croatian employees who rated the relevance of internships or other forms of volunteer work with an average grade of only 2.68.

When asked on a scale of 1 to 5 to rate the relevance of volunteering for their future job prospects, it is clear that members of the Croatian youth interested in joining the labor force no longer believe that volunteer work is essential to their success. On the other hand, aside from the lacking faith in the Croatian institutions and the low grade allocated to political parties in general it is important to take note of the grades provided by the survey sample in Figure 3.

*Figure 3: Rating of satisfaction of survey sample with the impact of politics on employment programs*



*Source: Survey conducted by the authors*

With almost 50% of the survey sample believing that political parties have such a negative impact on employment programs and curbing the unemployment rate that they evaluate it with the lowest possible grade, it is clear that it is largely possible to confirm Hypothesis 4. Despite the results that are focused on the financial aspect of the Croatian labor market, the empirical framework was unable to fully verify Hypothesis 2 and reach the same conclusion as Haruna (2013). While the paper takes note of the intrinsic nature of motivation as mentioned by Riley (2005), it finds that it cannot verify many of the hypotheses as stated in Riley's (2005) paper. Despite the fact that motivation is an intrinsic factor, the external factors, including hygiene factors as described by Herzberg's Two-Factor Theory, seem to be a pre-condition for labor satisfaction. Such a conclusion is intuitively logical as based on numerous psychological and sociological theories, including the hierarchy of needs as advocated by Maslow (1943). Without satisfying pre-conditions such as security, of which financial security is an essential part, other needs cannot be achieved.

#### 4. CONCLUSION

Based on the survey conducted on a sample of N=200, this paper finds that Hypothesis 1 can largely be confirmed as it is clear that a number of hygiene factors as defined by Hertzberg's Two-Factor Theory cause members of Croatia's youth to negatively evaluate the general state of the labor market. The negative views of young Croats on politics point out that Hypothesis 4 can easily be confirmed and the strong emphasis on the STEM field and positive responses

concerning digital marketing show that this paper can confirm Hypothesis 3. The only hypothesis the paper is not able to fully verify is Hypothesis 2 as there is no empirical evidence that suggests that hygiene factors are more relevant than motivator factors. Based on these findings, this paper recommends that employers take note of the dissatisfaction of the general labor force with the wages provided. Additionally, implementing incentives for reaching certain performance goals can be beneficial to the business as a whole and to the motivation of employees. An additional factor that should be considered is encouraging employers to pay for the education of employees in areas where both parties may benefit from such an increase in human capital that is essential for most modern-day businesses. This paper also finds that the majority of the survey sample finds the influence of Croatian politics negative to the labor market and the lack of a coherent and consistent policy will likely cause such a trend to continue unless a strategic approach is implemented to end the ‘brain drain’ phenomenon and to increase the number of jobs in Croatia that require higher education.

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## MANAGING ORGANIZATION OF KARTEL PETROLEUM EXPORTING COUNTRIES

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### **ABSTRACT**

*This paper analyzes the activities of the oil exporting organization. At the beginning of the paper, the aim of the research is to determine the reason for setting up the organization, its organizational structure and the organization's aim to show how the organization contributes to the positioning of members on the international oil market. In accordance with the set objective and the subject of the research, the paper found that the reason for the establishment of OPEC was initially limited to oil products due to geographical and natural characteristics, and the second reason was the possibility of oil exploration as good of a state. The oil market as such a market simply does not suffer a great deal of competitiveness. But the economy and society are subjects to change, so market domination and global relations are changing. The global focus is increasingly on climate change. Although, according to all analyzes, the OPEC cartel does not have any need for offline integration, new trends in the economic and technological processes would in the future make the merger a new challenge for OPEC, whereby renewable and non-renewable energy sources could be connected.*

**Keywords:** *international market, oil, Organization of Exporters of Oil Producers*

### **1. INTRODUCTION**

Organization exporting oil producers is an organization consisting of exporting oil countries of the Middle East, Africa and South America. The main objective of the organization is the coordination and unification of petroleum policies of member states and determining the best ways to preserve their interests and collective interests in the international oil market. One of important goal is the elimination of harmful and unnecessary fluctuations in the price and constant care of oil producing countries in order to ensure their permanent income, economical supply of oil consumers and ensure sustainable disposal of oil resources. Oil is still one of the most important resources in economic activities in the most industrialized countries. Therefore it is important to ensure competitiveness in the oil market in order to avoid monopolistic occurred initiatives which does not allow the market activity of all oil producers, and which also controls the pricing policies of oil. The organization was founded in 1960 to oil producers gained a better position in relation to large manufacturers and oil companies from the United States, Great Britain and the Netherlands. Today it is estimated that in countries that are members of organizations located about two-thirds of the world's oil reserves and that states supplying about 40% of the world oil market. Power organization enables member countries better market position in the oil market, and every year more and more financial benefits from oil that is exported.

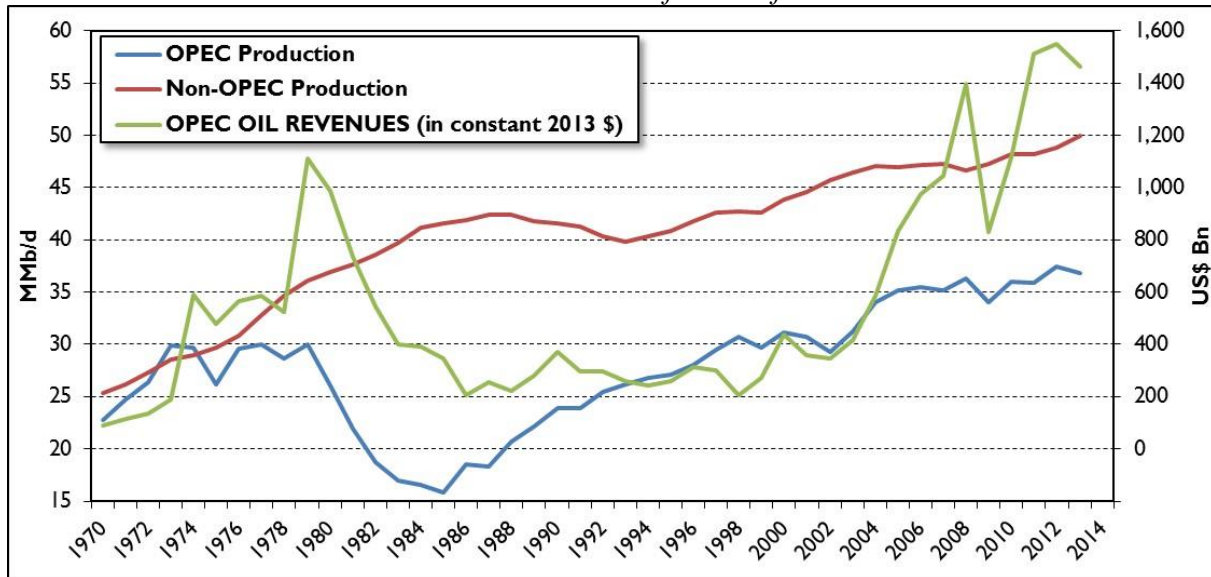
## **2. ANALISIS OF MANAGING ORGANIZATION OF KARTEL PETROLEUM EXPORTING COUTRIES-OPEC**

### **2.1. The historical development of OPEC**

The Organization of Petroleum Exporting Countries (acronym OPEC), an international organization established to coordinate the oil policies and ensuring the technical and economic assistance to the member states, based in Vienna. Organization in 1960 at the conference in Bagdad, founded by Iran, Iraq, Kuwait, Saudi Arabia and Venezuela, and later they were joined by Qatar (1961), Indonesia and Libya (1962), Abu Dhabi (1967), which is membership in 1974 transferred to the United Arab Emirates, Algeria (1969), Nigeria (1971), Ecuador (1973), Gabon (1975th-96th) and Angola (2007). Gabon stepped forward in 1995 but re-joined OPEC in 2016, Ecuador suspended the membership 1992nd-2007th, and Indonesia since 2009. The policy of OPEC are formulated at the conferences of delegates of the member states which are held at least twice a year. Organization managed by a board of governors, elected by member countries, a president elected by the Conference (Ajah 2013). OPEC was founded as an opposition power International oil cartel which is more than 1928 gathered most of the world oil industry companies (Exxon, Texaco, Standard Oil, Mobil Oil, Gulf Oil, British Petroleum and Shell). These companies have dictated the price of oil on the market. The cartel constantly used concessions and increasing the amount of oil produced, as well as its demand and dictated prices in the oil market. The original angle OPEC mid-20th century was to create a system that will fight for the revision of the contract of large oil companies and service concessionaire with the ultimate goal of nationalization of oil resources. Precisely in 1960 signed the first agreement of the member states that are in its territory had oil wells. Initially these were Qatar, Indonesia and Libya, to their 1970s joined Nigeria, Ecuador, Gabon and Angola in 2007 (Ajah 2013). Already in 1970 the OPEC gathered together countries that are on its territory had sources around 65% of world oil production. By regulating the oil price reduced production, caused by the rise of oil prices with 3USD per barrel on even 30USD per barrel in 1980. The impact of the Arab countries in OPEC-in was big and the oil was used as "currency" for trade policy interests of the then Arab states that fought for equality in the international political and economic relations. The power of OPEC over the years was so strong that the cartel introduced in 1973 an embargo on oil shipments to the United States and the Netherlands (Onoh, Nwachukwu, 2018). In the early 1980s, the influence of OPEC on the global oil market is reduced because the industrial countries began with significant savings in oil, and began to rotate and alternative energy sources (Gately, 2007). From 1970th to 1980th OPEC was internationally significant factor. Member states have taken full control of the domestic oil field and became significant factor in determining world oil prices. During this decade, oil prices were high twice. The first increase occurred boosted embargo in 1973. Other growth was after the outbreak of the Iranian revolution in 1979. OPEC introduces new guidelines of its business in 1975 in Algeria (Ajah, 2013). Then present new plans for the development of poor and undeveloped countries. Members of OPEC are calling for international cooperation in the interests of economic growth and stability. This leads to the establishment of the OPEC fund for International Development in 1976. As the impact of OPEC in world oil grew so also increases the number of members. Until 1975, OPEC had 13 members. During the 1970s OPEC recorded exponential growth in revenue. (Picture 1).

*Picture following on the next page*



*Picture 1: Production and income of OPEC from 1970s to 2014*

Source: *Oil Price History and Analysis*, <https://www.wtrg.com/opec.html>, (21/07/2018)

As can be seen in the graphic in the picture one, 1980 were in good grace period for action OPEC because the large income from the 1970s given the possibility of investing and investments state. However, oil prices begin to fall in 1986. OPEC's share in smaller markets oil fell as the total income which fell below one-third of previous income. This situation has led to major crises within member countries. In early 1990 oil prices again begin to grow as revenues cartel, but never reached the level that it was in the 1970s. However, OPEC manages to recover from the shock first due to increase dialogue and cooperation with other markets oil and establishing a reasonable price (Gately, 2007). Since 1990, prices have fluctuated less dramatically than in the 1970s and 1980s. OPEC with a few timely response could reduce the impact of conflict in the Middle East. But the new decade is marked by low oil prices. A trend of preserving the environment and the oil becomes a resource that is trying to replace as many in the industry to other sources of energy. After the economic crisis in South Asia and a change in social consciousness at the end of the 1990s the price of oil fell to the level of 1986 (Gately, 2007). But at that moment that made the recovery, and it resulted in the integration of the oil market, which began to adapt to the new political and economic order. At the end of the 20th century appears further shifts at the level of relations between consumers and producers of oil. During the 1990s one country permanently left the membership of OPEC and the other suspended its membership. In the new millennium OPEC enters setting innovative price that stabilize the oil market. But the combination of market forces, speculation and other factors transformation leads to a situation in 2004 where an increase in oil prices. Oil prices rise until 2008 and then begin to fall strongly as a result of a big economic crisis. OPEC in those moments stand out as support to the oil sector and becoming part of the global effort to combat the global crisis (Onoh, Nwachukwu, 2018). OPEC's second and third summit in Caracas and Riyadh in 2000 and 2007 stands out more stable energy market, sustainable development and the environment as the three main themes, and these themes in 2005 adopted a long-term strategy (Ajah, 2013). During this decade, OPEC joins Angola, Indonesia has suspended its membership and Ecuador re-activated as part of OPEC. 2010-this global economy was the main risk for the oil market at the beginning of the decade, in this period in the world dominated by large macroeconomic uncertainty and increased risks to the international financial system. Escalating social unrest that are greatly hit the market supply and demand, but with all that the oil market remained balanced. Prices were stable between 2011 to mid-2014, when it happens decrease due to speculation and excessive supply. (Onoh, Nwachukwu, 2018).

Trade is increasingly shifting to Asia, which saw an increase in demand. World focus is increasingly on climate change. OPEC, as in previous decades, trying to stabilize the oil market and to increase dialogue and cooperation with customers at the same market. Summarizing the development and the emergence of OPEC can see that geopolitical changes strongly affect the stability of the action of member states and the cartel, so in the future can expect further turbulence especially in countries that want to be more present in the western market, ie. with western partners.

## **2.2. Strategic guidelines of OPEC cartel**

OPEC functions are coordination and unification of the petroleum policies in order to achieve above goals. This is mostly achieved through the representatives of the member states that are on the conferences in order to promote stability and harmony in the oil market. Member states are finding the current problems and explore the basic tenets of the market growth rate of the economy and the state of supply and demand and in accordance with these results form its energy policy. Member states may increase or decrease production in order to maintain stable prices and the required amount of customers in the long medium and short term.

According to the Statute of OPEC there are three main objectives of association:

- „The coordination and unification of the petroleum policies of member states and ensuring the best means of keeping their own and collective interests.
- Find ways and tools to stabilize prices on the international oil market, in order to avoid unnecessary fluctuations.
- Provision of sufficient quantities of oil countries that import oil and honest capital return of countries that export oil and invest in the oil industry“ (Brko, 2016:21).

In conclusion, the foundations of a foundind OPEC can perform its main business: responsibility towards its member countries and abetment of their individual and collective interests; abetment market stabilization price and limiting volatility; abetment buyers of oil throught a sufficient supply of oil; and the last, preserving the interests of investors by ensuring profitable operations on the market.

## **2.3. The organizational structure and the relations within OPEC**

Fifteen countries are currently members of OPEC: Algeria, Angola, Ecuador, Gabon, Ecuador, Guinea, Iran, Iraq, Kuwait, Congo, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates and Venezuela. Due to supply shocks during the Arab-Israeli war in the fall of 1973 and the Iranian revolution during 1979 and 1980, OPEC was able to increase the price of oil 2,50USD per barrel in 1973 to over 40USD per barrel in 1980. It, however, stimulate savings in developed countries (by lowering the temperature on the thermostat, switching to small cars more fuel efficient), extended the exploration and production (United Kingdom and Norway are then revealed new sites in the North Sea, USA in Alaska, and Mexico in their area, and the transition to other sources of energy (such as coal). As a result, the share of OPEC in world oil production dropped from 55 percent in 1974, to less than 30 percent in 1991. While OPEC meets regularly to determine oil prices and production quotas, rarely succeeds in its effort because of excess supply, which is dominated by 1980. (OPEC, 2018). Generally, densely populated country with a low level of oil reserves, such as Saudi Arabia and Kuwait, prefer lower prices to discourage savings and production outside OPEC and this maximized long-term profits. However, OPEC failed to prevent a drop in oil prices to the level 15-20USD and widespread fraud of its members during the 1980s. Accordingly, although the OPEC often cited as the best example of once successful cartel, many economists are now convinced that OPEC has never really controlled the world market of crude oil (Salvatore, 1994:426). Under the conditions of limited supply that prevailed during the 1970s, OPEC has managed to raise oil prices, but when they came forward

surplus supply, OPEC failed to prevent almost equally drastic fall in prices (Onoh, Nwachukwu, 2018). Even the mini-oil shock, caused by the invasion of Saddam Hussein in Kuwait in August 1990, managed to mitigate the rapid victory in the war in the Persian gulf. So they are already in the mid-1991, oil prices were as low as before the invasion of Kuwait (Brko, 2016:21).

#### **2.4. Mutual agreements – relations within the cartel**

Since the founding organizations are encountered with many different problems to the outside and the inside. The oil market is normally very sensitive, dynamic and prone to drastic changes. This is why OPEC has often had to intervene various policies to stabilize the market. When we observe and evaluate that policy and when considering what OPEC might do in the future, one must take into account the factor of independence within the cartel. OPEC's power and market impact based on the collective decisions of the increase or decrease in the quotas allocated to each member state (Brko, 2016:25). However, throughout history occurs many cases where individual member country ignores the default quota and produces the amount of which it shall determine. Such behavior leads the entire cartel in a dilemma and the situation of uncertainty. This free behavior influence the various factors within and outside the organization. It is evident that almost none of the members does not produce day quota. It is evident that almost every member produces a higher level of a given quota, with the exception of Libya, which is affected by the war. One of the main problem of OPEC is lack of control mechanisms and sanctions. Since its inception the cartel has not discovered a way to effectively follow the size of the production of other member states and the appropriate penalty member state that exceeds their quota production (Bentzen, 2017). "A number of experts believes that Saudi Arabia had a strategy and attempts to discipline and remuneration depending on their performance. However, we can safely say that the system of allocating quotas is not good. Historically viewed pr OPEC's pblems and reducing the concerted action began precisely with the system of assigning quotas. This trend of uncoordinated actions reflected negatively on OPEC's market power and influence "(Brko, 2016:28). Like all other organizations OPEC is facing the problem of lack of information. Market research and determination of demand can be quite a complex task. Another crucial thing for the behavior of OPEC is to analyze the competition. The cartel must thoroughly analyze and predict the actions of competitors and prepare a response to these actions. However, competition analysis is quite complex and presents a major challenge for the cartel. Historically, there were a situations in which OPEC is not adequately prepared for certain events. The two most significant oversight cartel took place in the past decade. The first oversight was in 2005 when they failed to predict the attack and falling demand in Asia, and in 2008 when they failed to predict the global recession (Bentzen, 2017). "OPEC took complete control of the market after the embargo in 1973. Member countries nationalized their oil sources and squeezed multinational oil companies. However, after these events begin to explore new sources of oil in areas outside the jurisdiction of OPEC and the cartel meets again with the competition "(Brko, 2016:25). The big problem for large oil producers are today's modern trends of consuming less oil, greater energy efficiency and use of renewable energy sources. This trend is expanding and is expected further decline in demand for oil. "One of the main reasons of the conflict within the cartel is big heterogeneity. OPEC countries are demographically and heterogeneous quite different. The big cause of the conflict is the division into two blocks. Hnyilicza and Pindyck 1976 introduced the division of OPEC to block consumers and savers block. Depositors are smaller countries with large profits and large reserves of low-cost" (Brko, 2016:28). Consumers are countries with more population, with lower profits and lower reserves of high cost. At the end of this chapter, it can be concluded that although OPEC for a long time was the largest player on the oil market, the competition becomes stronger, and OPEC's market power is decreasing. OPEC has successfully dictated and stabilize prices in the market.

However, in several situations OPEC failed to adequately respond to competitive moves and with it reduce its political and market power.

## **2.5. Decisions within cartel OPEC**

OPEC was founded to unite developing countries and to enable them to respond to the demands imposed by the international economy. But among the important problems of the organization puts the problem of capitalist exploitation of oil. At the beginning when the organization just developing, developed world is not too attached attention to the possible disappearance of oil, but today on the problem viewed from an entirely different angle. Power OPEC is therefore that it is still present organization with nearly 80% market share in oil production in the world. Within cartel decisions were made that the original holder of Saudi Arabia as one of the largest oil producers. Therefore one of the key decisions of the cartel is that there is no reduction in oil production. Saudi Arabia is a big advocate of that decision because it sees interest in international political and economic negotiations. Venezuela has problems with the state budget and the financing of the country, so it is also with Saudi Arabia another major supporter of maintaining high oil production (OPEC 2016:16). Analyzing the effect of OPEC in this chapter can be concluded that it is necessary to ensure the viability of the cartel. In order to ensure the sustainability of the cartel, Saudi Arabia proposes a new strategy with which they agree, Qatar, Kuwait and the United Arab Emirates. This strategy is based on higher production and lower price which OPEC remains the dominant supplier of oil in the world. The reason for this decision lies in the fact that it would reduce production declined and the market share. OPEC members their national budgets based on the production and export of oil is still likely that the decision to the high intensity of oil production continues to maintain one of the fundamental strategic objectives of the cartel, regardless of the technological and social changes in the world and the markets (OPEC 2016:16).

## **3. ANALYSIS OF OPEC'S MARKET POSITION**

### **3.1. OPEC's energy policy and the impact on the market**

„OPEC has since its foundation used a different energy policy in order to increase their bargaining power and influence on the structure and dynamics of the world oil market. These energy policy are: nationalization of resources; installation and adjustment of price, directly participate in the investment market; reducing production. These OPEC policy are very significant impact on the world oil market and the economy even though the organization has encountered obstacles from the outside, but also inside.“ (Brko, 2016:25). As a cartel, OPEC's primary needs are power production control, sufficient supply and to determine the quotas for each member in order to control price. However, many believe that OPEC is not a cartel and that is not effectively control the price of oil through collective decisions and actions. The oil sector is known by many government regulations and interventions over the last few decades, through taxation to control prices in the market before 1970. However, through the establishment of OPEC and the impact of government intervention on a global basis is reduced, with the aim of moving the market power of the big oil companies to oil-exporting countries through the formulation and implementation of energy policy (Gudi, Russell, 2006). „Energy policy of OPEC and their impact on the global oil market are affected by the heavy criticism since they have become a significant factor in determining the price and quantity of the oil market. Arab countries since the early 70s using oil as a type of weapon during Yom Kippur war, especially after they voted oil embargo against the Netherlands and the United States which resulted in the first oil shock. The reasons why prices have risen to be great division among the authors“ (Brko, 2016:30). It is believed that for this increase solely responsible policies and political factors, while there are those who believe that it is for the growth of, responsible change of ownership rights. „Policies of OPEC should be viewed from the

perspective of the benefits and efficiency that they bring to the entire cartel, or a certain part of the cartel. Throughout history often occurred conflicts within the cartel. The impact of the policy of OPEC through history can be divided into the period before and after the embargo in 1973 due to the fact that after the introduction of the embargo OPEC becomes significant in the world market“ (Brko, 2016:30). „Almost 100 years oil industry was controlled by large multinational companies known as the seven sisters. During this period the average price of oil per barrel was less than 20USD. In the period from 1958 to 1970 the price of oil per barrel fell from 17USD to 14USD levels below. In this era OPEC members recorded growth in demand for oil, but also decrease the purchasing power of a barrel of oil by 40%, which has led to a stronger reaction of OPEC in the 70s.“ (Brko, 2016:25). The biggest concern of OPEC this decade is maximizing profits of each members of the cartel and nationalization of sources. After successful nationalization comes a new era of OPEC in which member states express the powerful right of disposal of own production resources. The first oil shock began after the outbreak of Yom Kippur war. Arab countries declared an oil embargo Netherlands and the United States because of the support given to Israel in the conflict against Egypt and Syria. „The result was a decline in the output of the entire cartel to 9.5%. Daily loss per barrel was around 4 million, down from 47.8 million barrels per day to 43.2 million barrels per day.“ (Brko, 2016:27). By the end of the conflict in oil prices have gone up precipitously at 12USD per barrel. It should be noted that the price per barrel of oil before the conflict was less than 3USD (OPEC, 2018). „There's been a change direction of power and capital and the members of OPEC imposed as a leading factor in the global oil market. The panic that occurred after the event it continues today. Sources of oil are still a topic of heated debate between exporting countries and consumer countries of oil. As the OPEC countries began to control the market, the western countries invested great efforts to discover new sources of oil. So like that were discovered sources in Alaska and the North Sea. Significant funds are invested in renewable energy. After the first shock, the phase of stabilization of the market is coming up and then is recorded normal price drop“ (Brko, 2016:21). This stabilization was interrupted in 1978 when a strike of workers happens in Iran which is known as the Iranian revolution. "The oil output of Iran in the period of the strike falls to 0 at the end of the same year. Iran captures daily drop in oil revenues of approximately 2-2,5 million barrels per day. The impact of the fall of the Iranian output is minimized by Saudi Arabia, which has significantly increased its output during the strike. In the fourth quarter of 1980 Iraq attack Iran." (Ajah 2013). The result is a drop in the oil exports of the whole Iraq and the occupied parts of Iran. This decline has caused a decrease world oil output by 10% compared to the previous year. "After 1981 production of OPEC's competitors is growing, so then OPEC's market share of oil market dropped from 55% to 30% at the end of 1986. Member countries of the Organization for Economic Cooperation and Development represent a new energy program with emphasis on reducing the use of oil, the use of different energy sources and more efficient use of energy. After the presentation of this plan OPEC began to deal with a large surplus stocks and low demand in the world oil market. In this period of difficulty for OPEC, there are also problems within the cartel. Joint decision of the organization was to reduce the total output how to market prices held steady. However, after an initial decrease, Saudi Arabia significantly increasing its output at the end of 1985. This resulted in a drop in oil prices to below 10USD per barrel." (Brko, 2016:27). However, oil prices began to recover significantly at the end of the decade and reaches the level of 18USD per barrel in early 1990. In the early decades, OPEC meets new changes in the amount of the offer. "The reason for this is a war between Iraq and Kuwait for which the amount offered of crude oil fell by 4.3 million barrels per day, which is a percentage term supply reduction of about 18%. Consequently, the price of oil on the market is growing for 14USD (from 21USD to 35USD) per barrel." (Gately, 2007). "OPEC is again relying on the rapid response of Saudi Arabia, which has increased its output and sluggish offered quantity.

End of decade is marked by great economic crisis in Asia due to consumption of oil falls. Due to the lack of quality information OPEC increased output by 10% and prices began to fall. To correct this error, the members of OPEC have begun to decline the offered amount of oil.“ (Brko, 2016:31). These reductions brought the result only in the latter part of 1999, and after another intervention and a reduction of output to 1.7 million barrels per day, price raises above 25USD per barrel. "In early 2000 the United States and the rest of the world recorded economic growth and, consequently, the price of oil rises. To stabilize the price, OPEC raises the offered amount to approximately 3.2 million barrels per day. This action is not a significant impact on prices and the market. Only at the end of 2000 OPEC manages to reduce the price of the new increase in the quantity supplied of crude oil. In 2001 OPEC's competition increases and increases its offer." (Gately, 2007:165). This increase in supply leads to a new fall in prices on the market and OPEC is forced to reduce its output by 3.4 million barrels per day. Reaction of OPEC led to a slight increase in oil prices. Dissatisfied with the initial reaction, the members of OPEC are going to further cut supply. But the terrorist attack on New York on September 11, 2001 led to the termination of the policy of supply reduction until 2002. OPEC reached agreement with Russia, and together reduce the offer to about 2 million barrels per day. The common reaction of Russia and OPEC led to an increase in oil prices at 25USD per barrel in late February 2002. The new shock to the market comes at the end of 2002 a strike of workers in Venezuela. (Brko, 2016:31). The strike has led to reduced supply of OPEC by about 3.6 million barrels per day. To compensate this fall, members of the cartel increase its offer for 3 million barrels per day leading to a rise in oil prices at 30USD per barrel. 2003 begins the invasion of Iraq. Due to the weak stock countries of the Organization for Economic Cooperation and Development and the great economic growth of the United States and Asia, demand for crude oil reaching record levels and prices of 60USD per barrel at the end of 2005 (Gately, 2007). "The consequence of high demand was the complete exhaustion of OPEC spare stocks that have fallen to the level on 1 million barrels per day. This lack of reserves made the market vulnerable to possible fluctuations in supply within the OPEC. 2008, oil prices have fallen to USD 110 per barrel and OPEC announced a reduction in supply of 500 000 barrels per day. The global recession led to a drop in demand of 10%. The drop in demand returns the oil price at the level of 35USD per barrel. OPEC corresponds with a reduction of output for 2.2 million barrels per day." (Brko, 2016:32). In 2009 OPEC continues its policy of reducing output, and managed to raise the price of oil at 56USD per barrel. Further fluctuations and price increases in the oil market caused by the Arab Spring of 2011 and lower supply by Libya. Prices jump to the level of 100USD per barrel in 2012 while economic growth in Asia and the rest of the world continues (Ajah 2013). The period from 2013 onwards marks the big drop in oil prices. During this period the price of oil fell for 20USD per barrel. Given the current course of the impact of OPEC in world oil market it can be concluded that in the interests of OPEC will be just maintaining low prices to keep conditions of the sustainability of OPEC as much as possible.

### **3.2. OPEC's share of world oil market**

Crude oil is the most wanted merchandise in the world and it makes 40% of the world's energy needs. Oil consumption in the world in the last five years shows overall growth of 4.4%. Latin America shows a high growth rate of 25.6% and significant growth rates of consumption are China 42.3%), Middle East (22%), the former Soviet Union (12.9%) and Africa (12%), while Europe (- 11.5%), the Pacific (-9.7%) and North America (-6%) have a drop in consumption (Billege, Jambrošić: 2011:188). Oil processing volume in the world includes processing in around existing 700 refineries world having a total capacity of processing by regions, shows how the metric system of measures in million tonnes per year (Mt/y), as well as in the Anglo-Saxon system of measures in the millions barell per day (Mbbl/d).

As shown in the table one of the largest producer of crude oil is Saudi Arabia, followed by Russia and the United States (Billege, Jambrošić, 2011:189).

*Table 1: The largest oil producers in the world in millions of barrels per day (2016)*

<b>1. Saudi Arabia</b>	<b>10.780.000</b>
<b>2. Russia</b>	<b>9.810.000</b>
<b>3. USA</b>	<b>8.514.000</b>
<b>4. Iran</b>	<b>4.174.000</b>
<b>5. China</b>	<b>3.795.000</b>
<b>6. Canada</b>	<b>3.350.000</b>
<b>7. Mexico</b>	<b>3.186.000</b>
<b>8. UAE</b>	<b>3.046.000</b>
<b>9. Kuwait</b>	<b>2.741.000</b>
<b>10. Venezuela</b>	<b>2.643.000</b>
<b>11. Norway</b>	<b>2.466.000</b>
<b>12. Brazil</b>	<b>2.422.000</b>

Source: Rachowic, D.: *World's Top 15 Oil Net Exporters in 2018*– EIA,  
<http://petroleuminsights.blogspot.com/search/label/Oil%20Exports> (05/07/2018)

Although the United States is among the largest producers, USA is not among the largest oil exporters, just the opposite, USA among the biggest consumers with China. Below we can see the order of the biggest oil exporters in the world.

*Table 2: The biggest exporters of oil in the world in millions of barrels per day (comparison 2010 and 2017)*

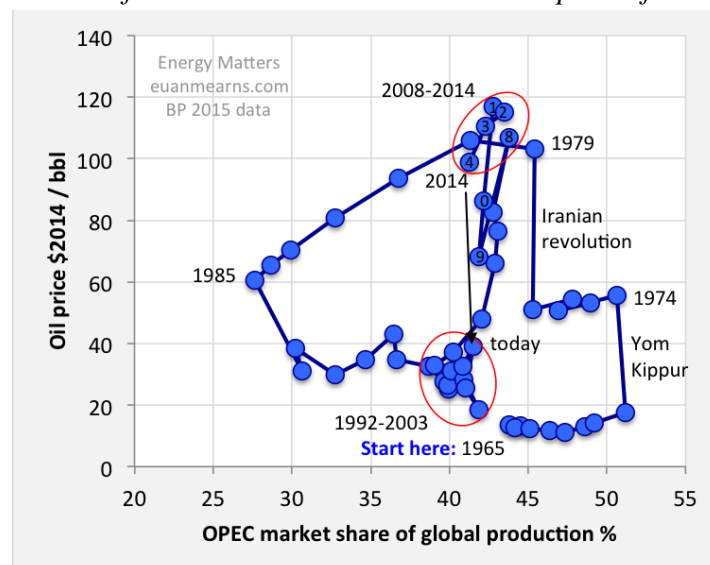
<b>Order</b>	<b>Country</b>	<b>Export 2017</b>	<b>Country</b>	<b>Export 2010</b>
1.	Saudi Arabia	8,336	Saudi Arabia	7,322
2.	Russia	7,083	Russia	7,194
3.	Iran	2,540	Iran	2,486
4.	UAE	2,524	UAE	2,303
5.	Kuwait	2,343	Norway	2,132
6.	Nigeria	2,257	Kuwait	2,124
7.	Iraq	1,915	Nigeria	1,939
8.	Norway	1,762	Angola	1,878
9.	Angola	1,760	Venezuela	1,767
10.	Venezuela	1,715	Iraq	1,764

Source: Rachowic, D.: *World's Top 15 Oil Net Exporters in 2018*– EIA,  
<http://petroleuminsights.blogspot.com/search/label/Oil%20Exports> (05/07/2018)

Processing of oil in the world in the year 2000 shows overall growth of 15%. North America and Latin America have low growth rates of 4%, and Europe has decreased by 4.5%. Other regions of the world show growth of petroleum refining above the average of 15% with the most expressive growth in the Middle East thanks to the intensive construction of new capacity to the primary and secondary oil refining and petrochemical (Billege, Jambrošić, 2011:190).

There is no doubt that OPEC has a very large share of the world oil market. As can be seen based on an analysis of supply and demand, and a new world economic and political order, however, the early 21st century, there is a new position in the world oil market. In particular, the position of the oil market is changing after the attacks on USA, September 11, 2001 when reveals the strong dominance of developed countries and their need for control of global energy flows. Dekanić and Lay (2008) in their work *The geopolitical aspect of oil and water* sets the link between terrorism, deepening the political crisis of the Middle East and oil prices. Oil after the events of September 11, raises the price the same as the invasion of Iraq in 2014. The period of cheap oil in 1990 appears at the beginning of 2014 when suddenly falling oil prices which affected the entry of Russia into war intervention in Syria, and that the growing campaign of the European Union to strengthen renewable energy sources. Russia and the United States who have been controlling energy resources, especially the United States, strengthening trends of green energy are losing their dominance in the control of energy resources. The European Union in Kyoto, then in Paris strongly accepts green strategy to reduce its energy dependence on Russia, but also on the oil reserves of the Middle East. Russia and the United States more in Europe can not count as a potential market which will intensify in the future demand for oil. Although the analysis of energy SEE countries still see their big dependence of oil, the fact that some of the countries members of the EU or will soon become, it is also important for changes in the energy strategies of these countries. However, there are new large consumers like India and China that are becoming popular to Russia as potential buyers, and the United States also as well as customers but also as political partners in global issues. Although in the current battles for oil and the fight against terrorism, India and China have not shown big concern for their resource base, it can be concluded that in future decades of the 21st century, these two industrial powers certainly be the largest consumers of oil, and thus fertile ground for new political blackmail. But the United States next to Russia is losing favor with OPEC which is still the dominant oil producer in the world. The picture 2 shows us the share of OPEC on the oil market and the regulation of oil prices from 1974 to 2014.

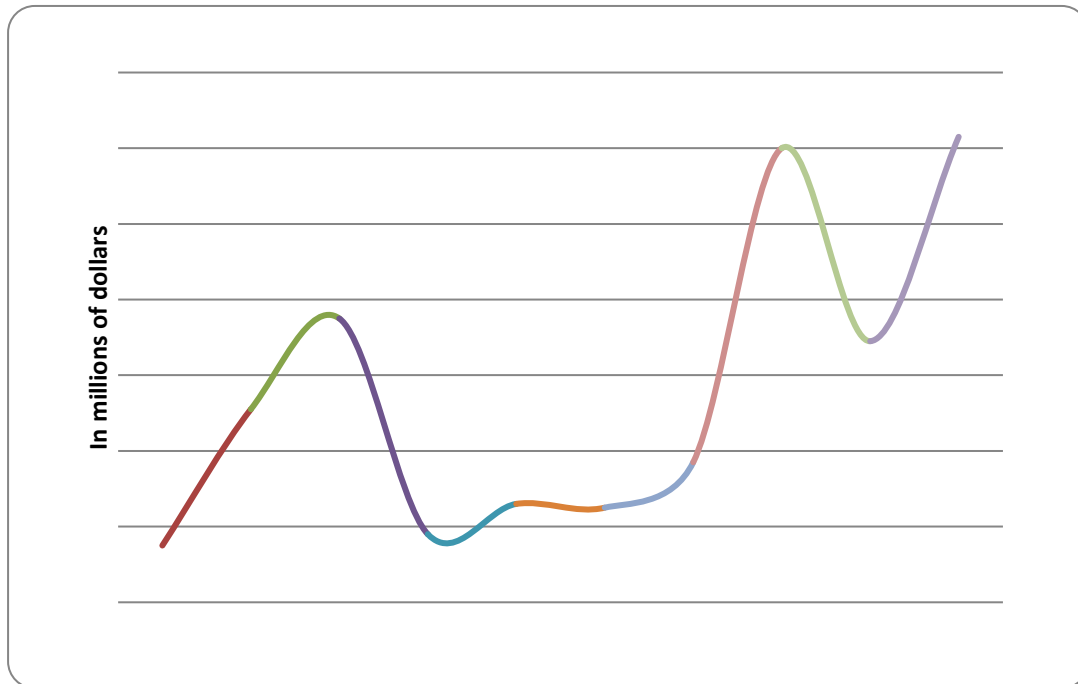
Picture 2: The share of OPEC on the oil market and oil prices from 1974 to 2014



Source: OPEC, [http://www.opec.org/opec\\_web/en/](http://www.opec.org/opec_web/en/), (25/07/2018)

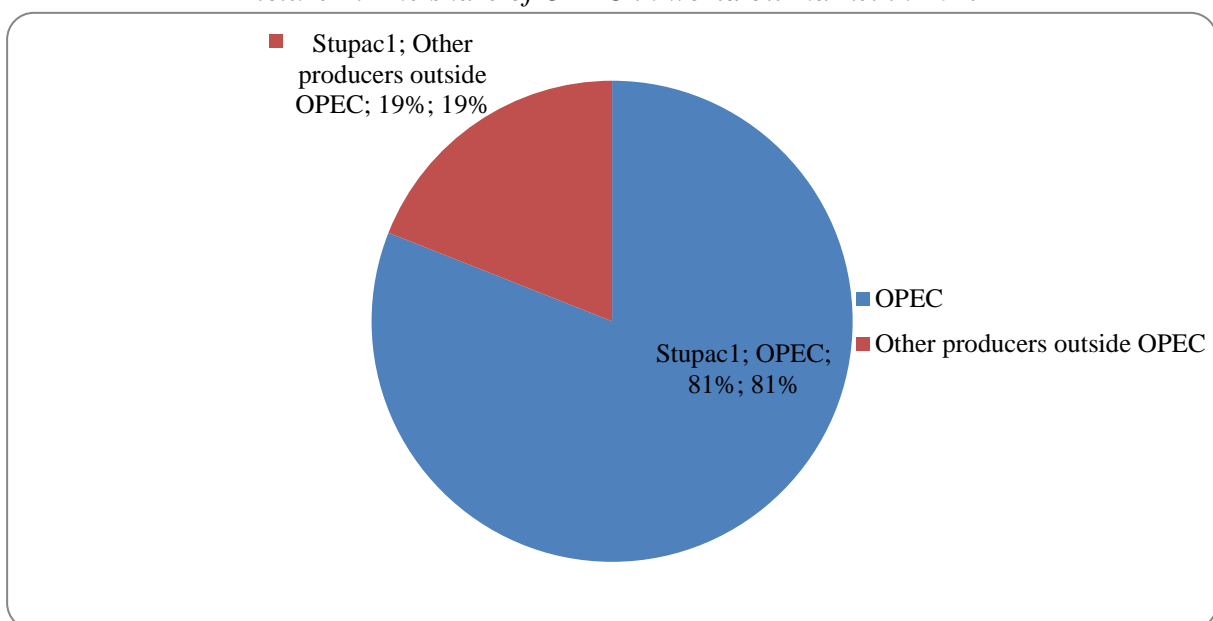
As can be seen from picture two, largest market dominance OPEC had in 1974, since 2008 the price of oil has increased, which has weakened the dominance of the market. Since 2014, oil prices again fall and increased production, which also strengthens the market position of OPEC. In the picture three we can see the fall and rise of OPEC's oil exports from 1970 to 2015.



*Picture 3: OPEC's oil export from 1970 to 2015 in millions of dollars*

Source: OPEC, [http://www.opec.org/opec\\_web/en/](http://www.opec.org/opec_web/en/), (25/07/2018)

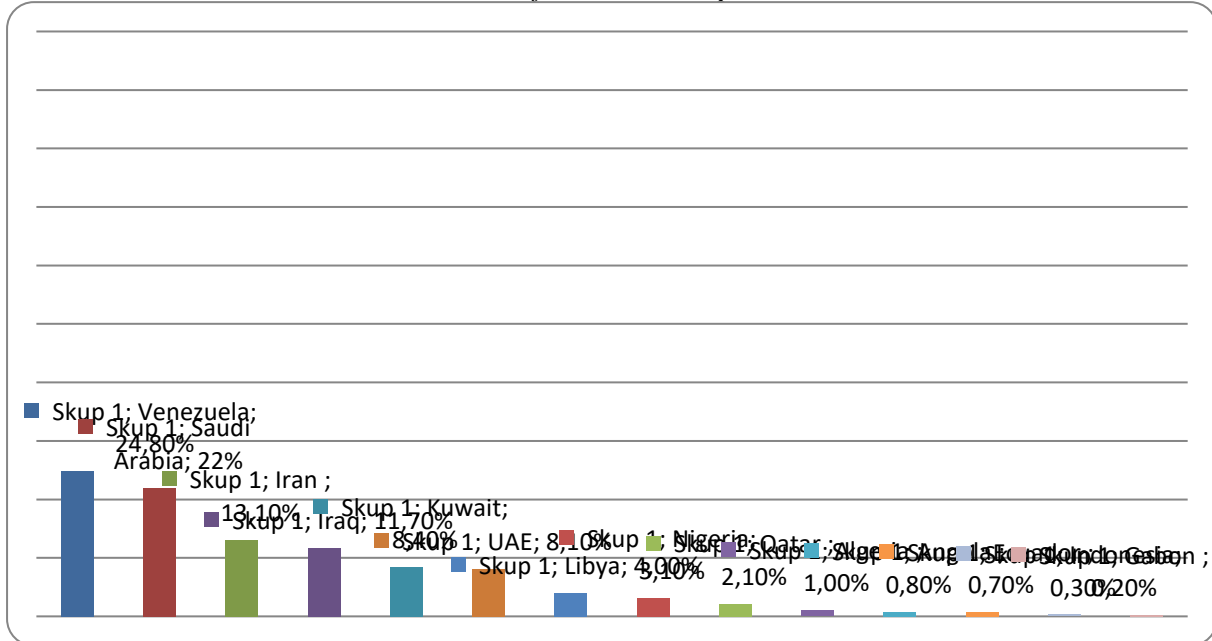
As can be seen from the picture three changes in revenues from oil exports are visible in the period from 1985 to 1995 when are recorded the lowest income exports. The year 2010 as a year of crisis in most countries of the world was an indicator of the economy after the fall of the great economic collapse of 2008, and so the export of oil was significantly lower than in 2005, but already in 2015 there was a recovery of the world economy and the resulting boosting oil exports by OPEC. The latest report of OPEC from 2017 shows that the OPEC cartel produces annually 1,213 million barrels of oil, which is almost 81% of the oil that is on the market (Picture 4).

*Picture 4: The share of OPEC in world oil market in 2017*

Source: OPEC (2018). *Annual Oil Market Report*, Vienna: OPEC, page 15

Member states of OPEC that have the largest share of the oil production in the market are Venezuela, followed by Saudi Arabia, Iran and Iraq, and less than 10% share followed by Kuwait, United Arab Emirates and Libya. Other states have a very small percentage of less than 5% (Picture 5).

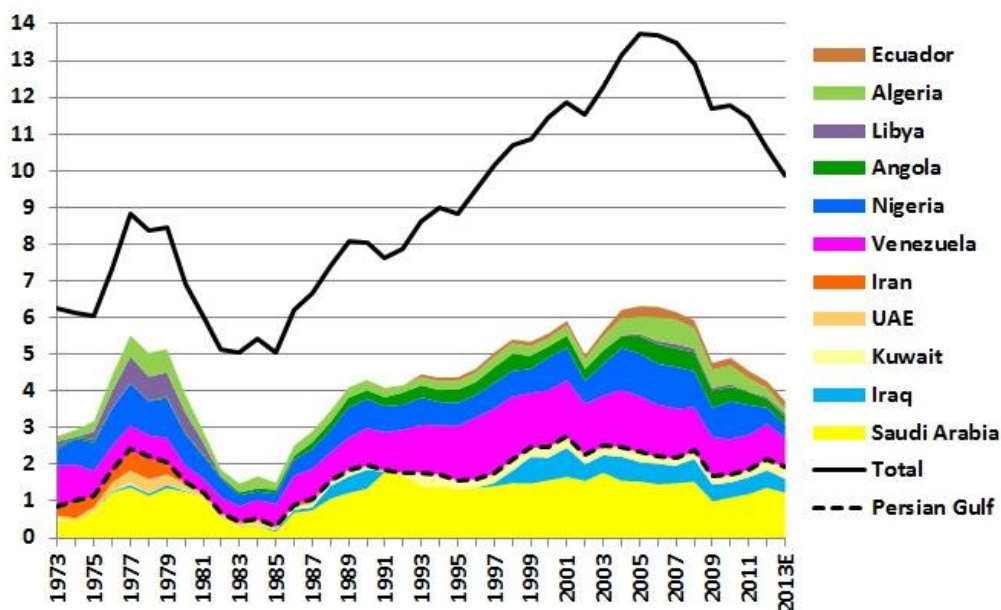
Picture 5: The share of OPEC in oil production in 2017



Source: OPEC (2018). Annual Oil Market Report, Vienna: OPEC, page 20

The dominance of OPEC on the global oil market has not significantly changed over the years. It can be seen that Venezuela since 1990 increased its importance in the share of manufacturing in the global oil market, Saudi Arabia also has slightly reduced its share, as well as Iraq since 2009 (Picture 6).

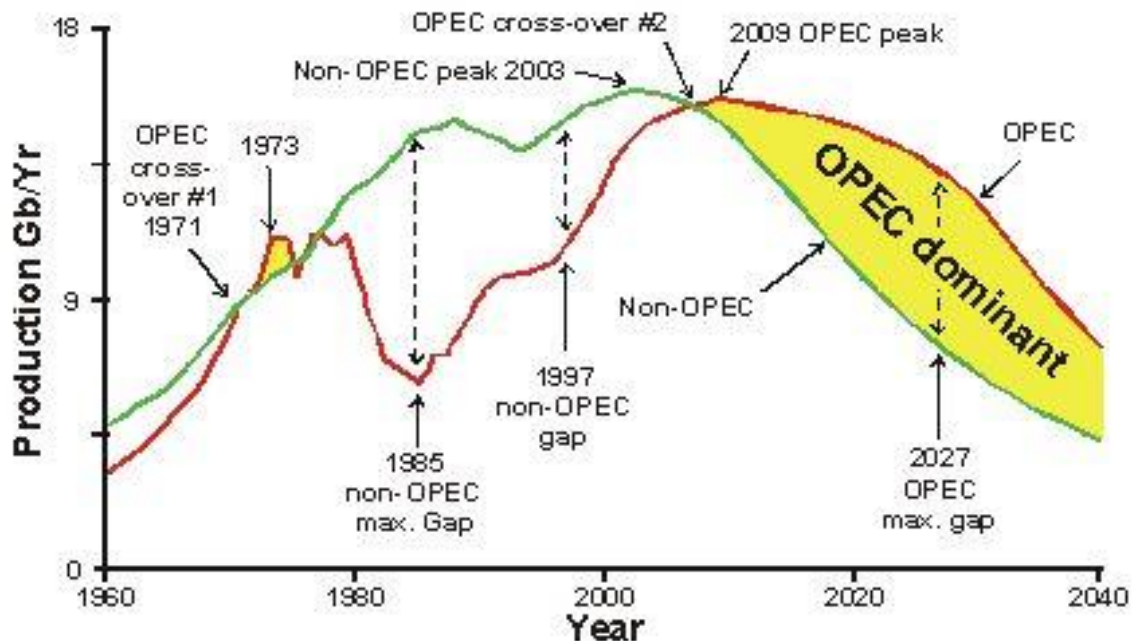
Picture 6: The share of OPEC's members in oil production from 1973 to 2013



Source: OPEC, [http://www.opec.org/opec\\_web/en/](http://www.opec.org/opec_web/en/), (25/07/2018)

OPEC in its annual analysis constantly predicts future growth and sustainability of the cartel on the market. According to the report from 2017 can be concluded that the dominance of OPEC on the oil market to be safe and remain strong at least until the middle of the 21st century (Picture 6). Based on previous analysis of the cartel and independent experts certainly it can be concluded that the cartel continues to maintain its positive position on the oil market. The biggest threat, of course are the technological changes that increasingly include alternative energy sources where in the future it could reduce dependence on fossil fuels.

*Picture 7: Projection of dominance of OPEC on oil market*



*Source: OPEC (2018) Annual Oil Market Report, Vienna: OPEC, page 12*

Picture 7 certainly shows that cartel OPEC can still at least 30 years have dominance in the oil market, as well as general energy global market. Dekanić and colleagues (2002) argue that the dominance of OPEC on the oil market actually possibility of the cartel, ie. the cartel members to maintain their political and economic bargaining power. In conclusion, it can be predicted that in the future that is increasingly relying on alternative sources of energy OPEC certainly must think about cooperation with the new technological resources and countries that its business is increasingly based on new technologies that are environmentally conscious and more difficult to sustainable management (as Japan, India, countries of Western Europe).

### 3.3. Modern problems of OPEC

At the end of the 20th century, the wave of cheap oil, the US and British oil companies, a series of purchases and acquisitions, re-concentrate the main oil capital in the four largest corporations: ExxonMobil, Shell, BP and ChevronTexaco. Geostrategic context of the world of oil and gas at the beginning of the 21st century, and especially after the terrorist attacks on Sept. 11, 2001. Therefore, it can be concluded that the geopolitical role of energy today a complex system market and covert geopolitical monopolies, with the possible instability, doing occasional political or market disruptions. The market turmoil has a problem of internal stability so. "Corporate America", a political result from the complex relations of the United States and countries of the Middle East, which has around two-thirds of world oil reserves and a third of the world's natural gas reserves (Dekanić and associates, 2002:12). After 70 years of exploitation Saudi oil, political control and military involvement in Saudi Arabia, the United

States for the first time found themselves in front of a very serious problem: how to remain an economic and a political ally of that society, in which some of the most capable leaders lead a secret war against the interests and presence US and the Middle east (Dekanić and associates, 2002:12). The main reason for staying is clearly the position of the United States in the world and the role of the only world super - powers. Not less important reason is the participation and control over 45% of the world's oil and the Arabian Peninsula. The main US problem is how to reconcile the seemingly irreconcilable, ie. how to ensure the flow of Arab oil to the West, and at the same time avoid a reaction and negative consequences of their own political control in the Middle East. Oil is a goal that is worthy of the ultimate effort of American policy in order to preserve it, but also the ultimate goal of those forces from control of the oil they want to squeeze just American politics (Dekanić and associates, 2002:15). According to company data Baker Hughes, which announced that the number of oil installations in the US rose to a total of 861 plant (new high level of 2015), while in the period last year there were only about 730 facility, suggesting that US manufacturers correspond to these price level, so they, decide to increase production. Consumption of primary energy in the world of the early 21st century is based on oil, and increasingly natural gas, which will in the coming decades retrieve an increasingly important role. Oil corporations traditionally nurture a global approach, a systematic organization of business and advance prescribed corporate behavior as the foundation of their business strategies and policies. In the era of electronics, information technology and the Internet, they are only required to adjust the speed of decision making and implementation of business decisions. Smaller countries, can observe that process and incorporate their own energy market in the globalized energy market while respecting its rules. Current and future energy needs, the necessity of reducing the use of certain fossil fuels in the future and the emergence of a larger share of renewable energy in itself speaks of the great need of research and development of energy technologies and their application. The ultimate goal is acceptable and competitive price unit of energy. The fundamental problem of humanity, how to provide enough energy for the expected population growth and thereby stop the current devastation of the environment, only will have to solve in the future (Dekanić and associates, 2002:16). According to all conceivable projections, energy consumption will grow, especially in countries like India and China, but also in the developing countries of Asia, while maintaining the current share of oil and the increase of natural gas in the structure of primary energy consumption, and preferably greater share of renewable energy sources. Oil and gas production can ensure the current level of need in the world for at least half a century, and probably longer, and, in addition to the largest reserves in the Middle East, there is more and more more new regions rich in oil and gas, such as the Caspian region or underwater deep sea tomorrow, and the African research areas or South American reserves of heavy oil, the day after tomorrow. (Bentzen, 2007:1380). Smaller oil companies have a difficult task in choosing business strategies. They must simultaneously adapt to global trends in the oil market, and also to keep the necessary flexibility and competitive ability in order to survive in the turbulent conditions of the global oil market, which each decade causing some big disorder. After it follows the integration and merger, and they typically are subject to weaker. Although cartel OPEC has no need for integration outside the cartel, the new trends in the economic and technological processes certainly in the future merger set up as a new challenge for OPEC where it will be able to connect renewable and non-renewable energy sources. (Bentzen, 2007:1381). That OPEC is in front of big turn, say conclusions of the meeting in Vienna in 2018. Big states, producers, such as Saudi Arabia and Iran, increases oil production, which in real still leads to a decrease in oil prices. But, attitude about increasing production and lowering prices is not shared by all members of OPEC, so they met in June 2018. Particularly sharp criticism, strategy to increase production which feature Saudi Arabia transmits Venezuela and Argentina.

Venezuela considers that Saudi Arabia its drastic increase in the production, put other states at the margins and limits market opportunities. This particular creates the problem of South American countries in the North American market, which is its largest market. In the future will certainly need to find common solutions in which will be countries bigger producers keep on some optimal limits of oil production so it will not spoil market opportunities of smaller producers. If this compromises are not achieved, it can be expected egress of smaller producers from cartel. But this will be bad for the future and sustainability of the cartel.

#### 4. CONCLUSION

This paper analyzes the position of the cartel OPEC on oil market. On process of forming equilibrium prices and volumes are strongly influenced by the market structure, which relates to a competitive environment in which buyers and sellers of goods or services operate. The oil market simply can not suffer a big opportunity of competitiveness. The first reason is the narrowness of the product due to the geographical and natural features, and the second reason is the possibility of exploitation of oil as good a state. For this reason, it is based OPEC to counter the power of the International Petroleum lobby that is more than 1928 gathered the the world's strongest oil industry companies. The original angle of OPEC mid-20th century was to create a system that will fight for the revision of the contract of big oil companies and service concessionaire with the ultimate goal of nationalization of oil resources. Precisely in 1960 is signed the first agreement of the member states that are in its territory had oil source. Initially these were Qatar, Indonesia and Libya, 1970s joined Nigeria, Ecuador, Gabon and Angola in 2007. However, the economy and society are changing from 1970 so that market dominance and global relations are more changing. Trade is increasingly shifting to Asia, which notes an increase in demand. World focus is more and more on climate change. OPEC, as in previous decades, is trying to stabilize the oil market and to increase dialogue and cooperation with customers in the same market. Although according to all analyzes of cartel, OPEC has no need for integration outside the cartel, the new trends in the economic and technological processes certainly in the future merger set up as a new challenge for OPEC where it will be able to connect renewable and non-renewable energy sources.

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# FRAMEWORK FOR ASSESSING THE COMPANY'S MATURITY OF DIGITAL BUSINESS TRANSFORMATION

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## **ABSTRACT**

*Digital business transformation refers to the continuous application of digital technologies focused on the design of innovative business strategies and business models, new ways of management to provide customers with better products, services and especially experience of their use. There is a different methodology for assessing the company's maturity of digital business transformation. The purpose of the paper is to describe how to manage digital business transformation and apply one of the framework for assessing the company's digital capabilities within Croatian business practice.*

**Keywords:** *Digital Business Transformation, Framework for Assessing the Digital Business Transformation, Transformation Capability*

## **1. INTRODUCTION**

Digital economy is a new economy based on the mega processes such as accelerated science and technology development, globalization, computerization and where the productivity and competitiveness of companies depends on their ability to apply knowledge-based information and create of innovation. Digital business transformation refers to the continuous application of digital technologies focused on the design of innovative business strategies and business models, new ways of management to provide customers with better products, services and especially experience of their use. There is a different methodology for assessing the maturity of digital business transformation. The purpose of the paper is to describe how to manage digital business transformation and apply one of the framework for assessing the company's digital capabilities within Croatian business practice. Chapter 2 describes the PDCA (Plan/Do/Check/Act) concept for managing the digital business transformation. Chapter 3 describes the structure of the framework for assessing the company's digital capabilities. Chapter 4 describes the results of the conducted assessment related to the company's transformation capability using the framework. The research was based on the interviews with business and IT managers, process owners within the concrete production company in Croatian business practice.

## **2. DIGITAL BUSINESS TRANSFORMATION**

Digital economy means new models of business, products, services, markets and emerging sectors of the economy that are based on digital technologies (Spremić, 2017). Digital business models are the result of the transformation of common business models and represent all business activities that take place through digital technologies for innovation purposes. Disruptive innovations are the process of radical changes in classical business models in some industry using digital technology to create new values. Digital business transformation is the application of digital technology for the purpose of creating new sources of revenue and new business models. It is realized within the company through the simultaneous implementation of changes in strategy, organizational structure, business processes and organizational culture. This transformation of the company ensures its competitiveness on the market (Spremić, 2017). The digital business transformation within the company is a very complex process and therefore it is very important to manage its capability and continually define improvements (Kenett and Baker, 2010).



In general, PDCA concept for managing the digital business transformation within the company is shown in Fig.1. The purpose of this concept is to show how to assess the company's maturity of digital business transformation in order to define the necessary improvements and achieve the desired maturity level of digital transformation. This was also the motivation for research that was conducted in the paper.

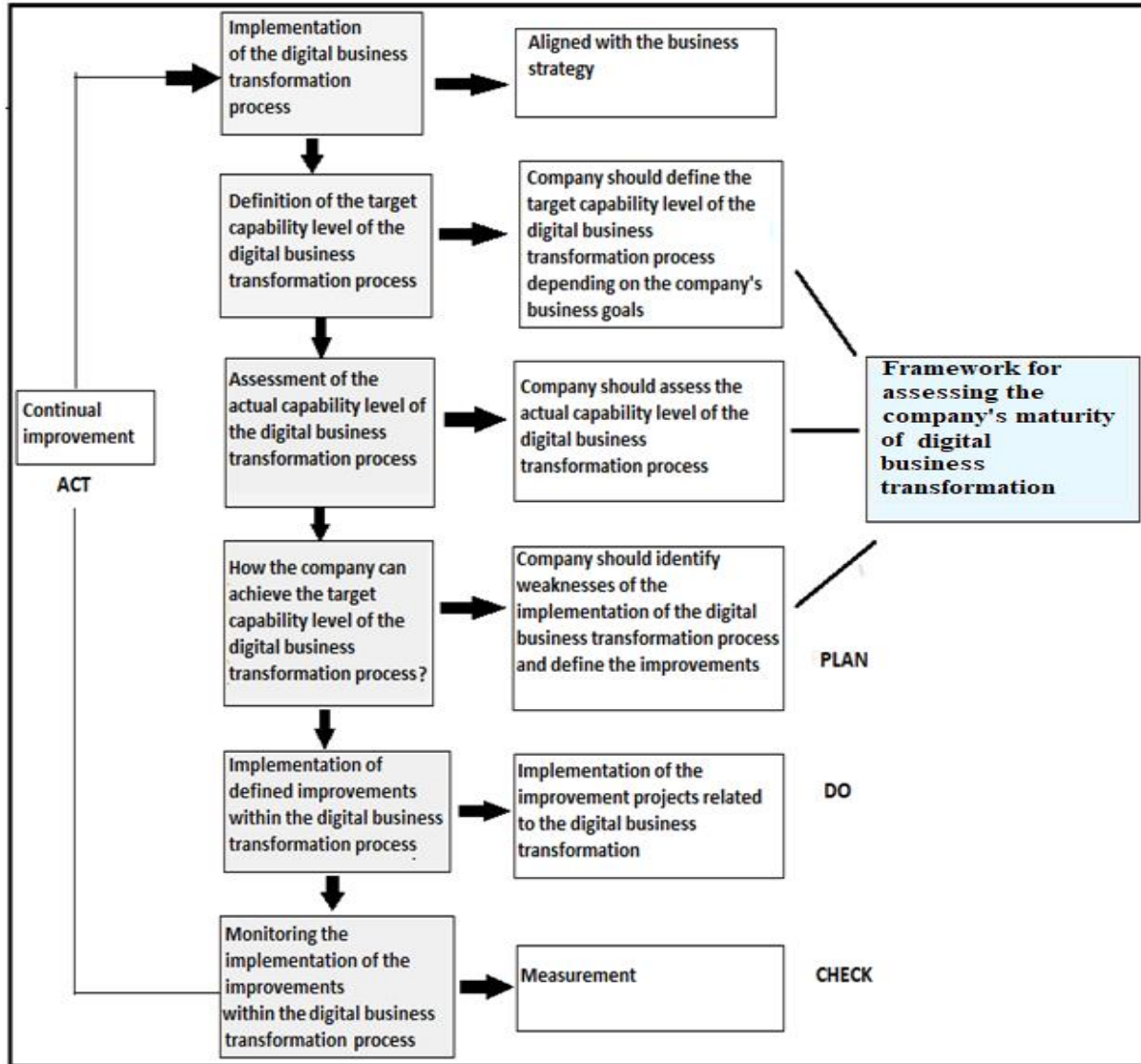


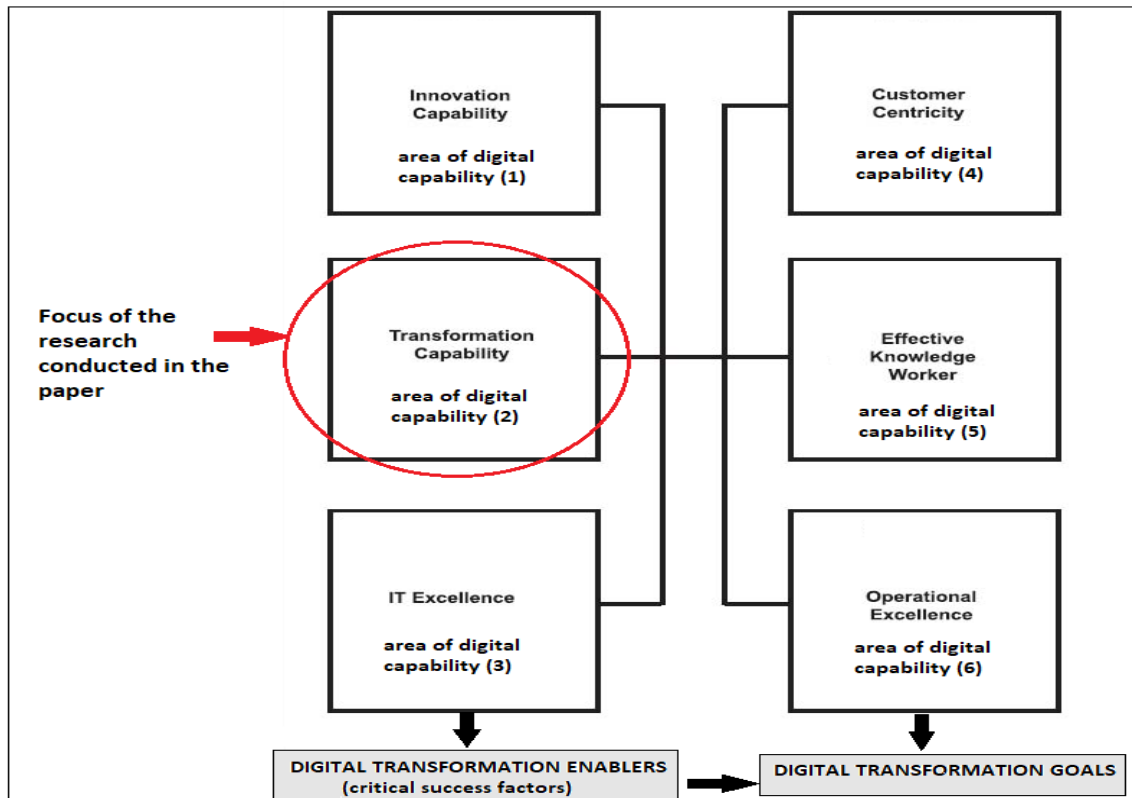
Figure 1: PDCA concept for managing the digital business transformation (source: Author)

### 3. FRAMEWORK FOR ASSESSING THE COMPANY'S MATURITY OF DIGITAL BUSINESS TRANSFORMATION

The paper describes the framework for assessing the company's maturity of digital business transformation. This framework offers 6 areas of digital capabilities that can be individually evaluated to achieve the overall maturity of digital business transformation within the company. The main areas for assessing the company's digital capabilities within the framework are shown in Figure 2 (Uhl et al, 2016). The company should to build a strong foundation for the implementation of the digital business transformation process. For this purpose, the Digital Transformation Enablers category includes three areas of digital capabilities: innovation capability; transformation capability (it was the focus of the research in the paper) and IT excellence. Furthermore, the framework has another category related to the Digital Transformation Goals that includes the following three areas of digital capabilities: customer



centricity; effective knowledge worker and operational excellence. For digital companies, it is very important to have good quality relationships with customers on the one hand and motivated, educated and productive employees on the other. It is equally important to ensure the execution of the process in the most efficient way (operational excellence).



*Figure 2: Framework for assessing the company's digital capabilities*

Each of the six area of digital capabilities can be individually evaluated using the methodology that includes nine aspects of management (Uhl and Gollenia, 2012) and maturity levels from 1 to 5 (CMMI Product Team ,2006) (shown in Fig.3).

*Figure following on the next page*

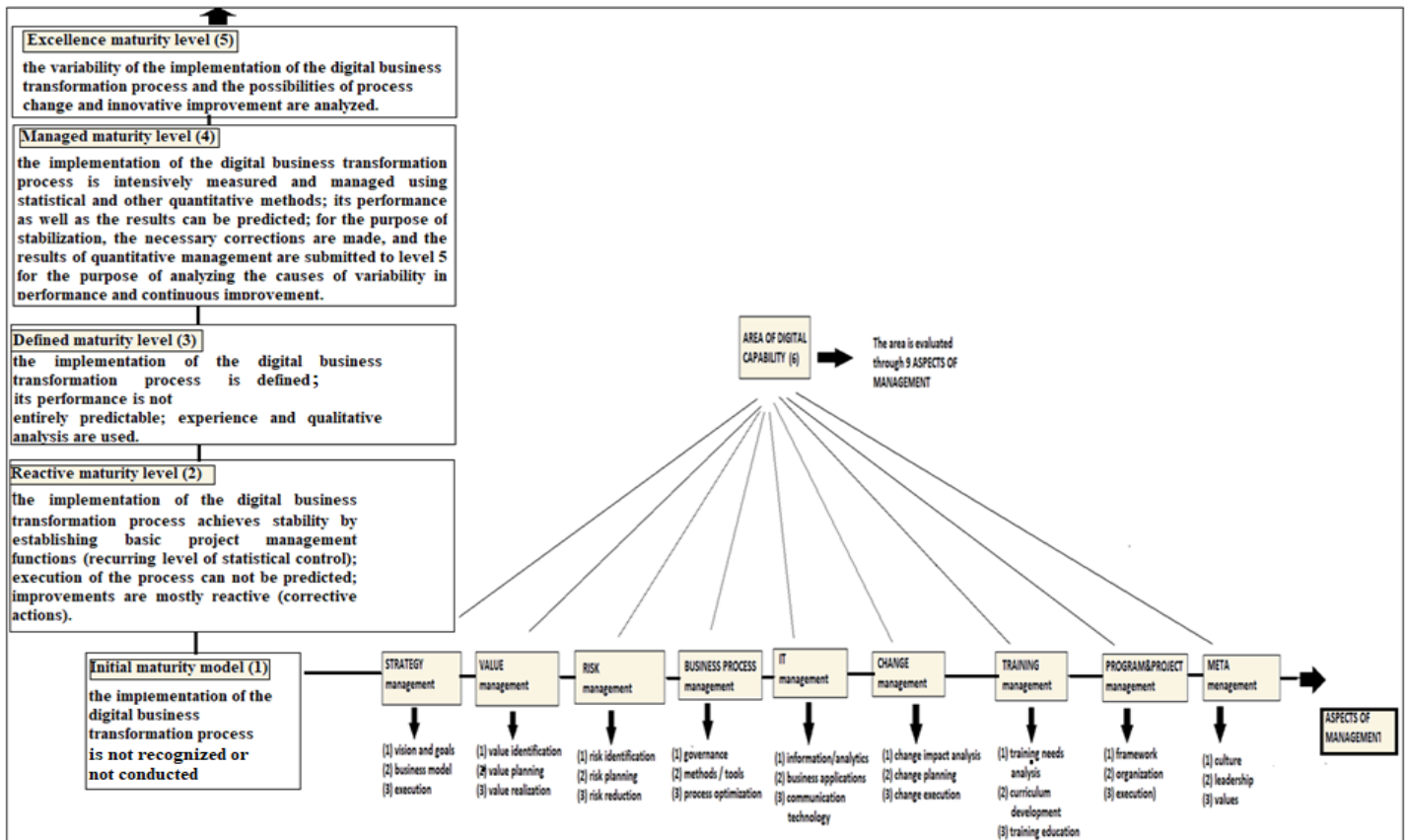


Figure 3: Aspects of management for assessing the company's digital capabilities  
(source: Author)

#### 4. APPLICATION OF THE FRAMEWORK FOR ASSESSING THE COMPANY'S TRANSFORMATION CAPABILITY

Companies apply digital technology to improve their business processes. However, the digital business transformation process is much more complex and causes the overall structural changes throughout the company. Companies can be competitive if they have special knowledge and skills and other transformational capabilities to adapt to changing market and technological conditions (Labusch, Winter and Uhl, 2016). In addition, companies should continuously improve and change their business models using digital technology. In the previous text within the paper, the concept of digital transformation is explained. The results of the research related to the maturity level of the transformation capability of the specific production company will be presented in the following text. In this way, the company can define improvements and manage their transformational capabilities as shown in the Figure 1. The scope of this research includes one of the six areas of digital capabilities - Transformation Capability (shown in Fig.2). This area was assessed through all nine aspects of management (shown in Fig 3). However, due to the scope of work, the results of the assessment for Strategy Management are shown in the Table 1. The results of the assessment for Business Process Management are shown in the Table 2. The overall results of the maturity of the company's transformation capability are shown in Fig.4. Strategy Management analyzes the needs and causes of digital transformation. This aspect of management decides on the main goals of digital transformation and its alignment with the company's general vision. Furthermore, the goals must be linked to the overall business architecture and all business models within the company. Also, digital transformation can not be carried out internally within the company but includes all stakeholders. Value Management provides key stakeholders with different techniques for identifying the value of digital business transformation, planning value realization, and tracking

these benefits in order to make decision about improvements. Risk Management focuses to the strategic and operational risks that may arise through the implementation of digital transformation. Risk assessment is a part of the risk management and the basis for further risk treatment. It includes the development of the plans and procedures for risk prevention or risk reduction at an acceptable level. Business Process Management defines the scope of process changes consistent with the business strategy as well as business values that need to be realized through the transformation process. In order to identify, design, analyze and implement end-to-end business processes, the company must have adequate methods, tools, enterprise architectures. In this aspect of management, communication with the knowledge management process is important. Process optimization analyzes the variability in achieving the goals of the process and suggests process changes and improvements. IT Management evaluates existing IT performance within the company and makes decisions about new changes based on the new technology in order to higher competitiveness. Information analytics and defining the information architecture to integrate large quantities and types of data are very important for the company. In addition, it is important to ensure a high level of business application integration and management of their lifecycle. Communication technology provides communication capabilities through the transformation process within the entire company. Organizational Change Management identifies the necessary changes and analyzes their impact on the entire company's business. Change impact analysis approves the changes according to the criteria such as finance, technology, feasibility. The necessary changes should be planned and aligned with the requirements of the stakeholders during the transformation process. It is necessary to evaluate the implemented changes and the company must have defined measurement methods and techniques for the implementation of such ratings. Training Management focuses on the company's capabilities and individual skills as the key business success factors for the digital business transformation process. It is important to define the competencies and skills needed to implement the digital transformation process. In order to develop new content and resources needed to support the digital transformation process, it is important to conduct the curriculum development. Execution of training involves the implementation of training activities, as well as their continuous monitoring and improvement. Program and Project Management involves the development of a relevant framework for managing transformational initiatives as programs or as projects. The process of digital transformation is a very complex process and requires a best practice model and a well-defined organizational structure for implementation. To manage transformational initiatives such projects it is important to define appropriate methods and tools. Furthermore, this aspect of management should monitor the execution of transformational initiatives as projects with regard to costs, quality and time. Meta Management estimates the company's awareness of the importance and need of digital transformation, then assesses the support of leadership to carry out transformation projects and assesses whether the company identifies and achieves the business value of the transformation.

*Table following on the next page*

Assessed TRANSFORMATION CAPABILITY considering Strategy Management					
	INITIAL (1)	REACTIVE (2)	DEFINED (3)	MANAGED (4)	EXCELLENCE (5)
<b>VISION &amp; GOALS</b>	Transformation is not included in the vision of the company. Transformational strategies are not developed.	Transformation is included in the vision of the company. Transformational strategies are partially developed.	Transformation is included in the vision of the company. Transformational strategies are mostly developed.	Transformation is a key element of the vision. Transformational strategies are developed.	Transformation is a key element of the company's vision. Transformational strategies are fully developed.
<b>BUSINESS MODELS</b>	Transformation capability, knowledge, skills and competencies are not related to business models and their changes.	Transformation capability, knowledge, skills and competencies are partially related to business models and their changes.	Transformation capability, knowledge, skills and competencies are mostly related to business models and their changes.	Transformation capability, knowledge, skills and competencies are related to business models and their changes.	Transformation capability, knowledge, skills and competencies are fully related to business models and their changes.
<b>EXECUTION</b>	Strategic transformation projects are not executed.	Strategic transformation projects are partially executed.	Strategic transformation projects are mostly executed.	Strategic transformation projects are executed. Transformation strategy are executed.	Strategic transformation projects are executed and include all stakeholders in order to enhance the transformation capability of the company. Transformation strategy are fully executed.
Maturity level for Strategy Management: <b>3.3</b>					

Table 1: Maturity level of the strategy management for the transformation capability of the company (source: Author)

Assessed TRANSFORMATION CAPABILITY considering Business Process Management					
	INITIAL (1)	REACTIVE (2)	DEFINED (3)	MANAGED (4)	EXCELLENCE (5)
<b>GOVERNANCE</b>	Business Process Management is not established. Processes are not integrated or documented.	Business Process Management is partially established. Key business processes are integrated.	Business Process Management is mostly established. Business processes are integrated through most of the company's departments.	Business Process Management is fully established. Business processes are integrated and documented.	Business Process Management is integrated through the company and supports the digital transformation initiatives.
<b>METHODS &amp; TOOLS</b>	There is no process management methods&tools.	Methods&tools partially support business process management.	Methods&tools mostly support business process management.	Methods&tools fully support business process management.	Methods and tools for the business process management are mandatory for all digital transformation initiatives.
<b>PROCESS OPTIMIZATION</b>	There are no metrics to assess the effectiveness of the process. There is no process optimization.	Processes are partially monitored for optimization.	Processes are mostly monitored for optimization.	Processes are fully monitored for optimization.	Processes are quantitatively monitored and optimized. Transformation (optimization) focuses to the quality standards. (example of benefits: integration of new business concepts; digital business platforms; digital management; etc.)
Maturity level for Business Process Management: <b>3.0</b>					

Table 2: Maturity level of the business process management for the transformation capability of the company (source: Author)

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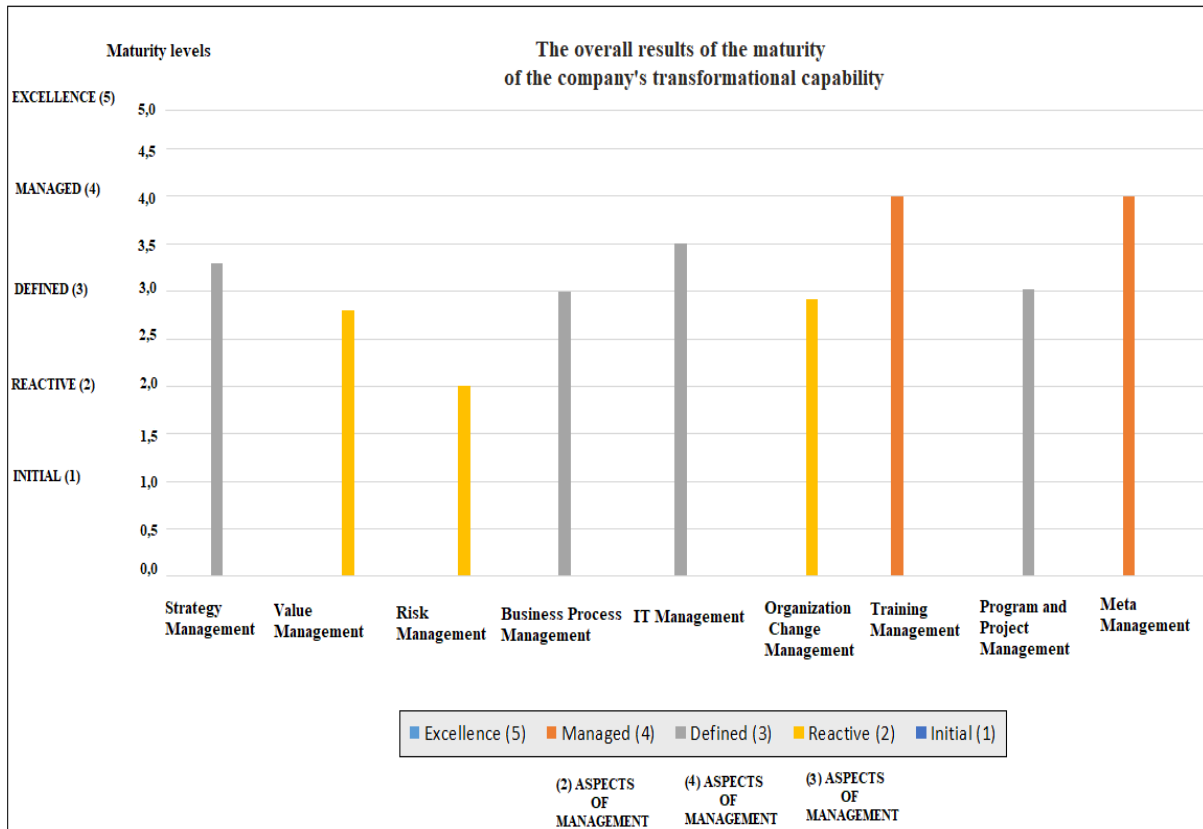


Figure 4: The overall results of the maturity of the company's transformation capability (source: Author)

## 5. CONSLUSION

The described framework in the paper helps companies to include in the assessment all the important aspects of management required by the implementation of digital business transformation. According to the framework, there are six areas of digital capabilities that companies can estimate. In this paper, the transformation capability of the production company is assessed through the nine aspects of management. According to the research results it can be concluded that risk management has the low maturity level, while other aspects of management have better maturity level between 2 and 4. There are many reasons for these results. Some of them are the following: the process of digital transformation is a very complex process that requires adequate competencies and knowledge, relevant organizational structure, responsibilities, communication, modern architecture and business modeling tools, modern project management methods, risk management as well as relationship with quality standards. Furthermore, the described framework helps companies in how to manage the implementation of the digital transformation process and define the necessary improvements.

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## OPPOSING VIEWS AND TRADE-OFFS IN CORPORATE SUSTAINABILITY (A LITERATURE REVIEW)

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### ABSTRACT

*Over the past few decades, there have been growing concerns at global level related to climate change and environmental issues, among others, which have placed a significant importance on sustainability and sustainable development. Whereas sustainability is becoming more and more acknowledged in the research field, but also in business practices, companies are showing increasing interest for managing sustainably. Owing to its multi-dimensionality but not only, sustainability is undoubtedly a complex concept. In recent years, multiple actors such as businesses, policy makers and researchers got more involved in finding solutions to sustainability challenges. Although various discourses in literature mainstream sustainability as leading to win-win situations and positive outcomes, little attention has been paid to the potential conflicts caused by managing in a sustainable manner. Often, these conflicts arise in multi-actor networks, leading to tensions, which highlights the need that they ought to be anticipated and managed. Therefore, the present paper aims to shed a light on the paradoxical tensions encountered by firms in managing sustainability through a review of relevant literature. Moreover, the paper addresses managers with a series of insights referring to balancing potential clashes in corporate sustainability and intends to provide a means for encompassing these in decision-making processes. In considering the interplay between management and sustainability, the paper will also focus on providing a clear meaning of sustainability in business. Besides contributing to current literature by underlining the need for more systematic analysis in the emerging perspective of tensions in corporate sustainability, the paper emphasizes the role played by managers in implementing integrated approaches in their sustainability business practices.*

**Keywords:** *Corporate Sustainability, Management, Sustainability*

### 1. INTRODUCTION

Globalisation has reconfigured the way business processes take place. More and more business aspects are now being interconnected whereas change is being regarded as a central element of businesses across all sectors. Although the importance of sustainability has been recognized for a while now, time has come for businesses to embed it beyond the declarative level. Nowadays, firms operate by constantly adapting to new requirements and strive to differentiate themselves in a competitive environment by creating added value and not only. In light of this, corporate sustainability has become indispensable for corporations, especially of the future, since it embodies the much expected aspects of the Triple Bottom Line (Elkington, 1997). The fact that the concept of sustainability has attracted numerous controversies, with some of them still being disputed, is well known. Nevertheless, the juxtaposition of its three dimensions, namely the economic, social and environmental aspects into business has drew on a number of contradictions, paradoxes and tensions (Smith and Lewis, 2011), which are discussed in the present paper. Amidst the confusion that corporate sustainability might spark in the minds of decision-makers in matters of implementation due to the conflicts that may arise among sustainability dimensions, the paper follows to highlight the type of conflicts and tensions that may be encountered in corporate sustainability and emphasize the way of managing these, through opposing perspectives.



## 2. UNDERSTANDING CORPORATE SUSTAINABILITY

### 2.1. What is Corporate Sustainability?

Often times, sustainability has been referred to as a societal concept. In the early days of sustainability, organisations were viewed only as possible contributors to achieving sustainability in the sense that they cannot become sustainable as individual entities (Jennings and Zandbergen, 1995). Although organisations are expected to contribute to obtaining societal general welfare (Schwartz and Carroll, 2008), they also embody a series of objectives of economic, environmental and social nature, similarly to sustainability. The Brundtland Report (WCED, 1987) addressed sustainable development as the ability of present generation to meet their needs without compromising the ability of future generations to meet theirs, which translated into the business environment, leads to the ability of a firm to last in time and meet the needs of its present and future stakeholders, both direct and indirect (Dyllick and Hockerts, 2002). In a context where business activities affect the depletion of natural resources, corporations are expected to turn towards consuming resources at a lower rate than their ability to reproduce and/or at a lower rate than the ability of substitutes to develop (Dyllick and Hockerts, 2002). More, they are expected to be durable in terms of financial performance, but also in matters of managing social and environmental aspects that add up to their capitals (Giovannoni and Fabietti, 2014). In light of this goal, firms ought to maintain but also increase the capital base composed of this triad of key elements, which integrated, lead to what is known as the Triple Bottom Line (TBL) (Elkington, 1997). According to the TBL perspective, the economic, social and environmental aspects need to be approached simultaneously as they are interrelated. Dyllick and Hockerts (2002) discuss the sustainable company from three different views, as noted in the TBL. Thus, the economically sustainable business provides persistent and above average economic results while ensuring liquidity at any moment. From an ecological point of view, the sustainable business does not engage in harmful activities to the environment. Also, it oversees the consumption of natural resources by making use of natural capital only at a rate below its ability of reproducing or below the ability of substitutes to develop. Last, the socially sustainable business foresees to add value to the community in which it operates by enhancing human capital and contributing to community's societal benefits. Nowadays, an increasing number of executives consider integrating sustainability into their firms as imperative to be competitive in today's business environment and believe that this aspect will weigh even more in the future (Dyllick and Muff, 2017). Addressing sustainability in businesses also involves benefits, besides the ones brought to society and environment. These refer to an increased ability to attract talent or increased brand reputation, among others (Kron et al., 2013). More, Doane and MacGillivray (2001) even consider that corporate sustainability is the business of staying in business. This is contrary to the early view of considering sustainability issues to involve extra costs, as contemporary views see these as business opportunities (Porter and Kramer, 2011; Kotler, 2011; Tate et al., 2013). The fact that integrating sustainability into business leads to positive outcomes and win-win situations has been mainstreamed in the literature and cannot be contested. However, the positive aspects and progress recorded at micro level do not reflect at macro level as well. Consequently, the planet still struggles with poverty, growing inequities, access to drinking water, electricity and sanitation, hunger and malnutrition, and global warming inter alia (FAO, 2017). Furthermore, businesses are among the firsts to be blamed for the deterioration of the environment and for generating social inequalities (Giovannoni and Fabietti, 2014). On the other hand, businesses are viewed as one of the main means to achieve sustainability, being able to produce innovations (Giovannoni and Fabietti, 2014). In light of these opposing views on sustainability in business, literature discusses the business discourse on sustainability which tackles the paradox between sustainability and corporations (Gray, 2010).



## **2.2. Taking Different Perspectives on Corporate Sustainability**

Most of the works written on corporate sustainability mainstream the win-win paradigm (Hahn et al., 2010) in which economic, environmental and social aspects co-exist harmoniously. The win-win paradigm is also known as the business case for sustainability and constitutes an approach that seeks to address environmental and social issues that contribute to enhanced economic results (Dyllick and Hockerts, 2002). The view considers business aspects above all others in contributing to achieving sustainability (Ferraro et al., 2005). According to it, the efforts headed towards achieving sustainability are narrower, taken only at organisational level, and are limited to those aspects that lead to firm's positive economic outcomes (McWilliams and Siegel, 2011). Also referred to as the instrumental logic, the business case view considers sustainability only if it promises to deliver business benefits (Nijhof and Jeurissen, 2010). In response to the dominant instrumental logic, a more recent view has been emerging, known as the integrative view on corporate sustainability (Hahn et al., 2015). Instead of creating a hierarchy of sustainability concerns at organisational level, the view sees corporate sustainability as integrating the three constituent dimensions without prioritising any of them (Figge and Hahn, 2008). In other words, the integrative view brings together irreconcilable aspects of the triad composing corporate sustainability which take place at different levels within spatial and temporal horizons. Nonetheless, there is also the paradox theory discussed in management, which relates to contradictions that stem among interdependent constituents (Schad et al., 2016). These contradictions result in tensions caused by the interaction of elements that although appear logical when taken individually, seem irrational when taken together (Lewis, 2000). It was previously understood that corporate sustainability addresses simultaneously objectives related to social, economic and environmental issues. This is why corporate sustainability is considered by some (Hahn et al., 2018) as being ambitious since the objectives encompassing it are interconnected and interdependent (Bansal, 2002), and the response to one sustainability issue might be detrimental to another (Newton, 2002). The clash of responses to sustainability leads ultimately to tensions, even though these objectives appear desirable when taken individually (Hahn et al., 2018).

## **3. CONFLICTS AND TENSIONS IN CORPORATE SUSTAINABILITY**

### **3.1. Characteristics of Conflicts and Tensions in Corporate Sustainability**

Tensions stem from conflicting interests and they might affect the relationships among network partners (Tidström, 2014). Although tensions can lead to positive outcomes if managed properly, they are most of the times associated with causing negative consequences (Fang et al, 2011). Not rarely, decision makers are faced with managing conflicts and tensions amidst corporate sustainability (Hahn et al., 2015) and although inherent, they appear to have received little attention from scholars. Conflicts and tensions in corporate sustainability often arise from differing views amongst stakeholders (Hahn and Figge, 2010), which mostly happen to come from secondary stakeholders involving non governmental organisations, social activists or local communities (Hall and Martin, 2005). Because of the plurality characteristic of stakeholders, their goals and objectives often get competing, which leads to what is also known as a performing tension (Van Bommel, 2018; Smith and Lewis, 2011). Examples of situations where performing tensions might arise depict bottom line clashes (triple bottom line opposed to financial line) or organizational focus clashes (business case for sustainability objectives opposed to a wide range of sustainability objectives) (Van Bommel, 2018). Being a multi-level concept, corporate sustainability entails aspects that have different understandings at different levels ranging from individual, to firm and systemic level (Whiteman et al., 2013). Therefore, different understandings and perceptions related to corporate sustainability will also emerge among decision-making parties (Banerjee, 2011). More, due to the fact that corporate sustainability involves change and transformations, tensions might also arise from the decision

to implement changes related to sustainability issues incrementally or radically (Hahn et al., 2015). Such organizing (Hahn et al., 2015) or change tensions (Smith and Lewis, 2011) surface when sustainability requirements trigger competition among practices, processes, structures or cultures. One particular exemplification of the organizing tension addresses the way of organizing sustainability in corporations; should there be a separate sustainability department or should sustainability be integrated across core operations? (Van Bommel, 2018). Tensions may also emerge during the transition to sustainability in terms of temporal and spatial aspects. On one hand, there is the short term corporate focus clashing with the long-term implications of sustainability (Slawinski and Bansal, 2012), and on the other hand, there are the intragenerational equity aspects involving the opportunities between and within regions, such as placing polluting facilities in disadvantaged regions, among others (Okerke, 2006). Temporal tensions (Hahn et al., 2015) or learning tensions (Smith and Lewis, 2011) emerge from divergent time horizons of the long-term sustainability and managerial reality which ought to be juxtaposed to allow future development (Smith and Lewis, 2011). Tensions evolving around individual and collective implications are also referred to as belonging tensions (Smith and Lewis, 2011) in which profit motives and socially oriented missions overlap (Van Bommel, 2018).

### **3.2. Managing Conflicts and Tensions in Corporate Sustainability**

As a result of implementing sustainability in business, a number of negative experiences may emerge, and a managerial perspective consideration attempts at diminishing them. Even though it aims at collective goals, corporate sustainability may face resistance or even fail because of receiving insufficient support (Tura et al., 2019). Therefore, the role of managers is important in better understanding potential conflicts in corporate sustainability so they can anticipate, manage or mitigate them and reduce dissensions among stakeholders. There are a number of ways proposed by literature to manage tensions and conflicts in corporate sustainability. Strong and weak sustainability are addressed by Dresner (2002), as the two are placed on a sustainability continuum, on opposite sides. Ecologists advocate for strong sustainability as it calls for a reduction in consumption and for a decrease in the pressure placed on natural resources, considering their finite features (Klarin, 2018). However, some believe that strong sustainability is incompatible with the way humanity subsists (Giovannoni and Fabietti, 2014). The other view taken on sustainability regards weak sustainability which promotes the idea of achieving sustainability through substitutes of non-renewable resources (Williams and Millington, 2004). This way, human-made substitutes may add up on reducing the consumption of natural resources (Giovannoni and Fabietti, 2014). From this perspective, organisations are seen as key contributors to weak sustainability as they are able to innovate and launch solutions that could compensate for the usage of finite natural resources. In approaching opposing views in corporate sustainability, the instrumental logic proved to be dominant, as it regards social, environmental and business concerns in the context of profit maximization (Barnett and Salomon, 2012). Consequently, it prioritizes financial returns over sustainability issues (Hahn and Figge, 2010) which diminishes tensions (Gao and Bansal, 2013). The view follows the win-win logic and corporate sustainability is motivated by brand image, corporate reputation or risk management (Van Bommel, 2018). Emerged quite recently, the integrative view on corporate sustainability embraces contradictions among sustainability aspects instead of dismissing them (Dentchev, 2004). The integrative logic came in response to the instrumental logic arguing that corporate sustainability can be attained if management pursues conflicting aspects of sustainability simultaneously (Hahn et al., 2015). Integrated sustainability seeks to avoid placing a greater weight on one single dimension, by capitalizing instead on the potential of all dimensions (Giovannoni and Fabietti, 2014). Management plays a key role in approaching the integrated view, but besides it, business models or reporting systems also contribute to

implementing it (Giovannoni and Fabietti, 2014). Going beyond the integrative view, is the more integrative set of strategies which is an alternative proposition to embracing and accepting sustainability conflicts (Hahn et al., 2015). This acknowledges that the triad of sustainability is part of system with interdependent constituents and thus arising tensions need to be accepted (Van der Byl and Slawinski, 2015). Another perspective on managing conflicts in corporate sustainability involves applying an avoidance strategy (Van Bommel, 2018). Here, tensions and conflicts are ignored or left aside and deciding which sustainability dimension should be followed comes in result of a trade-off. So, rather than obtaining a win-win situation, the logic follows a win-lose proposition because of accepting trade-offs, but it looks to build on sustainability while protecting the economic performance of the firm (Van der Byl and Slawinski, 2015). Poole and Van de Ven (1989) proposed a framework consisting of two approaches in managing conflicts in sustainable development, which was later touched up by Hahn et al. (2015). The framework referred to managing tensions either through acceptance strategies or resolution strategies. Acceptance strategies recognize conflicts and pursue the opposing forces. Thus, the management of tensions is done through opposition, where two poles are distinguished. The existing paradox is accepted by decision-makers and it is also left open (Hahn et al., 2015). The contradictory poles are pursued at the same time (Beech et al., 2004) whereas there are no trade-offs involved. This type of strategy requires improvisation, but also creativity (Beech et al., 2004) as conflicting parts need to be attended while being kept apart (Hahn et al., 2015). The second approach of the framework discusses resolution strategies which seek to solve the paradoxes by separating the opposing domains either on temporal or spatial level (Poole and Van de Ven, 1989). Thus, this approach of the paradox links the opposite poles and provides a new perspective. Also referred to as the strategy that creates synthesis, its achievement lies on formal procedures, organisational culture, policies or governance structure. Applying a resolution strategy involves a continuous process, in which tensions are not eliminated (Van Bommel, 2018). However, managers aim at bringing together competing demands and at addressing divergent ideas at the same time (Smith and Lewis, 2011). (Hahn et al., 2018) claim that organisations may respond to conflicting tensions either in a proactive manner or defensively. Still, some argue that understanding and being aware of the conflicts leads to a propensity in adopting an acceptance strategy in the detriment of a defensive strategy (Smith and Lewis, 2011).

#### 4. CONCLUSION

The present paper navigated through different perspectives taken on corporate sustainability, emphasizing the conflicts that may emerge because of implementing sustainability in business. Also, it looked to provide an insight on the matter of managing these conflicts by also addressing trade-offs. It was understood that corporate sustainability represents the ability of a firm to last in time and meet the needs of its present and future stakeholders, both direct and indirect. Opposing views emerged with regard to corporate sustainability as different perspectives address it: the win-win paradigm also known as the business case for sustainability or the instrumental logic on one hand, and the integrative view on the other hand. It was also highlighted the importance of integrating sustainability into businesses as it is necessary in today's and tomorrow's competitive environment, adding up on the benefits that it generates for the firm. However, not only benefits stem from addressing sustainability in business, but also conflicts and tensions. Literature has identified a multiplicity of tensions as they can arise in different contexts, and they vary from performing tensions, to organisation/change tensions, temporal tensions and belonging tensions. Even the management of these tensions appears to take opposite stands. Tensions may be addressed either in a proactive manner or defensively; there may be undertaken weak sustainability or strong sustainability, or both to reduce firms pressure placed on the natural environment; there may be applied avoidance (win-lose)

strategies which involve a trade-off about which sustainability dimension to follow, acceptance strategies that pursue opposing tensions in which no trade-offs are involved or resolution strategies that address spatial and temporal aspects in which tensions persist. Lastly, the instrumental logic may be approached, where economic results are prioritised above other sustainability concerns, in opposition to the integrative view, which embraces tensions and requires a more complex approach. Consequently, these opposing views, especially in managing sustainability conflicts in business need more attention from literature since managers and decision makers need to have a clear idea on what approaches to implement so that they maximise the benefits and minimise the risks that may emerge in corporate sustainability.

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## IS THE FINANCIAL SYSTEM PREPARED FOR A NEW FINANCIAL CRISIS?

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### **ABSTRACT**

*The main issue addressed in this paper is whether a new financial crisis can be avoided. For this purpose, the causes of the 2007/2008 financial crisis are recalled; in particular, the role played by bank runs in the crisis. The need for measurement of aggregate run vulnerability and its composition is stressed as a critical component in evaluating and regulating systemic risk. It is underlined that to prevent a future crisis the critical issue is to avoid excessive concentration of loans in any one sector of the economy. For this purpose, the central bank should impose limits to the exposure of the financial system as a whole to any particular industry or kind of assets. Central bank authorities as well as regulators need to have at their disposal better information than their counterparts had in 2007. In particular, the measurement of systemic risk should be improved as well as the design of stress tests. With reference to the shadow banking system, although some steps have been taken in the right direction there is still a long road ahead in bringing it within the regulatory and supervisory perimeter. Executive compensation policies by financial institutions have to be revised. A well-designed compensation structure can help favorably tip the balance between maximizing benefits and risk-taking.*

**Keywords:** crisis, bank runs, systemic risk, shadow banking, compensation policies

### **1. INTRODUCTION**

*“I do think we're much safer and I hope that it (another financial crisis) will not be in our lifetimes and I don't believe it will be.”*

*U.S. Federal Reserve Chair J. Yellen.*

*The British Academy President's Lecture in London, Britain, June 27, 2017.*

The main issue addressed in this paper is whether a new financial crisis can be avoided. Contrary to Janet Yellen's optimistic assertion I think that it is impossible to give a categorical answer to this question. What can be said is what should be done to try to prevent a new financial crisis. As the Vice-President of the Deutsche Bundesbank Claudia Buch (2017) states, “reducing excessive risk-taking, making crises less likely and reducing their costs should be the ambition of policymakers.” However, it seems that this goal is far from being attained. Adrian, Natalucci, and Piontek (2018) prevent that the \$1.3 trillion global market for so-called leverage loans may be approaching a threatening level. These loans are called “leveraged” because the ratio of the borrower's debt to assets or earnings significantly exceeds industry norms. These authors remark that “yield-hungry investors are tolerating ever-higher levels of risk and betting on financial instruments that, in less speculative times, they might sensibly shun.” Even worse, underwriting standards and credit quality have deteriorated. “This year (for 2018), so-called covenant-lite loans account for up 80 percent of new loans arranged for nonbank lenders (so-called “institutional investors”), up from about 30 percent in 2007. Not only the number, but also the quality of covenants has deteriorated.” Moreover, according to a report by the Financial Stability Board, assets of collective investment vehicles (CIVs) with features that make them susceptible to runs have grown by around 13% a year since end-2011 (FSB, 2018: 3). Although some progress has been made, greater attention is needed on collecting liabilities data to better

assess funding vulnerabilities (FSB, 2018: 5). I start analyzing what lessons can be learnt from the last financial crisis. After that, an assessment is made to find out if the steps taken after the crisis are enough to prevent another one. In section 2, the main elements which contributed to the 2007/2008 financial crisis are analyzed. Section 3 presents the role played by bank-like runs in the crisis. Systemic risk and stress test are the subjects of section 4. Run vulnerability is the subject of section 5. How to deal with bubbles is the content of section 6. Section 7 is devoted to the analysis of ways to ensuring transparency in the financial industry. The role of financial authorities' misinformation in the management of the recent crisis is examined in section 8. The measures taken after the crisis to prevent a new one are analyzed in section 9. Section 10 is devoted to examining the role played by the shadow banking system during the last financial crisis and the dangers it still poses to the financial system. The need for a realignment of incentives in the financial industry is examined in section 11. The role of micro and macro-prudential regulation is the subject of section 12. Section 13 concludes.

## 2. KEY ELEMENTS IN THE 2007/2008 FINANCIAL MELTDOWN

In Beker (2016: 45) it was asserted that “the core of the 2007/09 financial market crisis has been the discovery that many securities were actually far riskier than people originally thought they were.” There were four main elements which led to the crisis.

1. Irrational expectations. As it happened with tulip prices during the 1630s tulip mania, all the actors of the drama were convinced that house prices could only rise.<sup>1</sup> Therefore, subprime mortgages were granted under the premise that background checks were unnecessary: a borrower in difficulties could always refinance a loan using the increased value of the house. This behavior was stimulated by the “originate-to-distribute” model implemented through a system of off-balance-sheet investment vehicles and conduits. Banks repackaged loans and passed them on to those other financial investors, thereby off-loading risk. However, “to ensure funding liquidity for the vehicle, the sponsoring bank grants a credit line to the vehicle, called a “liquidity backstop” (Brunnermeier, 2009: 80). Therefore, the banking system was still bearing the liquidity risk even though it did not appear on the banks' balance sheets. Off-loading loans allowed banks to lend while holding less capital than if they had kept loans on their balance sheets. In this way banks enhanced their return on equity while regulations regarding minimum capital ratios were bypassed. Cheap credit and weak lending standards resulted in a housing frenzy that led to the financial crisis. Once a bank off-loaded the risk of a certain mortgage it could offer a new loan to another homeowner. The cycle restarted, fueling a housing boom. Home prices skyrocketed. That house prices would rise forever became a self-fulfilling prophecy.
2. Securitization. Securitization is the mechanism by which loans are turned into bonds. “The process of securitization allowed trillions of dollars of risky assets - subprime mortgages in the first place - to be transformed into securities that were widely considered to be safe” (Beker, *ibid.*). Buitier (2009: 5/6) clearly explains how it worked: “Uncertain future cash flows from mortgages or from business loans were pooled, securities were issued against the pool, the securities were tranching, sliced and diced, enhanced in various ways with guarantees and other insurance features. The resulting asset-backed securities were sometimes used themselves as assets for backing further rounds of securitization. Banks sold their previously illiquid loans and used the proceeds to make new loans. A 'money machine' had been invented.” In fact, assembling bonds from different bond pools allowed a second round of securitization (Coval, 2009: 7).

<sup>1</sup> Likewise, the savings and loan industry assumed interest rates would remain low forever. When funding costs rose dramatically in the early 1980s, nearly 750 firms failed (Greenspan, 2014: 386).



A gigantic interlinked structure of securities was thus created, which has been characterized by Brunnermeier (2009: 98) as “an opaque web of interconnected obligations.”

3. “Shadow” banking system. Securitization gave birth to a complex shadow banking system to intermediate credit through a wide range of securitization and secured funding techniques such as asset-backed commercial papers, asset-backed securities, collateralized debt obligations (CDOs<sup>2</sup>) and repurchase agreements (repos).<sup>3</sup> “The joining together of the supply of asset-backed securities with the demand for private alternatives to insured deposits led to the shadow banking system” (Gorton and Metrick, 2012: 137). As Ordoñez (2018: 34) rightly asserts, “banks increasingly devised securitization methods to bypass capital requirements.” However, as the same author points out, it was only after BNP Paribas suspended withdrawals from three funds invested in mortgage-backed securities, that most of the public realized that shadow banking involved higher risks than more traditional banking. “Shadow banking activities consist of credit, maturity, and liquidity transformation that take place without direct and explicit access to public sources of liquidity or credit backstops. These activities are conducted by specialized financial intermediaries called shadow banks, which are bound together along an intermediation chain known as the shadow banking system” (Pozsar et al., 2013: 1). Ferrante (2015: 1) describes this system as “as a network of financial subjects that replicated the credit intermediation process by decomposing it in different activities, while heavily relying on securitization and sophisticated financial products.” The shadow banking system was mostly unregulated because these institutions did not accept insured deposits. The rationale behind regulation was that if the government was to insure bank deposits, it should also have some say in the risks that insured banks were allowed to take. As shadow banks did not accept insured deposits it was considered regulation was unnecessary for them. Lightly regulated shadow banks began to displace commercial banks as the primary funders of mortgage-related securities. These institutions – mainly the off-balance-sheet investment vehicles and conduits – raised funds by selling the aforementioned short-term papers, primarily to money market funds. On the other hand, most of its assets – mortgages in particular – had maturities measured in decades. Therefore, credit intermediaries relied on short-term liabilities to fund illiquid long-term assets. This maturity mismatch affected also investment banks because of the tendency to financing their balance sheets with short-term repos. “In summary, leading up to the crisis, commercial and investment banks were heavily exposed to maturity mismatch both through granting liquidity backstops to their off-balance sheet vehicles and through their increased reliance on repo financing. Any reduction in funding liquidity could thus lead to significant stress for the financial system, as we witnessed starting in the summer of 2007” (Brunnermeier, 2009: 80). Maturity mismatch has been a regular feature in banking industry because maturity transformation is precisely one of the main functions the financial system fulfils by borrowing money on short time frames and lending on longer ones. This mismatch causes problems for banks if too many depositors attempt to withdraw at once – a situation known as a bank run. Government deposit insurance can avoid runs because it guarantees the bailout of depositors no matter how many depositors withdraw. But the money invested in the shadow banks are not protected by any kind of insurance. Even worse, banks were nowhere near as mismatched as today. In old times, they “lent overwhelmingly over the short term, primarily for self-liquidating, trade-related working capital, as ‘real bills’ financing trade. Even in the early German banking model where banks were supporting long-term capital investment, the key funding came from bond issuance placed by the banks themselves” (Goodhart and Perotti,

<sup>2</sup> CDOs are securities that hold different types of debt, such as mortgage-backed securities and corporate bonds, which are then sliced into varying levels of risk and sold to investors.

<sup>3</sup> In a repo contract, a firm borrows funds by selling a collateral asset today and promising to repurchase it at a later date.

2015: 1). A major contributor to maturity mismatch has been the unprecedented expansion in long-maturity mortgage lending. “The share of mortgage loans in banks’ total lending portfolios has roughly doubled over the course of the past century –from about 30% in 1900 to about 60% today” (Jorda et al, 2014: 2). However, even more important than the maturity mismatch is the liquidity mismatch. If the banks hold long-term assets but in case of necessity they can sell them without incurring in significant losses, the maturity mismatch would not be a problem. But “when the financial sector runs into liquidity problems, triggered by runs by lenders, the sector sells assets whose prices then reflect an illiquidity discount. The lower asset prices lead to losses that deplete capital, further compromising liquidity. The critical point that emerges from this literature is that the liquidity of assets is endogenous” (Brunnermeier et al., 2014: 100).

4. Credit rating agencies. “Credit rating agencies were an essential input into the process of manufacturing vast quantities of triple-rated securities with attractive yields. In a period of low interest rates, they were eagerly bought up by investors unaware of the real risks they entailed.” (Beker, 2016: 48). Their overly optimistic forecasts were based on historically low mortgage default and delinquency rates. Substantial lending to subprime borrowers was a recent phenomenon and some models used by credit rating agencies were not even based on historical data because they referred to transactions for which there was no active trading market. On the other hand, past downturns in housing prices were mainly local phenomena. However, when the housing bubble exploded in 2007, real estate markets went down together and mortgage defaults soared in Florida as well as in California.

The interaction of these four factors led to the subprime mortgage crisis. When house prices started falling most borrowers who could not afford the monthly payments had no alternative but to default their subprime mortgages, as many of them found themselves holding mortgages in excess of the market values of their homes. Subprime-related securities experienced large losses; investors learned the hard way how risky those assets were. In the summer of 2007, panic started in the repo market, triggered by the increase in subprime mortgage defaults. Borrowers were forced to raise repo rates and haircuts to calm the lenders’ concerns about the value and liquidity of the collateral should the counterparty bank fail.<sup>4</sup> However, even higher rates were insufficient to keep repo lenders in the market. They massively abstained from rolling over the financing, just like depositors did in traditional runs on banks. The effect of deleveraging in this sector on the market value of mortgage-backed securities further impaired the capital of financial intermediaries more broadly, requiring further deleveraging, in a vicious spiral. Brunnermeier (2009) provides a detailed description of this process. A liquidity crunch took place: asset backed securities lost 40% of their value overnight (Gorton and Metrick, 2012). All of a sudden, assets which were considered highly liquid became illiquid. A liquidity crunch is something which neither general equilibrium nor monetary theory has taken into consideration (Calvo, 2013: 1). A liquidity crunch is difficult to explain for mainstream economics. Economic fundamentals cannot explain why an asset has today a price 40% below the value it had yesterday. Economic fundamentals do not change overnight but fundamentals are useless when panic is on. Conventional economic theory cannot explain how billions of dollar wealth can evaporate in 24 hours. This merely cannot happen in a world governed by the holy trinity of rational expectations, competition, and efficiency.

### 3. FROM BANK RUNS TO BANK-LIKE RUNS

During the optimistic years of the Great Moderation the study of economic and financial disruptions have been practically expelled from the economic theory arena and confined to the economic history field.

<sup>4</sup> Moro (2016) thoroughly describes the run on the repo market.

They were just considered an antiquity to be housed at the museum of economic archeology. Kindleberger's seminal book on the subject was blatantly ignored or looked at with a mixture of contempt and condescension. Minsky's model simply did not exist for most of the economics profession. In Mankiw's popular textbook words "today, bank runs are not a major problem for the U.S. banking system or the Fed. The federal government now guarantees the safety of deposits at most banks, primarily through the Federal Deposit Insurance Corporation (FDIC)" Mankiw (2016: 337). The problem is that, as mentioned above, during the Great Moderation years a parallel shadow banking system developed whose gross liabilities already represented nearly \$22 trillion in June 2007, while traditional banking liabilities were only around \$14 trillion in 2007 (Pozsar et al., 2012: 9). And the shadow banks lacked something equivalent to deposit insurance, which made them certainly vulnerable if they suffered a run on their liabilities. This means that the risk of runs did not disappear; it mainly moved away from traditional banking to shadow banking. The crisis started with a run in the asset-backed commercial paper market which took place over the period from August 2007 through December 2007 (Covitz, Liang, and Suarez, 2009). During the third quarter of 2008, after the failure of Lehman, depositors withdrew significant amounts of money in just days or weeks from different financial institutions. Bank-like runs were main components of the 2007/2008 crisis which mainly affected shadow banks although they even spread to conventional ones. For instance, Citigroup was declared a systemic risk and rescued by the government; three other large depository institutions (National City, Sovereign, and IndyMac) suffered large outflows; IndyMac's failure was responsible for contagion to other depository institutions; the failure of Lehman Brothers caused a general financial turmoil as is very well known. The deposit runs also contributed to Wachovia sale to Wells Fargo and Washington Mutual sale to JP Morgan Chase after its seizure by the FDIC. Wachovia and Washington Mutual were the fourth and sixth largest depository institutions in the country at the time (Rose, 2015: 5).<sup>5</sup> As stated above, the financial crisis was the result of the combination of four factors: the irrational belief that house prices would rise forever, the colossal edifice of securitization built upon a shaky and highly risky base, the development of an unregulated underground banking system and the mispricing of risk by credit rating agencies. This last element explains why trillions of dollars were invested in what proved to be highly risky assets. "The three credit rating agencies were key enablers of the financial meltdown. The mortgage-related securities at the heart of the crisis could not have been marketed and sold without their seal of approval" (FCIC 2011, XXV). In fact, important financial institutions are not permitted to hold assets with less than an AAA rating from one of the major rating companies. There was thus a strong demand for high ratings which were generously provided by credit rating agencies to illiquid, opaque, highly risky mortgage-related securities. Mispricing of risk is an everyday phenomenon. Each time someone sells some asset at a loss it is because he or she has mispriced the risk at the time of the investment decision. But even if the mispricing has to do with a great number of people this would not have an impact on the economy as a whole. The problem arises when it is a mispricing of a systemic risk i.e. a risk that may endanger the stability of the financial system as a whole. The mispricing of mortgage-related securities allowed that trillions of dollars were invested in them by most of the financial institutions thus compromising the health of the financial system as a whole. Therefore, to prevent a future financial crisis monitoring systemic risk seems to be a key issue.

#### 4. SYSTEMIC RISK AND STRESS TESTS

In response to the financial crisis of 2007-09, the U.S. Congress created the Office of Financial Research (OFR), which has been put in charge of collecting the data required to measure

<sup>5</sup> Large depositors played a key role in the deposit withdrawal because many large accounts are exceedingly far above deposit insurance limits, rendering insurance essentially a non- factor. (Rose, 2015: 3).

systemic risk. Besides that, the Dodd-Frank Act stipulated that the Federal Reserve System would have the power to regulate all institutions of systemic importance and created the Federal Stability Oversight Council (FSOC), chaired by the Treasury Secretary and made up of the other financial regulatory agencies, which is responsible for designating systemically important financial institutions (SIFIs) i.e. institutions which could pose a threat to U.S. financial stability. Banking companies with over \$50 billion in assets are automatically considered SIFIs. Additionally the Dodd-Frank Act gives FSOC the authority to design as SIFI any nonbanking financial company that could pose a threat to the financial stability of the United States. This was modified by Section 401 of the Economic Growth Act signed into law in May 2018; it raises the SIFI threshold for bank holding companies from \$50 billion to \$250 billion in total consolidated assets, with immediate effect for those between \$50 billion and \$100 billion and since November 2019 for those with total consolidated assets between \$100 billion and \$250 billion. However, the Federal Reserve is authorized to apply, by order or rule, enhanced prudential standards to any bank holding company or bank holding companies with total consolidated assets of \$100 billion or more if the Federal Reserve makes certain findings regarding the financial stability of the United States or the safety and soundness of the bank holding company. The Dodd-Frank Act requires the Federal Reserve to conduct an annual supervisory stress test. The Dodd-Frank Act also requires these same firms to conduct their own stress tests and report the results to the Federal Reserve twice a year.<sup>6</sup> These instruments provide forward-looking information to help gauge the potential effect of stressful conditions on the ability of those organizations to absorb losses and continuing to lend. The annual assessment includes a Comprehensive Capital Analysis and Review which evaluates a firm's capital adequacy and planned capital distributions. Firms strongly depend on this assessment in order to go on with some key decisions, such as any dividend payments and common stock repurchases. If the Federal Reserve objects to a firm's capital plan, the firm may only make capital distributions that the Federal Reserve has not objected to. However, while financial firms with \$50 billion or more in total consolidated assets are annually subject to a stress test conducted by the Federal Reserve, no nonbank financial companies are subject to the capital planning or stress test requirements. Section 401 stipulates that any bank holding company, regardless of asset size, that has been identified as a "global systemically important" bank holding company ("G-SIB") under 12 C.F.R. § 217.402 shall be treated as a bank holding company with \$250 billion or more in total consolidated assets for purposes of the changes prescribed by Section 401 and various other provisions of specified statutes. Anyway, the key issue is whether stress tests results provide reliable information on the resilience of banks. In this respect the case of Banco Popular, Spain's fifth-largest bank, seems to give a negative answer. After it passed the European Central Bank's Asset Quality Review in 2014 and the European Banking Authority's stress test in 2016, six months later collapsed. As a matter of fact, Banco Santander bought it for the nominal sum of one euro after depositors withdrew money en masse from the failing institution. According to Brunnermeier and Oehmke (2012: 62), the ideal would be to have "(i) a systemic risk measure for the whole economy and (ii) a logically consistent way to allocate this systemic risk across various financial institutions according to certain axioms. (...) The allocation of this overall systemic risk to each individual financial institution should reflect each institution's total risk contribution to overall systemic risk." However, the measurement of systemic risk is still in its infancy. Brunnermeier and Oehmke, (2012: 68-71) provide a survey of suggested systemic risk measures. Bisias et al. (2012) identifies thirty one ways to measure systemic risk. One of the vital pending issues is to define what data should be collected for financial stability purposes.

<sup>6</sup> However, the above mentioned Economic Growth Act includes the elimination of the Dodd-Frank company-run stress tests for BHCs, banks, and other financial companies with less than \$250 billion in assets.

## 5. RUN VULNERABILITY AND THE LENDER OF LAST RESORT

Measurement of aggregate run vulnerability and its composition is a critical component in evaluating and regulating systemic risk. Runs are a possibility every time illiquid assets are turned into liquid assets. This is precisely the main function that banks and other financial institutions fulfill and that is why they are exposed to deposit runs or, in general, to an inability to access the debt markets for new funding. The inability to roll over debt through new securities issuances has a similar effect to deposit withdrawals. Bao et al. (2015) define "runnables" as "pay-on-demand" transactions which embed defaultable promises made by private agents or state and local governments without explicit insurance from the federal government. "In general, the pay-on-demand feature implies that in the event of stress -caused by credit-risk concerns, large swings in short-term interest rates, or deteriorations in market liquidity-investors may exhibit bank-run-like behavior by redeeming their shares, unwinding their transactions, or deciding not to roll over their positions" (Bao et al., 2015). The ultimate reason for runs is liquidity mismatch between assets and liabilities. This is a necessary but not a sufficient condition. The other feature which makes runnable a contract is that it promises fixed values payable in full on demand on a first-come first-served basis (Cochrane, 2014: 197). For example, if I know that the withdrawal of my deposits depends on the liquidity of long term assets held by the bank and I hear that some people are withdrawing their deposits I will rush to withdraw my money before the bank's assets become completely illiquid. Other people will do the same and this will set in motion a bank run. Notice that the bank's ability to pay back deposits depends in the first place on the liquidity, not only the value, of its assets. A bank can be solvent, holding assets exceeding its liabilities under normal economic circumstances, but illiquid and therefore unable to pay back its deposits. That is why bank runs may be self-fulfilling prophecies and even "healthy" banks can fail. Bao et al. (2015) identify a number of liabilities that fit their definition of runnables: Uninsured Bank Deposits, Money Market Mutual Funds Shares, Repos and Securities Lending, Commercial Paper, Variable-rate demand obligations, Federal Funds Borrowed and Funding Agreement Backed Securities. They estimate both the composition and the total size of runnables from the second quarter of 1985 to the first quarter of 2015. Prior to the mid-1990s, the amount of runnable liabilities outstanding was steady at approximately 40% of US GDP. At the beginning of 2015 they represented 60% of GDP, after reaching more than 80% of GDP at the beginning of 2008. While repos were the main component before the financial crisis, uninsured deposits are now the main component. As the authors point out, it is still an issue to have a quantitative framework to determine the optimal level of runnables that trades-off the social cost of amplifying shocks in crises and the benefits of financing. In order to halt runs against solvent institutions during a bank run, Central banks use to lend against sound collateral to provide the necessary funds to pay out debts in a crisis. However, it is a difficult issue to determine when a bank is solvent, but illiquid, and when the illiquidity is simply a symptom of an insolvent bank. The main difficulty has to do with the way in which assets are valued. For purposes of lender of last resort functions, assets should be valued based on their worth under normal market conditions. In principle, book values probably come closer to this ideal than market values, since accounting rules are designed to reflect changes in underlying, long-term value, while muting the effects of market swings. Anyway, haircuts are generally applied to the stated valuations, so that the central bank lends less than the calculated value of the collateral.

## 6. HOW TO DEAL WITH BUBBLES

Another key issue is how central banks should target bubbles as part of their policy actions. Bubbles are large, sustained mispricing of financial or real assets. Historically, bubbles appear associated to financial crises. "In the typical anatomy of a financial crisis, a period of booming asset prices (potentially an asset price bubble), initially triggered by fundamental or financial

innovation, is followed by a crash. This crash usually sets off a number of amplification mechanisms and, ultimately, this often leads to significant reductions in economic activity. The resulting declines in economic activity are often sharp and persistent” (Brunnermeier and Oehmke, 2012: 7). Therefore, bubbles use to appear in the initial stage of the process which ends in a crisis when the bubble bursts. Therefore, it seems crucial to intervene before the bubble bursts. However, it is difficult to identify a bubble in real time and even more to choose the precise moment to bring it down before it damages the whole financial system. In fact, identifying unambiguously the presence of a bubble in an asset price remains an unsolved problem because the fundamental value of an asset is, in general, not directly observable and it is usually difficult to estimate. Further, it is not possible to distinguish between an exponentially growing fundamental price and an exponentially growing bubble price. Fortunately, the issue is not the bubble itself but the probability that its bursting may disrupt the financial system with a huge impact on economic activity. This may happen if the bubble has been fueled with credit. This is the main difference between the 2007/2008 subprime mortgage crisis and the internet one of the late 1990s. “The severity of the destruction caused by a bursting bubble is determined not by the type of asset that turns ‘toxic’ but by the degree of leverage employed by the holders of those toxic assets” (Greenspan, 2014: 9). If so, the real issue is to avoid excessive concentration of loans in any one sector of the economy. The issue is not necessarily to try to identify bubbles and follow their development but to prevent the financial system from being overexposed to some particular sector of the economic activity where a bubble may develop. The 2007/2008 crash happened not because of the housing bubble in itself but because of the deep involvement of the financial system in it. With around 10 million mortgage applications for home purchases per year -millions of which were making their way into mortgage-backed securities every year- it was not even remotely feasible to inspect every mortgage. But precisely the huge number of mortgages lent by each institution every month should have been an alert sign that the financial system was becoming overexposed to the risk of default in that specific market. For example, when China’s housing markets were overheating in 2012, the authorities prohibited banks from making loans on second or third houses, and prevented banks from lending to foreigners and non-residents for the purpose of house purchases (Shim et al., 2013: 87). Excessive concentration of loans in any one sector exposes banks to the risk of heavy losses. US banks held heavy concentrations in real estate loans. When the real estate market crashed mortgage delinquencies and defaults rose and the value of the assets held by banks dropped accordingly. But this does not mean that a new financial crisis will necessarily have its roots in the real estate market. Quoting Greg Ip of the *Wall Street Journal*: “Squeezing risk out of the economy can be like pressing on a water bed: the risk often re-emerges elsewhere.” It is a useless exercise trying to predict what sector the new financial crisis will come from. New vulnerabilities are likely to appear and financial institutions may very well try to find ways around the new legislation. New risks can develop out of things that don’t appear initially to contain that kind of possibility. The risks of the future are unlikely to come from the precise places that they’ve come in the past. It is well known that predictions are hard, especially about the future.<sup>7</sup> The only way to avoid a new crisis is to prevent the financial industry from being excessively exposed to *any* particular sector of the economy. In the same way as limits are imposed on banks’ exposures to single counterparties, the central bank should impose limits to the exposure of the financial system as a whole to any particular industry or kind of assets. This would constrain the amount of risk that the financial system may face of an economic downturn or default in any one specific industry or from a particular kind of asset. This approach requires horizontal aggregation of financial institutions’ balance-sheets to check that the exposure to any sector does not exceed a given level.

<sup>7</sup> However, Frankel (2017) takes the risk and points out to three candidates: a) the bursting of a stock-market bubble; b) the bursting of a bond-market bubble; and c) geopolitical risk.

In contrast with the dynamic sector risk-weight adjustment methodology, this approach does not rely on regulatory discretion to identify risk pockets. Moreover, a by-product of this restriction may be a greater flow of credit to the underserved sectors, helping in diversifying banks' credit portfolio and the structure of the economy. Of course, a necessary condition for the implementation of these credit limits is proper accountability of financial institutions to their regulators. Lack of transparency has been one of the flaws exposed by the financial crisis.

## **7. TRANSPARENCY IN THE FINANCIAL INDUSTRY**

There has always been a tension between the right to data privacy and the obligation of transparency. Individual financial institutions emphasize the former while regulators stress the latter. After the recent financial crisis, the pendulum has swung towards privileging transparency over privacy given the negative externalities of bank failures. Financial reform legislation has given new powers and directives to regulatory agencies, demanding from financial institutions greater transparency of prices, volumes and exposures -to regulators- and in aggregated form to the public. The US financial meltdown had a direct antecedent in Japan's banking crisis of the 1990s. The boom and bust of real estate prices was the primary reason for that crisis which burst in 1995 when thirteen Japanese financial institutions went effectively bankrupt. The banking crisis had been developing for already a couple of years but "Japan's language and culture provided an ideal cloak for secrecy" (White, 2002: 1). The success in hiding the problem served only to magnify the impact once the facts emerged. The 2007/2008 financial crisis also developed in an environment of great opacity. The financial derivatives markets and the development of the "shadow" banking system allowed individuals to evade disclosure requirements and favored regulator passivity due to the build-up of hidden risk.

## **8. AUTHORITIES' MISINFORMATION**

It is really surprising to learn how bad informed the Fed authorities and regulators were about what was going on within the financial system under their supervision. For instance, the former Fed's Chairman, Alan Greenspan, candidly admits that: "We at the Federal Reserve were aware earlier in the decade of incidents of some highly irregular subprime mortgage underwriting practices. But, regrettably, we viewed it as a localized problem subject to standard prudential oversight, not the precursor of the securitized subprime mortgage bubble that was to arise several years later. On first being told in the early months of 2005 by Fed staff of the quarterly data for 2004, I expressed surprise given that our most recently official Fed data -those of the Home Mortgage Disclosure Act (HMDA) compilations for 2003- exhibited few signs of problems. I had never heard of the private source Inside Mortgage Finance before. But, in retrospect, those data turned out to be right" (Greenspan, 2014: 63/64). Therefore, the then Chairman of the Fed -and supposedly, the rest of the Board- ignored that trillions of dollars of mortgage-backed assets were a time-bomb ready for detonation under their feet. Had they known it perhaps they would have put a bit more attention on the statistics on mortgage delinquency even if they were not familiar with the source of that information. In his defense, Greenspan -who served as Chairman of the Federal Reserve between 1987 and 2006- goes on arguing that "in early 2007, the composition of the world's nonfinancial corporate balance sheets and cash flows appeared in as good a shape as I can ever recall" (ibid., 37). The only thing this proves is that he was looking at the wrong indicators. Perhaps he did not worry very much about the information he used to take decisions. As he overtly confessed, he had always mainly looked to the self-interest of lending institutions to protect shareholders equity (Greenspan, 2008). That is why, after the crisis burst, he was "in a state of shocked disbelief" (ibid.). The problem is that he worked 18 years as a regulator without believing in regulation, "presuming that the self-interest of organizations, specifically banks and others, were such that they were best capable of protecting their own shareholders and their equity in the firms" (ibid.).

Greenspan (2014: 46) admits that in spite the fact that “ten to fifteen largest banking institutions have had permanently assigned on-site examiners to oversee daily operations, many of these banks still were able to take on toxic assets that brought them to their knees.” It is difficult to establish how much should be attributed to ignorance of key data and how much to ideology but the result is that the subprime mortgage foundations and the securitization pyramid built upon them were almost totally ignored by the financial system authorities as it had been the case in Japan’s banking crisis of the 1990s.

## 9. WHAT HAS BEEN DONE AFTER THE CRISIS

In response to the crisis, the G20 countries “agreed on a large set of financial sector reforms with four core areas:

- building resilient financial institutions
- ending too-big-to-fail
- making derivatives markets safer, and

transforming shadow banking into resilient market-based finance” (Buch, 2017).

Improving the resilience of the financial system and enhancing buffers against unexpected shocks have been key goals of post-crisis financial sector reforms. However, the implementation of reforms in the regulation and oversight of shadow banks is still at an early stage (Financial Stability Board, 2016). In US the main purpose of the Dodd-Frank Act passed in 2010 is to address the main failures which made possible the financial crisis. For this purpose, it creates the already mentioned two new agencies, the Financial Services Oversight Council (FSOC) to monitor the entire system for risks and address them before they do harm and the Office of Financial Research (OFR) to support FSOC by collecting and analyzing data. In 2011, the Securities and Exchange Commission and the Commodity Futures Trading Commission established new confidential information reporting requirements to monitor hedge funds and other private funds, and identify potential systemic risks associated with their activities. As of the end of 2016, approximately 2,800 investment advisers had reported information on 27,000 different kinds of funds. The Private Funds Statistics released quarterly since October 2015 offers to the public aggregated data reported by those private fund advisers. The Dodd-Frank Act extends the limit on loans as a share of capital to include financial as well as non-financial borrowers and create an expanded definition of exposures to include not only loans but repos, securities lending and derivatives. The too-big-to-fail issue has been dealt with through the creation of an Orderly Liquidation Authority (OLA). OLA appoints the Federal Deposit Insurance Corporation as a receiver to liquidate any “systemically important financial institution” that fails and strictly prohibits bailouts. However, this portion of Dodd-Frank was repealed by the House in June 2017 although the repeal has not yet become law. The over-the-counter (OTC) derivatives reform agenda has been progressing since in 2009 G20 Leaders agreed it would be one of the priorities in the efforts to avoid a future financial crisis. The reform is guided by three main principles: universal supervision, transparency through exchange-trading and price reporting, and central clearing. In 2007/2008, derivatives served as a vector for contagion, helping to spread the crisis throughout the financial system. Credit default swap (CDS) is a derivative tied to debt securities such as bonds that promise certain future payments. A CDS is a sort of insurance against non-payment: the buyer of a CDS is entitled to the par value of the contract by the seller of the swap, should the issuer default on payments. Many CDSs issued in the 2000s were tied to subprime mortgage-backed securities. Most of them were sold by AIG Financial Products. AIG wrote \$656 billion in credit insurance on structured finance products with only \$54 billion in resources to pay those claims. The deregulation of the OTC derivatives market in 2000 allowed them to experience a dramatic growth until it became to a sudden stop in the wake of the 2008 crisis.



When the mortgage market crashed, payments on CDSs were triggered. As losses on credit default swaps accumulated, AIG's financial position deteriorated; if AIG went bankrupt, it would have defaulted on all of the promised payments on the credit default swaps it had sold on mortgage-backed securities, putting at risk most of the financial industry. As of December 2007, AIG had written credit default swaps with a notional value of \$527 billion (McDonald and Paulson, 2015: 18). The U.S. government stepped in and AIG was rescued at a cost of \$182 billion. In the US, the regulation of derivatives is the subject of Title VII of the Dodd-Frank Act. Its purpose is granting increased access to data by regulators. The law directed the Commodity Futures Trading Commission (CFTC) and the Securities and Exchange Commission (SEC) to draft the appropriate implementing regulations. An exemption from the pre-established principle of universal supervision of all futures and options trading allowed the existence of the unregulated OTC derivatives market. The Dodd-Frank Act puts an end to that exemption returning to the principle of universal supervision. In order to reduce the incentives to operate through shadow banking activities, "the Dodd-Frank Act (section 331) requires the assessments of consolidated assets minus tangible equity to compute liabilities instead of just considering deposit liabilities, as used to be the case before the reform" (Ordoñez, 2018: 35). At a global level, a Financial Stability Board (FSB) was established in April 2009 that brings together national authorities from 23 countries and the European Union. One of its first tasks has been the removal of barriers to trade reporting in the OTC derivatives market. An initial result has been that trade reporting requirements covering over 90% of OTC derivative transactions were already in force in 19 out of 24 member jurisdictions by mid-2017 (FSB, 2017: 13). This is in huge contrast with the existing situation before 2007 when OTC CDS transactions were barely disclosed. However, much work must still be done to standardize data formats, contract features and various other practices so that the data on trades is usable and informative. Another FSB's line of work has been to push FSB jurisdictions to develop frameworks for determining when standardized OTC derivatives should be centrally cleared. If credit derivatives are standardized and traded on a central exchange, this institution would be in charge of ensuring that the parties to the transaction have the necessary collateral to make good on their promises. This would also allow locating credit risk where it is best supervised by regulatory authorities who would be in charge of making sure that the central exchange has the necessary reserves in the event the counterparties fail. According to the FSB, central clearing requirements already came into force in 11 jurisdictions by mid-2017, mostly for interest rate derivatives. The next step is to assure that all contracts that can be cleared are effectively cleared. Of course, there always exists the possibility of creating exotic derivatives that the clearing house cannot accommodate, in order to evade regulation (Roubini and Mihm, 2010: 202). For this reason, regulation should require any OTC derivative traded above a certain volume to be traded at the clearing house. The fact that there are some countries which are slower in implementing the reform poses the peril that companies may move their derivative trades to those jurisdictions where the reform is yet incomplete. Anyway, in spite of all efforts to regulate as many derivatives as possible, for sure there will be some which will escape regulation. This should not be a problem for the economy as a whole provided they are prevented from contaminating with systemic risks the so-called systemically important financial institutions (SIFIs). In US, the main burden of this task falls almost entirely on the shoulders of the Federal Reserve, in charge of supervising this kind of institutions. On the other hand, it should be taken into consideration the warning by Véron (2016: 4) that the G20-fostered move towards more central clearing may be leading to the concentration of systemic risk in derivatives central counterparties (CCPs) or clearing houses, creating new forms of systemic risk. Finally, it should be stressed that the reporting of OTC derivatives transactions to trade repositories is still far from fully delivering on its promise to help supervisors assess developments of relevance for financial stability (DTCC, 2015).

## 10. SHADOW BANKING

“By 2007, over 60 percent of financial sector liabilities were funding shadow banking and less than 40 percent funded “traditional” regulated liabilities such as bank deposits, checking accounts, interbank loans, and declared reserves of insurance companies” (Stanley, 2015 : 2). Poznar et al. (2012) document that “the gross measure of shadow bank liabilities grew to a size of nearly \$22 trillion in June 2007. We also plot total traditional banking liabilities in comparison, which were around \$14 trillion in 2007.” Although the shadow banking system consists of financial institutions that look like banks, act like banks, and borrow, lend and invest like banks, they were not regulated as banks, as Roubini and Mihm (2010: 77) wisely remark. The financial crisis of 2007/2008 was to a large degree a crisis of shadow banking. Runs on the asset-backed commercial paper market that began in August 2007 represented the first major event of the financial crisis (Gorton and Metrick, 2012: 139). The clear relationship between the growth of shadow banking and the destructive 2007/2008 financial crisis led to the conclusion that shadow banking plays a too critical role to be kept unregulated. Due to the low quality of the loans they finance, shadow banks make the financial sector highly fragile. Their exposure to bank runs reinforces this fragility. The post 2007/2008-crisis regulatory framework consists of trying to isolate from risk the so-called SIFIs which include not only the traditional commercial banks but also some components of the shadow banking system like investment banks or insurance companies considered to be of systemic importance. However, key elements of shadow banking have not being targeted as far as regulation is concerned. The legislation on non-bank institutions mainly targets on those deemed as systemically important which are subject to supervision by the Federal Reserve Board. I have argued elsewhere that “the first issue to be considered is that any regulation means a restriction on the expected rate of return by lowering the level of risk investors or banks are allowed to take. However, this does not necessary mean a lower *ex post* average rate of return; it only means that the riskier bets are excluded or restricted, precisely those that may result in huge losses” (Beker, 2016: 253). In this respect, Ordoñez (2018: 36) argues that, in the absence of regulation, banks take too much risk while in the absence of shadow banking, efficient investments are lost. That is why he proposes that legislation should “allow banks to decide whether or not they want to be regulated. Banks that choose to avoid regulation would be taxed and the proceedings used to subsidize banks that choose to be regulated and operate under restrictive capital requirements.” He admits that “there is a trade-off that regulators face between preventing efficient investments and discouraging excessive risk-taking” (Ordoñez, 2018: 36) and he prefers to leave to the bankers -not to the regulators- to choose which danger to avoid. He expects that “banks with access to superior assets would prefer to avoid regulations in order to invest in those superior assets, even after they pay the tax. In contrast, banks with access to inferior assets would rather self-selecting into regulated activities, invest in safe assets and be subsidized (Ibid.). Unfortunately, many bankers thought that mortgage-backed securities where superior assets until the 2007/2008 crisis showed they were not. At an international level, one of the objectives of the FSB is to ensure that shadow banking is subject to appropriate oversight and regulation. With the purpose of assessing global trends and risks in this system the FSB has been conducting an annual monitoring exercise since 2011. The 2016 peer review on the implementation of the FSB policy framework for shadow banking entities found that implementation of that framework remained at a relatively early stage (FSB, 2016b). The FBS underscores the need for a systematic process to bring non-bank financial entities that could pose financial stability risks within the regulatory and supervisory perimeter in a timely manner (FSB, 2016a: 4). It also remarks that data from existing reporting may not be adequate or granular enough to assess shadow banking risks. Gaps in the availability of data are particularly pronounced for non-regulated entities, given that authorities’ data collection powers often do not extend to such entities. Particularly difficult proves to assess shadow banking risks arising from non-bank financial entities’

interconnectedness with the rest of the domestic financial system and from cross-border activities and exposures. It is yet unclear whether existing reporting makes a sufficient contribution to enable market participants to fully gauge related shadow banking risks. In this respect, it seems there is still a lot of room for further improvement in the information requirements for non-bank financial entities. The experience of the financial crisis also demonstrated the inadequacy of a safety net limited to commercial banking and deposits alone and the need to extend the perimeter of the public safety net. In this respect, the Dodd-Frank Act opens access to public liquidity funding to some shadow banking institutions such as broker-dealer subsidiaries of investment banks, as well as non-banks designated as systemically significant. As Adrian and Ashcraft (2012: 54) pose, “the objective of reform should be to reduce the risks associated with shadow maturity transformation through more appropriate, properly priced and transparent backstops—credible and robust credit and liquidity “puts.” Regulation has done some good, but more work needs to be done to prevent shadow credit intermediation from continuing to be a source of systemic concern.” On the other hand, international regulatory coordination is a big challenge. Regulatory agencies in different countries should coordinate their activities to prevent financial institutions from steering their riskiest operations toward the least regulated jurisdiction. This regulatory arbitrage may end up concentrating the highest risks where regulation is weaker. In this respect, there is an increasing concern about the risks the shadow banking system in China poses. In fact, the shadow banking system expanded dramatically in China since 2009 stimulated by the government measures aimed at alleviating the impact of the global financial crisis in the country. The most popular forms of shadow banking in China are the “so-called entrusted loan agreements and trust loans. Under the former, a company lends money to another firm with the bank as the middleman, while for the latter, banks use money raised from wealth-management products to invest in a trust plan, with the proceeds eventually going to a corporate borrower” (Bloomberg News, 2017). It has been estimated that China’s shadow banking industry is worth about \$8.5 trillion (Ibid.). The share of shadow banking loans increased from around 11% in 2008 to almost 20% in 2015 (Kaiji Chen et.al., 2017: 9). However, figures differ between experts, depending on what institutions are considered to be included in the shadow banking system in China. Anyway, there is no discussion that it has been growing at an accelerated path after 2009 and that it is a source of increasing concern about the possibility of posing systemic risk on the global financial system. In the case of Europe, a broad measure of the shadow banking system in the EU, comprising total assets of investment funds and other financial institutions, represented €37 trillion at the end of 2015, approximately equivalent to 36% of total EU financial sector assets (ESRB, 2016: 3). Abad et al. (2017: 35) find “that EU banks have significant exposures to shadow banking entities globally and, in particular, to entities domiciled in the US, which represent approximately 27% of the total exposures.” In this respect, the EBA’s guidelines on limits on exposures to shadow banking entities, effective from 1 January 2017, introduce an approach that will allow EU institutions to set internal limits for their exposures to shadow banking entities (EBA, 2015).

## 11. REALIGNMENT OF INCENTIVES

As I have asserted elsewhere, “excessive risk-taking by financial institutions was a factor that significantly contributed to the incubation of the crisis. Compensation policies can play a useful role in reducing excessive risk-taking” (Beker, 2016: 228). The President and CEO of the Federal Reserve Bank of New York, William C. Dudley has argued that a well-designed compensation structure can help favorably tip the balance between maximizing benefits and risk-taking by “effectively extending the time horizon of senior management and material risk-takers, and by forcing them to more fully internalize the consequences of their actions” (Dudley, 2014). For example, “as long as deferred compensation is set at a horizon longer than the life

of the trade, this can ensure the firm's and the trader's incentives are aligned and the "trader's option" is effectively mitigated" (ibid.). Hugh McCulloch, who was the First Comptroller of the Treasury in 1863-1865, proposed to amend the National Bank Act so that the failure of a national bank be declared *prima facie* fraudulent and that its officers and directors be made personally liable for the debts of the bank and be punished criminally unless they can prove their innocence. Something in this vein can put a limit to the perverse incentive that banks' managers have to engage in excessive risk taking using the depositors' money. At the time of writing this paper, many countries in Europe have already implemented or are considering restrictions on executive compensation in order to strengthen risk management incentives with a longer time perspective.

## 12. MICRO AND MACRO-PRUDENTIAL REGULATION

After the crisis, macro-prudential policy has become established as a new policy area. It does not replace the traditional regulation, often called micro-prudential; it complements it after the global financial crisis demonstrated micro-prudential regulation was insufficient to guarantee the health of the financial system as a whole. Macro-prudential policy is defined as the use of primarily prudential tools to limit systemic risk (IMF-FSB-BIS, 2016: 4). In the EU, the new prudential rules for its banking system that came into force on 1 January 2014 provide Member States with a common legal framework that includes a set of macro-prudential instruments. While micro-prudential supervision focuses on safeguarding individual financial institutions from idiosyncratic risks and preventing them from taking too much risk, macro-prudential regulation has to do with the fact that financial institutions may not internalize the adverse externalities which their increased risk-taking behavior may generate on the economy as a whole. Macro-prudential supervision internalizes those externalities. The Basel III accords have significantly changed prudential supervision, with a view to complementing micro-prudential supervision with a macro-prudential dimension designed to address systemic risk. In the Basel III rules, regulators have designed global standards for the minimum liquidity levels to be held by banks. They rely on two minimum ratios. "The first is a 'Liquidity Coverage Ratio' which is a kind of stylized stress test to ensure that a bank would have the necessary sources of cash to survive a 30-day market crisis" (Elliot 2014: 8). "The second is the 'Net Stable Funding Ratio' which tries to ensure that a bank's assets would be adequately supported by stable funding sources. The idea is to keep banks from engaging in excessive maturity transformation or doing it in too risky a manner" (ibid.). In this respect, Brunnermeier et al. (2011, 2014) suggested an alternative liquidity measure -Liquidity Mismatch Index (LMI)-, which has been implemented by Bai et al. (2017). The purpose is to measure the mismatch between the funding liquidity of liabilities and the market liquidity of assets. Such a measure could be useful for macro-prudential purposes by detecting liquidity imbalances in the financial system, offering an early indicator of financial crises. As LMI can be aggregated across banks it provides a macro-prudential liquidity parameter. The authors construct the LMI for 2882 bank holding companies during 2002-2014 and investigate its time-series and cross-sectional patterns. The empirical results show that, had the LMI been computed in 2007, it would have been a good predictor of the need of liquidity the Fed had to inject to mitigate the liquidity-run aspect of the financial crisis. Compared with the Basel standards the LMI performs better in both macro and micro-dimensions. However, as the authors recognize, the LMI measures are not yet a finished product, but they are a promising tool which has still to be improved to serve as a macro-prudential barometer. One of the main objectives of macro-prudential policy is increasing the resilience of the financial system to aggregate shocks by building and releasing buffers that help maintain the ability of the financial system to function effectively, even under adverse conditions. The dynamic, or countercyclical, capital buffer is one of the tools macro-prudential authorities can use to target specific vulnerabilities.

Macro-prudential stress tests can help to assess the ability of the system to continue to function under a range of adverse economic and financial conditions, thereby complementing the use of early warning indicators (as in the euro area, UK and US).

### 13. CONCLUSIONS

Although crises tend to have a large element of unpredictability, the worst strategy to follow is to deny the possibility of the emergence of a new financial crisis. On the contrary, it is advisable to discuss how to prevent it and, in case prevention fails, how to ameliorate its negative consequences. It is a useless exercise to try to predict what sector the new financial crisis will come from. The key issue is to avoid excessive concentration of loans in any one sector of the economy or in some particular kind of assets. Excessive concentration of loans in any one sector exposes banks to the risk of heavy losses. That is why the central bank authorities should impose limits to the exposure of the financial system as a whole to any particular industry or kind of assets. This would constrain the amount of risk that the financial system may face of an economic downturn or default in any one specific industry or from a particular kind of asset. Central bank authorities as well as regulators need to have at their disposal better information than their counterparts had in 2007. In particular, the measurement of systemic risk should be improved as well as the design of stress tests. But, more important, regulators have to believe in regulation. If regulators think they can simply rely on the market to avoid crises, preventing crises may become an impossible task. In 2007/2008, derivatives served as a vector for contagion, helping to spread the crisis throughout the financial system. In spite of what has already been done on this subject, much work must still be done to regulate derivative transactions. The shadow banking system played a central role in the 2007/2008 crisis. Although some steps have been taken in the right direction there is still a long road ahead in bringing it within the regulatory and supervisory perimeter. Executive compensation policies by financial institutions have to be revised. A well-designed compensation structure can help favorably tip the balance between maximizing benefits and risk-taking.

**ACKNOWLEDGEMENT:** *Comments to a previous version by Jane D'Arice greatly benefitted this article. The usual caveats apply.*

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# **RESTRUCTURING THE NIGERIA OIL INDUSTRY AND THE REASSESSMENT OF SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA'S COMPLIANCE WITH CORPORATE SOCIAL RESPONSIBILITY IN DELTA STATE 2010-2017**

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## **ABSTRACT**

*The discovery of oil was initially a source of joy to most oil bearing communities in the Niger Delta region, with high expectation for rapid social-economic development of their communities. This expectation was short lived, as their farm land and other sources of livelihood were often polluted with crude oil, a situation health experts identified as a source of health hazard. Despite the monumental damages done to the environment and the people, there was no policy or structure to address these challenges, a situation that has attracted local and international outcry on Shell and other Transnational Companies to act responsibly in their area of operations. Therefore this study is to determine whether the pressure by local and international organization has influenced restructuring of the oil industry in Nigeria and Shell compliance with Corporate Social Responsibility in Delta State. The study deployed survey research with data from primary and secondary sources. Chi-square and simple percentage were use for the analysis. The study observed that initially Shell anchored its Community Relation Policy on philanthropic gesture but with pressure and restructure in the oil industry, Shell has complied significantly with Corporate Social Responsibility. We recommend the speedy passage of the second phase of Petroleum Industry Bill that further addresses the responsibilities and sanctions for non compliance with Corporate Social Responsibility.*

**Keywords:** *Corporate Social Responsibility, Environmental degradation, Philanthropic, Compensation and Development*

## **1. INTRODUCTION**

When oil was first discovered in the early 1950s, the oil bearing communities were over whelm with joy, believing it will fast track their social and economic development. This was why they cooperated and assisted the Oil Multinational Companies in their operation. For example sacred forest and trees, traditional burial ground and shrines were given up for oil exploration and production. Down the journey of oil exploration and production, the narrative of prosperity, social and economic development propagated by the OMNCs, metamorphosed into abject poverty, environmental degradation, illegal detention and killings. All these were directly linked to or were orchestrated by the OMNCs in conjunction with the Federal Government of Nigeria in order to subjugate, suppress and oppress the oil bearing communities. This tragedy has today snow ball into serious conflict, a situation liken to the Apartheid day in South Africa when Nelson Mandel. The oppressed people and the oppressor are at loggerheads. The day of reckoning between the forces of freedom and those of reaction is not very far off. I have not the slightest doubt that when that day comes truth and justice will prevail (Nelson Mandela,1999:165). This statement made by Nelson Mandela, an iconic African leader, in his book Long Walk To Freedom depict the sad experience of oil bearing communities, especially as it relations to Oil Multinational Corporate Social Responsibility. A situation some scholars described as oppressive, unethical practice and unacceptable. This unacceptable practice by the OMNCs is evident in the relationship between the oil bearing communities and Shell for

instance. And that is why Newell (2005) and Raynard (2002) have advised Oil Multinational Corporations OMNCs and Transnational Corporations TNCs to act responsibly. In other words, for them to succeed as a corporate organization, every company must give back to society especially in the area of its operation. Despite this advice, OMNCs have refused and have continued to underdeveloped the oil bearing communities through environmental degradation and other oppressive regimes. Empirical evidence shows that since oil was discovered in commercial quantities in Oloibiri in the present Bayelsa state, neither the Oil multinational Corporation nor the oil bearing communities has known peace, especially in the aftermath of two major setbacks and corporate scandals in the Nigeria oil Industry. For instance Shell's involvement in Ken Saro-Wiwa's execution and the Shell arms procurement scandal of the 90s. These two issues are what some scholars refer to as the height of irresponsibility that any corporate organization can exhibit in its area of operation. This is what the study believe triggered the aggressive agitation for the restructuring of the oil industry and the enforcement of compliance with CSR code of conduct by the OMNCs operating in the Niger Delta. Extant literatures has shown that before the execution of the Ogoni 9, including Ken Saro-Wiwa, none of the OMNCs operating in the Niger Delta had any policy on CSR nether did they intend to consider their host as a critical stakeholder. There has been increasing demand since early 1990s for the TNCs and OMNCs to act responsibly towards its stakeholders, especially the oil bearing communities, whose environment is constantly been degraded. Since then, there have been growing interests among local and international organizations involved in environmental issues, to pressure the government and the oil industry in Nigeria for restructuring for sustainable development. This has also led to increased pressure on TNCs and OMNCs to adopt a socially responsible role in society and conduct business in a sustainable way. However, the continued pressure during the Abacha's Military regime yielded little or no results, hence the agitation for resource control in 2004 by the oil bearing communities. To further fuel the crisis, the OMNCs refused to pay compensation for the environment harm done, this also further triggered the agitation for the introduction of a more sustainable and well defined compensatory programme. While there were further protests against the irresponsible behavior of OMNCs, there were growing numbers of cases of environmental degradation emanating from oil production across the oil bearing communities in the Niger Delta. These harmful practices by the OMNCs, have posed serious health hazard to the oil bearing communities, which were never addressed by the OMNCs. Studies have shown that gas flaring in the Niger Delta has continued to be a source of health hazard and it have never been addressed holistically, a situation scholars blamed on the Nigerian regulatory authority. The regulatory authority has been accused of turning blind eyes on the irresponsible behavior of Shell Petroleum Development Company SPDC for instance. This allegation has not been refuted by the Nigeria National Petroleum Corporation (NNPC), the regulatory authority in Nigeria. Consequently the action of the regulatory authority has also attracted condemnation from local and international organizations. Their silence is an indication of compromise and maybe unconnected to corruption, which is rampant in the Nigeria oil industry. Extant explanation have also shown that the Nigeria National Petroleum Corporation NNPC as the regulatory body has no blue-print on CSR, a situation that have leveraged the OMNCs to violate environmental laws in Nigeria. Therefore it is safe to say that all known environmental laws that protect the rights of the people in Nigeria are often violated by OMNCs, a situation that has compounded the conundrum of the oil bearing communities. Yet compensations are not paid neither are there any deliberate policy that helps to address the harmful effects of their operations. It is sad to note that up-till 2016, there are no acceptable code of behavior between the oil bearing communities and OMNCs. And that is why Adekoye, (2006) noted that Shell Petroleum Development Company SPDC, spend less than 0.6 percent of its net income on CSR related programme in Niger Delta, a situation the oil bearing communities see as an affront on their collective intelligence.

He also noted that Chevron, Mobil, Agip, Total and Pan-Ocean spend far less than 0.3 percent of their profit on CSR. This however explains the reason why youth restiveness and militancy in the Niger Delta Region have escalated and persisted. Arising from the perceived marginalization of the oil bearing communities by the OMNCs, and the subsequent outcry from multiple stakeholders especially the local Non Governmental Organizations NGOs along with other Coalition, such as Environmentally Responsible Economics (CERES) Green Peace, Green Center for Environmental Research and the international media have called for the adoption and enforcement of CSR in all oil bearing communities. The profane for the oil bearing communities by the OMNCs has increased the pressure on OMNCs to comply with CSR codes of conduct. Despite these outcry and pressure, Shell like other Oil Transnational Corporations have not developed integrated CSR company's policy neither have they any principle on the core values of honesty, integrity and respect for people, a situation some scholars see as an aberration and unacceptable. Hence Dess, and Eisner, (2006), believe that, organizations should obey the law, and act ethically even in the absence of set laws in order to mitigate any damages caused by their actions, both socially and environmentally. Despite this advice and avalanche of pressure from local and international organizations Shell and other TNCs remained adamant. In order to effectively investigate this phenomenon, the study raises the following question. How did the pressure from local and international organization influence the restructuring of the Nigeria oil industry and SPDC's compliance to CSR in Delta State? The objective of this study is to determine ascertain how the pressure from local and international organization has influence restructuring of the Nigeria oil industry and SPDC's compliance with Corporate Social Responsibility in Delta State. The study deployed survey research design with data from primary and secondary sources, data were analyzed using chi-square. Besides, the study employed the intellectual prowl of Fredman's corporate social responsibility theory to explain the pressure, restructuring and Shell compliance with corporate social responsibility. These three variables are key to the understanding of Shell compliance with Corporate Social Responsibility in Delta State.

## **2. THEORETICAL FRAMEWORK**

The theory sees Corporate Social Responsibility as a strategy that encompasses the organization's goals to comply with and promote sustainability, encompassing the economic, legal, ethical, and discretionary expectations of society from organizations at a given point of time. Its proponents proposed a broad-based strategic framework incorporating the interests of all parties with meaningful links to the enterprise. Specifically, they put forth a set of propositions which provided the foundation for the theory to focus on a diverse body of stakeholders. The basic premise of the theory is that the operations of business firms are undertaken within the society in specific environment, known as the host community. The theory does not believe that a corporation "can do good only to help itself do well. Therefore, the mission of a company should not be restricted to the creation of profit for shareholders as encapsulated in the earlier held view that the "social responsibility and the role of well manage corporations is to make profit and not to save the planet, but by implication the proper business of Business is business. Social responsibility rests upon the idea that business should be conducted with concern for the effects of business operations upon the attainment of valued social goals' and companies have an obligation to consider society's long-run needs and wants, and that they engage in activities which promote benefits for society and minimize the negative effects of their actions.

## **3. ANALYTICAL UTILITY**

Applied to the role of Shell Petroleum Development Company of Nigeria Ltd (SPDC) in the Niger Delta, generally, and Delta State in particular, it shows that, social justice can be defined

in terms of decreasing inequality with the goal of working toward a “socially defensible distribution of income. It can be assessed in terms of a company meeting the demands of its multiple stakeholders, which the Niger Delta host communities are part of, and companies must seek to satisfy their demands “as an unavoidable cost of doing business. A company therefore, “cannot afford to ignore any stakeholder concern that might affect its ability to generate long-term owner value. Shell cannot maximize value if its host communities is ignored or mistreated, though the criterion for making the requisite tradeoffs among its stakeholders is long-term value maximization.

#### **4. THE EFFECTS OF THE PRESSURE ON SHELL COMPLIANCE**

Frynas (2010), noted that Shell is under pressure to reduce Oil spill and cut gas flaring, which are the chief causes of agitations and pressure from local and international organization. He further observed that, Shell have not done enough social reporting in its operations, so as to show the world that, its operations are transparent against the opinion of critics. Critics have argued that, Shell’s operations are shrouded in secrecy. It is against this background that Louche (2011) resonated that, Shell secrecy has aided the pressure from host communities and local pressure groups on Shell and other Trans-National Corporations. He highlighted some of the pressure to include, Uzere community protest against Shell’s environmental harm in 1996, where they threaten to go nude if Shell refuses to clean up their environment. In a similar protest against Shell in Oghara community in 1997, the protesters demanded for restructuring of the oil industry in Nigeria, in line with international best practise. There were other similar protest against Shell and other TNC’s as a result of their non-compliance with International best practise, they advised Shell to comply or leave their community. They also threatened to shut down all oil facilities in the locality. Again the Warri street protest against Shell in 1999 was regarded as one of the worst protest. An eye witness believed that more than 20 people died as a result of police brutality. All these protests added the needed fuel to the burning desire for restructuring of the Nigeria oil industry. Some scholars have rightly argued that the protest was directly geared toward ensuring Shell compliance with Corporate Social Responsibility code of conduct while others believed it was for restructuring. Whatever ways the pendulum of protest swings, it was towards the development of the oil bearing communities. Public pressure has been claimed to be one of the factors behind Shell’s decision to withdraw from projects in Columbia and Peru in 1998. The Camisea project in Peru had been controversial like their operations in the Niger-Delta, since it was launched in 1996. The proposed development site is located in pristine rain forests inhabited by several vulnerable indigenous populations – including two of the world’s last isolated nomadic peoples. Shell made laborious efforts preparing rules and procedures for oil exploration in the area. A number of NGOs were contracted to work-out detailed plans on how to handle contacts with the local tribes (Camisea, 2003). Their effort was thwarted as a result of pressure from international organization over corporate socialization. The stages of corporate socialisation suggested by Preston and Post (2006) proved to be useful for understanding the extent to which Oil companies recognise broader social concerns. Owing to various scandals involving Shell and the growing interest in environmental issues, there has been increased pressure on TNCs and MNOCs to adopt a responsible role in society and conduct business in a sustainable way. The growing numbers of those calling on TNC and OMNC to act responsibly within the contest of international best practise have reached its optimal level. In Shell bulletin (2010) they agreed that, Shell is under pressure to act responsibly, they criticized host communities for not being considerate in their demands. They however threaten to pull out of Nigeria, if the pressures persist. The persistence of the pressure paid-off in 2001 with the setting up of a committee saddled with the responsibility of restructuring the Nigeria oil industry for rapid social-economic development in the oil bearing communities in Niger-Delta.

Therefore, base on this understanding, the study organized a Focus Group Discussion that centered its discussion on Pressure, Restructuring and Shell compliance with CSR in Delta State. The discussants were exasperated with Shell nonchalant attitude towards CSR in Delta State. Although there were divergent views on the modus-operade of Shell, there was a general consensus among discussants that Shell need to be more socially responsive to the plight of its host communities. They noted that it was the pressure, especially from the international community that energized the Federal Government to embark on the reform in the oil industry. They also agreed that the reform in the oil industry have significantly compelled Shell's compliance with CSR in Delta State. To further validate the research hypothesis, the study carried out a research survey in some selected communities in the three senatorial district of the state and the sample size was 400 respondents. When asked whether it was the pressure from local and international communities that was responsible for the restructuring in the oil industry in Nigeria, 200 respondents strongly agreed, 90 respondents agreed while 60 disagreed and 30 respondents avoided the question. The aggregate of those who agreed with the question are 290 respondents while 60 disagreed. Therefore it is statistically safe to say that it was the pressure that led to the restructuring of the oil industry in Nigeria. The effects of the restructuring have yielded positive result with the creating of Niger-Delta Development Commission NDDC, Ministry of Niger-Delta among others. It has also enhanced Community development in Delta State through OMNC's contributions. Idama (2017) agreed that the reform in the oil industry has also influenced community relations, a situation that was unthinkable before the reform. For example Memorandum of Understanding MoU are being signed between the communities and TNC. Another question asked in the instrument was whether it was the pressure from local and international community that influenced Shell compliance with CSR in Delta State. Again 149 respondents, representing 38.1% strongly agreed, 172 respondents, representing 43.9% agreed, and 30 respondents, representing 7.6% strongly disagreed while 40 respondents disagreed at 10.2%. This suggests that the pressure from local and international community was responsible for Shell compliance with CSR in Delta State. Ikelegbe (2016), noted that social and economic challenges in some oil bearing communities in Delta state have been addressed by Shell through voluntary social investment portfolio. The instrument also addressed Shell infrastructural development in oil bearing communities in Delta State. It revealed that 110 respondents, representing 28.1% strongly agreed that there has been massive provision of social infrastructures in their communities as a result of Shell's Community-driven development initiatives in Delta State, 160 respondents, representing 40.9% agreed, 40 respondents, representing 10.23% strongly disagreed, and 81 respondents, representing 20.7% disagreed. This depicts that host communities have benefited from Shell's Community-driven development initiatives. Shell has invested in education, community health, and enterprise development for youths and women through its community-driven development initiatives under the Global Memorandum of Understanding (GMoU) between SPDC and communities. This means that community-driven development initiatives have positively impacted on education, community health, and enterprise development for youths and women in the host communities of Delta state. Akusu (2016) strongly argued that social and economic infrastructure in host communities such as classrooms, roads, bridges, drainage systems, jetties, water supplies, electricity, town halls, market stalls and health facilities has been provided by Shell. This suggests that Shell has immensely contributed to the social and economic infrastructural development in host communities. Community development in Delta State has been enhanced through the financial support programme initiated by Shell, which have help address the social and economic challenges in some oil bearing communities in Delta state. through voluntary social investment portfolio. Ezerim (2015) observed that the pressure has paid-off as SPDC/USAID partnership to develop community cassava enterprises and also set up 68 small cassava processing mills into what is known as garri in Nigerian and six medium

capacity mills for cassava flour in nine states of Abia, Edo, Akwa Ibom, Delta, Bayelsa, Rivers, Enugu, Ebonyi and Cross River.. Each of the medium-sized mills has the capacity of a daily production of two tons of garri and two tons of odourless flour. The plan is to export odourless cassava flour after the local demand has been met. He also noted that Shell is in partnership with AFRICARE, they have launched an integrated malaria and health programme, distributing long-lasting, insecticide treated mosquito bed nets, making available Artemether and Lumefantrine combination therapy (ACT) drug treatment, and teaching people how to avoid being bitten by mosquitoes. These services have been established in 54 communities in Delta state (Mayuku, 2015). Shell has “improved the way it manages its relationships with communities which has contributed to social development in the region using Global Memoranda of Understanding (GMOU) (Omojola, 2009). He noted that SPDC has also increased its spending on oil bearing communities since the advent of local and international pressure. He is also in agreement with Mayuku (2015) to the extent that Shell have contributed copiously to Niger-Delta Development Commission, the government agency saddle with the responsibility of planning and implementing developmental programmes of oil bearing communities in the Niger-Delta.

## 5. CONCLUSION

From the forgoing analysis, there is no gainsaying that Shell’s CSR programmes have brought development that benefits many host communities, Shell’s CSR however, have positively impacted on the socio-economic wellbeing of host communities especially rural communities in Delta State. While the main social responsibility of business may be to increase profit, as Milton Friedman suggests, one cannot overlook the importance of how a business conducts itself in the context of the “rules of the game”. Organizations should obey the laws. At the same time, organizations should act ethically in the absence of set laws to mitigate any damage caused by their actions, both social and environmental. This triple bottom line, economic, social, and environmental which forms the basis of what is broadly termed Corporate Social Responsibility, has to be strictly adhered to by the business by observing two questions: “What is the potential impact of our operations on people and the environment?; and “If some degree of harm is unavoidable, what measures can be taken to minimize it? If these had been observed by Shell its operations in the Niger Delta would not have been subjected to pressure and criticism. The study recommends that the impact of socially responsible company should be measured by its effect on the community development, the paper recommends the strengthening of institutions of corporate social responsibility (CSR) codes of conduct, and a more regulated and controlled business environment.

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## THE ACCESS TO SERVICES OF GENERAL ECONOMIC INTEREST AS HUMAN RIGHT

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### ABSTRACT

*The concept of services of general economic interest (SGEI) was enshrined in the Treaty of Rome in Article 90 (2) of its original version. It remained unchanged until the current version introduced by the Treaty of Lisbon. The services that public authorities of the EU member countries classify as being of general interest are, therefore, subject to specific public service obligations. They can be provided either by the state or by the private sector. The article 106 (2) TUE shows the importance of SGEI's by preserving the possibility of subtracting them from the principle of free competition which underlies the entire economic law of the EU. These are very profitable, monopolistic or oligopolistic economic activities, with all the resulting risks. We are talking about electricity, gas, water, telecommunications, transport, postal services, among others. The importance of access to these SGEI's led to the concept of universal service, it means that the goods and services they produce are essential to citizens life and social welfare (general interest), and, therefore, they are very important to the accomplishment of human rights and safeguard the survival and dignity of citizens. It is in this context that the principle of banning social setbacks is particularly important. This study intends to reflect about the fundamental right of access to the services of general economic interest as an effective human right.*

**Keywords:** *accessibility principle, human right, SGEI, social setbacks, universal service*

### 1. INTRODUCTION

The theme for this research analyzes the importance of guarantee the citizens access to services of general economic interest (SGEI), in adequate conditions of quality, price and good conditions for use. This issue is quite important in UE Treaty and is one of the most sensitive question in discussion about SGEI. In fact, all European Directives, from Commission, try to impose this guarantee by introducing the concept of “universal service”. This is a true human right for all citizens in a modern welfare state, and it is fundamental for European project of construction a real Union based in economic and social cohesion (Anjos, 2016). The concept of a service of general economic interest (SGEI) originates from European Union law and applies to sectors such as energy, telecommunications, water, gas, postal services and transport (Anjos & Mimoso, 2018). These are sectors with high economic and profit potential, subject to rapid and demanding technological progress, which require a high capital investment and know-how (Anjos, 2016). These sectors play a key role for the whole economy and social life. That is why those companies or corporations who control SGEI control a large part of the markets, either directly or indirectly. These sectors are particularly demanding, so States often fail to ensure their smooth operation and development without resorting to partnerships with large multinational companies. These have the appropriate technical and scientific knowledge and the financial means to guarantee the operation of these services. The question, however, is to know: at what price and in what conditions of access?



Can these guarantees ensure universal access to these essential goods? Sometimes, the States invited multinational companies to celebrate foreign investment contracts or partnerships provide a unique opportunity for social progress for host States (Pérez, 2016), but also pose risks of capturing their people and governments by powerful economic agents operating in cartelized multinational markets. In a globalization context of the economy, this issue is even more important (Anjos & Mimoso, 2018). This research has its main focus in the objective of providing a universal service to all citizens in good conditions of access, equity and respect for the human right to access to SGEI. This study is intended to highlight the issue of citizens' rights and guarantees face to liberalized and competitive markets but, general rule, organized in the form of an oligopoly (Pego, 2007). In this context, the defense of the public service obligations' fulfillments is essential and is widely recognized by the European institutions (Anjos, 2016; Meilán-Gil, 2010). The question is what kind of public service obligations must be guaranteed by companies responsible for the SGEI? How can States assured the public utilities to the people? The research carried out focuses on the most relevant consequences for citizens' rights and guarantees, since we consider that access to SGEI's is a fundamental right of the human person. We appreciated doctrinal and jurisprudential production, trying to demonstrate the care to go through the main European authors of reference in the matter. Actually, for us this is not only an economic and social fundamental right but also an essential condition to guarantee all human rights. This is the contribution of this work.

## 2. THE SGEI CONCEPT

SGEI's are economic activities essential to the well-being of the population, both from the point of view of meeting individual needs as well as collective needs (ANJOS, 2016), such as energy, gas, water, postal services, telecommunications or transport. Relevant doctrine, the European Court of Justice (ECJ) and the European Institutions, consider all these services as "activities considered vital for citizens and for society as a whole" (Anjos, 2016). Within a community of countries as broad as the one we are part of, it's necessary to circumvent differences of conceptions and to find the "minimum common denominator" that can unite all around common goals. It's precisely in this context that we have included this important concept of service of general economic interest, which was enshrined in Article 90 (2), now Article 106 (2) of the Treaty of Lisbon (TFEU) in a careful, minimalist yet efficient reading that, perhaps because of it, has resisted intact in the successive revisions of the Treaty (Anjos, 2016). However, we can say that this concept is very close to the concept of public service, well known to the French, Italians, Portuguese and Spanish, or the public utilities of the Anglo Saxons countries (Anjos & Mimoso, 2019). The traditional concept of public service is complex, giving rise, over time, to important and enriching legal constructions, with particular emphasis on the French school, where it was actually considered by GASTON JÈZE as "basis stone of Administrative Law", true essence of the public power. The origin of the concept is commonly associated with LÉON DUGUIT and it was the source of many and very rich studies on Administrative Law (Anjos, 2016). Equal opportunities and fight against poverty demand, first and foremost, the access of all citizens to SGEI's, (electricity, water, gas, communications, etc.) in order to allow access to the minimum living conditions. Only in this way we will it guarantee access to education, information, work and professional, personal and family achievement. Without access to these services, there is no guarantee of equal opportunities, nor respect by the more essential human rights. That's why the EU, since the last decade of the XX century, has elected the guarantee of "universal service" as the fundamental basis of economic and social cohesion. Thus, the universal service guarantee means guaranteeing all European citizens access to SGEI's in conditions of equality, adequacy and affordability. The evolution of modern society depends, largely, on the technological evolution of these services, and its indispensability for the economic and social cohesion of the European peoples is now recognized. On them depends

the progress of the peoples (Arenhart, 2013) and their social welfare. These SGEI's are characterized by assuming an economic nature, awakening interest in the business market, having been subject to a strong liberalizing impulse. That is what has happened throughout the EU over the last twenty years, in which we have witnessed the privatization of electricity, gas, postal services, telecommunications, transport and, even, water. We can't forget that they are essential to the life of citizens, to their well-being and to their proper subsistence and their provision must be ensured in conditions of accessibility (price and quality). This last feature highlights the importance of defending the legitimate rights and guarantees of citizens as users or consumers of SGEI, in the face of all the powers that are strongly established in these sectors of activity. In fact, in all these sectors we have verified that the natural market form is, mainly, the monopoly (private or public), and sometimes the administrative concession (Anjos, 2016). When exposed to market liberalization, by legal means or, in the case of the EU, by economic policy decision for these sectors, we note that the market evolves to an oligopoly, and there it crystallizes. Conscious of this risk, the Green Paper on SGEI's expressly refers to the crucial importance of these services to the quality of life of European citizens and to the competitiveness of European companies and has defended the liberalization of these markets with caution, which means "the definition of universal service objectives pursued by the general interest." The numerous sectoral directives applicable to SGEI also frequently and recurrently refer to the universal service obligations inherent in these services, which are, after all, their greatest distinguishing feature. On the other hand, the European Court of Justice (ECJ) case-law, in its numerous judgments in this matter, is quite regular in its assessment of the possibility of applying the exception regime provided for in Article 106 (2) TFEU: the exception to competition may be acceptable for provide the fulfillment of the universal service or general interest obligations (Anjos, 2016). This explains why, in the EU, these sectors were named 'excluded sectors', that is, sectors where the principle of free competition can be estranged or excluded (Laguna de Paz, 2009). Whenever European Directives have excluded these services, they have done so to ensure citizens' accessibility to these services. But, it's true that, since the 90's of the XX century, the EU has taken the political decision to liberalize the SGEI's sectors. Several Directives about SGEI's (2000, 2001 and 2003 Directives) have imposed liberalization of the electricity, gas, telecommunications and other services as the same time they did imposed the universal service guarantee. So, the question is: how can we sustain this guarantee?

### **3. UNIVERSAL SERVICE GUARANTEE IN SGEI'S: THE PUBLIC SERVICE OBLIGATIONS**

The liberalization of these sectors and their subjection to the competition rules implied a strong regulatory intervention, fulfilling the idea that "more market, more rules". It is undeniable that the conquest of international markets for these sectors is of fundamental importance and it increases the access to important resources for these activities, it increases the number of consumers and the final profit of these companies. It may be, also, the way for economic and social development, for the elimination of poverty and social exclusion by increasing the accessibility of all citizens to these services. So, we face risks and opportunities. Because we are facing sectors that require a large continuous investment in modernization and technological progress, the size of the market is of the utmost importance for the profitability of these activities (Lopez-Muniz, 2000). On the consumers' side, their lives are greatly improved by access to these goods, enabling effective progress to be made to those who have access for the first time to electricity, gas, quality drinking water, affordable telecommunications, high quality in all other SGEI's. (Anjos & Mimoso, 2018). To answer the question of how we can guarantee the universal service, we must be aware that each Government must impose to the market operators some public service obligations to provide to citizens in conditions of accessibility, quality and suitability. This is the only way to do it.

It is up to the governments of each State to oversee compliance with of these public service obligations. They must be particularly demanding in this matter and to condition the granting of license's and operating authorizations for the scrupulous fulfilment of these public service obligations. In the event of non-compliance, substantial fines must be imposed on operators and, in the most serious cases, their operating license's, shall be withdrawn. In fact, it is logical to be so, and to do it we just need a firm and clear law, accompanied by a well-delineated model of regulation and oversight of each sector. These suggestions are very important for countries with problems of growth asymmetries. Emerging Continents and countries, in Africa, Asia, Latin America or South America, must pay attention to this process of controlling SGEI's markets. Like this on the one hand, it was intended to take advantage of the opportunity of the free initiative to explore these sectors, leveraging its modernization, a greater investment in the technological progress of these services and making everyone much more accessible to a greater number of citizens (Dony, 2006). Yet, on the other hand, the risk of market cartelization and the imposition of high prices and exclusion for a large number of people, led the Member States to strengthen the regulation of these markets (Nunes, 2015). This regulatory intervention, in the EU, takes place through the application of the Treaty rules but, above all, of the many Directives which have been issued on the various sectors in question and of the respective national laws regarding the different Member States which implement them. The States governments should also be concerned to regulate the operation of these sectors by strengthening the public service obligations to be imposed on investment firms in their countries in order to ensure a universal access to these SGEIs, by all its population, since we are talking about fundamental social rights. As we see, this was the simple and pragmatic reason that led to the establishment of the concept of services of general economic interest, which are at the heart of the European model of society and which is a source of inspiration for all other continents (Nunes, 2015). In this context, a ubiquitous guarantee in all sectors stands out, which is the guarantee the fulfillment of universal service obligations in the provision or supply of these goods and services. It is understood that there are social rights that must be considered as irreversible achievements of the social state of democratic law, including the right to services of general economic interest (Anjos, 2016). The universal service guarantee includes a set of obligations that service providers have to comply with, such as: the right of access to goods and services under conditions of equality and universal coverage (total coverage of the territory), the prohibition of any discrimination based on social, personal and territorial status (CE, 2011). We can say that the concept of universal service means a set of principles and obligations that certain services must fulfill in order to make them accessible to all citizens at appropriate prices and conditions (Anjos & Mimoso, 2018). However, the implementation of these principles requires that, by internal legislation, they effectively guarantee the legitimate rights of the user citizens regarding access to services of general economic interest, under conditions of universality. In our opinion, these are real fundamental rights of a social nature, rights of citizenship, which must be defended and protected.

#### **4. REGULATION OF SGEI'S: THE PROBLEM, THE ANSWER AND THE HARD REALITY**

The regulation of these sectors is, really, a great challenge. The problem is: who regulates who? How to choose the regulator? In this regard, we must not forget that these markets take on an enormous dimension, without natural or geographical borders, and have a clear international profile, which far exceeds the borders of each country. Therefore, market liberalization requires some intervention by the State to ensure the effective fulfillment of the public service obligations. So, the answer to both questions seems easy: we should regulate these sectors with good laws and transparency in public choice. But this answer leads to another question: what happens if the law displeases companies in the sector?

We know that in oligopoly it is the companies that dictate the rules. And the oligopolistic trend, typical of SGEI markets, compromises the great advantage of liberalization: better price and better quality of goods and services accessible to all citizens (Pego, 2007; Anjos, 2016). Added to all that has been exposed, there's the problem generated by globalization, which has generated in these sectors oligopolies of global dimension, true economic giants. Their economic power and influence facilitate the capture of governments and sector regulators. Economic theory itself tends to point to the theory of natural monopoly, the idea of destructive competition, and public-interest missions as grounds for exempting these services of general economic interest from the competition regime (Anjos, 2016). This benchmark raises some very important issues with regard to liberalization and the introduction of competition in these sectors with the possible entry of foreign investors. The scale of the problem in developing countries is very difficult, as there is no doubt that the governments of these countries have no power to face this problem. After to liberalize these sectors, in fact, they lose power over the investing companies, which are almost always multinationals with a great dimension. The States, in turn, need them to make progress in the living conditions of their citizens and the support structures of their economy, are in a position of need, of some discomfort, have little bargaining power to demand fair compensations and are able to guarantee progress at the best price. Many of these governments are virtually captured by the scarcity of resources and the economic power of investors (Anjos, 2016). The role of regulators is fundamental, but it is not easy, for the same reasons. So, the risk of the regulated impose the rules it wants is enormous. We need to understand that between economy and the rule of law must have an understanding and a connection that doesn't always exist. Often the good economic theory, abstract and disconnected from the political and social reality, generates more problems than solutions. The power of SGEI's suppliers is so great that it can bring down governments, sow economic, social and political chaos. Simply suspend or disturb the regular functioning of goods and services to the population, for a short period of time, can generate a chaotic situation. At these moments the rule of law fails, and the economic power plays the game he wants to play. So, the rules of the game have to be imposed first of all. The rules we need are, precisely, the public service impositions to the corporations exploring the SGEI's. It is possible to take profit with these services and respect it's social interest. We call this: justice.

## **5. THE PROTECTION OF CITIZENS RIGHT TO ACCESS SGEI'S**

The problem of guaranteeing universal service has led us, as we can see, to a complex issue of an economic, social and political nature. In fact, we have to ensure efficiency in the production of the goods and services designated by SGEI's, the universal access of all citizens to these goods and services and a high degree of satisfaction of citizens who, on a democratic basis, have the right to elect their representatives. This is a very sensitive matter. The role of regulating entities should be decisive in order for this investor-recipient relationship to be fair and balanced. First of all, imposing rules which reduce the risk of market cartelization and imposing appropriate penalties for non-compliance. On the other hand, they can and should establish rules of transparency and publicity of procedures that avoid or reduce the risks of the regulator by those regulated. They can also establish clear rules to avoid the risk of transferring the social costs imposed by universal service to the middle class, impoverishing the country. The middle class ends up being the big funder of the universal service, since the oligopoly turns what should be a cost of the business into income for its own benefit. The risk of impoverishment of the middle classes has been evident in the EU countries (CE, 2011) since 2008 crises.

## **6. CONCLUSIONS**

It's possible to conclude that the basis for the concept of general economic interest is to defend the human right of citizens in access to the essential goods and services that characterize these

activities. In this sense, we understand that the spectrum of the sectors of activity that some of the member countries classified as economic public services has not been reduced, but that this reality has been adapted to the objectives of achieving a fair balance between the market and the general interest of citizens. In the case of the SGEI, the relevant market, after a liberalization process, tends to be oligopolistic. As follows, oligopoly, by its very nature, is a catching market: it captures the consumers, the governments and the regulators, resulting in widespread capture of the market. So, we must to fight against this capture. There is a clear link between the concept of SGEI and the traditional concept of public service to citizens, which the doctrine of southern Europe has elevated to a place of great importance in its legal system. It is impossible to resist the charms of the strongest doctrines that have been formulated around this traditional and deeply structuring in the conception of a democratic state of law in a great part of the European Union countries. This is a good model to the other countries all over the world, if we really want to fight against poverty. We can say that the concept of SGEI corresponds to a meeting point, a common denominator, between two slightly different perspectives on the subject that allowed overcoming the conceptual differences around the welfare state objective. Thus, we conclude that this general framework, which we could designate as a statute or a code of rights and guarantees for the citizen users, should integrate and concentrate, in a systematized and clear way, a fundamental core of rights and guarantees. First of all, we must guarantee the right of access and provision to these services, with quality and as a universal service. It isn't enough to regulate. It is necessary to recognize in the Constitution of each State the fundamental right to access to SGEI's with the dignity of human right.

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# FORECASTING EXCHANGE RATES IN THE PROCESS OF THE ASSESSMENT OF CONSUMER RISK BANKRUPTCY IN CENTRAL EUROPE

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## ABSTRACT

*This paper focuses on the issue of forecasting the fluctuation of exchange rates as part of the early warning system against the risk of consumer bankruptcy. The author identified the main macroeconomic factors affecting the level of bankruptcies for households in Poland. The fluctuation of exchange rates, which directly affects the deterioration of the economic situation of borrowers who have opened credit accounts in a foreign currency and indirectly affects the cost of living of all consumers in the country, is one of the significant macroeconomic factors. That is why the main objective of the presented research is to investigate the effectiveness of fuzzy sets in predicting the volatility of two currency pairs (PLN/CHF and PLN/USD). The models created will be part of a system of models aimed at forecasting the risk of consumer bankruptcy in Poland. The results demonstrate the high predictive properties of fuzzy sets in forecasting the volatility of analyzed currency pairs.*

**Keywords:** *consumer bankruptcy, early warning system, exchange rates, forecasting, fuzzy sets*

## 1. INTRODUCTION

Consumer bankruptcy has been a significant problem in many countries all over the world. Typically, studies devoted to forecasting the risk of consumer insolvency either focus on the analysis of macroeconomic determinants of nonperforming loans (NPLs) in the country or the microeconomic analysis of risk insolvency for individual households using the demographic and behavioral factors of consumers. In a majority of the studies that investigate the factors affecting the scale of bankruptcies in households in the economy, the macroeconomic determinants are mainly used as explanatory variables. Berge and Boye (2007) state that NPLs depend on real interest rates and the unemployment rate, while Rinaldi and Sanchis-Arellano (2006) proved that disposable income, the unemployment rate and monetary conditions have a strong influence on households' bankruptcies. Similarly, Espinoza and Prasad (2010) and Kauko (2012) found that NPLs are affected by interest rates, along with fiscal and external deficits. Beck et al. (2015) estimated that the most significant factors affecting the scale of consumer insolvencies are GDP growth, interest rates and the exchange rate. Messai (2013) also proved that GDP growth, the unemployment rate and real interest rates have significant influences on NPLs. Ozili (2015) revealed the correlation between NPLs and the stages of the business cycle, while Baboucek and Jancar (2005) investigated economic developments in the Czech banking sector through unemployment, real GDP growth, exports, imports, the real effective exchange rate, and the inflation rate as indicators of NPLs. Quagliariello (2003) presents a regression between the evolution of NPLs as a dependent variable and a set of explanatory variables for the case of Italy. This study revealed that decreasing real GDP growth, increasing unemployment, the real exchange rate and the consumer price index have a significant effect on loan portfolio quality. Another branch of the literature focuses on forecasting the risk of consumer bankruptcy with the use of microeconomic factors. Most of the authors use the following determinants (for example, Aristei and Gallo, 2016; Diaz-Serrano, 2005; Ghent and Kudlyak, 2011; Guiso, Sapienza and Zingales, 2013; Haughwout, Okah and

Tracy, 2009; Hira, 2012; Jackson and Kaserman, 1980; Patel, Balmer and Pleasence, 2012; Worthington, 2006): age, education level, sex, income level, mortgage expenditures, mortgage length, marital status, number of dependents, employment status, credit card expenditures, number of credit cards, and value of assets. Despite an exhaustive body of research on forecasting models for consumer bankruptcy, these studies have mainly focused on either the macro or the micro level. No studies have been devoted to the combination of macroeconomic factors with the demographic and behavioral determinants of consumers in the forecasting process of bankruptcy risk in households. We should not forget that every household operates in a macro- and microenvironment. The use of microeconomic factors alone forces a focus on the interior of the analyzed household and ignores the impact of the individual elements of the environment in which the household operates in the process of forecasting the risk of bankruptcy. Thus, these are models for forecasting the effect, not cause and effect. Currently, this approach seems to be strongly deprecated. To fill this gap, the main objective of this research is to develop the fuzzy sets models for forecasting the exchange rates that have direct and indirect influence on the economic situation of consumers. The underlying assumption of this research is based on the consideration of macroeconomic factors which affect the future financial position of households, and attempts to forecast them. Such a system will enable the prediction of not only the effect, namely, the bankruptcy of the consumer, but the very reasons affecting the bankruptcy, or - in some cases - even causing it, like exchange rates. This study seeks to contribute to the existing literature in several ways. First, it develops two fuzzy set models for forecasting two currency pairs – PLN/CHF and PLN/USD. Second, it verifies the effectiveness of fundamental analysis in the prediction of exchange rates. Third, it investigates the differences between the use of the terms "model" and "system" in bankruptcy risk forecasting. Fourth, it presents an open application that can be easily updated and adopted for the reader's needs. The paper consists of seven sections. In the Introduction, the study objectives and the contributions and innovations to the literature are justified. Section 2 presents the concept of an early warning system against the risk of bankruptcy in households. Section 3 is devoted to a literature review on the methodology of exchange rate forecasting. Section 4 introduces this study's assumptions. Section 5 presents exchange rate forecasting models. Section 6 concludes the paper, and in Section 7, the bibliography is presented.

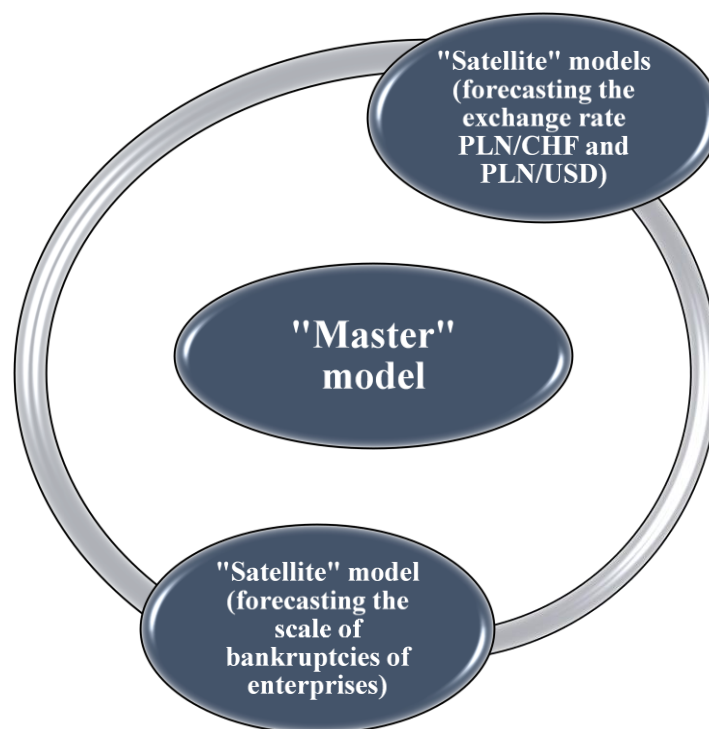
## 2. AN EARLY WARNING SYSTEM

An important aspect in analyzing the risk of consumer bankruptcy is to distinguish between a model and a system for early warning against such risk. In the literature concerning the forecasting of corporate and consumer bankruptcy, the terms "model" and "system" for early warning are often interchangeable. According to the author of this article, the bankruptcy prediction model is a function<sup>1</sup> of explanatory variables which describe the link between the explained variable and explanatory variables, and whose parameters are determined based on statistical data. Most bankruptcy prediction models are based only on the indicators of the entities. On the other hand, an early warning system should signal a threat from both the analyzed consumer/enterprise, as well as its environment. In the author's opinion, this should be a system that not only monitors the current economic situation but also identifies those environmental variables which may directly or indirectly endanger the consumer. Taking this conclusion into account, the author develops an early warning system proposal against the threat of consumer bankruptcy (Figure 1). The distinguishing feature of this attempt at system implementation is its multicriterion and multifactor characteristic. The underlying assumption is based on the consideration of macroeconomic factors that affect the future risk of consumer bankruptcy and the attempt at forecasting this. Such a system will enable the prediction of not only the effect, namely, bankruptcy of the household, but also the very reasons affecting the

<sup>1</sup> When using parametric methods (e.g., discriminant analysis model and probit / logit model).



bankruptcy, or—in some cases—even causing it (e.g., exchange rates, unemployment rate). There are three “satellite” models and one “master” model. The task of the first two “satellite” models is to forecast the fluctuation of two currency pairs – PLN/CHF and PLN/USD (the objective of this paper). The aim of the third “satellite” model will be forecasting the risk of bankruptcy for enterprises in the country. The idea behind this is that an increase in the number of bankruptcies of firms causes an increase in the unemployment rate, which in turn can alter the risk of consumer insolvencies. Finally, the objective of the “master” model, using the demographic and behavioral variables of consumers, will be to estimate the consumer bankruptcy forecasting risk. The results of “satellite” models will affect the final forecast of the “master” model. The presented concept of an early warning system (Figure 1) should allow the prediction of the risk of consumer bankruptcy, and forecast some of the causes of increased/decreased risk of insolvencies of households in Poland.



*Figure 1: Proposal of an early warning system scheme for consumer risk bankruptcy*

### 3. EXCHANGE RATE FORECASTING

There are two main approaches to forecasting exchange rates found in the literature:

- 1) The majority of research efforts are devoted to standard models, where volatility is a key parameter with time-dependent conditional heteroskedasticity. These models belong to the well-known ARCH (autoregressive conditional heteroskedasticity) and GARCH (generalized autoregressive conditional heteroskedasticity) approaches initiated by Engle (1982) and Bollerslev (1986). The ARCH/GARCH framework proved to be successful in predicting volatility changes. Those models describe the time evolution of the average size of squared errors, that is, the evolution of the magnitude of uncertainty according to Engle, Focardi and Fabozzi (2007). Despite the empirical success of ARCH/GARCH models, there is no real consensus on the economic reasons as to why uncertainty tends to cluster. Thus, models tend to perform better in some periods and worse in others. An example of such research was conducted by Brandt and Jones (2006) and shows that there is substantial predictability in volatility at horizons of up to 1 year, which contrasts with earlier studies

such as West and Cho (1995) and Christoffersen and Diebold (2000), both of which conclude that volatility predictability is essentially a short horizon phenomenon. Additionally, the application of ARCH models may be problematic according to Lamoreux and Lastrapes (1990) since ARCH estimates are heavily affected by structural changes.

- 2) Less popular models are the ones that use fundamental analysis. They are based on the demand and supply of domestic currency, compared with a foreign currency. The following factors are the most common listed in the literature (for example, Yuan, 2011; Madura, 1998):
  - a) relative inflation rates - changes in relative inflation rates can affect international trade, which influences the demand and supply of currencies, and therefore affects exchange rates. A higher inflation rate in country A than in country B will cause the increase of cheaper product imports from B to A (*ceteris paribus*<sup>2</sup>). This will result in higher demand for the currency of country B. At the same time, a higher relative inflation rate in country A will lead to the reduction of its currency supply as the export of products will decrease in such circumstances. The higher demand and smaller supply of country A's currency will lead to the appreciation of country B's currency. Such findings are consistent with the conclusions derived from previous studies, for example, Parsley and Wei (2007) and Qiu, Pinfold and Rose (2011);
  - b) relative interest rates - changes in relative interest rates affect the investment in securities which influence the demand and supply of currencies. Higher relative interest rates in country A will lead to higher supply of currency of country B in exchange for currency of country A, as investments in securities in country A will be more profitable for investors (*ceteris paribus*). On the other hand, the demand for currency B should decrease due to less profitable securities. The increase of supply and the decrease of demand for country B's currency will cause its depreciation. Gruen and Wilkinson (1994) find that the real interest rate differential is qualitatively more important than the balance of trade in forecasting the exchange rate. Similar conclusions can be found in recent studies conducted by Chen (2007).
  - c) gross domestic product - the country characterized by large GDP growth should attract foreign investors wanting to use the profit opportunities in such an economy. The booming economy of country A would lead to higher demand for its currency (*ceteris paribus*) and influence its appreciation. Bergvall (2004) reports GDP to have significant influence on the exchange rate.
  - d) trade balance - as exports and imports are the elements of GDP, the assumption will be connected to the one above. Increasing the exports of country A means that the demand for its currency is increasing, causing its appreciation. Increasing the imports, however, is the opposite and will lead to the depreciation of the currency due to the higher supply of currency from the import country (*ceteris paribus*).
  - e) income level – a higher GDP accompanies a higher income level. However, high-income societies tend to increase the demand for imported goods. In this assumption, the growth of the income level in the country will lead to the depreciation of its currency (*ceteris paribus*) due to higher imports. Miyakoshi (2003) reveals that the variation in the exchange rate is attributable to the productivity and income level.

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<sup>2</sup> In reality, the actual demand and supply of currency depends on several factors simultaneously. The point of holding all other factors constant is to logically present the mechanics as to how each individual factor influences the exchange rates. Each factor, assessed one at a time, allows the description of the separate influences of each factor on the exchange rates. Then, all factors can be tied to the forecasting model.

#### 4. METHODOLOGY, DATA AND VARIABLES

The objective of the conducted research is to evaluate the effectiveness of fuzzy sets in forecasting the fluctuations of two currency pairs (PLN/CHF and PLN/USD). The data set consists of monthly exchange rates for eight years – from January 2010 to December 2017. The entry variables used in the models consist of economic data for three countries (Switzerland, USA and Poland). Table 1 presents the main research assumptions for the entry variables.

Entry variable	Thresholds for membership function
X1: Growth rate of GDP of Poland for both models	Value ranges: -4% to +4%: -decrease (“DEC”): less than -0.5% -steady (“STD”): from -1.5% to +1.5% -increase (“INC”): more than 0.5%
X2: Relative real interest rate between Poland and Switzerland (in case of model of PLN/CHF), Poland and USA (in case of model of PLN/USD)	Value ranges: from -4 percentage points (p.p.) to +4 p.p.: -negative (“NEG”): less than 0 p.p. -average (“AVG”): from -2 p.p. to +2 p.p. -positive (“POS”): more than 0 p.p.
X3: Relative inflation rate between Poland and Switzerland (in case of model of PLN/CHF), Poland and USA (in case of model of PLN/USD)	Value ranges: from -5 p.p. to +5 p.p.: -decrease (“DEC”): less than 0 p.p. -steady (“STD”): from -2 p.p. to +2 p.p. -increase (“INC”): more than 0 p.p.
X4: Growth rate of trade balance in Poland for both models	Value ranges: from -10% to +10%: -decrease (“DEC”): less than 0% -steady (“STD”): from -3.5% to +3.5% -increase (“INC”): more than 0%
X5: Growth rate of income level in Poland for both models	Value ranges: from -10% to +10%: -decrease (“DEC”): less than -1.5% -steady (“STD”): from -3% to +3% -increase (“INC”): more than 1.5%
X6: Dynamics of retail sales in Poland for both models	Value ranges: from 80% to 120%: -decrease (“DEC”): less than 100% -steady (“STD”): from 95% to 105% -increase (“INC”): more than 100%

*Table 1: Entry variables to the model and their threshold values*

The models are developed with the use of fuzzy sets and are based on sets of rules written by the author in the form of IF-THEN, where expert knowledge is stored. Forecasting exchange rates is often uncertain and vague as the movement of the exchange rate is affected by many factors (economic, political, psychological, etc.) that cannot be precisely and unambiguously defined. Moreover, fuzzy sets provide an appropriate tool for modeling this imprecise, uncertain and ambiguous phenomenon (due to the limited size of this paper, for more information about the methodology of fuzzy sets, see Zadeh, 1965; and Zadeh, 2008). For each entry variable to the model, the author identified three fuzzy sets and their corresponding membership functions. The fuzzy sets and the thresholds for all membership functions are presented in Table 1. The output of the model is a variable representing the forecast of movement of the exchange rate. This variable has a value from -15% to +15% (Figure 2). Negative values represent the depreciation of PLN against the analyzed currency (CHF or USD), and positive values mean appreciation of PLN against these currencies. There are five membership functions defining the output variable (Figure 2):

- “high\_dep” – this function represents high depreciation,
- “dep” – this function defines average or small depreciation,
- “steady” – it shows the stable situation at the market with no significant volatility,
- “appr” – this function represents average or small appreciation,
- “high\_appr” – this function represents intensive appreciation.

The author has arbitrarily set fuzzy sets and the shape of membership functions for both entry variables and the output variable.

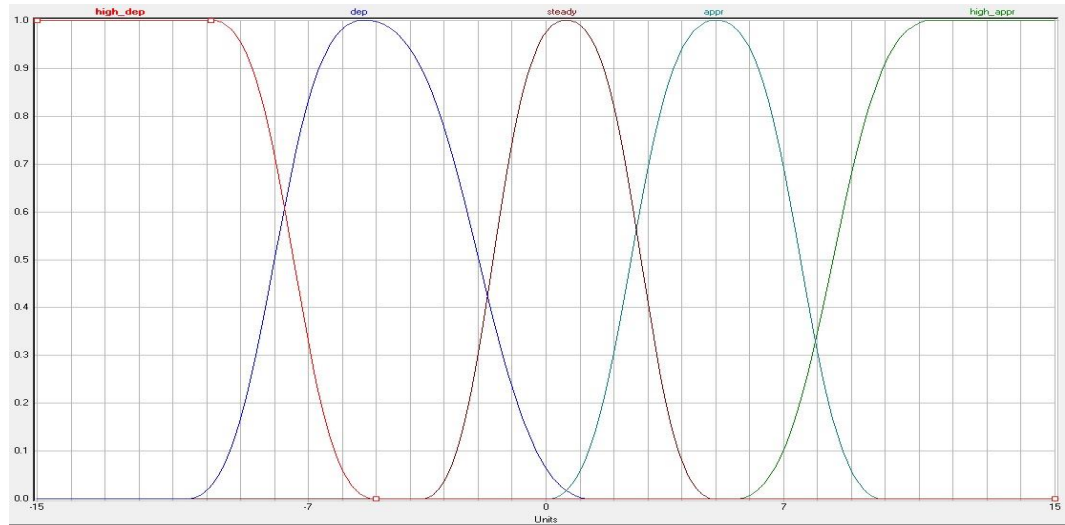


Figure 2: Defined membership functions for output variable

## 5. RESULTS

Both models consist of 108 IF-THEN rules and include all six entry variables consistent with range values for specific membership functions given in Table 1. An example of 25 rules is given below (for interested readers, the author can send a complete set of rules):

1. If ( $X_1$  is INC) and ( $X_2$  is POS) and ( $X_3$  is DEC) and ( $X_4$  is INC) and ( $X_5$  is DEC) and ( $X_6$  is INC) then (OUTPUT is high\_appr)
2. If ( $X_1$  is INC) and ( $X_2$  is POS) and ( $X_3$  is STD) and ( $X_4$  is INC) and ( $X_5$  is STD) and ( $X_6$  is INC) then (OUTPUT is high\_appr)
3. If ( $X_1$  is INC) and ( $X_2$  is POS) and ( $X_3$  is STD) and ( $X_4$  is STD) and ( $X_5$  is DEC) and ( $X_6$  is STD) then (OUTPUT is high\_appr)
4. If ( $X_1$  is INC) and ( $X_2$  is POS) and ( $X_3$  is DEC) and ( $X_4$  is DEC) and ( $X_5$  is INC) and ( $X_6$  is INC) then (OUTPUT is high\_appr)
5. If ( $X_1$  is INC) and ( $X_2$  is POS) and ( $X_3$  is STD) and ( $X_4$  is DEC) and ( $X_5$  is STD) and ( $X_6$  is STD) then (OUTPUT is high\_appr)
6. If ( $X_1$  is INC) and ( $X_2$  is AVG) and ( $X_3$  is DEC) and ( $X_4$  is STD) and ( $X_5$  is DEC) and ( $X_6$  is INC) then (OUTPUT is appr)
7. If ( $X_1$  is INC) and ( $X_2$  is AVG) and ( $X_3$  is STD) and ( $X_4$  is INC) and ( $X_5$  is STD) and ( $X_6$  is INC) then (OUTPUT is appr)
8. If ( $X_1$  is INC) and ( $X_2$  is AVG) and ( $X_3$  is DEC) and ( $X_4$  is STD) and ( $X_5$  is STD) and ( $X_6$  is STD) then (OUTPUT is appr)
9. If ( $X_1$  is STD) and ( $X_2$  is POS) and ( $X_3$  is DEC) and ( $X_4$  is STD) and ( $X_5$  is STD) and ( $X_6$  is INC) then (OUTPUT is appr)
10. If ( $X_1$  is STD) and ( $X_2$  is POS) and ( $X_3$  is DEC) and ( $X_4$  is STD) and ( $X_5$  is DEC) and ( $X_6$  is INC) then (OUTPUT is appr)
11. If ( $X_1$  is STD) and ( $X_2$  is AVG) and ( $X_3$  is STD) and ( $X_4$  is STD) and ( $X_5$  is STD) and ( $X_6$  is STD) then (OUTPUT is steady)
12. If ( $X_1$  is STD) and ( $X_2$  is AVG) and ( $X_3$  is DEC) and ( $X_4$  is STD) and ( $X_5$  is STD) and ( $X_6$  is INC) then (OUTPUT is steady)
13. If ( $X_1$  is STD) and ( $X_2$  is AVG) and ( $X_3$  is DEC) and ( $X_4$  is STD) and ( $X_5$  is INC) and ( $X_6$  is STD) then (OUTPUT is steady)

14. If ( $X_1$  is STD) and ( $X_2$  is AVG) and ( $X_3$  is STD) and  $X_4$  is STD) and ( $X_5$  is INC) and ( $X_6$  is DEC) then (OUTPUT is steady)
15. If ( $X_1$  is STD) and ( $X_2$  is AVG) and ( $X_3$  is STD) and  $X_4$  is INC) and ( $X_5$  is STD) and ( $X_6$  is DEC) then (OUTPUT is steady)
16. If ( $X_1$  is STD) and ( $X_2$  is AVG) and ( $X_3$  is INC) and  $X_4$  is DEC) and ( $X_5$  is INC) and ( $X_6$  is STD) then (OUTPUT is dep)
17. If ( $X_1$  is DEC) and ( $X_2$  is AVG) and ( $X_3$  is INC) and  $X_4$  is DEC) and ( $X_5$  is INC) and ( $X_6$  is DEC) then (OUTPUT is dep)
18. If ( $X_1$  is DEC) and ( $X_2$  is AVG) and ( $X_3$  is INC) and  $X_4$  is STD) and ( $X_5$  is INC) and ( $X_6$  is DEC) then (OUTPUT is dep)
19. If ( $X_1$  is DEC) and ( $X_2$  is NEG) and ( $X_3$  is STD) and  $X_4$  is STD) and ( $X_5$  is INC) and ( $X_6$  is DEC) then (OUTPUT is dep)
20. If ( $X_1$  is DEC) and ( $X_2$  is NEG) and ( $X_3$  is STD) and  $X_4$  is DEC) and ( $X_5$  is STD) and ( $X_6$  is STD) then (OUTPUT is dep)
21. If ( $X_1$  is DEC) and ( $X_2$  is NEG) and ( $X_3$  is INC) and  $X_4$  is DEC) and ( $X_5$  is INC) and ( $X_6$  is DEC) then (OUTPUT is high\_dep)
22. If ( $X_1$  is DEC) and ( $X_2$  is NEG) and ( $X_3$  is INC) and  $X_4$  is STD) and ( $X_5$  is DEC) and ( $X_6$  is STD) then (OUTPUT is high\_dep)
23. If ( $X_1$  is DEC) and ( $X_2$  is NEG) and ( $X_3$  is INC) and  $X_4$  is STD) and ( $X_5$  is STD) and ( $X_6$  is STD) then (OUTPUT is high\_dep)
24. If ( $X_1$  is DEC) and ( $X_2$  is AVG) and ( $X_3$  is INC) and  $X_4$  is DEC) and ( $X_5$  is DEC) and ( $X_6$  is DEC) then (OUTPUT is high\_dep)
25. If ( $X_1$  is DEC) and ( $X_2$  is AVG) and ( $X_3$  is INC) and  $X_4$  is DEC) and ( $X_5$  is STD) and ( $X_6$  is DEC) then (OUTPUT is high\_dep)

The out-of-sample test results of the created models are presented in Table 2 (forecasted monthly fluctuations of PLN/CHF) and Table 3 (forecasted monthly fluctuations of PLN/USD). In the case of the fuzzy sets model for predicting the volatility of PLN/CHF, the mean absolute error (MAE) equals 0.4956%, while the mean absolute percentage error (MAPE) equals 29.47%. The model forecasting the monthly fluctuations of PLN/USD performed much better, where the MAE equals 0.3952% and the MAPE equals 18.39%. The worst result of the model predicting the movements of PLN/CHF was caused by the decision of the Central Bank in Switzerland in January 2015 to scrap the swiss franc's peg to the euro. In Table 2, this can be clearly seen in the first two months of 2015. We have to remember that created models are based on economic (fundamental) factors only. It is not possible to predict other aspects such as political, psychological or speculative aspects. Nevertheless, it is worth noting that both models performed outstandingly well in other periods. In the entire analyzed period, both models always predicted the depreciations and appreciations well, according to the real trend. There were no cases in which the real movement of currency was the opposite of the prediction.

*Table following on the next page*

Fluctuation	Real	Forecasted	Fluctuation	Real	Forecasted	Fluctuation	Real	Forecasted	Fluctuation	Real	Forecasted
2010	I		I	3,15%	3,34%	I	-2,88%	-2,45%	I	-1,26%	-1,40%
	II	2,97%	II	1,16%	1,40%	II	1,46%	1,34%	II	-0,75%	-1,10%
	III	-0,37%	III	0,88%	1,25%	III	0,29%	0,45%	III	3,08%	2,75%
	IV	-1,46%	IV	-1,44%	-1,00%	IV	-0,87%	-1,14%	IV	-2,26%	-1,90%
	V	-3,86%	V	-4,93%	-4,20%	V	1,78%	2,05%	V	0,51%	0,29%
	VI	-6,56%	VI	3,40%	3,10%	VI	-0,88%	-0,01%	VI	-2,94%	-2,50%
	VII	3,39%	VII	2,92%	2,50%	VII	0,29%	0,55%	VII	1,49%	1,30%
	VIII	-3,91%	VIII	0,88%	1,20%	VIII	-2,30%	-2,00%	VIII	1,26%	0,92%
	IX	2,68%	IX	0,29%	0,80%	IX	0,58%	0,87%	IX	0,76%	0,45%
	X	3,46%	X	-0,59%	-1,00%	X	-0,86%	-0,43%	X	-1,25%	-1,50%
	XI	-4,93%	XI	0,29%	0,40%	XI	0,58%	0,90%	XI	-2,44%	-2,10%
	XII	-3,49%	XII	0,89%	0,80%	XII	-2,80%	-2,50%	XII	-0,49%	-0,30%
2011	I	3,96%	I	0,30%	0,23%	I	-13,77%	-3,50%	I	1,73%	1,30%
	II	-2,57%	II	-1,18%	-2,00%	II	6,70%	3,24%	II	0,50%	0,30%
	III	0,65%	III	-0,87%	-1,40%	III	-0,77%	-0,52%	III	1,77%	1,62%
	IV	0,65%	IV	1,18%	1,90%	IV	0,51%	0,20%	IV	1,54%	1,29%
	V	-5,83%	V	0,59%	0,70%	V	-2,75%	-1,90%	V	1,57%	1,31%
	VI	-2,69%	VI	-3,99%	-3,20%	VI	-0,50%	-0,32%	VI	-1,03%	-0,78%
	VII	-4,01%	VII	1,74%	1,40%	VII	2,81%	2,10%	VII	4,59%	2,90%
	VIII	-1,69%	VIII	-0,58%	-0,80%	VIII	0,26%	0,30%	VIII	-0,54%	-0,23%
	IX	-2,20%	IX	0,87%	0,52%	IX	1,30%	1,10%	IX	-0,27%	-0,49%
	X	2,25%	X	1,78%	1,62%	X	-2,04%	-1,72%	X	1,91%	1,23%
	XI	-3,79%	XI	-0,88%	-1,10%	XI	0,51%	0,30%	XI	1,67%	1,34%
	XII	2,50%	XII	1,19%	1,01%	XII	-0,51%	-0,39%	XII	0,84%	0,59%

Table 2: Monthly fluctuations of PLN/CHF (real vs. forecasted)

Fluctuation	Real	Forecasted	Fluctuation	Real	Forecasted	Fluctuation	Real	Forecasted	Fluctuation	Real	Forecasted
2010	I		I	7,19%	6,29%	I	-1,95%	-2,23%	I	-5,15%	-5,94%
	II	1,04%	II	4,58%	3,78%	II	1,66%	1,89%	II	2,51%	3,05%
	III	1,40%	III	-1,92%	-1,15%	III	-0,33%	-0,45%	III	6,99%	7,41%
	IV	-3,06%	IV	-0,64%	-0,52%	IV	-0,33%	-0,43%	IV	-2,36%	-2,94%
	V	-10,91%	V	-9,25%	-7,89%	V	-0,33%	-0,41%	V	-3,54%	-3,95%
	VI	-0,60%	VI	1,76%	1,25%	VI	0,33%	0,41%	VI	-0,50%	-0,59%
	VII	7,79%	VII	-1,16%	-1,50%	VII	-1,62%	-1,51%	VII	0,51%	0,42%
	VIII	-1,91%	VIII	3,30%	3,02%	VIII	-3,44%	-3,09%	VIII	1,54%	1,21%
	IX	8,28%	IX	4,06%	3,78%	IX	-2,44%	-2,71%	IX	1,83%	2,21%
	X	2,11%	X	-0,31%	-0,20%	X	-2,67%	-2,92%	X	-3,05%	-3,54%
	XI	-6,58%	XI	1,90%	1,45%	XI	0,90%	1,15%	XI	-5,29%	-6,21%
	XII	-0,33%	XII	1,61%	1,49%	XII	-4,84%	-5,23%	XII	-1,65%	-1,51%
2011	I	7,39%	I	0,32%	0,29%	I	-5,39%	-6,10%	I	4,44%	5,31%
	II	-1,39%	II	-1,90%	-1,70%	II	0,27%	0,20%	II	-0,49%	-0,39%
	III	0,70%	III	-3,37%	-3,80%	III	-1,60%	-2,10%	III	4,09%	4,42%
	IV	7,12%	IV	3,49%	3,01%	IV	3,30%	3,82%	IV	1,03%	1,32%
	V	-2,20%	V	-3,67%	-3,21%	V	-3,45%	-4,15%	V	4,31%	4,99%
	VI	-0,36%	VI	-1,21%	-1,60%	VI	1,07%	1,19%	VI	0,27%	0,21%
	VII	-1,08%	VII	4,09%	3,45%	VII	-1,06%	-1,29%	VII	2,21%	2,50%
	VIII	-3,48%	VIII	0,63%	0,55%	VIII	0,27%	0,31%	VIII	1,97%	1,65%
	IX	-10,59%	IX	1,28%	1,02%	IX	0,27%	0,29%	IX	-3,53%	-3,21%
	X	-1,23%	X	2,63%	2,21%	X	-3,60%	-3,23%	X	1,10%	1,40%
	XI	-4,69%	XI	-1,62%	-2,01%	XI	-3,47%	-4,05%	XI	2,54%	2,21%
	XII	-0,58%	XII	2,66%	2,91%	XII	4,13%	4,84%	XII	2,01%	2,48%

Table 3: Monthly fluctuations of PLN/USD (real vs. forecasted)

## 6. CONCLUSIONS

This paper empirically investigates the effectiveness of fuzzy sets in predicting the volatility of two currency pairs. The recent global financial crisis was characterized by the increase in nonperforming loans in most countries around the world. A rising share of nonperforming credits in bank portfolios signified the risks affecting both the liquidity and profitability of banks. Moreover, it has caused the increased risk of consumer bankruptcies in many countries. Many economists called nonperforming loans “financial pollution” due to their strong, negative economic consequences on consumers, banks, and even whole economies. The author of this paper identified that the fluctuation of exchange rates is one of the important factors that have

direct and indirect influence on the economic situations of households. By forecasting the unfavorable movements of exchange rates in advance, both banks and households can better evaluate the future creditworthiness of consumers. Fuzzy set models can be created and used as supportive tools in the bankruptcy risk assessment of households. The obtained results show the excellent forecasting abilities of fuzzy sets. It should also be emphasized that the models presented are in the form of “open source”. Readers can use them in the current form, but can easily modify them for their own needs (for example, by using the formulated IF-THEN rules but modifying the values of membership functions to the appropriate ranges for their own currency pairs, such as USD/EUR, USD/ARS and USD/MXN).

**ACKNOWLEDGEMENT:** *This work has been prepared within grant project No. 2017/25/B/HS4/00592, "Forecasting the risk of consumer bankruptcy in Poland." Research is funded by the National Science Centre in Poland (Narodowe Centrum Nauki).*

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## UNIDROIT PRINCIPLES IN INTERNATIONAL TRADE CONTRACTS' REGULATION

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### ABSTRACT

*International trade has been facing a globalization process, which caused the inoperativeness of state laws in the field of business's dynamics. It soon became necessary to create a range of rules to regulate these kind of relations. Firstly, merchants began to regulate them through habits and practices, that took roots over the years, in each market sector (lex mercatoria). After the first world war, there were several attempts to create a harmonized normative system, which would control international trade contracts. One of the main institutions that has widely contributed to the harmonization and unification of the commercial law is, undoubtedly, the UNIDROIT Institute, through its principles, which had been improved and completed throughout time, applying its rules to several legal systems. This research intends not only to describe the importance of these principles but also to demonstrate its contribution to international trade and explain the reason for its success. Moreover, the upgrades introduced in the last version (2016) will be mentioned. At last, we will focus on the legal nature of these principles.*

**Keywords:** *globalization, International Trade, Lex mercatoria, uses and customs, UNIDROIT*

### 1. INTRODUCTION

International contracts imply relationships established between different legal operator systems, and this implies a conflict of laws in space. Given this reality, it must be ascertained that the law is applicable to contractual relations connected with different legal systems. We can not ignore the sources of private international law. We will have to determine the legal complexity that regulate better because of the dynamics of these relationships and their specificities. To determine the most suitable law, many non-governmental entities have contributed, assuming a central role in the harmonization and unification of International Trade Law. In this sense, we will highlight the UNIDROIT institute. UNIDROIT Principles of International Commercial Contracts are an instrument to overcome the unpredictability of the law applicable to contracts made between traders from different states, and it justifies to underline their contribution to the discipline of international trade agreements.

## 2. THE EVOLUTION OF THE UNIDROIT PRINCIPLES

In medieval times, the uses and commercial customs, had mechanisms to avoid the application of the feudal rights of the time, these were ill-adapted to the dynamics of international trade. Thus was born the *Lex mercatoria*. (Sweet & Grisel, 2017). Its origin is essentially linked to the development of international maritime trade. We can not fail to point out the contribution of the main ports of the time, which are real commercial centers that stimulate international contractual relations (Junior & Oliveira, 2003) and (Oliveira, 2017). The universal and transversal character of *Lex mercatoria* is based on the communication between the merchants of different places in Europe (Azevedo, 2006). Besides being faithful to the customs and customs practiced by the merchants, it places great importance on the principle of contractual freedom, simplifying the behavior of the protagonists of these relations. With the development of common law and the realization of the sovereignty of national states (17th century), contrary to the transnational idea advocated by *Lex mercatoria*, there are some restrictions on its application. With the development of international trade and the application of local laws, which were not well adapted to this type of contract, States were obliged to adopt some of the instruments used in commercial practice. It was thus created the environment for the birth of what Berthold Goldman called the New Law Marchand. Nowadays, with globalization, national laws have proved to be increasingly ineffective in regulating international trade. Consequently, there is a need to create a disciplinary and homogenizing normative body of these international trade relations (Oliveira, 2017). In this sense, with the aim of creating a uniform discipline (Vidigal, 2010), the International Institute for the Unification of Private Law (UNIDROIT) emerges. It is an international organization, based in Rome, whose function is the harmonization of laws and principles for international contracting. It is a soft law instrument, therefore a flexible right. Opposing the hard law, that was rigid and inflexible (Oliveira, 2017). The UNIDROIT Institute, based in Rome, was created in 1926 and welcomed by 61 member countries. In 1971, a work program was presented to elaborate the Principles (Trahan, 2002). A special panel was set up in 1980 to draft the draft chapters, although the initial text was only approved in 1994. In 1998 occurred the first review in order to improve some of the existing issues and the introduction of new institutes, consequently, new articles appeared. The Principles were completed again in 2004. This is not a real review but an update. Some chapters and 61 new articles have been introduced. This update was mainly focused on the powers of the agents, the rights of third parties, assignment of rights, transfer of obligations, assignment of contracts, deadlines, prescription and resignation. In addition, the resignation to the adversary and the transfer of credit were consecrated. Lastly, we sought to establish a balance between the creditor and the debtor. As a result, the initial 120 articles have now risen to 185. In 2010, a new edition arose covering subjects related to the general law of contracts, namely training, interpretation, invalidity, illegality, compensation and limitation periods. The UNIDROIT Principles were presented as a "general part" of international contracts, which are essentially directed to contracts of instant execution. It should be borne in mind that they did not always provide adequate solutions for long-term contracting, in which time is a preponderant factor. As of 2013, it was necessary to introduce some adjustments. In this sense, some of the existing rules have been expanded. Following the adoption of the Model Clauses for the use of the UNIDROIT Principles, that need was even more evident. In this sense, the 2016 edition was important, upgrading some of the existing topics.

## 3. THE CONTRIBUTION OF THE PRINCIPLES FOR INTERNATIONAL TRADE

Today, having in view the globalization that is taking place around the world, trade is carried out through large-scale contractual instruments. Therefore, it is concluded that today's international trade is endowed with a dynamic cross-border (Topedino, 2000). The UNIDROIT principles are a complex legal instrument.

In its preamble, we find no references to its binding force (Basedow, 2000). However, they should not be considered as a traditional legal mechanism. We do not intend to address the problem on its legal nature, we understand that the concept of soft law is what best characterizes the Principles (Gama, 2014) & (Oser, 2008). It should be noted that soft law is a flexible, non-binding right, capturing itself as a commercial "deontology" (Marques dos Santos, 2005). The UNIDROIT principles constitute an alternative to the hard-law, characterized by a normative rigidity and state creation (Gama, 2014). They are thus versatile and an important instrument for the discipline of international contracting. In this sense, the principles include general rules on international contracts, showing characteristic traits to the various existing legal systems. They wish to respond to the specific problems of international trade (Oliveira, 2017). Based on the autonomy of the parties, the UNIDROIT principles, in accordance its Preamble, regulate international commercial contracts and may be applied when the parties so agree; when they agree to govern the contract under the general principles of law; where they have not chosen the applicable law; it may also be used to interpret or complement other international instruments of uniform law; to complement national law; and to be used as a model for national and international legislators. Briefly reviewing the UNIDROIT Principles, we can say that contractual freedom, corollary of the principle of the autonomy of the will, (Diniz, 2004), shows a total absence of special formalities. Underlining the binding nature of the parties, the principle of binding force of contracts ensures compliance with the will of the parties. In addition to these pillars, the principle of internationality is also mentioned. It prescribes an autonomous interpretation of the Principles, leaving aside the possibility of using national law. Another principle, transversal and not less important, is that of good faith. This guarantees the trust in the relations between the parties. Lastly, we have the principle of the primacy of uses and practices, which does more than emphasize the importance of *Lex mercatoria*, e.g. the uses and customs of each sector of the market (Oliveira, 2017).

#### **4. UNIDROIT PRINCIPLES OF 2016: NEWS**

The main purpose of the new edition / update was to take into account the special needs that long-term contracts require. An amendment was made to six provisions (Articles 1.11, 2.1.14, 5.17, 5.18 and 7.3.7) compared to the 2010 edition. The most significant part of the changes is found in the comments on each article, especially in the Preamble. "Long-term contracts" (Article 1.11) are defined as long-term, variable and complex instruments, implying a continuous relationship between the parties. This notion emerges from the complexity of the transaction, from the ongoing relationship between the parties and not just from the duration of the contract. This precept was added to clarify the comment 3 amendment, adding example contracts. Concerning Article 2.1.14 (1), the following is emphasized: where the parties intend to conclude a contract, leaving a clause for later negotiation or to be completed by a third party, such behavior will not prevent the conclusion of the contract. Such permission is particularly appropriate for contracts in which the parties, because of their duration and / or complexity, leave open one or more clauses. The parties now feel unable to determine certain aspects or do not wish to do so at the time of conclusion of the contract. Comment 3 has been amended, drawing attention to Sections 5 and 6 (Articles 5.1.7 and 6.1.1) and to the necessary articulation between the standards concerned. We also added comment 4 on the clauses intentionally left open in the context of long-term contracts. In regard to Article 4.8 on possible omissions, comments 1, 2 and 3 have been amended. This provision seeks, as regards the ambiguous clauses, to separate the situations of omission from those of interpretation. The Principles are thus intended to protect situations that constitute gaps not resolved by other rules of the Principles. However, there is a relationship between the provisions relating to filling the gaps, Article 5.1.2 and the provision under review. With regard to Article 5.1.7, modifications were made to comment 3, explaining in detail the operation of external rules regarding the

determination of the price by a third party. In the first paragraph of this commentary, only linguistic modifications were agreed upon. In the second paragraph, the parties are allowed, in accordance with their freedom, to establish the procedures to be followed by the third party in determining the price. It is further added that the parties may contest the determination of the price if it does not comply with the procedure which they have previously established. Let us imagine the following situation: the agreed procedure is based on the "market price". If not, the parties may challenge stating that the price determined by the third is unreasonable. A linguistic amendment was also introduced in the title of Article 5.1.8 "Termination of a contract of indefinite duration" to "Termination of Contract". And the words "can be terminated" to "can be rescinded" have been replaced in the text. The purpose of this amendment was to clarify that, once the contract has been concluded for an indefinite period, Articles 7.3.5 and 7.3.7 should be applied with regard to the refund. Comment 2 was added and an example was given regarding the termination of the contract and its consequences (Unidroit.org).

## **5. THE UNIDROIT PRINCIPLES AS SOURCE OF NEW MEXICAN LIABILITY**

The sources of medieval *Lex mercatoria* were mainly Roman law, maritime custom and the "laws" of European fairs of the time (Pereira, 2002). However, the new *Lex mercatoria*, fruit of the development of the international trade, gave origin to other sources. The New Law Merchant is a reality adapted to the current international contracts. It includes several elements that must be explained (Rodrigues, 2016). It is important to discuss their modes of revelation, especially on the UNIDROIT Principles. The sources of the new *lex mercatoria* are international contracts, customs and practices of international trade, general contracting conditions and standards forms, rules of professional associations and guidelines, general principles of law, codes of conduct, international conventions and model laws and arbitration decisions (Vidigal, 2010). Concerning international contracts, these are the main source of the international trade law, since their frequent use has led to the creation of standard contracts (Vidigal, 2010). Uses and customs are based on the acts practiced repeatedly by merchants, acts accepted by the merchant community. It should be noted that customs and customs vary over time, since the practice of international trade is constantly changing. This argument is used, above all, by those who do not consider uses as an effective source of *Lex mercatoria*. However, international organizations have sought to implement them through standardized precepts (Rodrigues, 2016). For example we have the Incoterms rules on international practices in contingent claims (ISP 98 / ICC), among others. In turn, the general contracting conditions and standard forms are general conditions and contractual models structured and updated by organizations recognized by merchants, e.g. ICC Uniform Rules for Demand Guarantees (ICC Publication No. 458). Regarding the rules of professional associations and guidelines, we will say that these are an aid to international contracts, in particular for the preparation of contracts and trade operations, e.g. Guide to Distributorship Agreements ICC (publication 441). The general principles of law are one of the main sources of the new *lex mercatoria*. They do not encompass only the general principles of law, but also the specific principles relating to international trade (Shulz, 2010). The general principles of international trade are no more than the result of comparing the laws of different systems (Vidigal, 2010). They stand out: the principle of good faith, which translates into the duty of loyalty and trust that must be established between the contracting parties; the principle of obligatory (*pacta sunt servanda*), means that the contract makes law between the parties, translates the obligation in the fulfillment of the established; the principle of autonomy of the will, manifesting itself in the freedom to contract. The general principles of international trade are expressed in the UNIDROIT Principles (Oliveira, 2017). They are also present in other instruments, namely in the Principles of European Contract Law. Currently, it is estimated that at least 215 decisions were based on the UNIDROIT Principles, with most of these decisions emanating from arbitral tribunals.

One of the hypotheses of application of the Principles is based on the choice of New Lex mercatoria as the law of the contract. In our view, this expresses well its source nature. To better understand its nature, let us highlight some of its characteristics. Firstly, the UNIDROIT Principles are considered to be a normative system by some Statistical Courts. Nevertheless, most States recognize the possibility for the parties to choose the law applicable to the contract. See the Inter-American Convention on the Law Applicable to International Contracts, 1994, in articles 9 and 10, which considers that lex mercatoria can be applied to the contract as dealing with general principles of international commercial law accepted by international organizations. It should be noted that the application of this Convention is very limited, but only between Mexico and Venezuela. However, it demonstrates the importance of lex mercatoria in international contracting. Secondly, despite the application of the Principles as a normative system that the arbitral tribunals have applied to us, whenever the parties establish this mode of conflict resolution, they can freely choose the rules of law applicable to their contract, and this choice may fall under anational rules, such as the UNIDROIT Principles. In this sense, Article 17 of the Arbitration Rules of the International Chamber of Commerce. This does not occur in state courts that must, in principle, apply state law. The UNIDROIT Principles can be integrated into the contract as contractual clauses, not constituting a normative system. Thirdly, in the absence of an expressed choice by the parties to the UNIDROIT Principles to regulate the contract (Darankoum, 2002), arbitration jurisprudence has demonstrated through the theory of implicit negative will or negative choice the possibility of applying the Principles, judgment CCI 7375/1996 (Ferrarase, 2005) and (Marquis, 2002).

## 6. CONCLUSION

The UNIDROIT Principles are the source of the new lex mercatoria. Ask yourself: are they uses or principles? The answer will not be free of doubts, and there are those in the doctrine and jurisprudence that integrate them in the uses and who characterize them as principles. However, it seems to us that the issue has little practical effect (Topedino, 2000). With regard to codes of conduct, non-existing international conventions and model laws, we will say that the first aim regulate some aspects of private relations multi-location, for example the activities of multinational enterprises. The United Nation Code of Conduct on Transnational Corporation is an example of this. The model laws are drafts of laws created by international entities. These seek to be an inspiring source for some national legislators. As an example, UNCITRAL Model Law on Electronic Commerce stands out (Basedow, 2000). With regard to arbitral jurisprudence, it should be noted that this alternative mode of justice has been increasingly used throughout the world, with most international contracts constituting this model of dispute settlement. This is because, among many other advantages, it is noticeable the greater speed in the resolution of conflicts. Arbitral decisions are thus the source of the new lex mercatoria, since the arbitrators base their decisions on anational rules. They pass court sentences which are a benchmark for future cases. Arbitral jurisprudence is, moreover, an effective way of spreading the new lex mercatoria (Darankoum, 2002). Today, with economic globalization and internationalization of relations, international contracts take place on the aegis a multiplicity of regulations. Consequently, the UNIDROIT principles play a key role in the need for harmonized rules, capable of providing greater legal certainty and predictability. The main purpose of the International Institute for the Unification of Private Law is to harmonize the rules of international commercial procurement, providing appropriate solutions to the requirements of international trade.

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## STRATEGIC MANAGEMENT AS A WAY TO CONTROL ORGANISATIONAL COMPLEXITY

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### ABSTRACT

*Most nowadays organisations build and implement their strategies, focusing on capitalisation their strengths, regarding them as a source of their competitive advantages. However, very often, the very determinants of organisations' success are also the ingredients of their failure. At the same time, the most sustainable organisations in current conditions appear those mediocre ones whose management is merely aimed at survival. Such a phenomenon is known as a strategy paradox. Maintaining by the organization its distinctiveness as a source or creator of exclusive value for customers in modern complex business environment leads to an increase in its organizational complexity. The growth of organizational complexity sooner or later causes an uncontrollability of the organization and becomes the driver of its failure. In order to avoid the collapse, such an organization begins to struggle for survival, saving on costs, simplifying the structure, limiting its development plans. This is the way to organizational mediocrity. It seems to be obvious, that to be successful an organization needs to be an excellent one. In search of excellence it has to struggle against its mediocrity. However, a struggle against mediocrity leads to such a level of complexity which causes uncontrollability of the organization. So, we face with a vicious circle: search of excellence is a way to failure, avoiding a failure is the way to mediocrity. At the same time, an organization that does not strive for excellence, does not set goals and does not try to achieve them, exists insofar as its environment needs it. That is why strategic management should be viewed not only as a means of establishing and achieving an organization's goals, but also as a way to control the complexity of an organization. This article discusses issues of strategic management in the context of theories of organizational evolution and management complexity.*

**Keywords:** *adaptation, complexity, evolution, mediocrity, organization, strategy*

### 1. INTRODUCTION

There is a very common opinion that the age of management as a special type of human activity is comparable to the age of our civilization (Owen, 2009, p. 12). In fact, any book or textbook, one way or another touching upon the issues of the so-called "history of managerial thought", is an apology of the statement that management "is one of the oldest types of human activity, since from the moment two people appeared on Earth, there was a need for purposeful influence of one from them to another" (Marshev, 2005, p. 8). Such a statement, in our opinion, to put it mildly, is controversial. In particular, if we talk about its texture, it is not clear why all of a sudden the ancient people should have had the "need for the purposeful influence of one of them on the other"? And if to approach it from the point of view of its axiomatics, the question arises whether it is even possible to define one person's influence on another as the activity?

Be that as it may, such theoretical schemes require sufficiently strong evidence based on the results of archaeological research. However, nothing like the scientific community has yet been presented. P. Drucker once claimed that yet 150 years ago “when Karl Marx wrote his ‘Das Kapital’, the concept of management did not exist in nature at all. There were just enterprises operating under the direction of managers. The world's largest production company - a weaving mill “Ermen and Engels” (Manchester, United Kingdom) - consisted of no more than 300 workers and belonged to Friedrich Engels, a friend and ally of Marx. At this enterprise - one of the most profitable at that time - there were no ‘managers’ at all, only the so-called ‘brigadiers’ who supported the discipline among a group of their subordinates” (Drucker, 2001, p. 19). Nevertheless, it is difficult to deny the fact that the organization of any collective activity, be it construction, agricultural work, production, military actions, mass public events, requires and always required certain skills, abilities and knowledge, the complex of which is now called management. However, as a specific area of professional and scientific knowledge, management was formed and developed as society as a whole set itself more and more complex and large-scale goals, as it faced more and more new and complex tasks of organizing, planning and coordinating collective activities.

## **2. DIALECTICS OF COMPLEXITY, EMERGENCE AND CONTROL**

One of the most important problem in modern theory and practice of management is the problem of the increasing complexity of organizations. The complexity of all types and forms of organizational systems, their behavior, the environment in which they operate, the effect of their functioning, and managerial decisions is steadily increasing. The imperative of their growth encourages companies to create new products and services, enter new markets, and develop new directions and forms of business. This is followed by their inevitable expansion, restructuring, technical re-equipment and, consequently, an increase in the complexity of all activities. More and more new levels of organizational structures appear. Decision-making and subordination schemes become more complicated. Employees are increasingly in a state of uncertainty. And all this sooner or later begins negatively affecting the efficiency of a company as a whole. However, on the other hand, at the same time, the companies increase their clientele, expand the range of goods and services produced, increase the intensity of interaction between company employees, and hence productivity, increase the number of regions in which the company operates, and so on, in other words its characteristics are improved, on which its profitability depends. In this sense, the complication of organizations is not only inevitable, but also obviously useful. If to try to imagine the process of simplifying a company, then it will most likely be associated precisely with the loss of its emergent properties as integrity as a result of narrowing the range of goods and services produced, compressing sales markets, simplifying production technology, reducing staff skills, etc. In fact, if any part is taken away from the whole, the remaining whole will have other properties. Meanwhile, it should be noted that the level of the emergence of the organization must match the complexity of the environment. The environment must be prepared to accept the results of the organization's activities. Simply put, business offers must meet customer expectations, goods and services provided must meet needs. Therefore, the emergence of organizational systems arises and develops in their interactive interaction with the environment, adequate to them in complexity. Moreover, there is no reason not to say that these systems are actually determined by the environment to which they adapt and themselves form it in the process of adaptation to it. A number of scientists believe that the complexity of systems is a direct result of the development of their ability to adapt to the environment. The more adaptive the system, the more complicated it is and vice versa. Simple systems are less adaptable to the changes in their environment or their ecosystem. The most famous book touching this aspect of the system's nature was wrote by the professor of psychology and computer science John H. Holland and it is called “The



hidden order: how adaptation builds complexity”. J.Holland believes that all complex systems, without exception, are systems that are formed by a sufficiently large number of active elements, differing in their shape and that they are capable of and defines the following characteristics of complex systems that are formed in the process of adaptation: aggregation, nonlinearity, flow, diversity, and identifies tags, internal models and constituent blocks as mechanisms for their organization (Holland, 1995, pp. 37-40). Developing J.Holland’s point of view we suggest characterize the phenomenon of organizational complexity as it follows:

1. Organizational complexity arises on a set of interlinked and interacted elements, between which, according under the certain rules, non-trivial connections and relations are established, which do not allow representing them as a union of closed subsets. In other words, on such a set between any two elements there is a connection, even if mediated;
2. Organizational complexity arises when such a set of interacted elements turns into a dynamic network, in which something that occurs in one node necessarily reflects on the state of all the others;
3. Organizational complexity arises when the internal diversity of elements becomes so flexible that it is able to change the behavior of the entire set of elements simultaneously and as a whole depending on the changing situation.
4. Obviously, any system is larger than the sum of its parts of any size. At the same time, a part can be more complicated than the whole in the sense of its behavior (for example, a person is more complex than a group or a society). A part can be a carrier of all system’s qualities, but at the same time possess super-complex own modes of functioning and development;
5. Organizational complexity can be viewed as a result of the system’s exchange with its environment by substance, energy and / or information. The boundaries of a complex system are sometimes difficult to determine (the vision of boundaries depends on the position of the observer). In such a sense, complex system is an open one;
6. Organizational complexity leads to emerging of new properties which can’t be reduced to the existence or behavior of individual elements. Actually, the formation of such emergent properties is one of the main reasons for transforming a set of independent elements into a system. As for the elements themselves, their nature as a rule does not change, but only their behavior.
7. Organizational complexity requires the system to have memory, since it is memory that makes it possible to determine the modes of operation leading to the occurrence of errors and correct them. As a matter of fact, the ability of the system to adapt itself is based precisely on the mechanism of system memory and reflection.

We believe that the most important property of a complex system is a diversity. It inevitably arises in the desire of the aggregated elements to form completely new, emergent properties that provide them with a stable position in the environment in which they exist and function. The greater the variety of elements of the system and the forms of their behavior, the richer is the variance of the emergent properties. This is pure combinatorics. However, from the wealth of possible combinations of relationships and dependencies, the system must “choose” the one that leads to the achievement of the desired state, to obtain the desired result. For this it is necessary to limit elements in the choice of their possible states. That is why axiomatically management is a special form of activity in an organizational system that is aimed at restricting the freedom of choice of employees integrated into the certain process of creating some emergent value. The variety of methods and means of management actions used in this process is all the greater, the more complex the organization. Any management action is expedient and makes sense only when it truly uniquely determines the actions of the performer, i.e. reduces the ambiguous behavior of the subordinate to 0.

Otherwise, i.e. in case of ambiguous regulation, the management body is unable to either guarantee the transition of the controlled object to the required state, nor to assess the effectiveness of the actions of the contractor. But as far as possible and feasible unambiguous regulation in general? What determines how the management body restricts the state space of the controlled object, effectively reducing it to the obvious one? It is one thing when the space of behavioral states of the control object is known and can be analyzed in terms of possible outcomes. And another thing is when there is always a chance for an unexpected state to occur. The fact is that the dynamics of the change of elements' states integrated into the system, interconnected and interacting directly or indirectly each other, it is difficult not to imagine as a network (Figure 1).

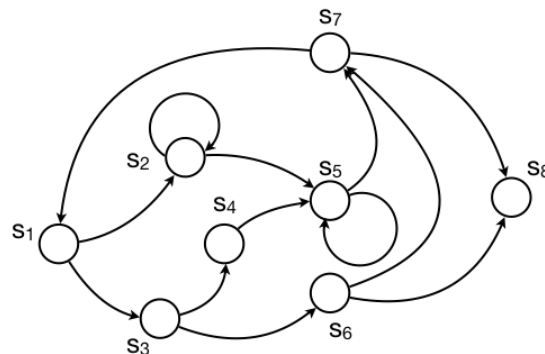


Figure 1: Network of alternative transitions from state to state

The network, presented in figure 1, reflects the alternativity of transitions of the controlled object from state to state. In this example, the set of possible states is  $S = \{s_1, s_2, s_3, s_4, s_5, s_6, s_7, s_8\}$ . If there is no additional information about the likelihood or conditions for the object's transition from state to state, then it can be assumed that alternative transitions are equiprobable. Then the matrix of conditional probabilities of transition to the  $s_j$  state, provided that the object is in the  $s_i$  state, will have the following form (Table 1):

Table 1: Matrix of conditional probabilities of transitions from the object's state to state

	$s_1$	$s_2$	$s_3$	$s_4$	$s_5$	$s_6$	$s_7$	$s_8$
$s_1$	0	0,5	0,5	0	0	0	0	0
$s_2$	0	0,5	0	0	0,5	0	0	0
$s_3$	0	0	0	0,5	0	0,5	0	0
$s_4$	0	0	0	0	1	0	0	0
$s_5$	0	0	0	0	0,5	0,5	0	0
$s_6$	0	0	0	0	0	0	0,5	0,5
$s_7$	0,5	0	0	0	0	0	0	0,5
$s_8$	0	0	0	0	0	0	0	0

The entropy of a system with such a distribution of the probability of its transitions from state to state will be equal to:

$$H(S|S) = \sum_{i=1}^8 p(s_i) H(S|s_i) = 6 \quad [1]$$

where

$$H(S|s_i) = - \sum_{j=1}^8 p(s_j|s_i) \log_2(p(s_j|s_i)) \quad [2]$$

However, if, by virtue of any conditions or actions in the system, the probability distribution of its states changes, its entropy also changes. If in the example in Figure 1 the transitions of the system from state to state will have different probabilities like it is showed on the following Figure 2, then its total entropy will noticeably decrease;

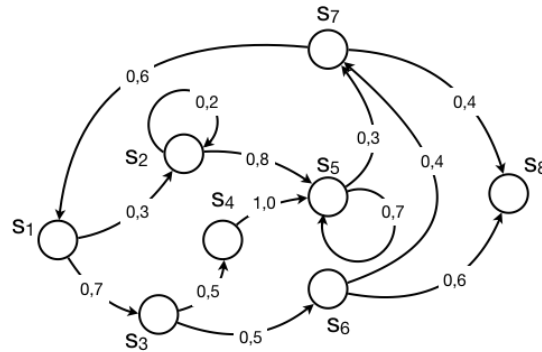


Figure 2: Network of alternative transitions from state to state with different probabilities

The entropy of a system with a distribution of the probability showed on the Figure 2 is equal to:

$$H(S|S) = \sum_{i=1}^8 p(s_i) H(S|s_i) = 4.9 \quad [3]$$

The regulation of the object's behavior occurs through the impact on its transient states. Regulatory influences as impulses should also be considered as elements of the object's behavioral system, since it is with their help that the correct line of behavior of the object can be achieved and this will be expressed in the fact that the states of the object change in the correct sequence. Such impulses are the result of the operation of the management mechanism in the system, which is designed specifically to implement a targeted change in the probability distribution of its states and establish, ultimately, a general order in the process of the system's operation. In the general sense, management is the way of transition from chaos to order, in which the emergent properties appear. At the same time a price which is paid for achieving such an order is organizational complexity. The more uncertainty is required to eliminate chaos in order, the more complex the organizational system. This is due to the increase in the number of interacting elements, their stationary and transition states, the number of control states and the connections between all states. Therefore, such is the dialectic of complexity, emergence and control: strengthening the emergent properties of many elements requires minimizing entropy, minimizing entropy requires purposeful restriction of the freedom of behavior of system elements, which is ensured by embedding the necessary set of links into the system of control elements and leads to an increase in complexity of organization. An increase in the complexity of a system means an increase in the degree of system selectivity (in its interaction with the environment, in perception and action, in creativity, etc.) and its operational isolation.

### **3. ORGANIZATION AS A MULTIAGENT SYSTEM**

In his time, Howard Aldrich gave a simple definition of organizations as goal-directed, boundary-maintaining and socially constructed systems of human activity (Aldrich, 1979, pp. 4-6), which actually became a classic among economists and sociologists. This view focuses on the social processes associated with the emergence and preservation of organizations. But there are other definitions, and there are many of them, that add such characteristics as an intentional design, the presence of power structures, the planned duration of existence, orientation to the external environment and personnel substitutability (Meadows, 1967, Scott, 2003). Summarizing different points of view, one can draw attention to the main features of such social formations that are commonly called organizations: 1) collectivity, uniting a group of people for joint activities; 2) orientation of joint activities to a common goal, 3) maintenance of boundaries, communication with the external environment, 4) internal activity, allowing people to process materials, energy, information into products required by other subjects in their environment. The most important thing is that organizations are created by people in their own interests, in accordance with their goals, abilities and capabilities, as needed, with the understanding that collective interests are necessary to meet interests and achieve goals. In fact, they are communities of active and, to varying degrees, autonomous (self-sufficient) individuals interacting with each other and with the environment in the process of solving certain tasks, the results of which ensure the achievement of common corporate goals, on which their own welfare depends. Unlike elements of technical systems, whose behavior is rigidly predetermined and limited by their technical functionality, structural position, relations with other elements and the mechanics of internal system processes, employees of organizations are active elements with a certain freedom of choice of their actions and mediating the course of processes in an organization, situations based on their own knowledge, competencies, insights and experience. Their behavior in the organization is not as clearly defined as, for example, the behavior of a part or assembly in a technical system, but is limited only by some mandatory procedural settings and suggests the possibility of an individual search for the best trajectory of functioning and solving the tasks. In terms of the general theory of systems, both the employees of the organization and the details of a machine are elements of the system. However, it is obvious that the nature of the elements in the first and second cases is completely different. First of all, the difference is that the employees of the organization are elements with their own behavior, which depends not only on their position in the organizational system. Members of the organization behave as if the organization has its own goals, and they follow them, although they can in fact remain indifferent or even immune to them. However, the focus of the organization's behavior does not change. Relationships and interactions of participants in the process of collective activity are built in such a way that, regardless of the attitude of each, the organization as a whole works to achieve its goals. In some cases, the goals of the organization are codified explicitly in the form of charters, mission statements, strategic plans. More often, however, these goals are defined implicitly, by default, which in principle aggravates the divergence of interests and tasks of individual participants and the organization as a whole. Coordinated collective activities aimed at solving common tasks and achieving common goals for an organization are the most important differences from other types of social structures such as, for example, family, circle of friends, political party, etc. This is important to understand, because sometimes the leadership has a desire to present the organization as one large family or a club of interests. Naturally, nothing good comes out of it, since such social formations, as a rule, do not have a focused agenda of their existence and simply switch to aimless activities to serve the interests of each participant. Goal-oriented behavior of the organization is built taking into account the interests of other organizations and individuals, from the resources, abilities, competencies of which the organization's achievement of its goals depends. In this regard, any organization is dependent on the external environment, and in an effort to minimize

this dependence, it adapts to it. However, adaptation does not mean getting rid of this dependence or, conversely, the priority satisfaction of the needs of the external environment. A way how an organization adapts to its environment is shaped by its development strategy, which determines its course of action, leading to the formation of a unique position in the surrounding world. In this sense, a strategy is not a detailed plan step by step, it is finding or creating options that give to the organization an advantage at any specific moment. Bearing in mind the organization as a multi-agent system, its strategy should be understood as a set of rules that employees must follow when choosing ways to solve their professional tasks. John G. Holland emphasized that the definition of such rules does not intend to reflect or fix the exact algorithm of agents' behavior. Rules are a fairly simple and convenient way to describe agent strategies (Holland, 1995, pp. 7-9). But, having described the rules by which each agent in the system "lives" (or "must live"), we leave him the right to choose his actions in each particular case. Unfortunately, nowadays, the management of an organization, ignoring its complex multicomponent structure, prefers to formulate a development strategy in the form of an action plan that must be carried out, rather than in the form of rules of behavior depending on the emerging organizational context. Thereby, not only the space of opportunities for the organization's adaptation to changes in its environment is sharply narrowed, but also the prerequisites for an unlimited growth of organizational complexity are created.

#### **4. ORGANIZATIONAL CONTEXT AND STRATEGIC MANAGEMENT**

Scientific and technological progress leads to radical changes in the content and nature of labor, above all, to its complexity (Maslennikov, Chernitsova, 2017). Opportunities for directive management of people are becoming less and less. Employees whose actions in an organization are associated with solving complex tasks that require special knowledge and professional skills are senselessly assigned to managers specifying what and how to do, since the required number of such managers will not be less than the number of employees they lead. In such organizations, it is advisable to organize the management of a normative, indirectly influencing the actions of workers through organizational provisions and regulations that ambiguously prescribe the algorithm of their work, relying on their professional abilities, knowledge, experience and capabilities. This not only gives specialists enough freedom to express themselves and self-realization within certain limits, but also fundamentally changes the content of management, shifting the focus from the executor to its functions and conditions. The employee ceases to be the object of management, and the manager - the subject. The manager does not build on the executive structure of the organization, but is built into it and its activity in essence also becomes executive, bearing in mind that the result of his actions is the creation of necessary conditions for self-organization and self-realization of employees. Such management can be identified as a meta-management, in which the subject of control, analysis and regulation is at the meta-level of the organization. This subject can be described as the context of the processes occurring in the organization - the context of the developing situations, the context of employee actions, the context of emerging problems, the context of decisions made by employees, etc. Meta-management is, in essence, the management of that which itself performs management functions. The conditions created for the performer direct his actions and, consequently, to some extent predetermine their result. The difference is that in case of directive management, the actions of the executor are sent by the manager out of context, in fact, the connection between executive actions and conditions is broken. Meta-management is based on the idea of an organization as a multi-agent system and allows for the possibility of maximum decentralization of control by providing employees with the opportunity for self-government according to certain rules. Strategic management can be considered as one of the possible options for the organization of meta-management. Organization's strategy can consist of meta-rules, defining employee behavior.

For the analysis and optimization of meta-rules, a methodological approach based on the presentation and study of an organization in the form of a multi-agent system is promising. Management in multi-agent systems is internal, and the behavior of individual agents here is governed by their own internal rules embedded in the system. The task of effective management is to build an organizational model in which the agency rules will be consistent and coordinated. The methodology of such management, the subject of which is organizational meta-rules, is the essence of the concept of context-oriented management of a complex system.

## 5. CONCLUSION

The growing complexity of organizations not only reveals their less controllability, less predictability and stability of their behavior in the face of external uncertainty, but also makes it possible to substantiate a number of objective contradictions in the principles of the classical management theory, contradictions both system-wide and at the level of individuals. This indicates the presence in the theory of management of methodological problems and makes a critical attitude to its axiomatic system. Our study confirms the promising approach to the strategic management of an organization through the prism of the problem of managing its complexity. Strategy as a set of meta-rules for all members of an organization can help to avoid an unnecessary increase in the complexity of an organization by moving from external control to self-control, from hierarchy and subordination to cooperation and self-government. This approach calls into question the axiom of externality management and the corresponding principle of dividing the organizational system into an object and subject of management. We believe that the “object-subject” dichotomy is permissible in technical control systems, where objects are only executive bodies operating without a choice by the will of the subject, but in socio-economic systems, where the boundary between administrative and executive functions is blurred and becoming increasingly uncertain, it loses its meaning.

**ACKNOWLEDGEMENT:** *The publication was prepared with the support of “RUDN University Program 5-100”.*

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## COMPETENCES AND METHODS OF USING INFORMATION AND COMMUNICATION TECHNOLOGY AMONGST PRE-SCHOOL AND PRIMARY SCHOOL TEACHERS

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### ABSTRACT

*Usage of information and communication technology amongst pre-school and primary school teachers is increasing and requires digital competences and knowledge. The overall objective of this research is to compare usage competences for information and communication technology (ICT) amongst pre-school teachers (for children 3-6 years old) and primary school teachers (for pupils 7-10 years old). These specific goals have been oriented to measure the frequency of ICT and Internet usage for professional development and free time, determine any independency in ICT usage and measure if there are any differences in knowledge updating between preschool and primary school teachers. An ICTC Questionnaire with 27 items has been created for the purpose of this research. The respondents were 394 preschool teachers and 200 primary school teachers. The survey was conducted anonymously and on a voluntary basis between 2016 and 2017. Results showed that preschool and primary school teachers use ICT and Internet nearly every day. Both groups need additional support and help. Preschool teachers mostly use digital technology for communication, information searches and reading news, while primary school teachers use digital technology predominantly to search for general information, rather than information linked to their profession, as well as for communication. Primary school teachers developed more digital competences comparing to their preschool counterparts. These results could be used to create workshops and life-long educational opportunities for both groups of teachers, with a focus to using digital technology and the Internet for preschool teachers. Follow up activities could be created in the form of focus groups or group discussion which could provide additional information linked to specific knowledge or skills that require development.*

**Keywords:** *Digital competences, Information communication technology, Primary school teachers, Preschool teachers*

### 1. INTRODUCTION

The role of information and communications technology (ICT) in education is developing and becoming an important part of all levels of education, including pre-school and primary school education. Educator's perception about their own role in the use of ICT in education varies. Various researches on ICT use indicate that ICT represents a significant role in all aspects of modern life as well as in education (World Bank, 2003). Digital competence includes five areas of expertise (information and data literacy, communication and collaboration, digital content creation, safety and problem solving) and all together there are 21 competences (Vuorikari et al 2016).

Through ICT use it is possible to build a more creative environment in which children learn in innovative ways, thus contributing to interesting educational content as well as encouraging learning processes (Tezci, 2009). Children thus become an active protagonist in their own learning process. Therefore, learning has to be interesting for children. It is important to make everyday activities more dynamic and interesting through ICT use in early education. The history of implementing ICT in different areas of education has changed rapidly. For example, the invention of the Eltronovox Keyboard in the 1950s served as one of the first stages in using ICT in musical activities. (Nardo, 2008) explored how ICT can be used for pre-school activities. ICT can also be used in learning processes in different fields of education. From the 1990s onwards more and more countries have invested significantly in ICT integration in pre-schools, wherein they are facing numerous obstacles. Different computer platforms for teachers needs to be developed (Toki, 2010). There are differences in ICT use between rural and urban areas (Liu et al, 2014). Teachers' and educators' efficacy correlates positively with digital competence (Instefjord and Munthe, 2017). Using information and communication technology in teaching and learning processes can increase learning motivation (Vidaček Hainš, 2016). Teachers' and parents' positive attitudes towards ICT use in primary education have an impact on students' learning motivation (Ricoy et al, 2018). Virtual reality and technology has positive effects at the results of learning and teaching processes in pre-school education (Ozdamli and Karagozlu, 2018). Pre-school institutions equipped with computers require the development of teachers' computer competences. Pre-school teachers are aware of the importance of ICT, but organized courses require additional digital competence and they do not correspond to pre-school teachers' needs. Better results have been observed after individual computer lessons (Toki, 2010). On the other hand, Greece has invented and implemented many more quality projects of ICT implementation into pre-schools (Liu et al, 2014). The UNESCO Institute for Information Technologies in Education has conducted research 'ICT in Primary Education' about reasons for ICT implementation in pre-school education'. The results were classified as external, internal, and educational. External reasons indicate that every modern-day child is surrounded by ICT as well as parents' expectations. Internal reasons consider the recognition of ICT as a way of improving the work of teachers. Educational reasons consider the benefits of ICT use for children as well as for their families (Kalaš et al, 2014). For example, Romania has made significant efforts to develop different interactive programmes in which a pupil gets feedback about his/her own performance, which in turn leads to high-quality learning (Lazar, 2014). Attention is drawn to the fact that computers cannot replace teachers or parents. It is important to stress out that every use of computers, especially use by pre-school children, has to be supervised by adults (parents or teachers). Young children learned about technology from adults, mostly parents (Mertala, 2019). Quality relationship between parents and children during computer might encourage the functional-logical capacity of children (Hilčenko, 2016). Teacher support in learning is one of most important factors in further successful learning and there is no such thing as a digital native who is information-skilled simply because (s)he has never known a world that was not digital (Kirschner and De Bruyckere, 2017). Regardless of differences in IT infrastructure, it is important to stress out that web tools we give to our pupils should also be carefully considered. There are various free web tools available today. Therefore, pre-school teachers are responsible for choosing correct, good-quality tools.

## 2. RESEARCH GOALS

The overall objective of this research is to analyse competences and habits of using ICT by pre-school and primary school teachers. The specific goals are to explore the similarities and differences in the frequencies and reasons for using ICT and possible difficulties in following the development of digital technology.



### 3. METHODOLOGY

#### 3.1. Respondents

Data were collected in primary schools in Northwest Croatia. Head teachers from all schools provided their permission in written form. The N=200 primary school teachers were included in the research (female 83%, male 17%). They were 22-63 years old, had 1-36 years of working experiences, and the majority had a master degree (71%). The number of N= 390 pre-school teachers, a majority from pre-schools in Northwest Croatia and the remainder from other parts of the country, completed the ICTC questioner (female 98.98, male 1.02%). The ratio between male and female pre-school teachers is similar to the nation-wide ratio (12.240 female, 156 male, the ratio of male pre-school teachers is 1.27 %; Croatian Bureau of Statistics (2017)). They were 23-62 years old, had 1-36 years of working experiences, and the majority had bachelor degree (80%). All answers are collected anonymously and on a voluntary basis during the 2016/2017 school year.

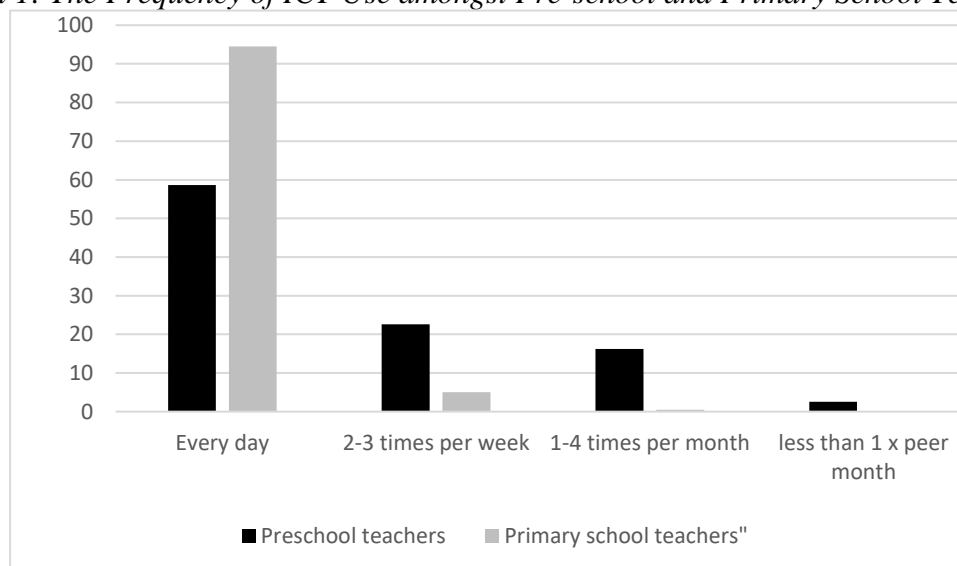
#### 3.2. Measuring instruments

The Information and Communication Technology Competences Questionnaire (ICTC) was created by Andreja Sedlar (2016). The instrument contains 27 items, 21 multiple choice questions and 6 demographic items. The content of ICTC is related to exploring the frequency of using informational and communication technology (ICT), accessibility of ICT at work, respondent's habits and attitudes towards new technology, obstacles, challenges and advantages. Respondents' feedbacks were collected anonymously. Participation was on a voluntary basis.

### 4. RESULTS AND INTERPERATION

The frequency of using information and communication technology is explored in this research. The majority of respondents from both groups used it every day (58.63 % pre-school teachers and 94.5% primary school teachers), which stressed the importance of ICT within the education system at the time. Responses are presented in Chart 1.

*Chart 1: The Frequency of ICT Use amongst Pre-school and Primary School Teachers*

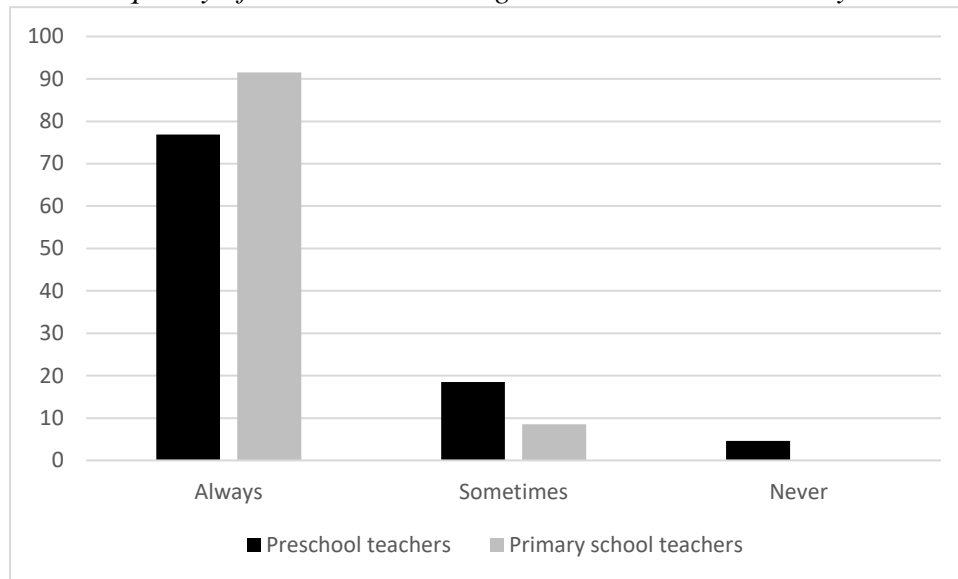


*Legend: X axis: Frequency of ICT use; Y axis: percentage (%) of respondents*

Respondents were asked how often they use the Internet. The most common answer in both groups was 'I always use it' (79.9 % of pre-school teachers and 91.5 % of primary school teachers).

In the primary school teachers group the average was  $M= 2.90$ ,  $sd = 0.33$ , where 1 meant ‘I never use it’ and 3 meant ‘I always use it’. In the pre-school teachers group the average was  $M=2.72$ ,  $sd = 0.54$ . Results are shown at the Chart 2.

*Chart 2: The Frequency of Internet Use amongst Pre-school and Primary School Teachers*



*Legend: X axis: Time sequences (always, sometimes and never); Y axis: percentage (%) of respondents*

One of the goals of this research is to explore the different purposes that computers and digital devices in general are used for. The range of different methods of ICT use is presented at in Table 1. Answers range from 1 (most frequently) to 7 (least frequently). Results show that pre-school teachers primarily use computers and digital devices for communication, secondly to search for information and thirdly to read news. Primary school teachers primarily use digital devices for searching information, secondly to search for information related to their profession and thirdly for collaboration and communication. For both groups computer games are the least important reason for using ICT.

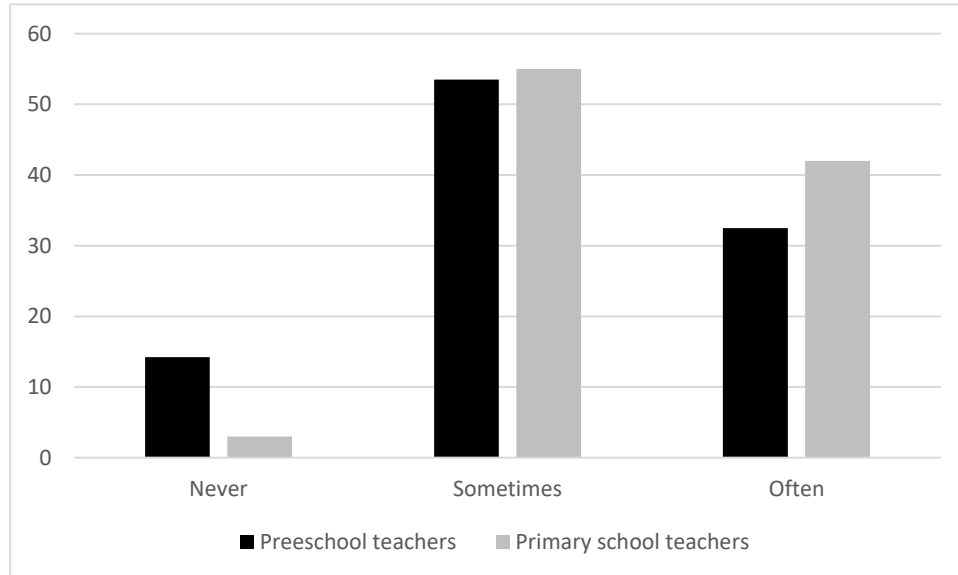
Reasons for using ICT	Pre-school teachers	Primary school teachers
	Frequency Range 1=most frequently, 7 = least frequently	
Reading news	3	5
Video	5,5	4
Social network	4	6
Computer games	7	7
Searching for general information	2	1
Searching for professional information	5,5	2
Free time, collaboration, communication	1	3

*Table 1: The Frequency Range of ICT Use for Different Purposes*

Respondent's competences in using ICT are estimated through their independence while using electronic devices. They were asked if they are independent or need help from family, friends and colleagues. The majority of respondents from both groups are not independent in using ICT, which means that 55% primary and 53.5 % pre-school teachers sometimes need help, and 32.49% pre-school and 42% primary school teachers often need help. The average value for pre-school teachers is  $M= 1.82$ ,  $sd = 0.66$  and for primary school teachers this is  $M= 1.62$ ,  $sd= 0.54$ , where 1 = never need help, 2 = sometimes and 3 = always need help in using the Internet).

These results are presented in Chart 3. These results point towards a general need for additional support for both groups of respondents in terms of organising lifelong-learning training in using ICT for educators within education systems.

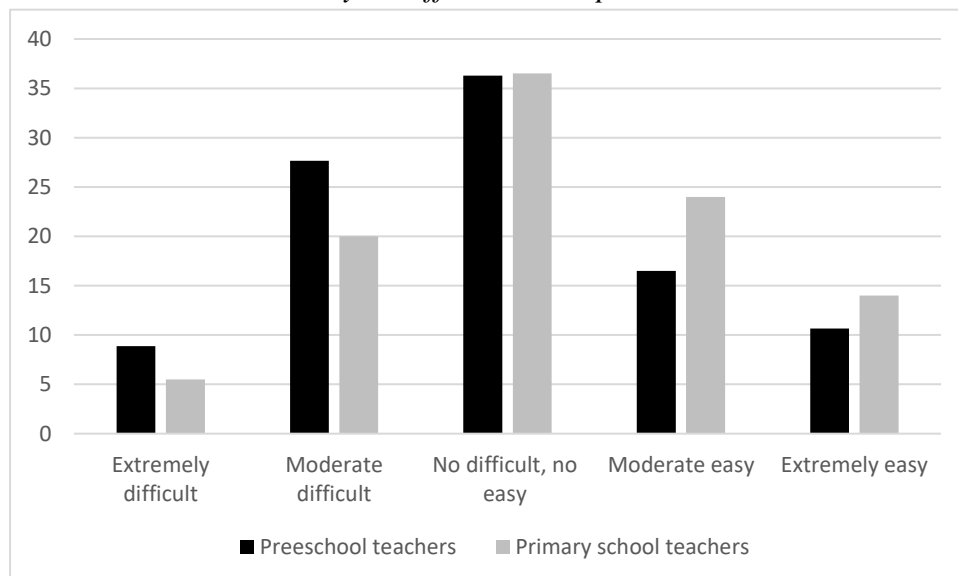
*Chart 3: Competences and Independency in Internet Usage:  
How Often Respondents Ask Other People for Help?*



*Legend: X axis: Time sequences (always, sometimes and never); Y axis: percentage (%) of respondents*

The respondents' ICT competences were also estimated through the question 'Is it easy or difficult to be up-to-date with ICT'? These answers are presented in Chart 4.

*Chart 4: Is it easy or difficult to be up-to-date with ICT?*



*Legend: X axis: The degree of difficulties; Y axis: percentage (%) of respondents*

The majority of respondents in both groups think that being up-to-date with IC technology is neither difficult nor easy, with pre-school teachers at 36.29% and primary school teachers at 36.5%. But, being up-to-date for primary school teachers is easier comparing with their colleagues in pre-school ( $t=2.85$ ,  $df=592$ ,  $p < 0.05$ ).

Possible explanations could be that primary school teachers are more exposed to life-long education in the area of ICT and they implement ICT in their teaching processes. Pre-school teachers also use ICT when interacting with children, but they mostly use other methods to teach younger children (playing, group interaction etc.).

## 5. CONCLUSION

Teachers and pre-school teachers use ICT and internet on a daily basis. Although respondents have competences for using ICT within education processes, they still need additional support from other people, like colleagues, family members, friends etc. This research show that only 14.21% pre-school teachers and 3% primary school teachers have the competence for independently usage of ICT. According to the result of this research, it might be opportune to include teachers and pre-school teachers in lifelong-learning programme in the area of ICT use. Pre-school teachers and primary school teachers competently follow digital innovations and they are up-to-date with changes. Development and changes in ICT is easier to follow for primary school teachers in comparison to their pre-school colleagues. Additional lifelong-learning could be a good method of enhancing ICT competence for both groups of teachers, and in particular pre-school teachers. Currently, pre-school teachers primarily use computers and digital devices for communication, secondly to search for information and thirdly to read news, while primary school teachers primarily use digital devices for searching information, secondly to search for information related to their profession and thirdly for collaboration and communication. The importance of communication and information searching is a well acknowledged advantage of ICT in both groups. These results could be used to create workshops that improve digital competences of teachers in primary and pre-school education. Additional research could be designed to explore the specific tools and skills that need to be develop for pre-school and primary school teachers.

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## THE ANALYSIS OF AIR TRAVEL BEHAVIOUR: A SOCIO-DEMOGRAPHIC PERSPECTIVE

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### ABSTRACT

*Although being the youngest traffic branch, air traffic plays the important role in tourist traffic flows all over the world. With respect to this, the aim of this paper is to analyse air traffic, with the special focus on the socio-demographic analysis (age, gender and level of education) of air travel behaviour in the Republic of Croatia. For this purpose, empirical research was conducted on the sample of 194 respondents who gave insights about the most common reasons for travelling inside Croatia, most often used means of transport and airports which respondents have used so far. Research results confirmed that there is a statistically significant difference among the respondents in reasons for travelling on holiday regarding the gender. Male respondents travel more for work reasons, while women on the other hand, travel more for social reasons and to visit their relatives and friends.*

**Keywords:** *traffic, air traffic, air travel behaviour, Republic of Croatia*

### 1. INTRODUCTION

Air and road traffic dominate the sphere of international traffic. In the last three decades, the market share of air transport has increased significantly due to market liberalization and technological innovations which have enabled cost reduction. Growing purchasing power in emerging economy markets, increased air connectivity, more affordable travel and enhanced visa facilitation continue to fuel tourism from within and outside the region. The importance of tourism is best reflected in its share in the gross world product, being 10% in 2017 (World Tourism Organization, 2018). Air transport and tourism are interdependent and they influence each other in a positive and negative way. Airlines take into account the development of tourist destinations by planning the access to airport facilities, while tourist managers in adjacent destinations often include airports into their business plans and invest in them knowing they would need larger aircrafts for their tourist demand (Bieger and Wittmer, 2006: 46). In 2017, 57% of tourists reached their destinations by using air transport services (World Tourism Organisation, 2018). In the rest of the world, and so in the Republic of Croatia, air transport has extreme importance, especially for the development of tourism since Croatia is a tourism-oriented country (Gašparović, 2011). For all the above mentioned reasons, the goal of this paper is to examine users' perceptions of air transport services in the Republic of Croatia and highlight the differences regarding socio-demographic characteristics. For the secondary data analysis, methods of analysis and synthesis, induction and deduction methods were used, while for analysing primary data, descriptive and inferential statistics were used.

## **2. AIR TRAFFIC AND AIR TRAVEL BEHAVIOUR**

### **2.1. Description of air traffic**

Air traffic is the youngest traffic branch, but its role in servicing the passengers and contribution to tourism are enormous. Air traffic bears great significance in every-day transport of passengers and cargo. If seen as a part of the traffic system, due to the strong interconnections, air traffic can be defined as a complex system because in this traffic branch interconnectedness and coordination of technology, organization and economy is defined, in all three basic forms of its functioning, i.e. in transport activity, in reception and shipment, and in air traffic control (Radačić and Suić, 1992: 1). In certain market segments, it is air traffic that holds the leading position in relation to other traffic branches. Huge advantage of air traffic is evident in the fact that for its existence there is no need for building particular infrastructure, but rather, it only implies the construction of airports that represent the starting point and the final destination. In comparison to other traffic branches, air traffic gives its customers the opportunity to cross long distances in short/shorter time since it implies great speed. It is for these reasons exactly that air traffic surpasses all other traffic branches and has the greatest growth in the number of passengers in the last twenty years (Mišetić, 2007). The recorded growth has certainly been the result of technological changes and innovations which have influenced the reduction of the costs of airline companies and indirectly the reduction of prices of the service, leading to more demand, i.e. the above-mentioned growth (Prebežac, 1998). Due to the development of air traffic, all parts of the world have become easily accessed, which has definitely had a positive impact on the development of tourism (Mrnjavac, 2006). In developing countries, air traffic is the carrier of economic growth and as such, it is essential for tourism (Tatalović, Bajić and Šimunović, 2012).

### **2.2. Literature Review on Air Travel Behaviour**

Consumer behaviour is often identified with buyer behaviour because of the strong link between the consumers and the producers at the point of the purchase. Therefore, understanding consumer behaviour leads to business excellence and success. Firms exist to satisfy consumers' needs, as basic marketing postulates suggest (Solomon, Russell-Bennett and Previte, 2013). Airline industry has been focusing on acquiring precise data about passenger demands. In line with that, airlines are using information gained from behavioural models from the stated choice surveys to conduct analyses of hypothetical travel situations (Hess, 2008). In airline industry, it is a well-known fact that different market segments respond differently to price changes. In order to gain better insight into the behaviour of their passengers, they need to understand these different segments that are usually divided into business passengers ('routine' and 'urgent') and passengers travelling for leisure ('holidays' and 'visiting friends and relations') (Doganis, 2005). Scott, Higham and Reis (2013) were investigating sociological barriers for the development of sustainable discretionary air travel behaviour. 50 respondents participated in the primary research, and a semi-structured open-ended interview was used as the research instrument. The interviews were conducted in different countries, Australia, Norway and the United Kingdom. The study revealed that there are significant differences in climate sensitivity and the related behaviour regarding different contexts of domestic, day-to-day travels and tourist travels. On the other hand, some respondents, a minority of them, hold there is no change in their behaviour in domestic or foreign travels. A few participants think tourism practices are so far beyond their every-day social norms, so it cannot influence their lives. This points to the conclusion that considerable efforts should be made to implement positive passenger behaviour in the context of air travelling, a finding that could surely help the managers in air industry in creating new policies and methods. Based on their primary research, Davison and Ryley (2013) conclude that there are distinctions in passenger behaviour related to the groups that travel.

Families and other group variations are more sensitive to higher prices, and factors like age of the child or the children also play important role. Furthermore, retirement also influences travelling behaviour in different ways. Some retired persons travel more and take full advantage of their free time, while others stay put, explaining it is because of their health. The research was conducted by Ryley, Burchell and Davison (2013) on the topic of how highly individuals value the sustainability of air travel. 500 respondents from the UK and the USA participated in the primary research. The findings show how economic and social sustainability elements of air transport are very important to the respondents, although they are not much convinced by the environmental arguments. There are sub-groups revealed by this research that respond more positively to the environmental issues relating air travel. This refers to female population and the younger population, especially those having children. Personal norms individuals adhere to positively correlate with the willingness to pay more for the flight and to modify their behaviour. This reinforces the need to align a desire to reduce reliance on air travel with these energy saving behaviours, increasing the influence of personal norms upon willingness to reduce air travel and flight frequency. Moreover, passengers' willingness to pay more to help reduce the environmental impact of aviation is negatively correlated with the actual behaviour (Davison, Littleford and Ryley, 2014:21).

### 3. EMPIRICAL RESEARCH ON AIR TRAVEL BEHAVIOUR IN THE REPUBLIC OF CROATIA

Following the foreign research streams (Haugh and Hazledine, 1999; Hess, 2008; Hess, 2010; Hess and Adler, 2011; Collins, Rose and Hess, 2012; Scott, Higham and Reis, 2013; Davison and Ryley, 2013; Scott, Higham, and Reis, 2013; Ryley, Burchell and Davison, 2013; Davison, Littleford and Ryley, 2014), the research instrument (a questionnaire) was designed which investigated:

- the main reasons for travelling inside the Republic of Croatia;
- the most used means of transport for travelling inside Croatia;
- respondents' perception of air transport in the Republic of Croatia;
- differences in respondents' attitudes on air ports and air transport in the Republic of Croatia regarding socio-demographic characteristics of the respondents.

The primary, empirical research was conducted in September 2017 via the Survey Monkey platform, and the link for the questionnaire was distributed via social networks and emails.

*Table 1: Socio-demographic characteristics of the respondents (own research)*

		Level of education of the respondents					TOTAL
		vocational secondary school (3 years)	vocational secondary school or gymnasium (4 years)	a student	higher or high level of education	Master's, doctoral degree	
Age structure	< 18	1	6	38	27	2	74
	18-25	0	8	11	47	6	72
	26-35	3	10	0	13	2	28
	36-45	1	10	0	4	0	15
	46-55	0	4	0	1	0	5
Gender structure	male	2	12	11	21	2	48
	female	3	26	38	71	8	146



The total of 194 respondents participated in the research, and a more detailed structure of the sample is displayed in Table 1.

### 3.1. Research instrument

Most respondents, 74, i.e. 38.1% are under 18; these are mostly students (n=38). Even 37.1% of the respondents (n=72) are between 18 and 25 years of age, and 14.4% (n=28) are between 26 and 35. Female respondents dominated the sample (n=146), and regarding the level of education, followed by students in the second place.

### 3.2. Research results

#### 3.2.1. Research results on air travel behaviour

The research started with a group of questions trying to find out: (1) the most common reasons for travelling inside Croatia, (2) means of transport most often used on the travels inside Croatia and (3) airports in the Republic of Croatia the respondents have used so far. Table 2 brings a systematic overview of the reasons why respondents choose to spend their holidays inside Croatia, regarding their socio-demographic characteristics. The first question tried to establish the most usual motive, i.e. the most common reason why the respondents opt for holiday inside Croatia. In line with the research, the results of which are presented in Table 2, almost 74.7% of the respondents mostly travel for fun and recreation, and then there are social engagements and visiting family and friends, while fewest respondents listed work or other reasons.

*Table 2: Reasons for travelling on holiday inside Croatia regarding socio-demographic characteristics of the respondents (own research)*

		Reason for travelling on holiday inside Croatia				TOTAL n (%)
		recreation and entertainment n (%)	work n (%)	socializing and visiting relatives/ friends n (%)	other n (%)	
<b>Age structure</b>	< 18	59 30.4%	1 0.5%	12 6.2%	2 1.0%	<b>74</b> <b>38.1%</b>
	18-25	55 28.4%	4 2.1%	11 5.7%	2 1.0%	<b>72</b> <b>37.1%</b>
	26-35	18 9.3%	5 2.6%	5 2.6%	0 0.0%	<b>28</b> <b>14.4%</b>
	36-45	11 5.7%	1 0.5%	3 1.5%	0 0.0%	<b>15</b> <b>7.7%</b>
	46-55	2 1.0%	0 0.0%	3 1.5%	0 0.0%	<b>5</b> <b>2.6%</b>
<b>Gender structure</b>	male	34 17.4%	7 3.6%	5 2.6%	2 1.0%	<b>48</b> <b>24.7%</b>
	female	111 57.2%	4 2.1%	29 14.9%	2 1.0%	<b>146</b> <b>75.3%</b>
<b>Level of education</b>	vocational secondary school (3 years)	3 1.5%	1 0.5%	1 0.5%	0 0.0%	<b>5</b> <b>2.6%</b>
	vocational secondary school/gymnasium (4 years)	24 12.4%	5 2.6%	8 4.1%	1 0.5%	<b>38</b> <b>19.6%</b>
	student	40 20.6%	1 0.5%	7 3.6%	1 0.5%	<b>49</b> <b>25.3%</b>
	higher or high level of education	71 36.6%	3 1.5%	17 8.8%	1 0.5%	<b>92</b> <b>47.4%</b>
	Master's, doctoral degree	7 3.6%	1 0.5%	1 0.5%	1 0.5%	<b>10</b> <b>5.2%</b>

After the descriptive analysis of the research results had been conducted, we examined the differences among the respondents regarding the reasons for travelling on vacation considering their age and gender structure and the level of education. The findings suggest that there is a statistically significant difference among the respondents in reasons for travelling on holiday regarding the gender ( $\chi^2 = 18.371$ ;  $p > 0.10$ ); namely, male respondents travel more for work reasons, while women on the other hand, travel more for social reasons and to visit their relatives and friends. We have also additionally analysed the differences in reasons for travelling on vacation regarding the age structure and the education level of the respondents. The results show that there is no statistically relevant difference among the respondents regarding the age structure ( $\chi^2 = 12.277$ ;  $p < 0.01$ ), nor regarding the level of education ( $\chi^2 = 13.816$ ;  $p < 0.01$ ). The second question tried to determine the main means of transport the respondents use on travels inside the Republic of Croatia (Table 3). Most of them travel by automobile ( $n=151$ ), then by bus ( $n=39$ ), train ( $n=2$ ), plane ( $n=1$ ) and ship ( $n=1$ ). The results of statistical analysis have shown that there is no statistically relevant difference among the respondents regarding their age and gender nor the means of transport they use for travelling inside Croatia, nor there is a statistically relevant difference regarding their level of education and the means of transport they use for their travels inside the borders of the Republic of Croatia.

*Table 3: Main means of transport the respondents use for their travels inside Croatia regarding their socio-demographic characteristics (own research)*

		<i>Means of transport for travelling inside the Republic of Croatia</i>					<b>TOTAL n (%)</b>
		<i>car n (%)</i>	<i>plane n (%)</i>	<i>ship n (%)</i>	<i>train n (%)</i>	<i>bus n (%)</i>	
<b>Age structure</b>	< 18	49 (25.3%)	1 (0.5%)	0 (0.0%)	0 (0.0%)	24 (12.4%)	<b>74 (38.1%)</b>
	18-25	58 (29.9%)	0 (0.0%)	0 (0.0%)	2 (1.0%)	12 (6.2%)	<b>72 (37.1%)</b>
	26-35	27 (13.9%)	0 (0.0%)	1 (0.5%)	0 (0.0%)	0 (0.0%)	<b>28 (14.4%)</b>
	36-45	13 (6.7%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (1.0%)	<b>15 (7.7%)</b>
	46-55	4 (2.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (0.5%)	<b>5 (2.6%)</b>
<b>Gender structure</b>	male	35 (18.0%)	1 (0.5%)	1 (0.5%)	1 (0.5%)	10 (4.9%)	<b>48 (24.7%)</b>
	female	116 (59.8%)	0 (0.0%)	0 (0.0%)	1 (0.5%)	29 (14.9%)	<b>146 (75.3%)</b>
<b>Level of education</b>	vocational secondary school (3 years)	4 (2.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (0.5%)	<b>5 (2.6%)</b>
	vocational secondary school/ gymnasium (4 years)	30 (15.5%)	0 (0.0%)	1 (0.5%)	1 (0.5%)	6 (3.1%)	<b>38 (19.6%)</b>
	student	34 (17.5%)	1 (0.5%)	0 (0.0%)	0 (0.0%)	14 (7.2%)	<b>49 (25.3%)</b>
	higher or high level of education	74 (38.1%)	0 (0.0%)	0 (0.0%)	1 (0.5%)	17 (8.8%)	<b>92 (47.4%)</b>
	Master's, doctoral degree	9 (4.6%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (0.5%)	<b>10 (5.2%)</b>

*Table following on the next page*

*Table 4: Passenger traffic in Croatian airports regarding the socio-demographic characteristics of the respondents (own research)*

		<i>Passenger traffic in Croatian airports</i>						
		<i>Zagreb Airport</i>	<i>Split Airport</i>	<i>Dubrovnik Airport</i>	<i>Zadar Airport</i>	<i>Pula Airport</i>	<i>Rijeka Airport</i>	<i>Osijek Airport</i>
<i>Age structure</i>	< 18	68	10	9	5	2	2	0
	18-25	62	6	10	10	5	3	2
	26-35	23	10	9	8	2	3	1
	36-45	13	5	8	3	0	2	0
	46-55	5	1	1	0	0	0	0
<i>Gender structure</i>	male	41	8	10	6	2	3	1
	female	41	24	27	20	7	7	2
<i>Level of education</i>	vocational secondary school (3 years)	3	0	2	2	0	1	0
	vocational secondary school/ gymnasium (4 years)	30	7	9	3	1	2	1
	student	44	4	6	5	2	1	1
	higher or high level of education	85	18	17	13	5	4	1
	Master's, doctoral degree	9	3	3	3	1	2	0

Furthermore, the respondents were asked which Croatian airports they use, with the possibility of multiple answers. The research results indicate that the respondents often use more than one airport, most often the International Zagreb Airport - "Franjo Tuđman", visited by 82 respondents, then there is Dubrovnik Airport (n=37), Split Airport (n=32) and Zadar Airport (n=26). Fewest respondents have used Osijek Airport, only 3 respondents (Table 4).

### *3.2.2. Testing the differences in respondents' attitudes according to their socio-demographic characteristics*

One of the goals of this research was to investigate whether there were statistically significant differences in respondents' attitudes on airports and airline companies in the Republic of Croatia according to their age, gender and the level of education. Table 5 shows the mean value of the levels of respondents' attitudes regarding airports and airline companies in the Republic of Croatia according to their age.

*Table following on the next page*

*Table 5: The mean value of the levels of respondents' attitudes regarding airports and airline companies in the Republic of Croatia according to respondents' age (own research)*

	Age	N	M of the levels
<b>Airports and airline companies</b>	< 18	74	90.07
	18-25	72	97.88
	26-35	28	99.80
	36-45	15	116.50
	46-55	5	132.10
<b>Airline ticket price</b>	< 18	74	95.28
	18-25	72	103.17
	26-35	28	80.66
	36-45	15	106.87
	46-55	5	114.90
<b>Airline ticket subsidy</b>	< 18	74	92.90
	18-25	72	101.27
	26-35	28	96.39
	36-45	15	99.93
	46-55	5	89.90

With the purpose of investigating the statistically significant difference in respondents' attitudes towards airports and air transport in the Republic of Croatia regarding the age of the respondents, the Kruskal-Wallis test has been used, which confirmed that there is no statistically relevant difference in respondents' attitudes on airports and airline companies ( $\chi^2 = 4.976$ ;  $p > 0.05$ ), airline tickets ( $\chi^2 = 4.474$ ;  $p > 0.05$ ) airline ticket subsidy ( $\chi^2 = 1.009$ ;  $p > 0.05$ ). For investigating the existence of the statistically significant difference in respondents' attitudes towards airports and air transport in the Republic of Croatia according to the gender of the respondents, the Mann-Whitney U-test had been used. Table 6 displays the mean value of the levels of respondents' attitudes regarding airports and airline companies in the Republic of Croatia according to their gender.

*Table 6: The mean value of the levels of respondents' attitudes on airports and airline companies in the Republic of Croatia according to the respondents' gender (own research)*

	Gender	N	M of the levels	$\Sigma$ of the levels
<b>Airports and airline companies</b>	male	48	105.28	5053.50
	female	146	94.94	13861.50
<b>Airline ticket price</b>	male	48	92.73	4451.00
	female	146	99.07	14464.00
<b>Airline ticket subsidy</b>	male	48	106.51	5112.50
	female	145	93.85	13608.50

Research results indicate that there is no statistically relevant difference in respondents' attitudes on airports and airline transport in the Republic of Croatia (Table 7).

*Table following on the next page*

Table 7: Mann Whitney U-test of respondents' attitudes on airports and airline companies in the Republic of Croatia according to their gender (own research)

	Airports and airline companies	Airline ticket price	Airline ticket subsidy
<b>Mann-Whitney U</b>	3130.500	3275.000	3023.500
<b>Wilcoxon W</b>	13861.500	4451.000	13608.500
<b>Z</b>	-1.108	-.695	-1.411
<b>p</b>	.268	.487	.158

The mean value of the levels of respondents' attitudes regarding airports and airline transport in the Republic of Croatia according to their level of education is presented in Table 8.

Table 8: The mean value of the levels of respondents' attitudes regarding airports and airline transport in the Republic of Croatia according to their level of education (own research)

	LEVEL OF EDUCATION	N	M of the levels
<b>AIRPORTS AND AIRLINE COMPANIES</b>	no school qualification/unfinished primary school	49	94.69
	finished primary and secondary educational level	38	111.13
	finished vocational school, higher vocational school, a three-year secondary school	92	92.39
	finished higher vocational school/gymnasium (4 years)	10	95.50
	student	5	119.50
<b>AIRLINE TICKET PRICE</b>	no school qualification/unfinished primary school	49	99.30
	finished primary and secondary educational level	38	84.46
	finished vocational school, higher vocational school, a three-year secondary school	92	100.96
	finished higher vocational school/gymnasium (4 years)	10	109.15
	student	5	92.00
<b>AIRLINE TICKET SUBSIDY</b>	no school qualification/unfinished primary school	49	95.43
	finished primary and secondary educational level	38	94.21
	finished vocational school, higher vocational school, a three-year secondary school	91	98.55
	finished higher vocational school/gymnasium (4 years)	10	103.20
	student	<b>5</b>	<b>92.90</b>

The Kruskal-Wallis test had been used for establishing the statistically significant differences in respondents' attitudes towards airports and air transport in the Republic of Croatia according to the level of education, which has confirmed that there is no statistically relevant difference in respondents' attitudes on airports and airline companies ( $\chi^2 = 3.916$ ;  $p > 0.05$ ), airline ticket prices ( $\chi^2 = 3.070$ ;  $p > 0.05$ ) and airline ticket subsidy ( $\chi^2 = 0.381$ ;  $p > 0.05$ ).

#### 4. CONCLUSIONS

The importance of air traffic is growing in last years, especially in countries that are oriented on tourism. Croatia is not an exception, primarily thanks to the significant entry of low cost carriers on Croatian market in last years. Increasing impact of air traffic in tourism development of Croatia is best reflected in the huge passenger traffic during the summer in all coastal airports in Croatia. Based on the conducted primary research, this paper identifies main reasons for travelling inside the Republic of Croatia, the most used means of transport for travelling inside Croatia, respondents' perception of air transport in the Republic of Croatia and air travel behaviour in general with respect to the socio-demographic perspective. Research results indicate that there is a statistically significant difference among the respondents in reasons for

travelling on holiday regarding the gender, namely, male respondents travel more for work reasons, while women on the other hand, travel more for social reasons and to visit their relatives and friends.

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## IMPROVEMENT POSSIBILITIES OF THE EUROPEAN BUSINESS EXCELLENCE MODEL

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### **ABSTRACT**

*Companies striving for better business performance and efficiency may use definite quality improvement methods that guarantee the improvement of business results. Business excellence models is one of the instruments used by the companies with the aim to succeed. European Foundation for Quality Management defined the benchmarking guidelines of EFQM business excellence model in early 90-ies of the 20th century, and keep them updating periodically. The excellence model is a structure envisaged for the interpretation of excellence guidelines in performance. In order to facilitate the benefits from the EFQM adoption in the company, the management shall initially ensure the compliance of the business activities to the aforementioned excellence benchmarking guidelines. If the company fails to understand and accept the guidelines entirely, the mastering of the model can be complicated and even pointless for any type of the business. EFQM guidelines serve to analyse the performance of the company and justify the adoption of the model in the level of top management. The aim of paper is to explore the improvement possibilities of the performance quality assessment in Latvian enterprises, basing on EFQM business excellence model. The hypothesis is: improving the EFQM business excellence model used in the performance quality assessment in Latvian companies by including important topical criteria and integrating them into conventional criteria of the model could to drive it to higher level of excellence. The tasks: to study the principles of European business excellence model; to assess and verify by Latvian and foreign business excellence and quality experts the assumptions included in the EFQM business excellence model with author's improvements; to draw the conclusions and make proposals.*

**Keywords:** *Business excellence, EFQM, model*

### **1. INTRODUCTION**

According to the statements by L. Porter and S. Tanner, the EFQM business excellence model is a substantial tool of diagnostics providing to the stakeholders learning opportunities aimed to realize the strengths of the company and to discover the possibilities of improvement.( Porter, Tanner, 2001). Besides, the aforementioned model can give a company the chance to calculate the difference between the best practice and actual performance (Sampaio, Saraiva, Monteiro, 2012, p.183). Due to the model's popularity, practicableness and wide applicability the author chose it as a basic tool for further research and elaboration of the practical part of her study. The author pointed out that a company can avoid the waste of resources thorough assessment of initial activities, enabling the possibility to channel these resourcees to the business operations that would facilitate the implementation of business excellence guidelines. The aim of paper is to explore the improvement possibilities of the performance quality assessment in Latvian enterprises, basing on EFQM business excellence model. The hypothesis is: improving the EFQM business excellence model used in the performance quality assessment in Latvian companies by including important topical criteria and integrating them into conventional criteria of the model could to drive it to higher level of excellence. The tasks: to study the principles of European business excellence model; to assess and verify by Latvian and foreign business excellence and quality experts the assumptions included in the EFQM business excellence model with author's improvements; to draw the conclusions and make proposals. In order to complete the task set by the author regarding the need of EQFM improvement, first

and foremost it is necessary to study the guidelines of the EFQM business excellence model and changes to the standard ISO 9001:2015 to identify the corresponding improvable components of the EFQM business excellence model.

## 2. DISCUSSION

The EFQM Excellence Model is based on a set of European values, first expressed in the European Convention on human Rights (1953) and the European social Charter (revised in 1996). This treaty is ratified by the 47 member states of the Council of Europe and the principles are incorporated into national legislation. The Fundamental Concepts of Excellence build on the foundation of these basic human rights, assuming they are universally applied. Recognising the role business can play in supporting the broader goals of the United Nations (UN), the UN global Compact (2000) was established. (Ghicajanu, Irimie, Rares, 2015). This initiative encourages organisations to actively apply these values, set out as principles for sustainable and socially responsible business, across their global operations. Whilst a number of these principles are explicitly covered in the EFQM Excellence Model, a number are implicit, including those relating to human rights, corruption, bribery and forced labour, as these are already a legal requirement within Europe. EFQM Business excellence model can see Figure 1.

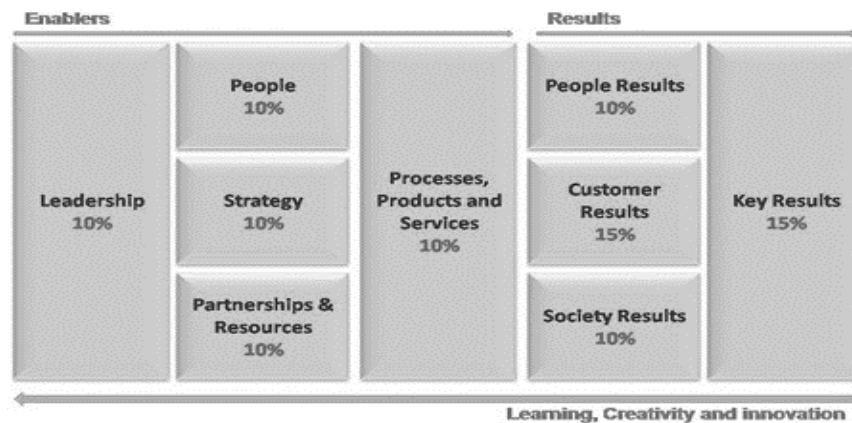


Figure 1: EFQM Business excellence model [Heras-Saizarbitoria, I., Marimon, F., Casadesús, M. 2012].

Model has 9 criterion (Leadership, People, Strategy, Partnership and Resources, Processes, Products and Services, People results, Customer results, Society results, Key results) and 32 sub-criterion. Model has 2 parts-Enablers and Results. Total Core 1000 points-500 as Enablers and 500 as Results part. Model based on Fundamental Concepts of Excellence. They are: (Sampaio P., Saraiva P., Monteiro A. 2012).

1. Adding Value for Customers. Excellent organisations consistently add value for customers by understanding, anticipating and fulfilling needs, expectations and opportunities.
2. Creating a Sustainable Future. Excellent organisations have a positive impact on the world around them by enhancing their performance whilst simultaneously advancing the economic, environmental and social conditions within the communities they touch.
3. Developing Organisational Capability. Excellent organisations enhance their capabilities by effectively managing change within and beyond the organisational boundaries.
4. Harnessing Creativity & Innovation. Excellent organisations generate increased value and levels of performance through continual improvement and systematic innovation by harnessing the creativity of their stakeholders.
5. Leading with Vision, Inspiration & Integrity. Excellent organisations have leaders who shape the future and make it happen, acting as role models for its values and ethics.



6. Managing with Agility. Excellent organisations are widely recognised for their ability to identify and respond effectively and efficiently to opportunities and threats.
7. Succeeding through the Talent of People. Excellent organisations value their people and create a culture of empowerment for the achievement of both organisational and personal goals.
8. Sustaining Outstanding Results. Excellent organisations achieve sustained outstanding results that meet both the short and long term needs of all their stakeholders, within the context of their operating environment.

2015 brought significant changes to the ISO 9000 standards. Subsequently, the author considers important to take into account these changes upon identification of the assumptions to be included into the improved EFQM business excellence model, therefore a general overview of standard sections and comments on necessity of inclusion of other particular issues and their usefulness in context of the improved EFQM business excellence model are provided. The changes in approach of application are also reflected in the sections of the new ISO 9001: 2015 standard that are displayed in Table 1.

*Table 1: Sections of standard ISO 9001:2015  
[Quality Management Systems. Requirements, 2015].*

No.	The parts of Standard
1.	Scope
2.	Normative References
3.	Terms and Definitions
4.	Context of the Organization:
4.1.	Understanding the organization and its Context
4.2.	Understanding the needs and expectations of interested parties
4.3.	Determining the scope of the quality management system
4.4.	Quality Management System and its processes
5.	Leadership:
5.1.	Management commitment:
5.2.	Quality Policy;
5.3.	Organizational roles, responsibilities and authorities
6.	Planning;
6.1.	Actions to address risks and opportunities
6.2.	Quality Objectives and planning to achieve them
6.3.	Planning of changes
7.	Support
7.1.	Resources
7.2.	Competence
7.3.	Awareness
7.4.	Communication
7.5.	Documented Information
8.	Operation;
8.1.	Operational planning and control
8.2.	Determination of requirements for products and services
8.3.	Design and development of products and services
8.4.	Control of externally provided products and services
8.5.	Production of products and services
8.6.	Release of products and services
8.7.	Control of nonconforming processes outputs, products and services
9.	Performance evaluation
9.1.	Monitoring, measurement, analysis and Evaluation
9.2.	Internal audit
9.3.	Management review
10.	Improvement
10.1.	General
10.2.	Nonconformity and corrective action
10.3.	Continual Improvement

Risk assessment-based thinking allows the organization to diagnose factors that could create derogations from its processes and the forecasted results of the quality management system, apply preventively the management tools and methods to reduce negative impacts and take the new opportunities, which is essential for a company striving for business excellence. Risk-assessment based analysis is important in order to achieve an efficient quality management system. The concept of risk-based thinking has been indirectly included in the previous issues of the international standard ISO 9001, i.e. in application of preventive measures aimed to dissolve possible incompliances, analysing of any emerged incompliances, carrying out the activities proportional to the impact of incompliance in order to prevent the repetition of inadequacy.( Hunt, Dominguez, Williams, 2016). In order to comply with the requirements of the aforementioned international standard, the organization must plan and implement the activities that include risks and opportunities.( Abuhav, 2017). Risk consists of the impact of incertitude, which can be positive or negative. Risk-based positive deviation can give the opportunity, but not all positive impacts of risk will. Therefore, thinking of companies striving for excellence from the point of view of a successful business, risk assessment must be included in EFQM business excellence model.( Peckford, 2016). Based on ISO 9001:2015 Standard new parts the author pointed out that a comprehensive information analysis one of the most important aspects to be included in the EFQM model and put among the main criteria, since it is the base of successful business. Information analysis can include the data on external environment and the results can be applied in order to increase the competitiveness of the company. Basing on guidelines of EFQM business excellence model and standard sections of ISO 9001:2015, the author suggest to add to the criteria of leadership and strategy “the principles of sustainable development and risk assessment”. It means that nowadays the business should definitely take into account the sustainable development, taking care of environment, work environment and society in general, which is possible only under guidance of strong leader and well-elaborated business strategy. (Hoyle, 2017, p.147). As for the criterion “Products, services and processes”, it should include sustainable development. It means, that organizing its business the company must use not only environmentally friendly technologies, but also consider the broadening the range of environment-friendly products. (Robitaille, 2015, p. 27). The sub-criterion “Social perception” must be supplemented by the improvement of company’s image, adding the sustainability component. (Cianfrani, West, 2015, p.112). The efficiency indexes of this criterion should include the solutions of the environmental problems, thus pointing at the fact, that environment effects are important to the company striving for excellence in business performance.(Cochran, 2015). And last, but not least criterion suggested by the author is “Business sustainability” related to the impact of the projects related to natural, working and social environment, which is an integral and significant part of business excellence.( Peckford, 2016, p. 68). The assessment of the existing criteria of different business excellence models and changes introduced in standard ISO 9001:2015, considering the guidelines of business excellence model, during the research the author suggests several assumptions for approbation that could essentially improve the EFQM business excellence model to ensure more effective implementation. These assumptions include Internal and external suppliers; Labour safety and healthcare; Risk assessment; Suppliers; Business excellence; Improvement; External environment of the company and its impact; Comprehensive information analysis and risk assessment; Business sustainability. In order to prove the hypothesis, in June-July 2018 the author carried out the survey of 20 experts – 8 experts from Latvia and 12 experts from abroad with proper experience in assessment of EFQM business excellence model. All persons included in experts’ list are appreciated Latvian and foreign EFQM and quality management specialists; therefore, their participation is of high value. Thus, for instance, among Latvian experts in the survey took part Adela Vitkovska, whose personal qualification is EFQM internal assessor, which means a certification with right

to participate in assessment of EFQM business excellence model implementation process as full-scale evaluator. Another expert was Vanda Novokšonova, member of the board of Eurofortis, a licensed EFQM IAT coach and the assessor of EQFM Excellence award. One more opinion was provided by Inese Didže, director of Dobeļe State Gymnasium, representative of GOA-Solutions® (Expert of EFQM excellence model). Latvian experts shared their experience and exchanged opinion with Andriano Ruchini, a qualified assessor of EQFM business excellence model from Italy, Dimitra Bartozoulidou from Greece, who represented EFQM organization and works at Certification department.

*Table 2: Experts' evaluations regarding the importance of EFQM model criteria, sub-criteria and particular aspects in the common EFQM model*

*[Author's calculations according to data of survey carried out by the author in 2018 (n=20)]*

Criterion/sub-criterion	Arith metic mean	Mode	Median	Standard deviation	Significance of the criterion in the model
1. Criterion: <i>Leadership</i> (Proportion of the criterion in model 10)	9.6	10	10	0.3	9.7
Sub-criterion. 1.a Leaders develop the mission, vision, values and ethics and act as role models. Proportion of the sub-criterion in criterion 15.2	9.3	9	10	0.5	9.4
Sub-criterion 1.b Leaders define, monitor, review and drive the improvement of the organisation's management system and performance. Proportion of the sub-criterion in criterion 13.5	8.0	8	8	0.4	8.3
Sub-criterion 1.c Management encourages the creation, implementation and continuous improvement of efficient management system basing on principles of sustainable development and risk assessment and taking into consideration both short and long term goals. Proportion of the sub-criterion in criterion 14.6	8.8	9	9	1.3	9.0
Sub-criterion 1.d Leaders engage with external stakeholders. Proportion of the sub-criterion in criterion 13.8	8.8	9	9	1.0	8.5
Sub-criterion 1.e Management sustains the culture of excellence among employees basing on sustainable development. Proportion of the sub-criterion in criterion 15.3	9.5	9	9	1.6	9.5
Sub-criterion 1.f Leaders ensure that the organization is flexible and manage change effectively. Proportion of the sub-criterion in criterion 12.9	8,3	8	8	1.7	8.0
Sub-criterion. 1. g Management identifies the necessary changes to the company and leads their implementation basing on principles of sustainable development and risk assessment in long term. Proportion of the sub-criterion in criterion 14.6	8.3	8	8	1.9	9.0
2. Criterion – <i>Strategy</i> . (Proportion of the criterion in model 9.5)	9	9	10	0.1	9.2
Sub-criterion 2.a: Strategy is based on understanding the needs & expectations of both stakeholders and the external environment. Proportion of the sub-criterion in criterion 16.8	9.3	9	10	1.3	9.1
Sub-criterion 2.b: Strategy bases on understanding of needs and wishes of the interested stakeholders and external environmental requirements in terms of sustainable development as well as on risk assessment. Proportion of the sub-criterion in criterion 17.3	9.0	8	9	1.2	9.4
Sub-criterion.2.c: Strategy bases on assessment of current situation and potential opportunities. Proportion of the sub-criterion in criterion 16.2	8.5	8.5	9	1.4	8.8

Sub-criterion 2.d: Strategy bases on assessment of current situation and sustainable development. Proportion of the sub-criterion in criterion 15.5	8	8	9	1.2	8.4
Sub-criterion 2.e: Strategy and the respective supporting activities are elaborated, reviewed and updated according to the principles of sustainable development and risk assessment. Proportion of the sub-criterion in criterion 17.7	9.5	9	9	1.5	9.6
Sub-criterion 2.f: Strategy and supporting policies are communicated, implemented and monitored. Proportion of the sub-criterion in criterion 16.6	8.8	9	8	1.1	9.0
3. Criterion - <i>People</i> (Proportion of the criterion in model 10)	9.5	10	9	1.1	9.7
Sub-criterion.3.a: People plans support the organization's strategy. Proportion of the sub-criterion in criterion 14.2	8.3	8	8	1.0	8.7
Sub-criterion.3.b: Staff employment bases on equal opportunities of the employees, ethic conducts and sustainable thinking. Proportion of the sub-criterion in criterion 14.1	8.0	8	8	1.8	8.6
Sub-criterion 3.c: Inclusion of employees with special needs in work environment. Proportion of the sub-criterion in criterion 12.9	7.5	7	7.5	0.9	7.9
Sub-criterion.3.d: People's knowledge and capabilities are developed. Proportion of the sub-criterion in criterion 14.3	9.0	9	9	0.7	8.7
Sub-criterion 3.e: People are aligned, involved and empowered. Proportion of the sub-criterion in criterion 13.8	8	7	7.5	1.3	8.4
Sub-criterion. 3.f: Efficient employees' communication system and reduction of the related risks. Proportion of the sub-criterion in criterion 15.7	9.8	10	9	0.3	9.6
Sub-criterion 3.g: People are rewarded, recognised and cared for. Proportion of the sub-criterion in criterion 14.9	9.0	9	9	1.0	9.1
4. Criterion: <i>Partnerships &amp; resources.</i> ( Proportion of the criterion in model 9.5)	9	9	9	0.6	9.2
Sub-criterion 4.a: Partners and suppliers are managed for sustainable benefit. Proportion of the sub-criterion in criterion 22.1	9.8	9	10	0.5	9.7
Sub-criterion 4.b: Finances are managed to secure sustained success. Proportion of the sub-criterion in criterion 18.5	8.3	8	8	1.1	8.1
Sub-criterion 4.c: Buildings, equipment, materials and natural resources are managed in a sustainable way. Proportion of the sub-criterion in criterion 19.9	9	9	9	1.3	8.7
Sub-criterion 4.d: Management applies technologies to support the strategy implementation in long term. Proportion of the sub-criterion in criterion 20.1	9	8	9	1.3	8.8
Sub-criterion 4.e: Managed information and knowledge, assessment of the related risks in order to support the adoption of efficient decisions and increase the competitiveness of the company both in short and long term. Proportion of the sub-criterion in criterion 21.2	9.0	9	9	1.3	9.3
5. Criterion: <i>Processes, products &amp; services.</i> ( Proportion of the criterion in model 10)	9.5	9	9.5	0.3	9.7
Sub-criterion 5.a: Elaboration and management of processes in order to increase their value according to the needs of interested stakeholders, assessment of possible risks. Proportion of the sub-criterion in criterion 19.5	8.5	9	8.5	0.6	8.9
Sub-criterion.5.b: Development of products and services in order to increase their value according to the customers' needs in long term. Proportion of the sub-criterion 20.6	9.0	9	9	1.0	9.4
Sub-criterion 5. c: Products and services are effectively promoted and marketed. Proportion of the sub-criterion in criterion 18.2	8.5	8	8.5	1.4	8.3

Sub-criterion 5.d: Products and services are elaborated, supplied and lead according to the principles of sustainable development. Proportion of the sub-criterion in criterion 20.6	9.0	9	9	1.0	9.4
Sub-criterion 5.e: Company improves relationship with customers basing on principles of sustainable development. Proportion of the sub-criterion in criterion 21.2	9.3	9	9	0.7	9.6
6. Criterion: <i>Customer results</i> . (Proportion of the sub-criterion in criterion kritērija īpatsvars modelī 10)	10.0	10	10	0.1	10
Sub-criterion.6.a: Perceptions. ( Reputation and image,product and service value,product and service delivery,Customer service, relationship and support, Customer loyalty and engagement. ) Proportion of the sub-criterion in criterion 53.3.	9.8	9;10	10	0.4	9.8
Sub-criterion 6.b: Performance Indicators. ( product and service delivery,Customer service, relationships and support,Complaints handling,Involvement of customers and partners in the design of products, processes, etc. Proportion of the sub-criterion in criterion 46.7	8.8	9	9	0.9	8.6
7. Criterion: People results. (Proportion of the sub-criterion in criterion kritērija īpatsvars modelī 10)	10.0	10	10.0	0.1	10
Sub-criterion 7.a: Perceptions. satisfaction, involvement and engagement, Motivation and empowerment,Leadership and management, Competency and performance management,training and career development,Effective communications,working conditions. Proportion of the sub-criterion in criterion 53.5	9.8	9	10	0.3	9.9
Sub-criterion 7.b: Performance Indicators. Involvement and engagement activities,Competency and performance management activities,Leadership performance, training and career development activities, Internal communications. Proportion of the sub-criterion in criterion 46.5	8.8	8;9	9	0.3	8.6
8. Criterion: <i>Society results</i> . (Proportion of the criterion in model 10)	9.5	9	9.5	0.2	9.7
Sub-criterion 8.a: Perceptions. Image of the organization – as employer, responsiveness in contacts; performance of organization as a responsible member of the society – ethical conducts; role of the organization in the life of the local community – involvement in education and training – support in sports and recreation activities, accidents and health risks, noises and smells, image regarding the sustainability assurance. Proportion of the sub-criterion in criterion 53.6	8.8	9	9	0.8	9.0
Sub-criterion 8.b: Efficiency indexes. Cooperation with authorities in such issues as certification, import/export, new products, solutions of environmental problems. Proportion of the sub-criterion in criterion 46.4	7.5	8	8	1.1	7.8
9. Criterion: <i>Business results</i> . (Proportion of the criterion in model 10)	9.8	10	9.5	0.6	9.7
Sub-criterion 9.a: Business Outcomes. Financial outcomes,Business stakeholder perceptions,performance against budget,Volume of key products or services delivered,key process outcomes). Proportion of the sub-criterion in criterion 51.6	9.5	9	9	0.5	9.8
Sub-criterion 9.b: Business Performance Indicators. Financial indicators,project costs,key process performance indicators,partner and supplier performance,technology, information and knowledge). Proportion of the sub-criterion in criterion 48.4	9.3	9	9	0.2	9.2
10. aspect “ External environment of the company and its impact”. Proportion of the sub-criterion in criterion Aspekta īpatsvars modelī 90	9.0	9	9	0.9	9.3

11.aspect" Comprehensive information analysis and risk assessment". Proportion of the aspect in model 90	8.5	9	9	0.3	8.8
12.aspect. <i>Business excellence</i> 100	9.7	10	9.5	0.2	9.9
13. Criterion: <i>Business sustainability</i> .(Proportion of the criterion in model 100)	9.6	10	10	0.2	9.7

*Rating scale 0-10, where 0- criterion is not important for the inclusion in EFQM model, 10 – criterion must be included in EFQM model.*

To summarize the opinion of the experts the author used Google Forms questionnaire aimed to find out the importance of different criteria, sub-criteria and particular aspects of EFQM business excellence model offered by the author in the context of common EFQM model. Basing on evaluations provided the author elaborated an improved EFQM excellence model. The author applied the rating scale from 1 to 10, where 1 meant that the criterion, sub-criterion or aspect was not qualifying for inclusion in EFQM model, but 10 meant that the criterion, sub-criterion or aspect must be included in the model. In addition to the importance of criteria and sub-criteria in the common model, the experts had to assess the "weight" of each of the indicated criteria, sub-criteria and aspects. The author concludes that in total the importance and "weight" have been assessed similarly due to the experience and perception of the experts regarding the significance of the criterion, its impact to the competitiveness or role in excellence of the company. Different personal experience could generate some particular differences in ratings. At the end of the questionnaire, the experts had the opportunity to express their opinion regarding the criteria, sub-criteria and aspects that should be included in EFQM business excellence model providing the "weight" of the elements in the model, respectively. Due to the fact, that some aspects, such as "Internal and external suppliers", "Risk assessment" and "Improvement" scored less than 5 points, the author excluded them from the approbated model. According to the table, in total the expert evaluations, the dominating values in rating of the criteria, sub-criteria and particular aspects were 8 to 10 points out of 10, which means, that the overall rating of the elements included in the questionnaire was high with few exceptions. The new EFQM business excellence model should include such important aspects as the external environment and its impact on the company, comprehensive information analysis and risk assessment, and business excellence. Experts participating in the approbation of the model named all aforementioned criteria important. Thus, for instance, the mean value of the aspect "External environment and its impact on the company" was 9 (Mode-9, median-9). The mean value of the aspect "Comprehensive information analysis and risk assessment" was 8.5 (mode-9, median-9). The mean value of the criterion "Business sustainability" was 9.2 (mode-9, median-9.0), meanwhile the mean value of the sub-criterion "Indexes of the impact from the projects related to nature, working and social environment" reached 9.5 (mode-9, median-9.0). Thus, the high importance of the improvements suggested by the author and approved by the experts in the context of common EFQM business excellence model are proved, concluding, that these criteria should be included in the model.

*Figure following on the next page*

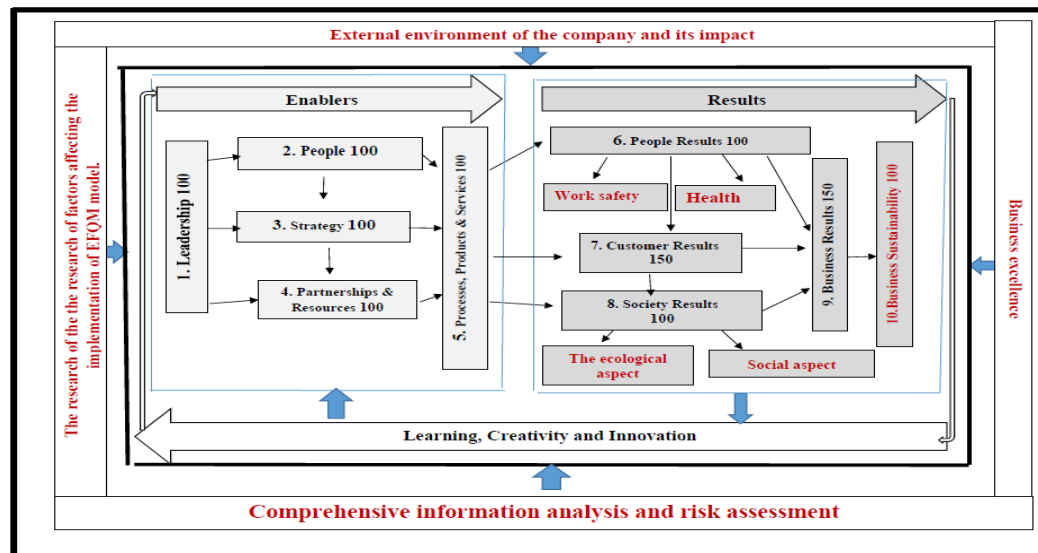


Figure 2: Improved EFQM business excellence model[created by the author according to the experts' survey data collected in 2018 (n=20) and standard ISO 9001:2015]  
Rating scale 1-10, where one-the criterion is not important for the inclusion in EFQM model, 10 – criterion must be included in EFQM model.

The author believes that the model shall keep the conceptually adopted principle of the existing model regarding the sequence: approach - results, then training and improvements, but the implementation mechanism needs changes, including in the model some particular aspects and a new criterion – “Business sustainability”, which is directly related to business excellence. Before introduction of the EFQM business excellence model, the management of the company must assess the stimulating and impeding factors in order to reduce the possible obstacles to the implementation of the model and encourage the competitiveness by maximizing the influence of the stimulating factors. The aspect of comprehensive information analysis and risk assessment interacts with the implementation of every criterion since the quality of the decision-making depends on analysis (interpretation) and scope of available and necessary information in order to define strengths and weaknesses of the company, change strategy, introduce improvements, reduce possible business risks etc. Dealing with risks and opportunities is the first step to efficient quality management system in order to improve the results and prevent negative impacts. The opportunities can emerge in the situation that is favourable to achieve the expected results, for instance, in circumstances allowing the organization to attract customers, elaborate new products and services, reduce losses and improve the productivity. The activities for taking opportunities may include the consideration of the related risks. The analysis of the external environmental factors of the company envisage taking into account the impact of the external environment in the context of each criterion. For example, in the criterion “Employees”, while planning the human resource management, the company should consider the common trends of the employment market.

### 3. CONSLUSION

- The Fundamental Concepts of Business excellence model are: Creating a Sustainable Future, Adding Value for Customers, Harnessing Creativity & Innovation, Developing Organizational Capability, Leading with Vision, Inspiration & Integrity, Succeeding through the Talent of People, Managing with Agility, Sustaining Outstanding Results.
- Basing on guidelines of EFQM business excellence model, experts' opinion and changes introduced in the standard ISO 9001:2015, the author has elaborated an improved version of EFQM business excellence model, including the following aspects: “External

environment and its impact to the company”; “Comprehensive information analysis and risk assessment”; “Business excellence”; criterion “Business sustainability” with a corresponding sub-criterion “Indexes of impact from projects related to natural, working and social environment”, all of them aimed to achieve higher level of business excellence.

- Author’s hypothesis - “the improvement of the EFQM business excellence model to be applied in the quality assessment process in Latvian companies, including new criteria and integrating them with the conventional criteria of the model, can give the opportunity to increase the business competitiveness and drive it towards higher level of excellence” - is proved by the data approbation of the qualitative research carried out by the author.
- In order to reflect in EFQM business excellence model the topical issues of the contemporary business practice related to companies’ striving for excellence and according to the improvements of the approbated model approved by Latvian and foreign experts, the author suggests to include in the EFQM business model such aspects as “External environment and its impact to the company”, “Comprehensive information analysis and risk assessment”, “Labour safety and healthcare” as well as a particular criterion “Business sustainability”.
- In order to comply in due quality with the guidelines of EFQM business excellence model aimed to achieve short-and long-term goals, which is important for the implementation of company’s strategy and risk identification, the sub-criteria of the criterion “Leadership” should be supplemented by the indication about sustainable development.
- In order to guarantee the successful the company’s activities in long term in the constantly changing business environment, the author suggest to amend the sub-criteria of the criteria “Strategy” adding the indication about necessity of sustainable development and risk assessment.
- In order to improve the human resource issues in long term, reduce the amount of incorrect or not precise information, the criterion “Human Resources” should include the following ground sub-criteria with indication on guaranteed equality, sustainable thinking as well as risk reduction in communication with staff.
- To make the company implement its strategy in long term and reduce possible risks related to the insufficient knowledge and information for the decision-making, the sub-criteria of the criterion “Partnerships and resources” are supplemented with the indication about risk reduction possibilities.
- In order to comply precisely with the needs and wishes of all interests stakeholders as well as in order to ensure the company’s operations basing on principles of sustainable development, the sub-criteria of the criterion “Products, services, processes” are supplemented with the indication about risk assessment.
- In order to strengthen the positive image of the company in the society the sub-criterion of the criterion “Social results” is supplemented with the indication on image in the context of sustainability, making long-term contributions, respectively.
- In order to prove company’s readiness to take part in solutions of different environmental issues, which will help to improve its public image, the sub-criterion of the criterion “Social results” is supplemented with the indication regarding the dealing with environmental problems.

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# **CORRELATION BETWEEN EXPOSURE TO WORKPLACE MOBBING IN CROATIA AND WORK PRODUCTIVITY AND JOB PREOCCUPATION**

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## **ABSTRACT**

*Workplace mobbing is a widespread phenomenon. It is a specific form of behavior that poses multiple risk to business. The consequences are very serious and can be manifested by reducing work productivity and job preoccupation and other undesirable consequences. A quantitative research was carried out to determine the exposure to workplace mobbing in Croatia and by using correlation and regression analysis to establish the correlation and the type of connection between exposure to workplace mobbing and work productivity and job preoccupation. In the analysis of the results the correlation method and method of regression analysis, descriptive statistics and methods of analysis and synthesis, descriptive, compilation, induction and deduction, proofing and comparing were used. The aim of this paper was to empirically investigate and identify the state of workplace mobbing exposure in Croatia and to offer an actual solution and to contribute to early prevention and mitigation of workplace mobbing as well as contributing to a general increase of understanding and awareness of this problem.*

**Keywords:** *job preoccupation, workplace mobbing, work productivity*

## **1. INTRODUCTION**

Human Resource Management is a scientific discipline of interdisciplinary character that plays an extremely important role in the performance of each organization's business. The main focus is to recognize human factor as the most important resource in the organization, and in particular the importance of motivation both for employees and managers, as factors that have a positive impact on efficiency, efficiency and effectiveness or business success. Given the recognized human factor's importance, in recent times, the increasing role in human resources management has the issue of harm and conflict management in the organization. However, the question is whether are employers sufficiently aware of these facts? Data on the alarming number of mobbing cases at work, as well as violence, do not support this. The existence of the paradox (Hirigoyen, 2003) has been established that despite the individualization of social processes, there is a lack of space for individual values in the working environment. In this context, workplace mobbing can be seen from the perspective of the human resources management process as a factor that can have a strong impact on the perception of working conditions and on the disruption of this function. Managing the workplace mobbing risk, as one of the tasks of human resource management is not a simple task, primarily because this phenomenon does not happen according to a particular scenario. Moreover, there are many unmeasurable aspects of mobbing, subjectivity, ambiguity, and the fact that this phenomenon has become the subject of

scientific discussions only twenty years ago. It is considered that the damaging consequences of workplace violence, in addition to serious health problems, are reduced productivity, increased costs, and ultimately affect the profits of a company in which mobbing tolerates. The results of the recent research on the alarming number of these risks give extra weight, suggesting that this is a potentially significant source of business uncertainty. Systematic study of this phenomenon began only in 1984, when psychologist Heinz Leymann (Leymann, 1990, pp. 119-126) gave the first definition of mobbing as psychological terror or mobbing in work life involves hostile and unethical communication, which is directed in a systematic way towards one individual who, due to mobbing, is pushed into a helpless and defenceless position, and being held there by means of continuing mobbing activities. It is a widespread phenomenon which is still not spoken about enough. Especially in unstable or less developed economies, where the victims of mobbing, for fear of their own existence, decide not to report and seek help until it is too late. Namely, the consequences of mobbing reflect on the social and the working environment as well as on the individuals, and this is why the problem is viewed from the medical, sociological, legal and psychiatric-forensic point of view, all with the aim of warning the importance of the problem. Certain researches on this topic have been carried out but are certainly insufficient. There is very few research in the world that has dealt with the impact of exposure to workplace mobbing and reduced productivity that is manifested by showing less job preoccupation. No similar or research has been carried out in the Republic of Croatia so far.

## **2. METHODOLOGY**

### **2.1. Problem, subject and purpose of research**

The Workplace Bullying Institute data reports that 37% of employees reported being workplace mobbing victims, and 49% of witnessed to it, which means that 86% of the workforce in the USA was affected by workplace mobbing (The Workplace Bullying Institute, 2011, p. 4). The exposure of employees to the workplace violence is not less in European Union either (The European Working Conditions Observatory 2010.) or in the Republic of Croatia (Portal Posao.hr, 2005). The fact is that this is a widespread problem which needs to be given serious attention (Quine, 1999.). Therefore, as a research problem, the following question arises: "Is there a link between workplace mobbing exposure and reduced worker productivity and reduced job preoccupation?" and, related to that "What are the dominant mobbing behaviour that employees in the Republic of Croatia are exposed to, and is there a correlation between these behaviours and reduced productivity and reduced job preoccupation, as potential sources of additional costs?" The main objective of this research was to empirically investigate and identify the workplace mobbing situation of workers in the Republic of Croatia and to establish correlation with worker productivity and job preoccupation. An additional aim of this research is to contribute to a general increase of understanding and awareness of this issue to management, managers and employees in order to stimulate interventions that will reduce or eliminate workplace mobbing in companies and institutions in a timely manner and thus contribute to reducing damage, risk and uncertainty in business operations, and consequently improve general productivity, Satisfaction and health of employees.

### **2.2. Hypotheses and variables of research**

The research was conducted with the aim of determining the correlation between exposure to workplace mobbing work productivity and job preoccupation. In addition, the probability of prediction of workplace mobbing exposure was calculated based on the value of the measured predictor variables. Inside of the framework of the research topic and for the purpose of defining the basic problems, there are two hypotheses:

- H1: There is a correlation between exposure to workplace mobbing and worker's productivity in the direction that employees exposed to workplace mobbing are showing lower productivity and expressing lower level of job preoccupation.
- H2: There is a correlation between exposure to workplace mobbing and job preoccupation in the direction that employees exposed to workplace mobbing are less preoccupied with their job, and therefore performing less productivity.

There are two types of variables of this empirical - two dependent and one independent variables. The independent variable is the exposure to workplace mobbing, and dependent variables are worker productivity and job preoccupation Operationalization of variables is as follows:

Exposure to workplace mobbing is exposure to repetitive, to the health harmful abuse of worker of one or more employees that have a form of verbal abuse, threatening behaviour, intimidation and humiliation, sabotage to prevent the victim from doing his job, or any of combination of previously stated behaviours. Work productivity is the ability to solve problems, achieve goals, subjective sense of competence, and focus and concentration when working at ones job. Job preoccupation is the degree of psychological identification of workers with their job in regard to the ability to concentrate and occupy themselves with working tasks during working hours. The influence of independent variables the workplace mobbing exposure on dependent variables of work productivity and job preoccupation was tested, through the correlation coefficient of an independent variable with each of dependent variables, since the coefficient of correlation between dependent variables was not relevant for this research.

### **2.3. Data collection methods and data sources**

General methods of analysis, synthesis, descriptive, compilation, induction and deduction, proofing and comparing have been used in this paper. The statistical method used in interpreting the research results were the correlation method and regression analysis method. The statistical method was used to process data of workplace mobbing exposure collected by the survey, to conduct appropriate analysis with the aim of detecting the structure, characteristics and the causal relationship between workplace mobbing exposure and level of work productivity and job preoccupation. Based on the features of a certain number of elements, general conclusions about the average value of the characteristics as well as the deviation from the mean were made. Descriptive statistics were used in the analysis, and correlation analysis showed the relationship between the independent variables, workplace mobbing exposure each of the dependent variables: work productivity and job occupation. The choice of correlation analysis, more precisely the coefficient of correlation, is made from the fact that it is possible to obtain information related to the size and direction of the connection between the independent variable of workplace mobbing exposure and each of dependent variables, and therefore it is not necessary to observe the correlation between the dependent variables to each other. Quantitative data to prove or dispute the hypotheses are collected by online and by direct questionnaires.

### **2.4. Population and research sample**

When it comes to the conceptual definition of the population of this research, it is a survey carried out on a population made up of residents of the Republic of Croatia who work, regardless of the formal status of their employment. The timeline of the population was the one month period, from March 17 to April 17, 2014, in which the survey was conducted. The spatial determinant of the population covers the territory of the Republic of Croatia, in which dominate employees in the city of Zagreb. The sample was obtained by a random selection method, in a way that that a request and link to an online questionnaire was sent email addresses of

respondents employed at different jobs: in government departments, the pharmaceutical industry, financial institutions, information technology, culture, education, technical activities, telecommunications, trade, marketing, health and air transport. The obtained sample is well distributed considering the belonging to a particular economic sector and contains the same share of respondents from each of the individual economic sectors. Additionally, the sample is well represented by the actual structure (Državni zavod za statistiku, 2010) of employees in selected sectors. The results were observed according to the three characteristics of the basic population (population): age of the respondent (age), gender of the respondent (male / female) and belonging to the economic sector. Variables sex, age, and occupation have been taken to the fact that studies conducted so far have shown that these are risk factors for potential exposure to workplace mobbing. For data processing statistical package GNU PSPP was used.

## 2.5. Instruments

Instruments used in the survey for research and collection of data are the following questionnaires: questionnaire for collecting basic and demographic data on respondents, Negative Acts Questionnaire - Revised (Einarsen and Hoel, 2009.) and The second version of the Copenhagen Psychosocial Questionnaire. Questionnaire for collecting basic and demographic data on respondents has been created for the purposes of conducting this research and contain questions about basic demographical characteristics of respondents. Negative Acts Questionnaire - Revised (Einarsen and Hoel, 2009.) is used for measuring an exposure to workplace mobbing further (NAQ - R). NAQ-R is the questionnaire that measure exposure to workplace mobbing by using 22 statements expresses negative behaviour. It is observed how often were workers exposed to the different types of negative behaviour during the last six months – behaviour that if repeated often, is considered as workplace mobbing. All statements are formulated in a way that the word „mobbing“ is not stated specifically. Respondents are not asked to say wheatear they are workplace mobbing victims or not. It is considered that that benefit of this type of stating of negative behaviour is that it is possible to obtain more objective answers, considering the fact that respondents don't have to decide if they were abused at their workplace or did not. Since it was not possible to include all relevant information in this list, after it, there is a definition of workplace mobbing, and after this definition there are some specific questions about personal exposure to the workplace mobbing. NAQ-R was translated to Croatian language and it was verified by double translation method. It uses five level Likert scale with following responds: daily weekly, monthly, sometimes and never. Revised version of NAQ-R from 2009 that was used is based on representative research that included 4996 workers in United Kingdom from seventy different organization, representing one million of their employees. NAQ-R authors (Einarsen et al., 2009.) ensured and presented significant proofs that confirmed the value of NAQ. Constructor validation was shown by demonstrating dimensionality, validation and internal consistency. Research showed that internal stability of scale is very high, ranging from 0.87 to 0.93 per Cronbach alfa coefficient. It was also shown (Einarsen et al., 2009.) that scale correlates with measures job satisfaction in range from  $r = -0,24$  to  $r = -0,44$ , measures of psychological health and welfare in range from  $r = -0,31$  to  $r = -0,52$  and with psychosomatic problems measures ( $r = 0,32$ ). The second version of the Copenhagen Psychosocial Questionnaire was obtained from National Research Centre for the Working Environment form Copenhagen, whose expert team developed this questionnaire and it was used in hundreds of research. The questionnaire is recommended by the World Health Organization World Health Organization, 2010.) as well and it was used for measuring self-evaluation of work productivity and job preoccupation.

### 3. RESULTS

Collection of research data was performed on a representative sample of 249 employees. Sample representability was achieved through stratification and random selection of subjects. As a research restrictions can be considered an exceptional sensitivity of the workplace mobbing topic. The limitation of this type can be interpreted in the sense that the results obtained by examining the exposure to workplace mobbing do not show the actual number of exposed employees and that it can reasonably be expected that this number is even higher. Likewise, one of the constraints relates to insufficient literature as well as a small number of current studies, especially in the Republic of Croatia. The following are the results of empirical research. The results are presented and listed in a way that first are presented the basic socio-demographic characteristics of the respondents who were collected through questionnaire for collecting basic and demographic data on respondents. Following are data obtained through the NAQ-R (Einarsen and Hoel, 2009.), which served as a tool for measuring exposure to workplace mobbing and data obtained with The second version of the Copenhagen Psychosocial Questionnaire. Subsequently, the established correlations between the variables of exposure to workplace mobbing and other variables are presented.

#### 3.1. The basic socio-demographic characteristics of the respondents

This questionnaire covered the following variables: gender, age, marital status, level of education, the existence of children in the household for whom they are financially concerned, the size of the city where the job is done, formal status of employment, employment in the private or public sector, economic activity of the employment organization, the place of residence, the number of employees in the department in which they are working, the length of the job at the current employer and the proportion of the woman in the department. The study involved 185 women and 64 men, and their age structure was well distributed, given the age structure of the employed in the Republic of Croatia (Pološki and Frajlić, 2004.). Most of the respondents (54.22%) live in the marital community, and 30.12% of the respondents are unmarried. When it comes to the level of education, the survey encompassed staff with minimum secondary education (16.5%), and mostly employees with higher education than secondary education, given that research was intended to contribute to raising awareness of exposure to workplace mobbing in highly educated employees, so far there is not enough research to date. Also, the exposure to workplace mobbing in this group of employees should be taken into account since they are employed in jobs with higher levels of responsibilities and it can represent a risk that should not be neglected either. The survey covered employees from all over the Republic of Croatia, with the most representative respondents from the City of Zagreb, which also corresponds to the distribution of employment density by region (Hrvatska gospodarska komora, 2013.). Most of the respondents (82.73%) live in cities with more than 100,000 inhabitants, or cities or their surroundings, which represent the economic centres of a particular region. More than half of the respondents live in households with children (51.41%) for whom they are partly financially responsible (up to 50%). Most of the respondents, 96% of them are full-time employees, which is not surprising given the labour market inflexibility in the Republic of Croatia when it comes to shorter working hours compared to the markets in the more developed countries of the European Union.

#### 3.2. The results of the questionnaire on exposure to workplace mobbing

Exposure to workplace mobbing was measured by Negative Acts Questionnaire - Revised (Einarsen and Hoel, 2009.). In the first part of NAQ-R there are 22 expressions that describe negative behaviour. The time of exposure to negative behaviour that is being observed is the last six months, as the negative behaviour that is often repeated is considered as mobbing. The first 22 statements are formulated in a way that does not use word „mobbing“, meaning that

respondents do not have to indicate whether they are personally mobbing victims or not, which contributes to the objectivity of the response as the respondents do not have to make a judgment on whether they have been abused or not. Responses in questionnaire were offered in the form of a five-degree Likert scale with the following range of answers: daily, weekly, monthly, sometimes and never. Results showed that 69.07% of respondents reported that they were denied of important information relevant to performing of their job, to the extent that they affected their work. The statement "Violence or physical assault" has the highest statistical mean of  $m = 4.98$ , e.g. even 98.39% respondents answered "Never", and 1.61% responded "Sometimes". Replies in other offered categories: "Daily", "Monthly" and "Weekly" did not exist. Since it is not possible to include all the information in this list, after answering these questions, the definition of mobbing is listed and specific questions about personal exposure to mobbing were set. The lowest statistical mean of  $m = 3.78$  had the question "Someone deny you important information that are affecting your work?" to which 10.04% responded "Daily", 8.43% "Weekly", 6.02% "Monthly", 44.58% "Sometimes" and 30.92% respondents answered "Never". Thus, as many as 69.07% of respondents reported that they were denied of important information during their job search, to the extent that they affected their work. One part of the question in NAQ-R refers to workplace mobbing that is focused on the work itself, that is, the sense of usefulness, the use of one's own skills, a sense of quality work, or unpleasant and unavoidable tasks. Taking the strict criterion that say that a person is exposed to workplace mobbing, if only one form of negative behaviour he is exposed to, it can be said that 88.76% of respondents suffered at least one negative behaviour, i.e. only 11.24% of respondents answered to all 22 negative work-related questions negatively. Some of the negative behaviours are experienced by 16.74% of respondents daily, 24.50% of respondents weekly, 35.74% of respondents monthly, and 88.35% of respondents sometimes experience some of these negative behaviours.

### **3.3. Workplace mobbing focused on performing work activities - exposure to negative activities**

One of the definitions of workplace mobbing says that it refers to all those repeated activities and practices aimed at one or more workers, made deliberately or unconsciously, but undoubtedly cause humiliation, insults and discomfort that may affect the performance of work tasks and can be the cause of an unpleasant working environment (Einarsen and Raknes, 1997.). Workplace mobbing that is aimed at performing work activities involves giving unreachable tasks, impossible work completion times, unreasonable amounts of work, meaningless tasks, providing insufficient information to perform work tasks or threats to physical security (Beswic et al., 2006.). Among the responses given by respondents that are related to workplace mobbing focused on performing work activities, the following questions were singled out:

- Have you been ordered to do a job below your professional level?
- Were you given an unreasonable or impossible goals or deadlines?
- Have you been ignored, excluded or isolated?

Namely, on the first question "Have you been ordered to do a job below your professional level?" even 61.85% of the respondents answered the affirmative. The structure of their responses is shown in the following graph (Figure 1).

*Figure following on the next page*

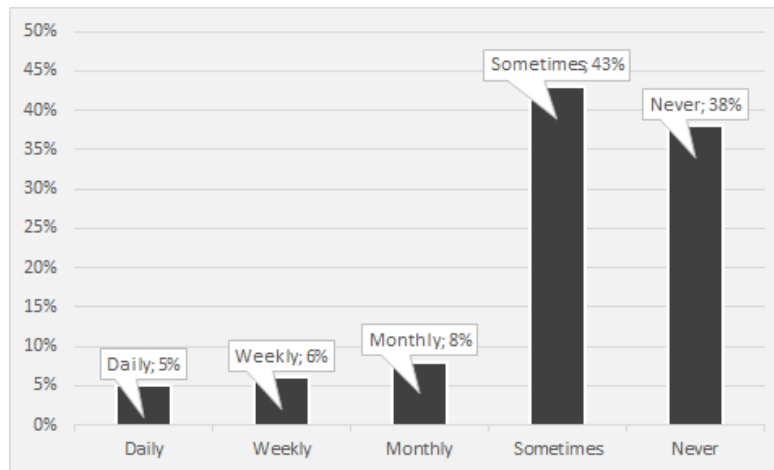


Figure 1: Answers to the question: "Have you been ordered to do a job below your professional level?" (Source: authors, based on research results)

So, only 38% of the respondents stated that they never found themselves in a situation where they were ordered to do the job below their professional level, while 5% stated that this situation was happening daily, 6% weekly, 8% monthly and 43% sometimes. Setting deadlines or goals that can not be realistically accomplished is often a tool used by managers when mobbing is performed at their workplace, since their position simply allows them. To the question: "Were you given an unreasonable or impossible goals or deadlines?" more than half of the respondents answered positively - 51.41% of them. Ignoring, exclusion or isolation by either a superordinate or a colleague is also a commonly used as workplace mobbing. A total of 51% of respondents gave a positive response to this question, and this workplace behaviour is experienced by 4% of respondents daily, 5% weekly, 7% monthly, and even 35% sometimes. It is also indicative that 42.56% of respondents stated that their work was excessively monitored, 5% on a daily basis, as well as the fact that threats of violence or physical abuse are rarely represented.

### 3.4. Person directed workplace - exposure to negative activities

It is believed that mobbing directed against ones person represent a form of stress that causes negative consequences on employees' health and potentially leads to psychophysical symptoms, mood swings and personality changes, psychiatric disorders such as anxiety, depression, adjustment disorders, and post-traumatic stress disorder. Person-directed mobbing involves behaviours such as public humiliation, ignoring, insulting, spreading gossip, slander, disruption of privacy, and other negative behaviours (Beswick et al., 2006.). The most positive answers to the questions asked about exposure to negative activities were gained on the following questions: Someone deny you important information that are affecting your work? (69.07%), Spreading gossip and slander about you? ( 61.45%), Ignoring your opinion and views? (51.40%), Repeatedly reminding of your failures and mistakes? (40.16%) and Have you been humiliated or ridiculed about your work? (40.15%). Overall, negative activities targeted at people and on job performance, there are answers to six questions standing out, in which the overall percentage of positive responses - "Daily", "Weekly", "Monthly" and "Sometimes" dominate the negative response "Never". Interestingly, there are five of the six distinguished questions with dominant positive responses that are related to mobbing directed against a person, while one relates to mobbing aimed at performing work activities - "Were you given an unreasonable or impossible goals or deadlines?" As mentioned earlier, since it is not possible to include all the information in the first 22 activities that describe negative behaviour, after answering these questions, the definition of mobbing was specified and specific questions about personal exposure to mobbing were set.



The definition of mobbing that is mentioned is: "Mobbing is psychological abuse that is repeated through activities aimed at or resulting from the degradation of workers' working conditions that can cause an attack and cause harm to human rights and dignity, harm physical or mental health or compromise the victim's professional future (Leymann, 1990, p.p.119-26). Respondents were asked the following question: "Using the above definition, please indicate whether you have been subjected to abuse at work for the last six months?" with offered responses in the form of a five-year Likert scale: daily, weekly, monthly, sometimes and never. Most of the respondents, 55.82%, are not exposed to workplace mobbing. However, even 44.18% of respondents have been exposed to workplace mobbing for a period of six months. Of these, 29.73% of them are exposed sometimes, and as many as 14.45% of the respondents suffer this abuse at the workplace at least once a month. To characterise negative behaviours as workplace mobbing, most experts agree that negative behaviour should last some period of time or at least six months. It is a worrying fact that most employees who are exposed to workplace mobbing suffers from such behaviour for a longer period of time. Thus 13.65% of victims suffered due this behaviour for more than two years, 18.07% were exposed to it for at least one to two years, 10.44% in period of 6 to 12 months ago, and 2.41% over the past six months. This state of affairs can be interpreted as a result of a difficult economic situation where there is no demand for suitable jobs or distrust in the legal system, which is definitely, when talking about the Republic of Croatia a topic that opens up space for future research. Some research (PsychTests AIM Inc., 2009.) has shown that witnessing to workplace mobbing may also have multiple negative consequences on individuals and organizations. For this reason, however, in order to obtain additional information, since some victims of mobbing often fear to participate in research of this kind, there was also a question about witnessing mobbing: "Have you noticed or witnessed the abuse occurring at your workplace during the last 6 months? ". The results as could be expected are showing a different situation than when the question about mobbing exposure was directly set. Namely, only 27% of respondents stated that they never witnessed workplace mobbing, 63% sometimes, while 10% of them witnessed workplace mobbing at least once a month. Given the difficult economic situation, it is not surprising that a small percentage of only 9% of respondents who, due to mobbing in the past five years, have decided to change their jobs and 5% of respondents have been dismissed for mobbing over the past five years, but for more reliable information on this issue, due to the multiple sensitivity of this issue, a specially designed research should be carried out.

### **3.5. Correlation and regression analysis**

As mentioned above, The second version of the Copenhagen Psychosocial Questionnaire that has been used in more than hundred surveys for self-assessment of productivity and is recommended by World Health Organization (World Health Organization, 2010.) as a good tool for measuring these issues. There are two versions of the Questionnaire, longer and shorter, and for the purpose of this research a longer version was used. Correlation analysis showed the relationship between the independent variables of workplace mobbing exposure and each of dependent variables: productivity and job preoccupation. The choice of correlation analysis, more precisely the coefficient of correlation, is made from the fact that it is possible to obtain information related to the size and direction of the connection between the independent variable and each of dependent variables, and it is not necessary to observe the correlation between the dependent variables to each other. In order to determine the potential possibilities for predicting workplace mobbing exposure as a criterion variable based on results on predictor variables - worker productivity and job preoccupation, and based on the correlation analysis results, a linear regression analysis was used to determine the possibility of predicting exposure based on established correlation relationships on prediction variables: productivity and job preoccupation.

Results are presented below in the form of a formula:

$$Y=a + bnXn$$

- Y - represents the criterion variable - exposure to workplace mobbing
- A - (Alpha) represents a constant
- bn - Beta coefficient of direction for variable Xn
- Xn - Predictor variables that explain variance in Y - Exposure to workplace mobbing (depending on correlation analysis results, i.e. correlation coefficient size – productivity and job preoccupation).

The obtained results indicate existence of the correlation between observed variables - exposure to workplace mobbing and work productivity, where the strongest correlation was being established between workplace mobbing and frequent illnesses among of workers, and the weakest link between workplace mobbing exposure and the ability to achieve their goals in unfavourable circumstances. The coefficient of correlation shows that the relationship between workplace mobbing exposure and work productivity exists and their strength and direction is presented, as mentioned above, but the existence and strength of the influence of the workplace mobbing exposure to productivity is left to future research. Also, for each pair of observed variables, a coefficient of determination was calculated. It is expressed as a relative number that indicates to what extent (%) observed independently changeable size of independent variable, the workplace mobbing exposure, influences the dependently changeable size of the observed dependent variables. It shows the representativeness of the relation, and speaking mathematically, it is the relation of the interpreted and the total sum of squares. In other words, the coefficient of determination shows how much the variability is shared, how well one can predict the dependent variable with the help of independent.

### **3.6. Correlation and regression analysis between workplace mobbing exposure and work productivity**

By operationalizing the variables in this paper, work productivity is defined is the ability to solve problems, achieve goals, subjective sense of competence, and focus and concentration when working at ones job. Expressions for self-assessment of productivity by respondents were as follows:

1. I'm always able to solve a difficult problem if I put enough effort.
2. If people are working against me, I always find a way to get what I want.
3. It is easy for me to stick to my plans and achieve the goals I have been pursuing.
4. I feel capable of solving unexpected events.
5. When I have a problem, I usually can find several ways to solve it.
6. No matter what happened, I can always succeed.
7. In doing my job, I invest my maximum potential.
8. I feel that my ability to make business decisions is diminished.
9. I often get sick.
10. When I plan my work activities, I plan them in a way to avoid the person who is exposing me to abuse.
11. I'm trying to find other duties or jobs, so I would not come into contact with a person who exposes me to abuse.

Pearson's correlation coefficients for the answers to each of these questions were calculated and the following was determined:

- **Strong correlation**  
The existence of this strong correlation (0,80) between the exposure to workplace mobbing and the expression "I often get sick" is established.
- **Medium strong correlation**  
The medium strong correlation was determined for the following responses:
  - When I plan my work activities, I plan them in a way to avoid the person who is exposing me to abuse. (0.73).
  - I feel capable of solving unexpected events (-0.72).
  - When I have a problem, I can usually find several ways to solve it. (-0.68).
  - I'm always in a position to solve a difficult problem if I do enough." (-0.67)
  - I'm trying to find other duties or jobs, so I would not come into contact with a person who exposes me to abuse. (0.66)
  - In doing my job, I invest my maximum potential. (-0.60)
  - No matter what happened, I can always succeed (-0.58).
  - It is easy for me to stick to my plans and achieve the goals I have been pursuing. (-0.55).
- **Weak correlation**  
The weak correlation was established for the following statements:
  - I feel that my ability to make business decisions is diminished (-0.44).
  - If people are working against me, I always find a way to get what I want (-0.39).

Using the linear regression analysis, an analytic model was obtained that showed the link between workplace mobbing exposure, as the criterion variable and expression that in the predictor variable (work productivity) gained the highest coefficient of correlation: "I often get sick". The obtained linear regression model is as follows:

$$y = 2,0202x - 0,39$$

Y = work productivity, predictor variable

A= -0,3929

b =+2,0202

X= workplace mobbing exposure, the criterion variable

Linear regression analysis showed the correlation between workplace mobbing and work productivity due to frequent occurrence of illness in the sense that if the workplace mobbing exposure increases for a single unit, the frequency of getting ill will increase twice. The determination coefficient is as follows:

$$R^2 = 0,636$$

The determination coefficient (R<sup>2</sup>) shows a strong link with 63.6% confidence. Other statistical values are shown in the following tables (Table 1. and Table 2.).

*Table 1: Statistical values of regression analysis – work productivity (source:authors)*

Regression Statistics	
Multiple R	0,79631344
R Square	0,634115095
Adjusted R Square	0,632627758
Standard Error	0,76255806
Observation	248

*Table 2: Statistical values of regression analysis - coefficient, standard error and t-statistic coefficient – work productivity (source: authors based on research results)*

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	-0,381426969	0,159758175	-2,38753	0,017718	-0,696095315	-0,066758622	-0,696095315	-0,066758622
1	2,014454491	0,097561419	20,64806	1,25E-55	1,822292241	2,206616742	1,822292241	2,206616742

The standard error (0,159758) is obtained by calculating the quadratic root of the regression coefficient variance, and the t-statistic coefficient is estimated by dividing coefficient by a standard error. Since this is a large sample (>30) and the t-statistic coefficient exceeds the absolute value of 2 (-2,28,753), it can be concluded that the coefficient is significant with a confidence interval of over 95%.

### 3.7. Correlation and regression analysis between workplace mobbing exposure and job preoccupation

Variable job preoccupation is defined for the purpose of this research as degree of psychological identification of workers with their job in regard to the ability to concentrate and occupy themselves with working tasks during working hours. The expressions that investigated the job preoccupation are as follows:

- When performing my work activities, I'm less focussed.
- During working hours, I often think of the unpleasant incidents that have happened to me
- During working hours, I often worry and think about unpleasant incidents that could happen.

The following table (Table 3) shows Pearson's correlation coefficients between workplace mobbing exposure and job preoccupation.

*Table 3: Pearson's coefficients of correlation between workplace mobbing exposure and job preoccupation (source: authors based on research results).*

		Workplace mobbing exposure	Less focus on work activities	Thinking about unpleasant incidents during working hours	Worrying about incidents during working hours
Workplace mobbing exposure during the last six months	Pearson Correlation	1	0.6	0.52	0.47
	N	249	249	249	249

Strong correlation was not found for any category related to job preoccupation. The medium strong correlation (0.60) was established for an expression that refers to a lower concentration during working ours and thinking about the unpleasant incidents during working hours that happened to the worker (0.52), and weak correlation was established for a claim that refers to thinking about unpleasant incidents that could happen (0.47). The results of the correlation analysis indicate the existence of medium strong and weak correlation between observed variables - exposure to workplace mobbing and job preoccupation, with the strongest correlation link being established between workplace mobbing exposure and lower concentration during job performance. Using a linear regression analysis, an analytic expression was obtained that showed the relationship between workplace mobbing exposure, as a criterion variable and the expression "When performing my work activities, I'm less focussed.", which

on predictor variable showed the highest coefficient of correlation (0.60). The obtained linear regression model is as follows:

$$y = 1,3746x + 0,2436$$

Y = job preoccupation, predictor variable

A= 0,2436

b =1,3746

X = workplace mobbing exposure, criterion variable

Linear regression analysis showed the correlation between workplace mobbing exposure and job preoccupation in terms of less focusing on job in the sense that if the workplace mobbing exposure increases for a single unit, a decrease in focus on job of 1.37 will occur. The determination coefficient is as follows:

$$R^2 = 0,3707$$

The determination coefficient (R<sup>2</sup>) shows a medium link with medium strength of 37.07% confidence. Other statistical values are shown in the following table (Table 4).

*Table 4: Statistical values of regression analysis – job preoccupation (authors based on research results)*

Regression Statistics	
Multiple R	0,606682
R Square	0,368062
Adjusted R Square	0,365494
Standard Error	0,893906
Observation	248

The standard error (0,893906) is obtained by calculating the quadratic root of the regression coefficient variance, and the t-statistic coefficient is estimated by dividing coefficient by a standard error.

#### 4. CONCLUSION

There are various definitions of workplace mobbing. One of them, very precise one says that workplace mobbing is repeating and for victim health damaging abuse of a person by one or more employees, having the form of verbal abuse, threatening behaviour, intimidation and humiliation, sabotage, preventing the victim from doing the job or some of a combination of the above (Namie and Namie, 2009.). Differences observed by looking at different definitions are not significant and mainly relate to the issue of a specific time of exposure to violent behaviour, defined frequency of occurrence, exposure, intent or unconscious behaviour or the question of whether there is a damage or only negative behaviour is enough to be labelled as mobbing? However, in careful observation of these definitions, one comes to the conclusion that most scientists, however, agree that violence must take place for a while, that it must be a case of repeated negative behaviour and that a victim is either helpless or there is a big difference in power at the expense of the victim. It can not be argued that this is a behaviour whose awareness and reaction by society is completely ignored. Specifying high healthcare costs caused by work-related stress has led to a number of measures taken during the last fifteen years in the European Union that are showing the raise of awareness about work violence problem.

However, it is considered that although these initiatives are positive, defamation of workplace abuse victims shows that this is still not enough to make quality precautions and in time detect workplace abuse. Without adequate systematic management of these risks, as well as tools for early detection and prevention of workplace mobbing and its consequences, such data will continue to show a growing trend. Thus, regardless of the existence of some workplace mobbing research, it is considered that these studies are mainly focused on the health consequences that the victims feel, but if this research are viewed in the context of the severity and prevalence of workplace mobbing, they are neither sufficient nor investigated in the way this research was conducted. Among other things, this paper aimed at creating more concrete tools for early detection and prevention of workplace mobbing, as a reflection of the need to recognize and treat workplace mobbing as a risk and therefore a major source of business uncertainty. There are different types of workplace abuse: abuse related to work assignments, social isolation, private life-related assaults, verbal threats and insults in front of others, as well as physical abuse. Consequences, if workplace mobbing is tolerated and not sanctioned are different but generally they can be grouped into the physical, emotional and work-related consequences. Thus, it can be concluded that workplace mobbing represents multiple business risks - ranging from operational risk, human resources management risk, legal risk to significant risk of reputation. Collecting data on workplace mobbing exposure in the Republic of Croatia was conducted on a representative sample of 249 employees, and sample representability was achieved through stratification and random selection of respondents. The statistical method was used for research and within the statistical method and the correlation method and regression analysis method. The statistical method was used to analyse the workplace mobbing exposure and using appropriate questionnaires, appropriate analysis were performed with the aim of detecting the structure, characteristics, laws and the causal relationship between workplace mobbing exposure and work productivity and job preoccupation. Descriptive statistics, which describes, appraises, compares and analyses mass phenomenon based on the representation and numerical processing of known data according to different statistical features were used in the analysis. Correlation analysis showed the relationship between the independent variables of workplace mobbing exposure and each of the dependent variables productivity and job preoccupation. The choice of correlation analysis, more precisely the coefficient of correlation, is made from the fact that it is possible to obtain information related to the size and direction of the connection between the independent variable each of dependent variables, and it is not necessary to observe the correlation between the dependent variables to each other. Estimation of the relationship between the mentioned variables by correlation analysis is a good choice and because of the functionality of the correlation strategy in identifying and describing the relationship between the variables. By the method of linear regression analysis, it was possible to predict workplace mobbing exposure, as a criterion variable based on predictor variables - work productivity and job preoccupation. In accordance with the basic objective of this research, the empirical study of the workplace mobbing exposure in the Republic of Croatia has been explored and identified. It was established, that when it comes to question that did not directly mention the word mobbing, but responding to frequency of exposure to different negative behaviours, and taking into account the strictest criterion that says that a person is exposed to workplace mobbing if he is exposed only to one negative behaviour, result showed that 88.76% of respondents suffered at least one negative behaviour. Furthermore, dominant mobbing behaviour was identified by employees in the Republic of Croatia. It is about denying important information affecting the victim's work, spreading gossip of victims, ignoring the victim's opinion and views, recalling the victims of their errors and mistakes, and humiliating or ridiculing the of victims related to the victim's work. The results from the second part of the questionnaire, which outline the definition of mobbing and specific questions about personal exposure to mobbing, showed that 44.18% of respondents are exposed to workplace mobbing

in the Republic of Croatia, while 73% have witnessed mobbing at workplace. It is obvious that witnessing of workplace mobbing can also have multiple negative consequences on individuals and organizations. The data are worrying and are including Croatia, along with Turkey and the United States, at the very top of the countries where almost half of the total number of employees are exposed to workplace mobbing. In conclusion it can be said that the conducted analysis and the results of empirical research confirm the formulated model and hypotheses. Specifically, based on the results of the research it can be argued that there is a correlation between exposure to workplace mobbing and work productivity defined as ability to solve problems, achieve goals, subjective sense of competence, and focus and concentration when working at ones job in the direction that employees exposed to mobbing show lower work productivity, and it can be said that the main hypothesis is confirmed. Also, there is a correlation (medium strong correlation) between workplace mobbing exposure and job preoccupation defined as the degree of psychological identification of workers with their job in regard to the ability to concentrate and occupy themselves with working tasks during working hours, which is manifested through a less focus on job and thinking during working hours about the unpleasant incidents that happened to a worker. So, it can be concluded that hypothesis about the existence of a correlation between exposure to workplace mobbing and job preoccupation in the direction that employees exposed to workplace mobbing are less preoccupied with their job, and therefore performing less productivity was confirmed. By using the linear regression analysis method it was showed that it is possible to predict workplace mobbing exposure, as a criterion variable based on results on predictor variables – work productivity and job preoccupation. More specifically, after the correlation analysis was performed, a linear regression analysis was used to determine the possibility of predicting workplace mobbing exposure based on predictor variables: work productivity and job preoccupation of the work, based on established correlation relationships. Therefore, it can be concluded that the basic objectives of this paper have been achieved. Additionally, it was also intended to provide a general increase in understanding and awareness of this issue to management, managers and employees in order to initiate interventions that will reduce or eliminate mobbing in businesses and institutions in a timely manner and doing so, to contribute to reducing damage, risk and uncertainty in business operations, as well as to increase satisfaction and the overall health status of employees. Based on the results obtained, it can be concluded that workplace mobbing is not only the problem of victims, on which former research has been largely focused, but is also a significant source of problems for the employer as well. In that light, the recommendation refers to changing the point of view of this problem and the related approach to solving it by providing adequate assistance both to victims and employers. This is especially important given that the managing of workplace mobbing risks is the responsibility of the managers, who at the same time, can be the cause of the mobbing too. Managers are those who have the ability to create organizational culture with their own example, and the recommendation refers to a serious critical review of managerial functions and relationships on this issue, as well as their need to engage in serious workplace mobbing education programs, as well as active workplace risk management. It is considered that the research has shown the correlation between the examined variables and so, it is contributing to the awareness and significance of this main, but often unrecognized, cause of negative stress in the organization, which is also a source of significant direct and indirect costs.

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# THE REVIEW OF SOCIAL MEDIA AND ITS RELEVANCE IN BUSINESS

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## ABSTRACT

*Trends in globalization change market rules every day so that companies face daily, sudden, unexpected and overwhelmingly unpredictable changes where they expect timely and accurate responses and business decision making to achieve market competitiveness. With the development of digitization and the development and expansion of the Internet, new opportunities for business operations have opened up. Technological innovations and digitalization open new opportunities for expanding into international markets and are just social networks, a very convenient channel for business promotion, product advertising, as well as a product sales channel, and hence may have an impact on increasing business performance. Through social networks, consumers can reliably and quickly find out all information about a product as well as information about a business's business.*

**Keywords:** *Business, Digitalization, Social media, Technology*

## 1. INTRODUCTION

Communication within the organization and also between the organizations themselves and the public, precisely because of the globalization of the media, has changed the so-called digital world that allows two-way communication as never before been possible (Caywood, 2013). The impact of the Internet and social networks can influence on the growth of business performance and the minimization of competition, affecting the increase of their own competitiveness, which is one of the main goals of today's business. The way of communicating using the digital world and the so-called "digital world" social networks become the most significant informatics, economic and social phenomenon of the modern world (Caywood, 2013). The use of the Internet and social networks is seen in the context of greater corporate visibility, faster and easier communication, finding new partners and positioning the company and products. The advancement of Internet technologies and the development of social networks is changing the way how company communicate with public. (Curtis et al., 2010; Waters et al, 2010; Humphreys et al., 2010). Communication through social networks enables the company to promote and position its products and services regionally and globally, which contributes to strengthening international business activities and strengthening the competitiveness.

## 2. DIGITALIZATION AND NEW TECHNOLOGY

Digitalization has enabled consumers to access more information, companies can offer a greater number of products and services, communication between companies and consumers is interactive, faster and easier, and companies can gather faster and easier consumer information. The consequence of this is a change in the way how consumers communicate with each other, and the way how they collect and receive information. Digitalizacija omogućava potrošačima da budu proaktivni i da njihove aktivnosti budu vidljive. Digitalization enables consumers to be proactive and to see their activities visible.

Thanks to the digitization that makes it easier to use, process, store and exchange digitized data of any kind (music, pictures, films, books, etc.), there has been a rapid development of information and communication technologies. With the help of today's technology, a business that operates on the Internet can choose small groups or even individual consumers, personalize the offer in view of their special needs and wishes and advertise such offer via direct communication. Likewise, their consumers can ask questions and give their opinion. The Internet and other electronic channels provide additional benefits such as cost reduction and increased speed and efficiency. Using the Internet for direct contact with suppliers, factories, distributors, and consumers, businesses can reduce costs, reflecting on savings for consumers. By the end of 2015, the European Commission announced a framework called "Digital Economy and Society Monitoring 2016-2021". This document describes the main development policies and lists the main data requirements for European Digital Policy, Information and Communication Technologies and their Impact on the Economy and Society during 2016-2021. This information demonstrates the impact of digitization on the business environment and the importance of applying new technologies to business operations. Not only is it impossible to operate in current market conditions without modern technology, but it also becomes one of the factors in which companies develop their strategic directions and actions, and also used properly in the way they can leverage business success.

### **3. SOCIAL MEDIA REVIEW**

Conditional on increasing and widespread use of the Internet and social networks companies need to adapt their ways of doing business in line with new technological requirements and development and communication trends. Therefore, we can say that Internet is today the fastest growing communication and sales channel. Just communication over the Internet focuses on targeted audiences through specific sales channels (e-mail, blog, social networking, etc.), achieve direct communication between producers and consumers, and thus a significant responsibility for communication and the satisfaction with the delivered product is conveyed to the manufacturer. The Internet is considered in the literature as a medium, a form of marketing communication, a form of sales, but it is actually much more than that, because producers are completely leaving the needs and wishes of consumers to be created. The digital technology we know creates and enables media that change the way of communicating with consumers. Internet as a media and channel of communication and sales channel is an important means of communicating with consumers precisely because of its interactivity, which gives it the advantage of traditional mass media and enables companies to develop long-term relationships, ie long-term partnership with consumers, while its interactivity facilitates promotion and product distribution. According to the Kaplan and Haenlein (2010) social media is a group of internet-based applications that were built on the ideological and technological foundations Web 2.0. that allows creation and exchange of user-generated contents. Many researches that have been made about usage of social media gave results that application and usage of new technology change the way companies use knowledge and innovation abilities to create value and affecting all aspects of management (Araujo, Zilber, 2016). The Social Network is the term for the form of human interaction whereby new acquaintances are introduced to new people for the purpose of social or business contacts. Social networks can be defined as web services that allow individuals to create public (all users have access) or limited (only certain users have access to) a personal profile in the system, creating a list of acquaintances, browsing and browsing their own list of acquaintances and other content. According to this definition, it is considered that the first social network was formed in 1997 under the name Six Degrees (USA). Among the most popular social networks, according to the number of users, currently include Facebook, Twitter, LinkedIn, Instagram. Today, social media, and social networks as part of social media, are an inevitable tool for business operations.

Social media provides a mutual benefit between the organization and its customers (e.g. public relations, advertising, brand exposure, communication, review and recommendation) (Smedescu, 2012; Carmin and Warwick, 2013; Fensel et al., 2014.). Ristova (2014) did research and gave conclusions that the most popular social media are helpful to a company's online sales and encourages its products and services. Research shows that the use of the Internet and new technologies in the Republic of Croatia grows year after year, and companies are increasingly selling their products and services online. According to Eurostat data (2017), the share of individuals aged 16-74 in the EU-28 state group who ordered or purchased goods or services on the internet for personal use remained in 2017 at 57%.

*Table 1: Summary of social media types*

Social media types	Key purpose	Advantage of social media type
Facebook	Social networking sites	The company's Facebook fan page enable the testing of attitudes and opinions of online consumers or even promotes and sell their products and services.
Twitter	Microblogging service	The company always not only promotes the product and service, but also provides sufficient information as interaction and conversation.
Blogs	Share and exchange contents	The company can share product and service features, open discussions, and review.
Google +	Social networking sites	The business can share exclusive offers and discounts to its special customer group.
YouTube	Video-sharing site	The firm can share content, make product and service presentation, bookmarking, rating, follower, and commenting in all collaboration of social network.
Flickr	Store and photo sharing site	The business can store and share photos online to a strong loyal social network.
LinkedIn	Business networking sites	The organization can create a profile in order to present that their work to the audience. In the same vein, it enables a company to seek new employees or many experts to join work together..
Instagram	Photo and video sharing	The firms can share activity photos or videos of what's happening to promote the brand and company.

*Source: Kriangsak Chanthinok, Mahasarakham University, Thailand Phaprukbaramee Ussahawanitichakit, Mahasarakham University, Thailand Prathanporn Jhundra-indra, Mahasarakham University, Thailand: Social media marketing strategy and marketing outcomes: a conceptual framework, Proceedings of the Academy of Marketing Studies: Volume 19, Number 2., 2015.*

Table 1. shows all of forms of social media in today's world of digitization and globalization that are the tools and techniques who are inevitable tools in today's business if the company wants to be in step with the development of new technology and gain market advantage. Today a large number of social media are available to companies, and their proper application can provide the company market recognition and global competitiveness Social media has numerous of application in business. Study of Ngai et. al. (2015) did a research of its application marketing, customer relationship management (CRM), knowledge sharing, collaborative activities, organizational communications, education and training i others.

Digital Revolution has changed its business from the ground up (Hoffman et al., 2011; Eshet, 2012; Gordon et al., 2013; Bharadway et al., 2013; Mithas et al., 2013). Enterprises do not need much physical space, they can be virtual and can be anywhere and do business without physical contact (Zuber and Mandić, 2013). With the development of information and communication technology, the world has become a global village where links between different parts of the world are achieved in seconds (Rivera-Santos et al., 2010; Allan et al., 2013; Manjikian, 2010). The way information is transmitted, especially through the use of social networks, can be of utmost importance for the business of the company by its proper application, which can affect profitability and competitiveness in the global market.

#### **4. PREVIOUS RESEARCH AND LITERATURE REVIEW**

The area of social media has been elaborated and described through numerous of scientific researches that broadly handle different social media themes. There are numerous researches that deal with social media tools and technology and how nowadays such tool affects on company business. Authors Boyd and Ellison (2008.), Bhagat et al. (2009) defined what social media are. For Boyd and Ellison social media are web services that allow individuals to create public or semi-public profile, create a list of other users whit whom they share connections and then information through the system. Bhagat et. al. said that social media are the online technologies that people use to share opinions, ideas, experience and perspectives whit others. Business can use social media in many of organizational tasks and arias already mention according to Ngai (2015.) Research of Mangold and Faulds (2009.) considers social media as an integrated part of the integrated marketing communication strategies of a company. The research of usage of social media in field of marketing also conducted author's Doherty (2010), Slovensky and Ross (2012.), Askool and Nakata (2011.), Looney and Ryerson (2011.), all of them dealt with benefits of social media usage in a filed of marketing. Research conducted by Bughin and Chui (2010.) gave results that companies using social media continue to report that they have measurable business benefits. Stanojević (2011) in its reserach mentions the importance of social network marketing and provides an overview of the most frequently used social networks for the development of consumer relations. Ab Hamita (2012.) conducted research focused on customer trust through social media in hotel sector. The main focus of the research is on consumers' perceptions of the importance of social networks when deciding on purchasing and what impact social networks have in creating confidence between companies and consumers and their retention as loyal consumers. This research has shown a direct link between the use of social networks, consumer confidence and their potential retention. Charoensukmongkol et al. (2017.) research the implication of social media usage in CRM and business performance satisfaction. The research was conducted on 217 owners of the small shops at major marketplaces in Thailand. The results from partial least square regression analysis showed that the entrepreneurs who used social media intensively for CRM tended to report higher satisfaction with their business performance. Recently, the authors (Currás-Pérez, Ruiz-Mafé, Sanz-Blas (2013), Ruiz-Mafe, Martí-Parreño, Sanz-Blas (2014), Park, Kim, (2014), analyze the determinants of loyalty of social networking sites, paying special attention to the role of consumers, their attitude, perception of risk and satisfaction, with the aim of promoting and creating emotional relationships and long-term relationships with consumers. In the Republic of Croatia an interesting survey was conducted by Kovač et al (2016.) that explores the significance and the role of social networks in retailing business and they show which set of promotional activities retail business use and how they use social networks as promotional media.

## 5. CONCLUSION

Digitalization has enabled consumers to access more information, companies can offer a greater number of products and services, communication between companies and consumers is interactive, faster and easier, and companies can gather faster and easier consumer information. The consequence of this is in a change in the way how consumers communicate with each other, and how they gather and receive information. Digitalization enables consumers to be proactive and to see their activities visible. Thanks to the digitization that makes it easier to use, process, store and exchange digitized data of any kind (music, pictures, films, books, etc.), there has been a rapid development of information and communication technologies. Internet communication is focused on a targeted audience through a number of social media tools and techniques (email, blog, social networking, etc.), which enables direct communication between producers and consumers, recognizability and long-term competitiveness. At present, social media are an integral part of modern society, and social networking sites are a very large industry. With a practical instant response to any queries in social media, social networks are a great tool for achieving productivity and achieving market competitiveness.

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## ADOLESCENTS PERCEPTION OF THE COMMERCIAL ADVERTISING IN SLOVAKIA

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### ABSTRACT

*Marketing communication sector has, in recent decades, experienced dynamic qualitative development, while its current form in the intentions of customer orientation has acquired the character of a targeted stimulation of more closely differentiated segment. The current period, characterized by increased communications has created the possibility for a more dominant application of advertising in public. Thus advertising penetrates into all aspects of life and its setting-up has been confirmed in both commercial as well as land non-commercial spheres. The paper deals with the perception of the term, "commercial advertising," in the segment of generation Z in Slovakia, represented by university students. The research method of data collection was an online questionnaire with the implementation of semantic differential. The data processing was conducted by means of descriptive and inferential statistics. The resulting findings refer to the perception of the term, "commercial advertising," by a research group of adolescents in their semantic space.*

**Keywords:** *Commercial advertising, Generation Z, Adolescents, Perception, Questionnaire, semantic differential*

### 1. INTRODUCTION

By commercial advertising we mean in the most general terms, the use of advertising to generate revenue or if you like, profit through increased demand. But understanding commercial advertising in such a simple way would be undesirable simplification. Commercial advertising features not only increase sales by informing the customer about the properties or benefits of the promoted product or its unique selling proposition (USP). The function of advertising can also be increased brand salience, or to evoke positive emotions by its likeability and thus to change the target audience's attitude not only to the advertising itself, but primarily to the brand being promoted. The effect of commercial advertising in the conative part of consumer decisions is also difficult to substitute. And we also could talk about other long term features of commercial advertising, such as brand building etc. Moreover, the world of commercial advertising has changed incredibly recently. Old paradigms cease to be valid and are replaced by new ones. Not only are media are changing, but also advertising formats, strategies and tactics, the overall concept of commercial advertising is changing. Not only academic research, but also practical experience has shown that there are many other things different today. Can't but agree with IAB President Randal Rothenberg, who said "The definition of advertising has never been more unclear" (Rothenberg, 2013). Commercial advertising is a very complex social phenomenon which involves cognitive, emotional and conative (behavioral) components. It is influenced by the behavior of the target group that is affected by socio-cultural, demographic, economic and other factors. Furthermore, it is influenced by the promoted product category, product lifecycle phase, advertising goals,



whether it is B2C or B2B marketing and many other aspects. What is the response to advertising? The effect of commercial advertising causes some immediate effects in the field of cognitive resp. emotional projection which lead to subsequent behavior. The origin and theoretical rationale of the effect of commercial advertising must be sought in the field of social psychology theories dealing with the origin of attitudes and their change. The origin of the attitude must be sought in accordance with the so-called tripartite model in the affective, conative and cognitive component. The effect of advertising is actually a much more complex phenomenon. (Světlik and others, 2017).

## **2. ATTITUDES AND PERCEPTIONS OF COMMERCIAL ADVERTISING**

One of the important factors influencing human behavior towards commercial advertising is his/her attitude. We understand by attitude how person evaluates in the long term particular objects (other persons or oneself, products, brands, advertising, etc.) or events. One of the most important attitudes in the theory of advertising is the attitude of the person to advertising in general (Aag), the attitude towards a particular advertisement (Aad), the attitude towards the source of the advertising message, etc. Most academics agree that attitudes are created by the three basic components mentioned above, cognitive, emotional and conative (behavioral) component. The first of these is cognition, primarily based on our thinking. Cognition refers to what opinions one has on a particular object. Another, no less important component of attitude is the affection in the sense of feelings that person feels in relation to the object, emotions that this relationship raises respectively. Behavior, in the sense of person's intention, to do something in relation to the respective object. But this intent may not mean that one will actually act in some way. In particular, the affective side of the model is characterized by the fact that in most cases the formation of attitudes has more power. In other words, whether or not we want to admit it, our attitudes and subsequent decisions are strongly influenced by emotions. This is, both for commercial advertising in general, for specific advertising, or for what is the goal of advertising communication. One of the decisive factors influencing the effectiveness of advertising is the attitude towards advertising in general (Aag). It should be noted that public attitudes to advertising are one of the most important factors of its effectiveness. Highly critical advertising responses are called "advertising fobia", and this phenomenon, which is culturally conditioned, is seriously dealt with by marketers and admen. From their point of view, knowledge of attitudes and trust in advertising is an important aspect an overall advertising strategy decisions. Research accomplished by Andrews et al. (Andrews, Lysonski, Durvasula, 1991; Muehling, 1987), has shown significant differences in attitudes towards advertising in general in particular countries. The assessment of advertising as an institution was very detailed and the impact of individual components creating attitudes to advertising was comprehensively investigated. Detailed research has shown that, in addition to differences in overall attitudes towards the institution of advertising, the impact of individual enumerated components on the overall attitude is culturally conditioned. Another very extensive research, which involved 16 European countries, explored the influence of Hofstede dimensions (uncertainty avoidance, masculinity/femininity, individualism/collectivism and power distance dimensions) and one demographic factor (education) on trust in advertising as an institution (Zinkhan, Balazs, 1998). Most criticism and negative relation to advertising showed, especially from the social dimension (rejection of materialism, isolation of the individual towards the social group, unequal status of women and many "sexism" in advertising, etc.). For example, De Mooij speaks of a "notoriously critical approach to advertising by the Dutch and Scandinavians" and justifies this in two ways (De Mooij, 2010). On the one hand, these two countries represents feminine cultures in which more criticism and skepticism generally prevail, as well as small markets, and most of the ads are imported from the Anglo-Saxon or German environment, and

thus have completely different cultural foundations. A similar survey was accomplished in the past in the Czech Republic (Světlík, 2005).

### 3. GENERATION Z

In addition to the factors mentioned above, the attitude to advertising in general (Aag) also influences the time period when the individual was born. The birth period allows you to create segmentation based on so-called generation cohorts. Nowadays we can meet the members of the so-called Silent Generation, Baby Boomers, Generation X, Generation Y, Generation Z and currently the nascent Generation Alpha. The Z-generation specification varies from author to author and includes the birth of their members between the end of 90's last century until the end of the first decade of this millennium. For description of this cohort are some other terms used, like Generation M (multitasking), generation I (Internet) or September 11th generation. Members of a given generation have common similar characteristics and behaviors, have been brought up and formed under certain circumstances and have similar values and reach similar attitudes (Deloitte Millennial Survey, 2016; Deloitte Millennial Survey, 2017). This generation is characterized by an almost permanent online presence that influences interpersonal communication. Globalization and modern technology are commonplace for generation Z. Members of this generation share information, their experiences and experience online. The Z generation is highly interconnected with its surroundings through new digital technologies. Members of this generation have been using communication and media technologies all their lives. They earned the nickname "digital natives" (Světlík, Bačíková, 2015). They mostly live deeply immersed in digital technologies and in the sense of this part of social reality, they think and act differently than previous generations. The young people of Z cohort demonstrate an apparent familiarity with computers and mastering all the necessary skills, they rely heavily on search engines, view rather than read and they do not possess the critical and analytical skills to objectively assess the information that they found on the web. Z Generation is not limited to a home computer, the Internet is everywhere with them, for example, in mobile phones. These post-millennials - people born after 1996 understand in depth the digital technology and they have potential to transform their lives and work by using this modern technology. Consumers of this generation often do not perceive advertising messages based on the interpretation of the beginning, history and tradition. Generation Z represents consumers who grew up on advertising and spent most of their life with it and are not disgusted with it so much as their predecessors. As customers they do not like spending time studying blind offers, they do not like to make difficult decisions, they are often not loyal, they often make use of special offers and they want to be rewarded for their purchase. As consumers, they are very demanding, active on the Internet, oriented on comfort, simplicity, saving time and money. In terms of advertising, most young people are interested in advertising that matches their personal style. Generation Z (born approximately 1995-2009) prefers nice creativity, does not like the frequent repetition of the same ad, and appreciates the high-quality musical background. This age cohort likes influencers, responds well to celebrities, uses multiple platforms at once. Attention will stay on one website for about 8 seconds, then switch to another site or other device (smartphone, television, laptop, desktop, tablet). Cohort members want to be independent, not loyalty programs. They are not price sensitive, in general, they are more demanding customers than previous age cohorts (Světlík, Bačíková, 2015).

### 4. METHODOLOGY

The study presents partial results of an extensive research project focused on the perception of commercial advertising in customer segments in Slovakia. It reflects the findings that relate to the perception of the term commercial advertising in the customer segment of the Generation Z.

The primary objective of the research was to determine the semantic space attributed to commercial advertising. In the field of marketing communication, a number of authors devoted similar research to the individual customer segments (Šramová, Džupina, 2016; Bulanda, 2017; Kádeková and others, 2018). In order to set the main goal, we have formulated the following research questions (RQ):

- RQ1: How is the concept of commercial advertising perceived by the customer segment of Generation Z?
- RQ2: How is the notion of commercial advertising perceived by a women's research group of Generation Z customer segment?
- RQ2: How is the concept of commercial advertising perceived by a research group of men in the customer segment of Generation Z?

In the research we have formulated the following hypothesis:

- H: We assume that there will be differences in the perception of the concept of commercial advertising in the research segment of Generation Z in terms of gender differentiation.

Rationale of the hypothesis: We have set the hypothesis on the basis of theoretical resources and several research findings, which pointed out that the difference in perception of the terms in question (as well as objects) in the field of marketing communication is gender differentiated (Markechová, Fandelová, Tirpáková, 2012; Lincényi, Bulanda, 2016). The research group represented the Generation Z customer segment in a cohort of 17 -21 years. Although there is no exact age limitation for this generation, we have chosen to define Madden (2017) that the Generation Z belongs to individuals born between 1995 and 2009. In terms of ontogenesis, we included this age cohort of adolescents in a stage of adolescence. As stated by Šramová (2007), it is a time period when an individual goes through the process of values comparison, presenting family members, members of his/her close social environment, social groups, various institutions and, last but not least, media and virtual space (Lincényi, Kohutár, 2010; Vavrečka, 2016; Kádeková, Holienčinová, 2018). The research group consisted of 298 respondents, 240 women (81%) and 58 men (19%). The average age of the entire study population was 20 years ( $SD = 0.799$ ). The average age of women was 19.97 years ( $SD = 0.80$ ). The mean age of men was 20.06 years ( $SD = 0.79$ ). It follows from the table (Table 1) that the research population was predominantly female respondents. The disproportionality of the research population in terms of gender representation can be explained by the fact that it could be influenced by a determinant related to the current demographic structure of the population, which is dominated by women (Statistical Office, 2019). Despite this, we can conclude that the research set corresponds to the specified intentional selection criterion with respect to the segmentation approach of the generational typology and represents the Generation Z customer segment in Slovakia in the defined age cohort.

<b>GENDER (Age cohort 17-21)</b>			
	Women	Men	Total
<b>Valid (N)</b>	240	58	298
<b>Percent</b>	81%	19%	100%
<b>Mean</b>	19,97	20,06	20,00
<b>Standard Deviation</b>	0,80	0,79	0,799

*Table 1: Evaluation of respondents by gender  
(Own research)*

As a research method of data collection, we used the semantic differential (the authors are Osgood, Suci and Tannenbaum) with a 7 point rating scale. Initially, a method developed to

measure the connotative meaning of terms was introduced, and later its use was extended in the humanities and social sciences to explore social perception, mental and social representations. At present, this method is also applied in marketing research (Džupina and others, 2013). The semantic differential consisted of the following 36 bipolar pairs of adjectives: 1. good - bad, 2. important - meaningless, 3. understanding - moralizing, 4. tolerant - intolerant, 5. exclusive - ordinary, 6. rich - poor, 7. depth - superficial, 8. public - private, 9. honest - false, 10. friendly - unfriendly, 11. appropriate - unteached, 12. natural - artificial, 13. unsure, 14. honest - unfeeling, 15. reliable - doubtful, 16. liberal - authoritative, 17. engaging - boring, 18. strong - weak, 19. simple - complex, 20. organized - chaotic, 21. gentle - rough, 22. naive - calculating, 23. peaceful - excited, 24. loud - quiet, 25. trusted - misleading, 26. protecting - non-protecting, 27. sacrificing - egoistic, 28. socially beneficial, socially unsuitable, 29. practical - impractical, 30. commercial - non-commercial, 31. pedant - negligent, 32. needed - useless, 33. active - passive, 34. direct - manipulative, 35. bold - shy, 36. annoying - acceptable. To evaluate the data obtained through the semantic differential we used descriptive statistics and a two-tailed T-test using SPSS.

## 5. RESULTS

The results of the research findings presented in the following tables and graphs reflect the individual stages of data processing. In the first phase, the descriptive statistics used to process the profile of the term commercial advertising for the entire Generation Z (Chart 1).

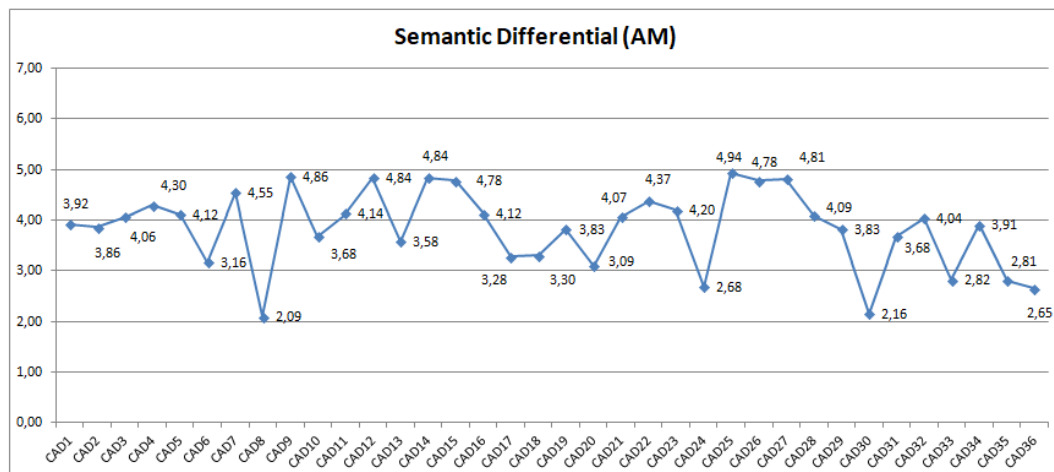
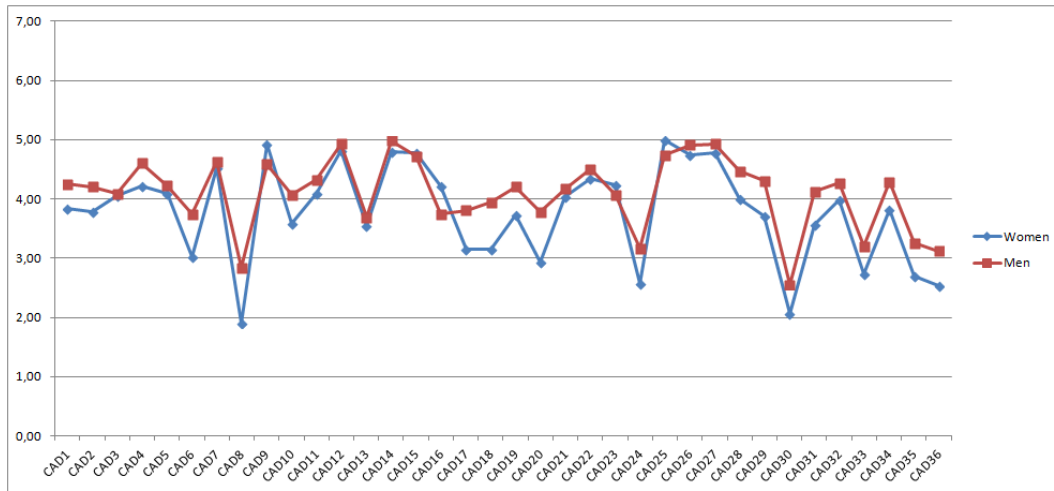


Chart 1: Average perception profiles of commercial advertising  
(own research)

The results show that the Generation Z perceives the concept of commercial advertising more or less with negative connotations. The measured mean values had the largest adjective adjunct: misleading (a = 4,94), false (a = 4,86), non-characteristic (AM = 4,84), artificial (AM = 4,84), egoistic (AM = 4,81), bold (AM = 2,81), loud (AM = 2,68), annoying (AM = 2,58), commercial (AM = 2,16), public (AM = 2,09). Negative evaluation of the term commercial advertising was also recorded in the second phase of research, where we investigated its perception of the research group of women and men. The women's Z generation did not look at the concept of positive. The measured mean values had the greatest adjective: misleading (a = 4,99), false (a = 4,93), artificial (AM = 4,82), uncharacteristic (AM = 4,80), egoistic (AM = 4,78), doubtful (AM = 4,79), organized (AM = 2,93), bold (AM = 2,70), loud (AM = 2,57), Annoying (AM = 2,53), Commercial (AM = 2,07), Public (AM = 1,91). Even the research group of men of the Generation Z perceived the concept of commercial advertising through negative attributes. The measured mean values had the greatest tendency to adjectives: uncharacteristic (AM = 4,98),

artificial (AM = 4.93), egoistic (AM = 4.93), non-protective (AM = 4, 91), misleading (AM = 4.74), doubtful (AM = 4.72), superficial (AM = 4.64), intolerant (AM = 4.60), loud (AM = 3.17), shy (AM = 3.12), public (AM = 2.84), commercial (AM = 2.55). These findings confirm the answer to the research questions: RQ1, RQ2 and RQ3. The comparison of average perception profiles of commercial advertising in women and men is reflected in the following graph (Chart 2).



*Chart 2: Differences in Semantic Differential Scale in Perception of Commercial Advertising in Women and Men (own research)*

In the third phase of the research, using a t-test, we compared the perception of the concept of commercial advertising with a research group of women and men (Table 2). We investigated whether there were differences in the perception of the concept of commercial advertising in the research group from a gender differentiation perspective.

Independent Samples Test							
	Levene's Test for Equality of Variances		t-test for Equality of Means				
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
CAD6	,212	,645	3,177	296	,002	,716	,225
CAD8	11,889	,001	4,368	296	,000	,936	,214
CAD10	3,255	,072	2,278	296	,023	,481	,211
CAD16	2,296	,131	-2,689	296	,008	-,475	,177
CAD17	,707	,401	2,454	296	,015	,660	,269
CAD18	,013	,911	3,486	296	,001	,802	,230
CAD19	1,112	,293	2,057	296	,041	,469	,228
CAD20	2,244	,135	3,807	296	,000	,851	,224
CAD24	,639	,425	2,954	296	,003	,606	,205
CAD29	2,707	,101	2,575	296	,011	,598	,232
CAD30	8,326	,004	2,064	296	,040	,485	,235
CAD31	2,563	,110	2,744	296	,006	,546	,199
CAD33	,239	,625	2,031	296	,043	,478	,235
CAD35	,012	,914	2,596	296	,010	,563	,217
CAD36	3,755	,054	2,310	296	,022	,587	,254

*Table 2: Semantic Differential Scales, where statistically significant differences (own research)*

The research hypothesis was tested on the significance level  $\alpha = 0.05$ . We found statistically significant differences in the scale: CAD6: rich - poor ( $t = 3,177$ ,  $p = 0,002$ ), CAD8: public - private ( $t = 4,368$ ,  $p = 0,000$ ), CAD10: friendly / á - hostile ( $t = 2,278$ ,  $p = 0,023$ ), CAD16: liberal - authoritative / a ( $t = -2,689$ ,  $p = 0,008$ ), CAD17: engaging - boring ( $t = 2,454$ ,  $p = 0,011$ ), CAD18: strong - weak ( $t = 3,486$ ,  $p = 0,001$ ), CAD19: simple - complex ( $t = 2,057$ ,  $p = 0,041$ ), CAD20: organized - messy / á ( $t = 3,807$ ,  $p = 0,000$ ), CAD24: loud / a - quiet ( $t = 2,954$ ,  $p = 0,03$ ), CAD29: practical - impractical ( $t = 2,575$ ,  $p = 0,011$ ), CAD30: commercial - non-commercial ( $t = 2,064$ ,  $p = 0,040$ ), CAD31: pedant - negligent ( $t = 2,744$ ,  $p = 0,006$ ), CAD33: active - passive / a ( $t = 2,031$ ,  $p = 0,043$ ), CAD35: bold - shy ( $t = 2,596$ ,  $p = 0,010$ ) and CAD36: ( $t = 2,310$ ,  $p = 0,022$ ). Based on the above research findings, it can be stated that the hypothesis was confirmed.

## 6. CONSLUSIONS

The study presents partial results of research which examined the perception of the concept of commercial advertising in the customer segment of Generation Z in Slovakia, in the cohort of adolescents aged 17-21. Research findings have pointed out that the concept of commercial advertising is perceived dominantly in negative connotations for the entire research population as well as for the research group of women and men. When comparing the semantic differential profiles of women and men, there were statistically significant differences in adjective pairs within the individual dimensions of the semantic differential with the inclination to the negative attributes. In view of this, it can be concluded that it is important to take into account gender differentiation in looking at commercial advertising, and the planned communication incentives of this marketing communication tool will be more targeted to the defined target groups. We believe that the so-called negative perception of commercial advertising is influenced by so-called. a marketing smog that is linked to the oversaturation of advertising in both public and digital space. From the point of view of customer segments, there is a certain crisis of attention from marketers to the tendency of communication incentives in order to impress the target groups of customers. Advertising appeals are used to attract attention and interest in the promoted product or service. In recent years, the use of advertising shock and the application of so-called shockvertising. It is an advertising technique aimed at attracting attention in the presence of unexpected factors. These factors are the main and important part of the advertising content, changing the ordinary ad to a shocking one. Unexpected factors are: nudity, sexuality, vulgarity, etc. As stated by Halvadia and Patel (2011), the main aspect that makes shockvertising effective is that shocking advertisements evoke stronger emotions among target audiences. This causes this type of advertising content to increase attention while also being more likely to remember. The risk of shockvertising is that the intensity of the shock can lead to disgust at the advertising content and to the disregard of advertising by customers.

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## IMPLEMENTATION OF LEARNING BY DOING IN ASSESSING COMPETITIVENESS OF FIRM'S OFFERS - A CASE STUDY

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### ABSTRACT

*The article presents the problem of the use of IT tools supporting the decision-making process in the area of auctions. The simulation research included the development of production potential expressed by the increase in the profit of companies participating in the auction. The indicated conditions lead to the analysis of learning processes. Computer simulation was carried out during the research. The basic criterion for deciding on the tender is usually the price or time or both. In the presented example, simplified to two companies, these are companies with similar production technology. However, their internal conditions are diversified, which manifests itself in the diversification of production costs. Accepting an additional order results in various changes in the profit and economic efficiency of these companies. The different level of effectiveness of companies, both those who won the tender and those that have been passively preserved may result from the implementation period  $T$  set by the investor. A company that in given market conditions estimates that it has worse conditions should rather be passive. The proprietary numerical model used in the article is based on the Scilab package. It enables flexible implementation of many different variants both as to the distribution of investment costs and the distribution of other variables, eg price, demand growth, costs, etc. The example presented concerns two companies, but there is the possibility of analyzing any number of them, as well as the possibility to take into account heterogeneous environment of public institutions as investors.*

**Keywords:** *Investment projects, Tender, Bid optimization, Numerical procedures*

### 1. INTRODUCTION

Public auctions organised within a public procurement system are one of the major types of tendering. An important characteristic of this form of negotiations is that public auctions are economically effective for both the awarding party and the bidders. The selection of the successful contractor is preceded by an analysis of the potential participants that must be willing and capable of delivering the object of the tender. The article discusses the application of IT tools in support of decision-making processes related to participation in an auction. The calculations made take account of different aspects of uncertainty. Two hypothetical firms are considered which tender at a public auction for a long-term strategic project involving the construction of a piece of infrastructure. The bids are evaluated based on two criteria: the project completion date and the bidder's capacity. The article explains how contract profitability can be assessed allowing for variations in market factors such as costs, the discount rate and demand. Because this type of projects has a strategic character, an increase in bidders' production capacity, particularly in their profits, is also considered.

Addressing these factors allows a more in-depth analysis of learning processes to be conducted in the context of decision-making (Łyszkiewicz, 2000, p. 199). The computer simulation used for illustrative purposes was performed with the Scilab software package (the open source platform for numerical computation). In a market economy, global flows of capital significantly stimulate the growth of countries that cooperate and trade with one another. The free flow of modern technologies that usually involve major capital expenditures brings up the question about how effective these undertakings are. In tendering procedures, the economic effectiveness of undertakings that are innovative while offering considerable production capacity should be determined already at the stage of negotiations. The tendering system used to procure construction work (regulated by the act – Public Procurement Law) operates on the single market rule which requires all Community-based firms to be given equal access to public procurement tenders. This solution, while allowing firms to participate in tendering procedures announced all over the European Union, makes negotiations prone to risk and uncertainty (Tymiński, 2003). To decide which bid is the most appropriate considering the evaluation criteria, the awarding party may choose one of several approaches (Jaworski, 1999). The contract may be granted through:

1. an open tendering procedure where all submitted bids are evaluated against multiple criteria,
2. a restricted tendering procedure where only one bidder's proposal is evaluated,
3. a tendering procedure leading to competitive negotiations.
4. single-source procurement (this approach is adopted when a tendering procedure does not seem to be a practical solution),
5. request for quotations that the awarding entity sends to contractors it has chosen. In this case, a contractor must fulfil only one criterion (the price) to be awarded the contract.

A special situation is public auctions where the participants bid publicly for an object that has some objective value that they do not know (Łyszkiewicz, p. 325). The type of tendering procedure determines how complex tools offered by theory and practice will be used to make evaluations and decisions. Widely used are econometric models, and recently also neural networks. The econometric modelling allows the best bid value to be estimated, as well as analysing the possible impacts of factors such as price, warranty period, etc., on its level. However, when uncertainty needs to be addressed, specialist decision-making and evaluation tools must be employed, e.g. game theory, mass service theory, reliability theory or the theory of entropy. In the evaluation of infrastructure projects that take long time to be constructed more factors affecting the production capacity of firms participating in tendering procedures and winning contracts must be analysed. In addition to transfers of modern technologies the factors include also learning-by-doing processes.

## **2. ARGUMENTS FOR LEARNING-BY-DOING PROCESSES TO BE USED IN THE EVALUATION OF THE FUTURE PRODUCTION CAPACITY OF FIRMS PARTICIPATING IN A PUBLIC AUCTION**

The effects of learning by doing appear because of production capacity expanding in time. A steadily growing cumulative volume of output reduces the unit cost and thereby increases profit per unit. In a competitive environment, this may cause prices to fall and demand to grow. The mechanism of this process is illustrated in fig. 1.

*Figure following on the next page*

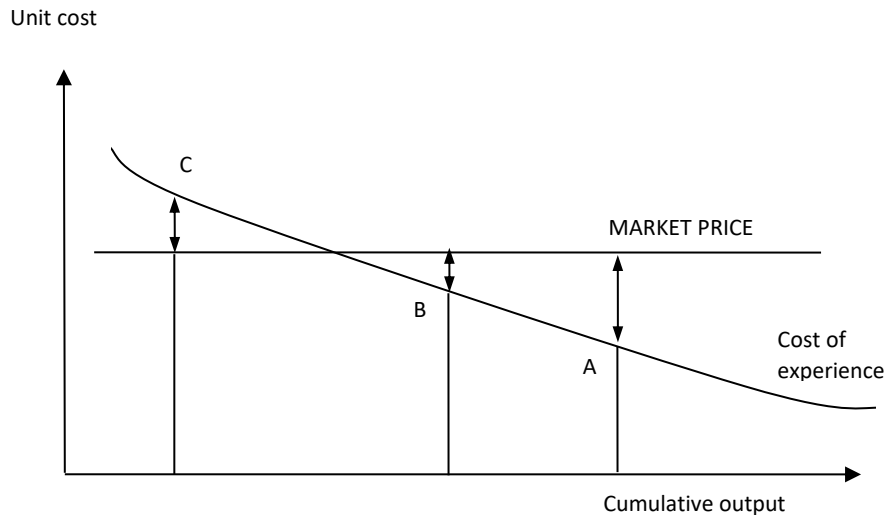


Chart 1: Learning-by-doing processes in relation to firm's competitive position (Ferens, 2001)

The above chart presents a learning curve for three rival firms: A, B, C. Their competitive positions are explained through a decline in average production costs. The effects of learning processes can be gained owing to:

- unit costs decreasing as the production capacity and sales expand;
- economies of scale, the main source of which is falling unit fixed costs (because of output increasing faster than fixed costs, etc.);
- improving workers' skills, which translates into higher productivity, better organisation of work, etc.;
- innovativeness, mainly due to the use of modern technologies;
- substitution of capital for labour;
- other optimisation factors, particularly within the supply chain.

### 3. THE NATURE AND THE PROCESS OF TENDERING AT A PUBLIC AUCTION

Auctions where the participants, including international corporations, present their maximum bids that are basically determined with respect to their production costs constitute an important segment of public procurement. These auctions are usually won by organisations that in addition to having the necessary production capacity and the direction of strategic development consistent with the purpose of the auction (e.g. emphasising investment or learning) is also the least expensive and the most effective of all bidders. This type of action is called an English auction<sup>1</sup> and its participants make public bids in turn. The successful bidder is one that undertakes to complete the project in the shortest time possible. Hence  $t_j \in (0, T)$ , where  $T$  stands for the optimal feasible time needed to carry out the tendered project. This condition allows an optimal decision-making criterion to be established as a maximum return at an expected discount rate  $\beta$ . The return must be established a priori taking into account a possible growth in output and an extrapolated amount of the project execution costs. The first to make a bid is firm A that undertakes to complete the tendered project in time ( $t_A$ ) and then firm B submits its offer ( $t_B$ ). If A's bid is better than B's then it wins the auction and starts to carry out the project.

<sup>1</sup> W. Łyszkiewicz (2000) mentions an individual auction (otherwise an English auction), public auctions and hybrid auctions, p. 325.+

However, if firm B outbids firm A by offering a shorter time  $t_i$  than it is granted the project. Assuming continued capitalisation of interest, the return of the successful bidder winning the auction with time  $t_i$  will be given by the formula:

$$Z_{akt} = \int_0^{t^*} (P_A(t) + \mathcal{G}(t) \cdot C(P_A(t) + P_B(t))) \cdot e^{-\beta t} dt + \int_{t^*}^T (P_A(t) \cdot C(P_A(t))) \cdot e^{-\beta t} dt + \\ - \int_0^{t^*} K_A(P_A(t) + \mathcal{G}(t)\gamma(t)) \cdot e^{-\beta t} dt - \int_{t^*}^T K_A(P_A(t)) \cdot e^{-\beta t} dt$$

where:

$P_a$ – demand for the winner's output, equal to its production capacity,

$P_b$  – demand for the other bidder's output, equal to its production capacity,

$\beta$  – a discount rate,

$C$ – a product unit cost,

$\mathcal{G}(t)$  – increase in the firm's output and in demand for it,

$\gamma(t)$  – increase in costs as a result of winning the auction.

The first element in formula (1) is the winner's return from its regular production plus the project. The second element is the return obtainable between the actual date of completing the project and the end of the maximum period stated in the bid. Elements three and four stand for operational costs in these two periods. To determine the profitability of delivering the project in the offered time  $t^*$  (under the assumed values of  $\mathcal{G}(t)$  and  $\gamma(t)$ ), the return that could be made by staying passive also needs to be considered. Assuming that the product the bidders are offering is homogenous, the return of the passive firm will be defined by the following formula:

$$Z_{pas} = \int_0^{t^*} (P_B(t) \cdot C(P_B(t) + P_A(t)) + \mathcal{G}(t)) \cdot e^{-\beta t} dt + \int_{t^*}^T (P_B(t) \cdot C(P_B(t))) \cdot e^{-\beta t} dt + \\ - \int_{t^*}^T K_B(P_B(t)) \cdot e^{-\beta t} dt$$

As the production capacity of firms tendering for a project is similar in most cases, the difference between the project completion times they will offer will be insignificant. The criterion for deciding whether or not to pursue a project is the following:

$$Z_{atk} > Z_{pas}$$

If it is met, then it is profitable for a firm to increase its costs and to outbid its competitor(s). However, because of variations in the factors responsible for supply growth (e.g. resulting from changing market situation) and the project execution costs that are the greater the shorter the completion time, it is difficult to establish without a computer simulation which bidder is at an advantage. Assuming that firms offer homogenous products and that an additional project will have a different impact on their costs, the more probable winner of the tender is the one that is technologically more advanced. However, if the project completion time  $t^*$  a firm considers is too short, then a passive stance may be more profitable. This conclusion holds true for any number of auction participants regardless of whether their technologies are homogenous or heterogeneous. Chart 2 shows the evolution of costs with firms' output changing in time.

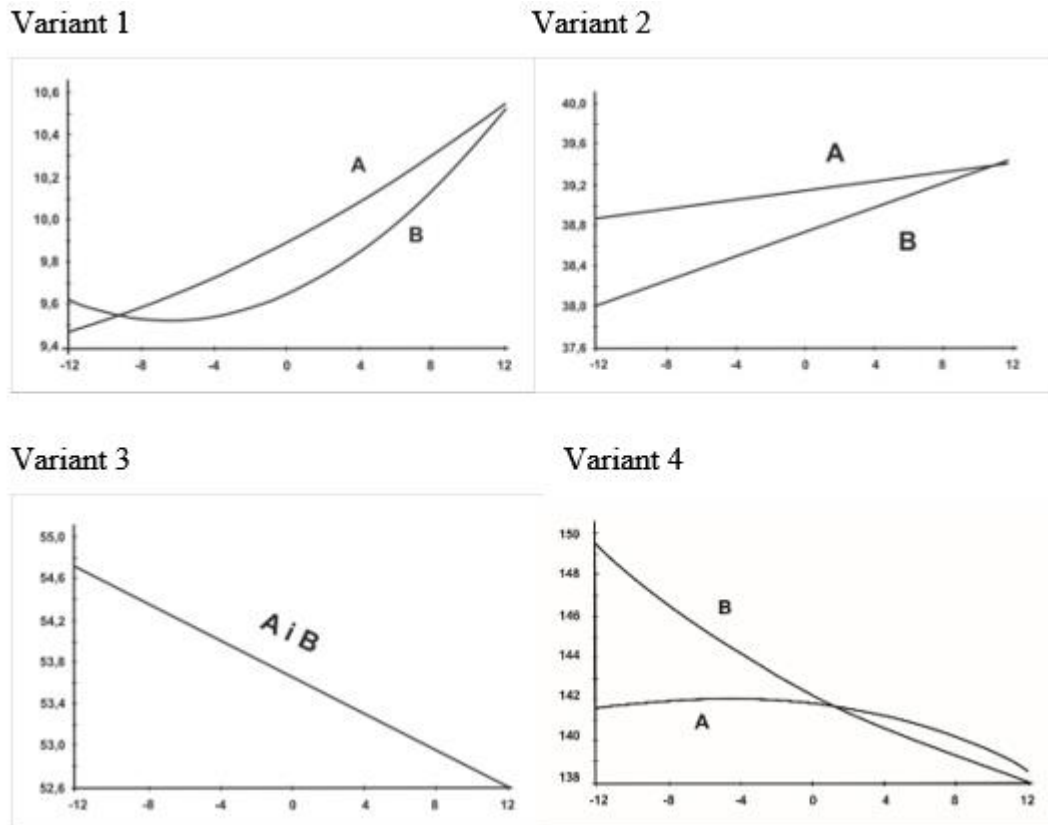


Chart 2: Variants of curves showing costs in relation to the project execution time

The curve B in variant 1 is representative of a firm that operates much below its capacity, so it can increase its output without additional costs having to be incurred (the hyperbolic dependence of costs on the proposed project execution time means that the sum of the project's costs is assumed to be constant). The curves in variant 2 show a situation where output increase comes with additional costs, such as higher rates of overtime paid to the workers (a linear cost curve for output increase). In variant 3, both firms will have to make additional expenditures to increase the amount of capital assets or to purchase new technologies, etc. In variant 4, additional expenditures on human resources are necessary to cut the project duration (more workers will have to be recruited). Because factors related to uncertainty as to the amount of demand in time  $t \in T$  have been omitted from the above optimisation model, investment risk appears as a result. Firms with a stronger market position and therefore capable of penetrating the market at lower costs in a longer period (even in  $t > T$ ) are at an advantage, as well as firms with greater technological experience that learn by doing in the long run. The mathematical model the authors put forward may be expanded as needed, but then the number of variables must be appropriately increased and a multi-criterion analysis must be applied to find the solution.

#### 4. EXAMPLE

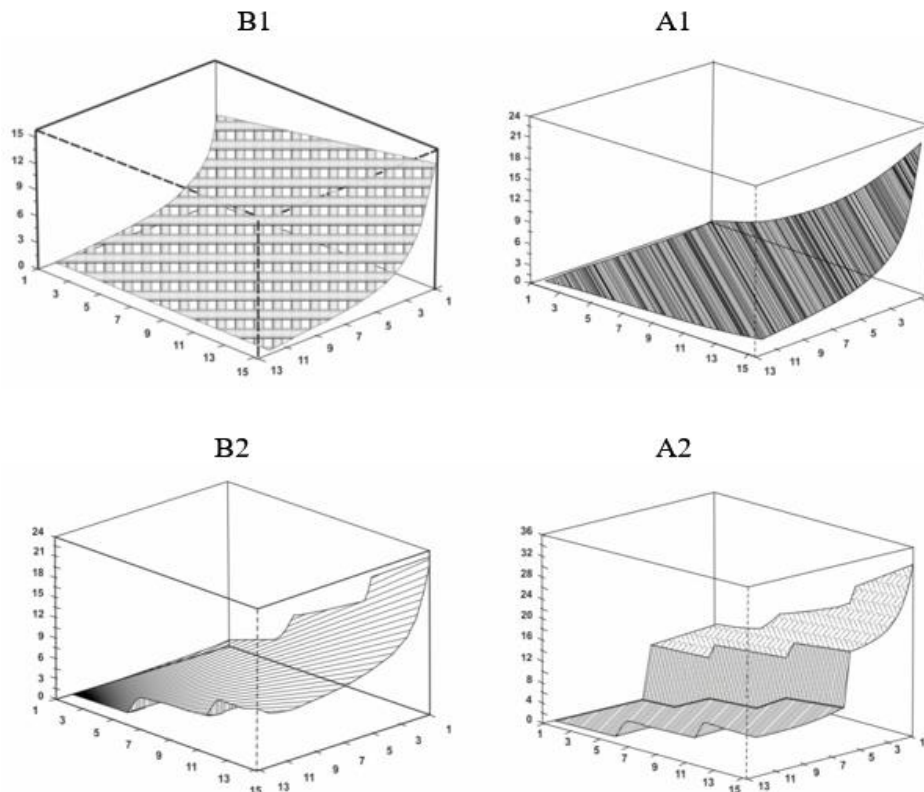
To make the presentation simpler, let us consider a case where only two firms, A and B, enter into a public auction (this simplification only changes the evolution of total demand for the given product and, indirectly, the level of its price). The auction involves an infrastructure project and the bids are evaluated against the proposed project completion times. Other variables (price, performance, service quality, terms of warranty, etc.) are as per tender documentation and are identical for both contractors because of homogeneous character of the

service put out to tender. The parameters of both firms' production are estimated using historical data presented in table 1.

*Table 1: Historical data on firms A and B*

Months $t$		Firm A		Firm B		Unit cost (market) (PLN thousand)
		Output (units)	Unit cost (PLN thousand)	Output (units)	Unit cost (PLN thousand)	
II period	-12	9.50	39.8	9.35	37.9	51.2
	-11	9.55	38.9	9.35	38.3	54.3
	-10	9.55	39.1	9.25	37.4	54.1
	-9	9.59	38.8	9.25	37.9	53.9
	-8	9.60	38.9	9.30	38.3	53.6
	-7	9.65	39.1	9.25	38.1	53.4
I period	-6	9.70	39.0	9.30	38.5	53.6
	-5	9.71	39.1	9.30	38.3	54.0
	-4	9.80	39.2	9.40	38.3	53.6
	-3	9.85	39.1	9.30	38.5	53.5
	-2	9.80	39.5	9.35	38.3	53.7
	-1	9.90	39.7	9.40	38.6	53.9

Chart 3 presents the predicted values of the parameters for both firms over the next 12 months. The forecast projects the present production trends in the analysed market into the future, omitting the possible impacts of the auction.



*Chart 3: Visualisation of the estimated parameters of production, unit costs, profits and product prices for A and B*

The diagrams show that both firms' output will increase while their profits will decline, mainly because of the falling price of the product (following its greater supply) and their unit costs

growing larger. Firm B has greater profits (diagram 1) in the early period mainly because its production costs are lower. However, should the present trends continue into the future, at the end of the forecast period (diagrams B2 and A2) both the regular output of both firms (i.e. without the new project) and their costs will be similar. Let us assume now that an auction involves the delivery of 60 units, that the maximum delivery time is 12 months, and that both firms enter into the auction. The winner's turnover will increase by an amount equal to the value of  $\mathcal{G}(t)$ , but at additional costs needed to perform the contract, which are expressed by the function  $\gamma(\mathcal{G}(t), t)$ . What complicates the calculation of the likely profit from being granted the contract is the fact that the amount of the product will consequently increase in the market, so its price will probably fall<sup>2</sup>, automatically bringing down the profits of the other firm. Let us note that if there were more bidders all of them would suffer from lower profits. The decision-making criterion for firm A is given as:

$$Z_A = \int_0^{t^*} \mathcal{G}(t) \cdot C(P_A(t) + P_B(t) + \mathcal{G}(t)) \cdot e^{-\beta t} dt + \\ - \left( \int_0^{t^*} K_A(P_A(t) + \mathcal{G}(t)\gamma(t)) \cdot e^{-\beta t} dt - \int_0^{t^*} K_A(P_A(t)) \cdot e^{-\beta t} dt \right) \quad (4)$$

and analogously for B

$$Z_B = \int_0^{t^*} \mathcal{G}(t) \cdot C(P_B(t) + P_A(t) + \mathcal{G}(t)) \cdot e^{-\beta t} dt + \\ - \left( \int_0^{t^*} K_B(P_B(t) + \mathcal{G}(t)\gamma(t)) \cdot e^{-\beta t} dt - \int_0^{t^*} K_B(P_B(t)) \cdot e^{-\beta t} dt \right) \quad (5)$$

If winning the auction only results in the costs of additional production, the above formula can be transformed into:

$$\tilde{Z}_A = \int_0^{t^*} \mathcal{G}(t) \cdot C(P_A(t) + P_B(t) + \mathcal{G}(t)) \cdot e^{-\beta t} dt - \int_0^{t^*} K_A(\mathcal{G}(t) \cdot \gamma(t)) \cdot e^{-\beta t} dt \quad (6)$$

and respectively

$$\tilde{Z}_B = \int_0^{t^*} \mathcal{G}(t) \cdot C(P_B(t) + P_A(t) + \mathcal{G}(t)) \cdot e^{-\beta t} dt - \int_0^{t^*} K_B(\mathcal{G}(t) \cdot \gamma(t)) \cdot e^{-\beta t} dt \quad (7)$$

Taking an additional assumption that production is evenly distributed over time, we arrive at  $\mathcal{G}(t) = 60/t^*$ . Another assumption is that reducing the project execution time by each of the 60 months increases production costs by 4.5% in relation to the costs of delivering the project in the maximum time stated in the tender documentation. Further, each time output grows by 100% costs increase by 5.5%. The results of the computer simulation performed with an annual discount rate of 6% are shown in table 2.

<sup>2</sup> Because of the law of demand.

*Table 2: Computer simulation of profits*

	Delivery time t offered by a firm [months]					
	7	8	9	10	11	12
$Z_A$ (PLN thousand)	–	–	–	–216.6	<b>73.7</b>	<b>393.0</b>
$Z_B$ (PLN thousand)	–	–	–	–194.9	<b>89.5</b>	<b>402.9</b>
$\tilde{Z}_A$ (PLN thousand)	–170.1	–9.4	<b>135.9</b>	<b>270.8</b>	<b>397.8</b>	<b>518.7</b>
$\tilde{Z}_B$ (PLN thousand)	–152.9	<b>5.9</b>	<b>149.7</b>	<b>283.1</b>	<b>408.6</b>	<b>528.0</b>

Table 2 shows that considering the character of the auction and the assumptions about the distribution of costs, firm B has a slight advantage. Even with its smaller output, it can outbid firm A because its production costs are (initially) lower. Nevertheless, the differences between the two firms are so small that even minor changes in the circumstances of the auction (mainly in market variables and costs) may reverse the situation. The same may occur when A and B have different effects of learning processes. According to the findings of this research, firm B does not benefit from learning processes<sup>3</sup>. Firms preparing their bids make their decisions under uncertainty (Tyminski, 2003). An important fact is that the shorter the project execution time, the higher probability of winning the tender and the lower the future profits. A firm preparing a bid faces the dilemma of choosing a bid value maximising the expected return. For an optimal bidding strategy to be developed for an auction the competitors' offers must be competently estimated and the minimum expected return must be defined. This is not easy and sometimes even impossible to achieve. The problem can be solved in several ways. One of them is a computer simulation of bid profitability presented in this article, which can be conducted using historical data on the competitor and surveys enhanced by economic intelligence. The effects of learning-by-doing achieved by firm A may considerably increase its output in the long term, so they should be deemed positive. It is so, because the following reduction in unit production costs may increase demand in real terms.

## 5. CONCLUSION

At public auctions involving high-value projects such as the construction of roads it is the awarding entity that sets the requirements for the bidders to fulfil. In most cases, the main criteria for selecting the winner are the price, the length of time needed to perform the contract, or both. In the simplified case presented above both firms use similar production technologies, but their production parameters are different and thereby production costs and production capacities. Consequently, their involvement in an additional project has different impacts on their economic effectiveness and profits. The difference in the economic effectiveness between the successful bidder and the firm that have chosen to stay passive is expressed by the delivery time T expected by the awarding entity and by the rate of increase in the demand for both firms' products in that time. The firm that estimates its capabilities as inferior in the given market circumstances should rather stay passive<sup>4</sup>. The numerical procedure underlying the preparation of this article has been developed by the authors themselves from the Scilab software package. The system is flexible in handling many different variants of distribution of project costs and market variables. The example presented in the article involves two firms, but in fact any number of firms can be analysed, as well as organisations offering different products and services.

<sup>3</sup>As shown by the function of unit costs in period I for the value of P (tab. 1)

<sup>4</sup>Learning processes are important in this case. Firm A utilizes the processes so it has a greater potential for meeting demand.



The article deals with the preparation of bids for public auctions organised for the purposes of the public procurement system, which are distinguished by their financial effectiveness. It discusses the requirements for entering into a tendering process, giving special attention to the analysis of the potential structure of costs that constitute a major element of the process. An example of the application of IT tools developed with the open source platform for numerical computation Scilab is provided. The illustrative calculations concern two firms bidding at a public auction for a road infrastructure project. The bids are evaluated based on the proposed project completion time. The example shows the possibilities of analysing project profitability with respect to variations in market conditions such as project costs, the discount rate and the predicted increase in output.

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## ONLINE MARKETING COMMUNICATION FOR PURPOSE OF BRANDING OF TOURISM ORGANISATIONS AND DESTINATIONS WITH SPECIAL FOCUS ON SOCIAL NETWORKS

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### ABSTRACT

*In the past years due to the development of the Internet and technology new trends in marketing communication in all industries as well as tourism have been set. The development of web 2.0 concept caused exponential development. However, this brought on a high level of turbulence in online marketing communication so all new channels of communication which nowadays make up an integral part of integrated marketing communication should be in the function of branding tourism organisations and destinations. The fundamental aim of this research was to establish to which extent selected Croatian tourism organisations and destinations use online marketing communication channels, social networks in particular, and for what purposes is online marketing communication primarily used on social networks on the Croatian tourism market. In the research an in-depth interview was conducted with experts, representatives of eight selected tourism organisations and destinations i.e. tourism boards, hotels, restaurants, and travel agencies. Based on the obtained results it has been concluded that selected tourism organisations and destinations for the purpose of branding use digital channels of marketing communication in cases where the brand power and size does not affect the success of digital communication but the key is well defined digital marketing strategy directed towards the target group of tourism organisation or destination. Furthermore, if taken into consideration the speed with which global trends in digital marketing communication are developing, the obtained results imply that Croatian tourism organisations and destinations still have significant space to additionally exploit the potential of digital channels of marketing communication, social networks especially.*

**Keywords:** *branding, online marketing communication, social networks, tourism*

### 1. INTRODUCTION

A few years ago there was a trend in marketing in tourism that required a presence at large tourism fairs in order to best promote a tourism organization or a destination. This would consequently attract more visitors. Furthermore, large budgets were spent on off line marketing communication such as print ads, TV commercials and billboards. The key characteristic of such one-sided marketing communication is lack of feedback from tourists, i.e. potential consumers. However, in the past few years due to the rapid development of the Internet and technology new trends in marketing communication have emerged in tourism as well as other

industries. All new communication channels, which nowadays make an integral part of integrated marketing communication, should be in the function of branding all tourism organizations and destinations. Today's tourists search the Internet to gather information. Therefore, if a brand is not present on the Internet it loses the competition race. A new era of marketing communication began with the emergence of social networks. Communication has become two-way.

## 2. MARKETING COMMUNICATION

Marketing is an unavoidable part of every industry if it is to succeed on the competitive market with its product or service. "Marketing is a social and management process by which individuals and organizations obtain what they need and want through creating and exchanging value with others" (Kotler, Bowen i Makens, 2010, p.13). At the end of the last century brands realized that in order to succeed it is essential to have a strategic approach to integrated marketing communications. Therefore, today the integration of all marketing activities has become a rule not an exception. "Integrated marketing communications include coordination of all marketing activities in such a way that a combination of communication elements are used with the aim of achieving a synergic effect in creating advertisements, market analysis, using the media and controlling the results" (Kesić, 2010, p.28). A successful integrated marketing communication means that a tourist has made a purchase of a product or service, but at the same time the aim is to inform, create interest and a desire to purchase. Integrated marketing communication most definitely helps in building a brand's market value that can result in increased sales. Figure 1 shows the steps in the development of efficient communication.

*Figure 1: Development of efficient communication*



*Source: Kotler P., Keller K.L., Martinović M. (2014). Marketing Management. Zagreb: MATE d.o.o., p. 482*

The Internet is one of the forms of direct marketing communication and probably the most important means of communication with consumers and has numerous advantages over traditional media. The Internet is interactive and with its appearance an organization and the consumer can engage in interactive communication for the first time where the consumer, i.e. the user has the same position, if not the priority position, in regard to the organization, which

consequently requires a higher level of involvement (of both sides) in the communication process. The complete revolution has taken place with the emergence of the social media which have completely changed the importance of everything happening on the Internet. Since then, brands have engaged in the interaction with social media users giving them the opportunity to take part in the creation of content. The use of the Internet in marketing communication has been present in the past fifteen years leading to the development of a special branch of marketing, the so called Internet marketing or online marketing. That has made the providers of services, products and information go online, and nowadays, they go mobile as well since the Internet has become mobile. “Online marketing or the Internet marketing is the term for a group of activities through online interactive media whose aim is to promote products and services through the Internet and online media<sup>1</sup>. The Internet as a medium is undeniably one of the channels of the integrated communication efforts. The biggest advantages of online communication over the offline one are the segmentation, measurability of effects (with the help of tools such as Google Analytics<sup>2</sup> and Gemius<sup>3</sup>) and a more efficient implementation of marketing processes, a comparative cost effectiveness in relation to traditional media and the flexibility of numerous online promotional techniques (Ružić, Biloš and Turkalj, 2014). In comparison with other media, the Internet provides the most precise information about the effectiveness of a communication process. The Internet expands and integrates all the marketing mix activities such as advertising, sales promotion, personal selling, public relations, direct marketing and brings together two separate fields – technology and content. In the end, there should be synergy between online and offline marketing with the aim of achieving the best possible communication results. The goals of online communication can be various but the most important one is brand development, raising brand awareness, brand loyalty, encouragement to trial a product, conversion, increased traffic i.e. number of visits to websites or social media, collecting data and education of consumers (De Pelsmacker, Geuens and Van Den Bergh, 2013).

## 2.1. Social networks as tools of online marketing communication

Social networks provide various opportunities for the users to post content they want to make public, i.e. to purposefully and intentionally attract just the group of people they want to inform about something (Stanojević, 2011). Social network marketing can be defined as any company strategy which is targeted at encouraging potential consumers (on target markets) to willingly and free of charge exchange information about a product or service, comment, like<sup>4</sup> and in such a way create the biggest possible exposure to a promotional message of a large number of potential buyers<sup>5</sup>. The development of the Internet and social media have drastically changed the concept of marketing; word-of-mouth has become far easier and faster and results in the appearance of the so called Viral marketing, which implies all marketing activities that encourage users to spread the message to other users. Apart from word-of-mouth marketing, social networks make all other marketing activities possible such as market research, creating and checking ideas, developing new products, advancing relationships with consumers (CMR). The advantage of social network marketing is that companies/businesses can get feedback on their products and services in real time and can reach specific target groups in a very short period of time.

<sup>1</sup> Dimedia. Downloaded from: <http://www.dimedia.hr/online-marketing> (06.06.2017)

<sup>2</sup> Google Analytics is a service offered by Google that generates detailed statistics on website traffic, traffic sources, degree of conversion and sales. Downloaded from: <https://marker.hr/blog/osnove-google-analytics-284/> (06.06.2017)

<sup>3</sup> Gemius, Croatian service for tracking internet media traffic. Downloaded from: <http://www.netokracija.com/audience-com-redizajn-mobilne-posjete-103640> (06.06.2017)

<sup>4</sup> Like – the term relates to the idea that a content is liked by a user and is used on the social network Facebook.

<sup>5</sup> American Marketing Association. Downloaded from: <https://www.ama.org/resources/Pages/Dictionary.aspx?dLetter=V> (06.06.2017.)

Word-of-mouth and a two-way communication are considered to be the key advantages of social networks, but low cost of campaigns and quick feedback cannot be disregarded either. Apart from the above-mentioned, other benefits of social network marketing should be mentioned, such as increasing product or brand familiarity, increasing web traffic on a business's website and boosting e-shopping, increasing search engine presence, building customer loyalty and trust and successfully launching new products<sup>6</sup>.

## **2.2. Analysis of trends of online marketing communication through social networks on the world and domestic tourism markets**

Technology is changing faster than ever before, which puts a lot of pressure on marketing experts to keep adapting and fast reactions to change. Brands find it increasingly harder to keep up with changes and need to think ahead about new channels of communication and follow the trends, both on the world market as well as the domestic one. Here is the overview of the most important trends predicted for the current year and they refer both to the world market and the Croatian market<sup>7</sup>:

- Video is becoming the integral part of social network strategy
- The focus shifts from computer to mobile usage
- Information becomes fast and one-off<sup>8</sup>
- Virtual and extended reality gains importance
- Artificial intelligence
- Chatbots
- Relationship Marketing<sup>9</sup>
- Mobile promotion based on user location
- Social network sales
- Connecting with brand ambassadors and influencers<sup>10</sup> is becoming increasingly common

It is crucial to constantly follow new trends in this turbulent digital environment, and it is especially important in service industries such as tourism.

## **3. ONLINE MARKETING COMMUNICATION WITH PURPOSE OF BRANDING OF TOURISM ORGANIZATIONS AND DESTINATIONS (RESEARCH RESULTS)**

One of the most essential functions of marketing communication in general, including its contemporary online form, is certainly branding of a specific entity. This paper researches the role of branding of tourism organizations and destinations based on relevant examples.

### **3.1. Branding – the idea and purpose**

In order for a tourism destination or organization to succeed on the market the process of branding them is necessary. "Brand is a name, term, sign, symbol or a combination of these whose purpose is to identify goods or services of a seller or a group of sellers as distinct from their competitors" (Kotler and co-authors, 2014, p.241). A brand is created in the human brain as a mental frame of associations and this process of creation is called branding" (Pavlek, 2008,

<sup>6</sup> Marko Paliaga. Downloaded from:

[http://markopaliaga.com/wp-content/uploads/2016/03/Microsoft%20PowerPoint%20-%20Social%20marketing%20network1%20%5BCompatibility%20Mode%5D\(1\).pdf](http://markopaliaga.com/wp-content/uploads/2016/03/Microsoft%20PowerPoint%20-%20Social%20marketing%20network1%20%5BCompatibility%20Mode%5D(1).pdf) (06.06.2017)

<sup>7</sup> Marketingorbis.com. Downloaded from: <https://marketingorbis.com/2016/12/29/drustvene-mreze-trendovi-za-2017-godinu/> (07.06.2017.)

<sup>8</sup> LinkedIn. Downloaded from: <https://www.linkedin.com/pulse/2016-travel-tourism-marketing-trends-lynan-saperstein> (07.06.2017.)

<sup>9</sup> LinkedIn. Downloaded from: <https://www.linkedin.com/pulse/2016-travel-tourism-marketing-trends-lynan-saperstein> (07.06.2017.)

<sup>10</sup> An influential person on social networks with a large number of followers

p.121). In this process brand features are created together with its idea that is transmitted to its receivers through signals (packaging, design, colour, logo, advertising, distribution, people). According to Pavlek (2008) branding is a complex process of creating an identity, distinguishing features and the idea of a brand, its relevance to consumers and managing signals through which it is transmitted to consumers in order to be felt, experienced and accepted by them. Therefore, the task of branding is to shape the identity, a brand's relevance and its idea. Owing to the brand consumers can know what to expect from a product, what needs it will satisfy and what product quality to expect. On the other hand, a brand enables companies to position themselves on the market more easily, to differentiate themselves from their competitors and create product awareness and brand loyalty, which consequently provides predictability, stability of demand, creates obstacles for the competition and finally results in the readiness of consumers to pay a higher price for the product. A strong brand has to possess functionality and added value for which the consumers are willing to pay more. Ultimately, the concept of branding implies the idea that a specific product is more valuable than the competitor's. It is more valuable because it is associated with a name that promises quality and authenticity.

### 3.2. Research results

For the purpose of this paper primary research was conducted through in-depth interviews with experts - representatives of the selected eight tourism organizations and destinations, i.e. tourist boards, hotels, restaurants and travel agencies. The research instrument for the in-depth interview was a partly structured guide with guidelines for conducting interviews. Interviews were conducted by face-to-face method with the representatives of selected tourism organizations and destinations in February 2018. The authors defined the research questions that needed to be answered, as follows:

- To what extent Croatian tourism organisations and destinations use channels of online marketing communication, especially social networks?
- What is the crucial reason for using social networks for marketing communication on the Croatian tourism market?
- Is it possible to apply online marketing communication strategy on social networks in different tourism organizations and destinations?

All the respondents gave a positive answer to the question to what extent they are familiar with online marketing communication in the function of branding with a special focus on social networks. Only one respondent said that he was familiar with the fact that his tourist board or destination is on social networks but that a different person is in charge of managing them. All respondents gave a positive answer to the question if they use social networks to enhance their business performance and in what way. The following table lists social networks in question.

*Table 1: Presence of selected tourism organizations and destinations on social networks*

<b>Social network</b>	<b>Number of respondents</b>
Facebook	8
Twitter	1
Instagram	8
YouTube	2
TripAdvisor	4
Snapchat	0

*Source: Authors' research, 2018*

As was expected, all of them use Facebook since it is the largest social network, then Instagram because it has experienced the biggest expansion and usage in marketing communication in the past few years. The respondents said this was precisely the reason for using it. Only one respondent said that their hotel had a Twitter account but that they had never used it for communication. The reason for not using Twitter in their marketing communication given by the respondents was that Twitter has never really caught on in Croatia. Further, three respondents stated that Twitter should be used for attracting foreign visitors but that it would require additional effort and developing a separate strategy since the foreign market is different from the Croatian one. Only the two restaurants and one hotel stated they were present on TripAdvisor while tourist boards and travel agencies were not since they did not know in what way that would help their performance. YouTube is used only by the two hotels but very rarely. The reason given was a relatively high cost of video production; the same reason was given by other respondents who do not use YouTube at all. No respondents found Snapchat of any interest at this moment. This is somewhat since it is predominately popular among younger generations moving from the mainstream social networks such as Facebook and Twitter and it could be a potential niche for communication. All respondents said they started using social networks as means of communication relatively late taking into consideration the fact that Facebook has been present in Croatia since 2007. Three respondents said they started using Facebook in 2012, one in 2010 while the others joined after 2012. Only after seeing that Instagram had exponential growth of the number of users had they decided to use it. All respondents mostly use social networks to posts news about their businesses. All respondents said they post mostly photos, and videos to a lesser extent. This applies both to tourism organisations and destinations. Two respondents, representatives of a hotel and a travel agency said that they share posts from their blogs on social networks, which is a perfect example of connecting marketing content and their promotion on social networks. Both restaurants and tourist boards and just one hotel post content more than three times a week, while one of the tourist boards sometimes posts more than once a day. The respondent thinks that there are too many events in the city that users should be informed about. It is interesting to point out that the representatives of both hotels stated that they post content in English on Facebook and Instagram. One of the hotels posts only in English and the other posts both in English and Croatian. Their goal is to attract foreign guests and not just domestic ones. All respondents state that they interact with users, i.e. that there is a two-way communication in the form of responses to questions on public posts or through private messages. The response to the question if they use paid advertising on social networks and to what extent it accounts for their overall advertising budget, six respondents gave a positive answer, while two respondents, a tourist board representative and a restaurant representative, stated they had never used paid advertising. This is surprising since this type of advertising can be applied to both, tourism organizations and tourism destinations alike. Also, Facebook has lately decreased the organic reach of posts, literally forcing brands to pay for advertising in order to enable a post to reach a large number of Facebook users. Already this leads to the conclusion that content posted by that tourist board and restaurant do not reach target audiences very efficiently. All respondents who use this form of advertising use it through Facebook exclusively since it has proved to be more efficient than advertising on Instagram in the form of increasing the number of followers. One respondent, a representative of a travel agency says that they have hired a specialised agency for creating and managing paid advertising. Only two respondents who say they use paid Facebook advertising pointed out that after such promotion they had an increased demand from users, which in the case of the hotel resulted in increased number of bookings. Two respondents stated that advertising on social networks accounted for 20% of their budget, one responded said it accounted for 30% while the remaining three said it accounted for less than 5% of the total advertising budget.

To the question if the respondents think that according to their organization's business strategy social networks are well implemented in their organization's or destination's marketing communication, only three have given an affirmative answer. Other respondents think that because of their limited budgets the present engagement of social networks is not sufficient to enhance their business performance. Further, they point out that the reason they started with this type of communication was to keep up with their competitors. The respondents were then asked who was in charge of managing social networks. Two respondents said they were personally in charge and that it was not the only job they were doing; five respondents said other employees were in charge of social networks together with other marketing tasks (buying media space, creating advertising materials, writing texts for brochures) as well as additional administrative tasks. Only one responded stated that managing communication on social networks was his only job. Both restaurant representatives said they hired an external associate who was in charge of this task. The reason they stated was that none of the employees were qualified enough to manage social networks successfully. When asked if they had a defined social network communication strategy both respondents in the hotel category responded that they did. One of the hotels had a yearly social media communication plan with goals defined by quarter, while the other said they followed the strategy of the group they belong to but with the possibility of local changes in the communication plan. Furthermore, both respondents representing restaurants stated they had a defined strategy. One of them focused on targeting lovers of Asian cuisine in the high income group, while the other targeted medium income guests and Mediterranean cuisine lovers. One hotel representative and one travel agency representative said they had a blog as additional content on social networks. Other respondents said they did not have a defined strategy but communicate at a given moment, i.e. from day to day. This leads to a conclusion that they don't have a plan of weekly posts, as advised by experts. Respondents had different opinions regarding cooperating with influencers. Both respondents in the hotel category gave an affirmative response. One of the hotels cooperates with travel bloggers, while the other cooperates with entertainment celebrities, TV hosts and athletes who have a substantial following on social networks. Further, other respondents said they had not cooperated with influencers so far. As a reason the stated it would not improve their revenue while the others said they had no funds for it. The respondents were asked if they followed the impact of social media on their business performance, how and what the results were. Respondents in the hotel, travel agency and restaurant category said they followed the impact and that it could be seen in the increased number of guests who said that they had chosen their hotel, restaurant or agency based on positive ratings of other social media users. The impact could also be seen in the increased bookings. However, tourist board representatives pointed out that they did not have clear indicators of a positive impact on their business results since they had no way of measuring if a visitor selected a tourism destination based on social media.

#### **4. CONCLUSION**

As for the first research question about the extent to which Croatian tourism organisations and destinations use channels of online marketing communication, especially social networks, the authors conclude that they do use social networks as a tool of online marketing communication but insufficiently, i.e. they do not use all their potentials, which in turn could result in better branding of a tourism organization and/or destination. Although they are familiar with most of the possibilities it can be concluded that most tourism organisations and destinations do not have a clearly defined communication strategy due to the insufficient number of employees in marketing as well limited budget. Additionally, their online marketing communication is even less developed. The research has shown that in seven out of eight respondents' organizations, the person in charge of social media communication performs several other tasks in their



organization or destination so the conclusion is that they cannot give the needed attention to their communication activities on social networks. The main reason for using online marketing communication through social network channels on the Croatian tourism market is to enhance their business performance. Namely, the research results have shown that six out of eight respondents use paid advertising on social networks but only two of them have noticed the increase in the number of bookings as a result. This leads to the conclusion that other respondents have not done the segmentation and selection of target groups well enough and that the education of respondents would be necessary in order to enhance social network communication through this tool. According to the research outputs, individual forms of marketing communication could not be implemented equally well in all tourism organizations and destinations and that many of them do not see how much progress they could achieve by using Twitter if they directed it towards foreign markets. Social networks could serve as a type of instrument for getting familiar with a market based on the communication with users. Tourism organizations and destinations could modify their offer to meet the users' needs. Due to the rapid technological development contemporary tourists are different from tourists ten or more years ago. Today's tourists put themselves in the centre of the world and expect tourist brand to adapt to their needs. They want to communicate on social networks, they want to take part in creating content, and social networks are just the right tool for that. Nowadays, social networks are crucially important for creating a brand. A communication strategy which will help tourism organizations and destinations differentiate themselves from the competition is necessary. Based on insufficiently used opportunities offered by social networks, selected tourism organizations and destinations have a lot of room for improvement of their online marketing communication in order to improve their business performance, strengthen their brand on the market and consequently, increase customer satisfaction.

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## FINANCIAL ASPECTS OF SUPPORTING COMMUNITY SERVICES BY COOPERATIVE BANKS - EMPIRICAL EVIDENCE FROM POLAND

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### ABSTRACT

*The main objective of the study was to determine the influence of internal factors on initiated support to the community within the framework defining the activities pertaining to a business' social responsibility as seen for Poland's co-op banks. The study took advantage of balanced data panels sourced from 56 co-op banks from 2011-2017 reflecting 11 independent variables: net profits (thousands PLN), ROA (%), ROE (%), C/I, NPL (%), TRC (%), balance totals (thousands PLN), total own funds (thousands PLN), total deposits (thousands PLN), total credits (thousands PLN), number of accounts, and bank membership, on the one hand, and on the second, total sum contributed by a bank for pro-social activities (thousands PLN), the number of bank supported pro-social initiatives, and participating funds contributed to pro-social activities from the bank's net profits (%). Results indicate that larger banks contributed proportionally less funds earmarked for community initiatives directed towards the benefit of local markets and community, and smaller banks, more frequently located in rural areas, earmarked larger portions of profits for local communities; however, this does not mean that the contributions were larger comparatively than those of larger co-op banks. The co-op banks decide the sums of contributions for community initiatives on the basis of their current condition – according to current profits, current credit volume and total accounts, and considering financial security as expressed by the solvency coefficient level of the previous year.*

**Keywords:** cooperative bank, corporate social responsibility, community service

### 1. INTRODUCTION

Exploring community service of co-op banks may be an issue that may be equally important for the banks themselves as one of the potential alternatives conditioning their market advantage. Cooperative theory holds that cooperatives, as organizational units, should generate social effects in the local community. It would seem that this requirement should apply equally to co-op banks as collaborative financial institutions (Augizeau, 1993). One of the conditions for undertaking the proposed issue is appreciation of the specific nature of co-op banks which, on the one hand is an inseparable part of the contemporary financial market; and on the other, is an important element in local financial systems (Paszkowski, 2007). Co-op banks operate on the basis of self-help and mutual support combined with activity for the benefit of its members, markets and community, reflecting the generally understood concept of commercial social responsibility so eagerly referred to currently by commercial banks endeavoring to increase their market share (McWilliams, Siegel, 2001). An important element of the issue is the definition standpoint of a co-op bank, which the International Co-operative Banking Association (ICBA) regards as a financial entity belonging to its membership being at the same time its owners and clients. The idea of cooperativeness and co-op banks is deeply rooted in the consciousness of the community where the co-op banks in essence support and participate in sustainable local development.

Frequently, thanks to co-op banks many residents avoided social exclusion through the fact they had access to bank services (Kwiecień, 2009). Above all co-op banks contribute to the familiarization of the population with banking in areas where the banks function which is an important benefit to the local community. The main objective of the study was to determine the influence of internal factors on initiated support to the community within the framework defining the activities pertaining to a business' social responsibility as seen for Poland's co-op banks.

## 2. METHODOLOGY

Having in mind an effective penetration of the issue, a seven year study period was adopted i.e. 2011-2017, inclusive. Furthermore, for the purposes of this study, primary and secondary data was used. The primary data was collected during surveys of co-op bank management and clients. The study was effected in the second-half of 2018. Filled out surveys were received from 62 co-op banks; however, 6 banks returned incomplete surveys and as such were eliminated from the study. In effect, data from 56 co-op banks was utilized which represented almost 10% of the total number of co-op banks in Poland. Secondary data were sourced from financial statements and data from the Polish Financial Supervision Authority (KNF), the Central Statistical Office of Poland (GUS), compiled statistics pertaining to the European Union and Poland, as well as numerical data of the banks under study. With the main objective in mind, efforts were made to establish the influence of selected factors on how much support co-op banks contribute to the local community within the scope of social responsibility of business. To meet this goal, the first phase of the study determined the correlational dependence between selected factors associated with co-op banks, such as net profits (thousands PLN), ROA (%), ROE (%), C/I, NPL (%), TRC (%), balance totals (thousands PLN), total own funds (thousands PLN), total deposits (thousands PLN), total credits (thousands PLN), number of accounts, and bank membership, on the one hand, and on the other, total sum contributed by a bank for pro-social activities (thousands PLN), the number of bank supported pro-social initiatives, and participating funds contributed to pro-social activities from the bank's net profits (%). In order to express the relation between selected variables, Pearson's linear correlation coefficient was applied and the following formulas:

$$r_m = \frac{\sum_{i=1}^n (y_i - \bar{y}) \cdot (x_{mi} - \bar{x}_m)}{\sqrt{\sum_{i=1}^n (y_i - \bar{y}) \cdot \sum_{i=1}^n (x_{mi} - \bar{x}_m)^2}}$$

where

$r_m$  – correlation coefficient between the independent and dependent variables,

$r_{lm}$  – correlation coefficient between independent variables,

$y_i$  – value of i-tej dependent variable,

$x_i$  – value of i-tej independent variable,

$n$  – the number of variable considered.

It remains to be mentioned that for the assessment of linear regression model, the distribution of the correlation coefficient with a correlation coefficient value to 0.2 indicates a vague dependence. If the correlation coefficient comes in at a value of 0.2 to 0.4, this indicates a definite dependence but low. A moderate value of the correlation coefficient is assessed when the value comes in at 0.4 to 0.7; between 0.7 to 0.9 as significant and above 0.9 as very strong.

### 3. RESEARCH RESULTS

Having the main objective in mind, an effort was made to establish the influence of selected factors on how much support is given by co-op banks to local communities based on activities tied to business responsibility to the community. Toward this end the correlation between selected factors characterizing co-op banks, such as net profits (thousands PLN), ROA (%), ROE (%), C/I, NPL (%), TRC (%), balance totals (thousands PLN), total own funds (thousands PLN), total deposits (thousands PLN), total credits (thousands PLN), number of accounts, and bank membership, on the one hand, and on the second, total sum contributed by a bank for pro-social activities (thousands PLN), the number of bank supported pro-social initiatives, and participating funds contributed to pro-social activities from the bank's net profits (%). Through the performed study it appears that the contributed sums to pro-social activities participation in profits was predominantly correlated to levels of own funds at 27%. This level was also observed in the case of balance totals (-26.2%), total deposits (-26.4%), and total credits (25.8%). These results clearly indicate a weak correlational relationship between these variables. Worthwhile noting that in all cases the correlation coefficient was negative, which may indicate that as a bank grew – expressed through balance totals, total funds, total deposits, total credits and net profits – the percentage of funds earmarked for community activity in net profits fell. To be clear, this does not mean contributions to community activities fell – because they rose – but it does mean that the contribution dynamics were lower than the profit dynamics. For the remaining variables the correlation levels were statistically insignificant.

*Table 1: Pearson's linear correlation between selected characteristics*

Specifications	Total balance [thou. PLN]	Total own funds [thou. PLN]	Total deposits [thou. PLN]	Total credits [thou. PLN]	Total accounts [count]	Total bank membership [count]
Contribution share in profits [%]	-26.2%	-27.0%	-26.4%	-25.8%	-13.1%	-15.7%
Contribution count	-4.4%	-5.6%	-3.5%	-5.3%	7.6%	-2.8%
Total contributions [PLN]	19.1%	19.3%	18.8%	21.4%	30.1%	4.5%

Continuing the analysis of the correlation relation between the selected bank traits and the number of initiatives supported by a bank, there was one significant variable, but weak confirmation, that of the ROE level. Worthwhile noting that in this case the correlation coefficient was positive, which means with the growth of profitability of a bank's own funds, the number of supported community initiatives also rose. Furthermore, the highest levels of ROE generally occur in smaller banks located in rural communities. In the case of the remaining variables, the correlation relation was low.

*Table following on the next page*

*Table 2: Pearson's linear correlation between funds earmarked for community contributions by selected co-op banks and bank effectiveness levels*

Specifications	Net profits [thou. PLN]	ROA [%]	ROE [%]	C/I	NPL [%]	TCR [%]
Contribution share in profits [%]	-26.6%	-8.0%	-14.2%	-12.8%	-4.1%	7.4%
Contribution count	4.2%	-2.1%	23.7%	10.4%	-1.9%	-12.8%
Total contributions [PLN]	26.9%	-3.3%	10.9%	-4.9%	8.3%	-27.0%

An interesting issue was the relation between the sum of contributions and selected traits of co-op banks. In this case, significant correlation levels were observed in variables such as total client accounts, net profits, total credits, and solvency level coefficient. Regarding total contributions, the highest correlation level was noted against total client accounts in a bank – 30%, which indicates that the more clientele, the more funds earmarked for community purposes. This situation may be tied to efforts of attracting new clients and retaining existing clientele. In the case of foreseen variables, as net profits and TCR, the correlation coefficient in reference to total bank contributions for community purposes was just short of 27%, where in the case of net profits, it was positive and in the case of TCR, it was negative. This may indicate that co-op banks, which attained higher financial results, were more forthcoming in sharing with the community in various areas of activity. With regard to TCR, here the suggestion is that with a higher cumulative capital coefficient, banks earmarked lower sums for pro-social activities. This may be a result of the fact that a higher cumulative capital coefficient is partially responsible for lowering the profitability of bank activity which normally results in lowering activities for community benefit.

*Table 3: Pearson's linear correlation between funds earmarked for community contributions by selected co-op banks and selected traits with t-1 delay*

Specifications	Balance totals [thou. PLN]	Total own funds [thou.PLN]	Total deposits [thou.PLN]	Total credits [thou. PLN]	Total accounts	Total membership
Contribution share in profits [%]	-27.0%	-27.6%	-26.6%	-27.7%	-19.8%	-20.1%
Contribution count	-12.7%	-14.8%	-11.5%	-14.4%	-3.2%	-13.5%
Total contributions [PLN]	9.2%	8.9%	9.5%	10.8%	12.8%	-11.9%

The next research stage concerned the evaluation of correlation relations between selected features with the assumptions of t-1 and t-2 delays, which meant testing the correlation relation between contribution share in net profits, total contribution count, and total contributions per selected year (t) with descriptive traits of the studied banks with the previous year (t-1) and the previous two years (t-2). The purpose here is to show whether undertaken activity by a co-op bank were the result of a bank's current condition, or also a result of said bank's past condition. The results are presented in Tables 4 through 6.

*Table following on the next page*

*Table 4: Pearson's linear correlation between funds earmarked for community contributions by selected co-op banks and the effectiveness levels with t-1 delay*

Specifications	Net profits [thou.PLN]	ROA [%]	ROE [%]	C/I	NPL [%]	TCR [%]
Contribution share in profits [%]	-27.1%	-11.9%	-10.3%	-15.1%	-21.3%	-0.9%
Contribution count	-5.1%	-3.8%	24.3%	-7.7%	-7.9%	-20.4%
Total contributions [PLN]	19.1%	-3.0%	14.9%	-13.4%	2.8%	-35.3%

In this examination, the contribution share for community purposes in a co-op bank's net profits confirms that regardless of an analyzed period, statistical significance was found in the same variables i.e. balance totals, own funds, total deposits, total credits, and net profits. Additionally, the analyses of t-1 and t-2 periods showed variable significance with regard to bank membership. Detailed analysis results shown in Tables 3 through 6, indicated that the absolute value of correlation coefficient between essential features and the analyzed variable, contribution share in net profits, increased with the delay period, meaning that the highest correlation coefficient level was noted for the two year delay period (t-2). This could indicate that co-op banks consciously manage their business responsibilities and responsibly form their strategy in this area.

*Table 5: Pearson's linear correlation between funds earmarked for community contributions by selected co-op banks and selected bank traits with a two year delay (t-2)*

Specifications	Balance totals [thou. PLN]	Total own funds [thou.PLN]	Total deposits [thou.PLN]	Total credits [thou. PLN]	Total accounts	Total membership
Contribution share in profits [%]	-27.4%	-27.8%	-28.3%	-28.0%	-18.7%	-22.5%
Contribution count	-14.5%	-17.5%	-14.5%	-15.7%	-9.0%	-10.9%
Total contributions [PLN]	7.3%	6.6%	5.7%	10.4%	12.9%	-10.1%

In the case of results pertaining to factors most highly correlated with the total count of supported initiatives by the selected co-op banks, it was confirmed that three variables were fundamental. The first of them pertained to ROE, which reached the highest correlation coefficient level with one year delay (24.3%), possibly indicating that co-op banks clearly subordinate the number of supported initiatives to the profitability of own funds from the past year.

*Table 6: Pearson's linear correlation between funds earmarked for community contributions by selected co-op banks and effectiveness levels with two year delay (t-2)*

Specifications	Net profits [thou.PLN]	ROA [%]	ROE [%]	C/I	NPL [%]	TCR [%]
Contribution share in profits [%]	-27.6%	-6.5%	-7.7%	-11.3%	-13.2%	7.0%
Contribution count	-9.3%	-5.7%	11.4%	-13.1%	-27.8%	-19.1%
Total contributions [PLN]	21.8%	1.4%	8.3%	-11.7%	1.8%	-31.7%

The second variable which was connected with a significant level of correlation coefficient was the NPL (non-performing loans) indicator indirectly specifying risk levels undertaken by the bank in credit activity. What is important here is that the coefficient was essential in the case of two year delay with a negative value. This could be a signal that as a result of faulty credit decisions from the past and problems with covering these debts by the bank's clients, the banks are forced to establish additional reserves for this purpose and therefore restricting pro-community activities in its market area.

The third variable clearly tied to explaining the variability count of co-op bank supported community initiatives was the solvency coefficient for the previous year (t-1). This situation may be indicated by the banks' objective to assure financial security to their clientele, therefore passing on supporting a large number of community initiatives.

#### 4. CONCLUSIONS

On the basis of the research, the following observations are submitted:

1. The contribution participation of social activity in net profits was determined by balance sheet totals, own funds, total deposits, total credits and level of net profits.
2. The value of the correlation coefficient between the above listed traits in all cases was negative, which may indicate that larger banks contributed proportionally less funds earmarked for community initiatives directed towards the benefit of local markets and community, and smaller banks, more frequently located in rural areas, earmarked larger portions of profits for local communities; however, this does not mean that the contributions were larger comparatively than those of larger co-op banks.
3. This research indicated that the total funds contributed to social initiatives by co-op banks were most strongly correlated to the following variables: total credits, total accounts, and net profits in the contribution year. Furthermore, the solvency level coefficient (TCR) for the previous year was significant. The cause of this dynamic may be that co-op banks decide the sums of contributions for community initiatives on the basis of their current condition – according to current profits, current credits volume, total account's number, and considering financial security as expressed by the level of solvency coefficient of the previous year.

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## SUSTAINABILITY IN BUSINESS: HOW ESG CAN PROTECT AND IMPROVE FINACIAL PERFORMANCE

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### ABSTRACT

*Due to the ecological, economic, and social consequences of business (Mebratu, 1998) it has never been more important for society to lean towards sustainable practices (Brune, 2016). As new challenges emerge, new concepts of how to deal with them evolve, including the concept of 'sustainable development' as a foundation to management thinking and decision making. Private businesses are a key component in achieving the UN's desired sustainable view, as they can help to fill the \$3tn annual investment gap expected to be needed across the next 15 years (Earley, 2016). It is possible for business to change and grow sustainably. Various multinational companies paved the way to active sustainable practices setting the example for other companies to follow. Considering the UN's sustainable development goals (SDGs), this study investigated how environmental, social and governance factors (ESG) could contribute to a better financial performance for multinational companies. In order to investigate the effects of sustainable practices on performance, various sources of academic research and quantitative data was necessary. A holistic approach was adopted, permitting the discovery of internal and external factors critical for the topic investigated. Six multinational firms with a market cap of over 500 million were analysed on their publicly reported financials, half of which from the lowest position in the sustainability ranks. The study takes into consideration ESG performance measurement to assess the level of correlation with positive or negative financial results. The research conveys data of Ikea, Unilever, Starbucks, LG, Fast Retailing and ConAgra stock price, revenue, market capitalisation and the year-on-year fluctuation of those variables in the last decade. The three key findings strongly align with the developing theory of 'sustainable development' as a strategic approach to grow business value over time. (Brune, 2016) The first finding suggests that unsustainable companies are subject to higher volatility in their growth- rate. As per Hemert (2014), this can be for a number of reasons, the main one being their resilience in case of unexpected macro events. The second finding is the lack of stock price re-appreciation for unsustainable companies when those events are negative for the business growth. It is however a combination of variables that driver stocks prices, sustainability being just one of them. (Yadav et al., 2015) Lastly, on the negative stock price year on year percentage change, the third finding emerged: the unsustainable practices analysed experienced steeper and more frequent share price change compared to sustainable ones (over the same decade). No market has ever taken off when fundamentals don't make sense to investors hence an analysis of companies' financial performance (within and outside ESG) was completed to measure sustainability advantages/disadvantages, supporting an array of applicable recommendations for companies to tackle the strategic short and long term sustainability development.*

**Keywords:** ESG Factors, Sustainability, Finance

## 1. INTRODUCTION

It is possible for business to change sustainably. Various multinational companies paved the way to active sustainable practices setting the example for other companies to follow. However, no market has ever taken off when fundamentals don't make sense to investors hence an analysis of companies' financial performance (within and outside ESG) was completed to measure sustainability advantages/disadvantages, supporting the recommendations section.

## 2. COMPANIES PERFORMANCE

Six multinational companies were selected. In order to contrast performances, half of them were selected from re100.org list of most sustainable companies while the remaining from non-active sustainable ranks (as suggested in Yadav et al., 2015):

*Table 1: Six selected multinational companies in order to contrast performances*

Company	Sector	HQ Country	Operating Countries	Sustainable Profile	Private / Public	Stock Exchange Listed
<b>Ikea</b>	Furniture	Vienna (Austria)	38	Active	Private	-
<b>Unilever</b>	Food, Chemicals & Cosmetics	Rotterdam (Netherlands)	190	Active	Public	London
<b>Starbucks</b>	Food & Beverages	Seattle (US)	70	Active	Public	New York
<b>LG</b>	IT Devices	Seoul (South Korea)	128	Inactive	Public	South Korea
<b>Fast Retailing</b>	Clothing	Japan	21	Inactive	Public	Frankfurt
<b>ConAgra</b>	Frozen Food	Chicago (US)	40	Inactive	Public	New York

Sustainable Oriented:

- **Ikea:** committed to producing as much renewable energy as it consumes in its buildings by 2020, having already deployed €1.5bn in renewable-energy. The firm is planning to further invest €1bn in climate-action including solar plants and wind farms. (Howard, 2016)
- **Unilever:** Already 100% renewable energy based in the EU, aiming to be fully sustainable by 2030. Coal is on target to be removed from operations by 2020 plus the firm is pushing for less deforestation and sustainable agriculture. (Engel, 2016)
- **Starbucks:** Starbucks has achieved its 99% target of ethically sourced coffee in 2016. While the firm is targeting 100% renewable-energy based-operations by 2020, the firm has taken actions to increase recyclability and reusability of cups, its water-consumptions and more. (starbucks.com, 2018)

Non-sustainable Oriented:

- **LG:** Mobile and hardware technology producers have often been accused of using unsustainable components. While LG has been moving towards a more-sustainable supply-chain, more was expected to be done by multiple stakeholders. (Bloomberg.com, 2016)
- **Fast Retailing:** While it is complicated to produce cheap and fashionable clothing to meet mass-markets demand, the company is on the right track to meet its sustainable objectives, however has failed multiple-times to take transparency actions beyond its commitment to reduce carbon footprint by 10%. (Hymann, 2017)

- **ConAgra:** With numerous food and workplace safety controversies, the American firm has a track-record of contaminations and other scandals related to its food production, costing the firm millions every year to settle law cases. (Mattera, 2016)

In order to relate companies track-record to their performance, the data sourced from Yahoo finance via python *Panda Libraries* in relation to revenue and stock price was analysed. The full data report can be found in Appendixes 1.

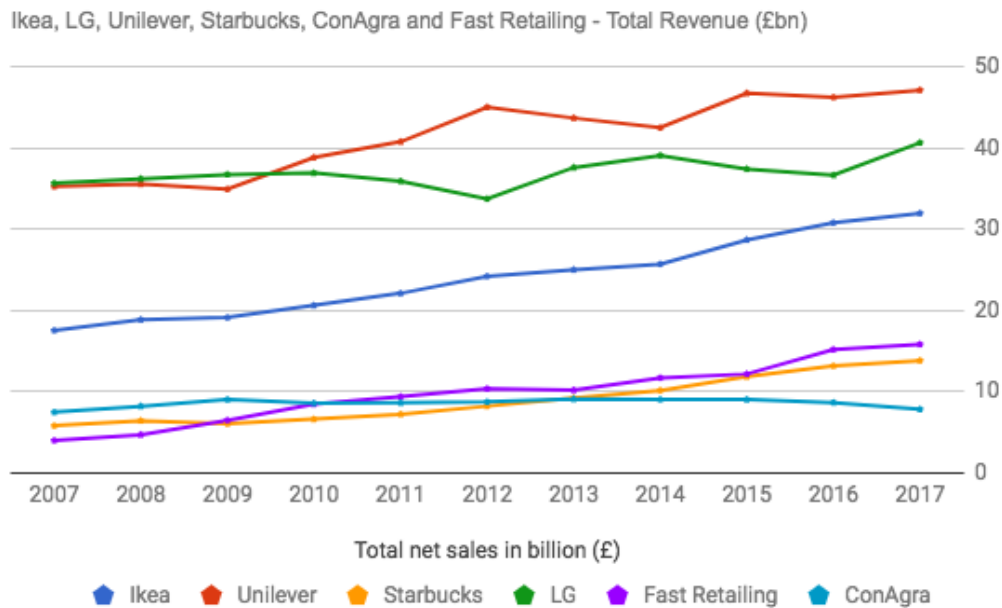


Figure 1: Total Net Sales in Billion GBP (Yahoo Finance, 2018)

## 2.1. Growth rate volatility analysis

During the last decade, the six companies analysed have successfully met revenue growth at different rate. Year-on-year growth rate was calculated using the mathematical formula:

$$\text{Growth YoY-Rate (\%)} = \frac{\text{Revenue year (X+1)} - \text{Revenue year (X)}}{\text{Revenue year (X)}} \times 100 = [\%]$$

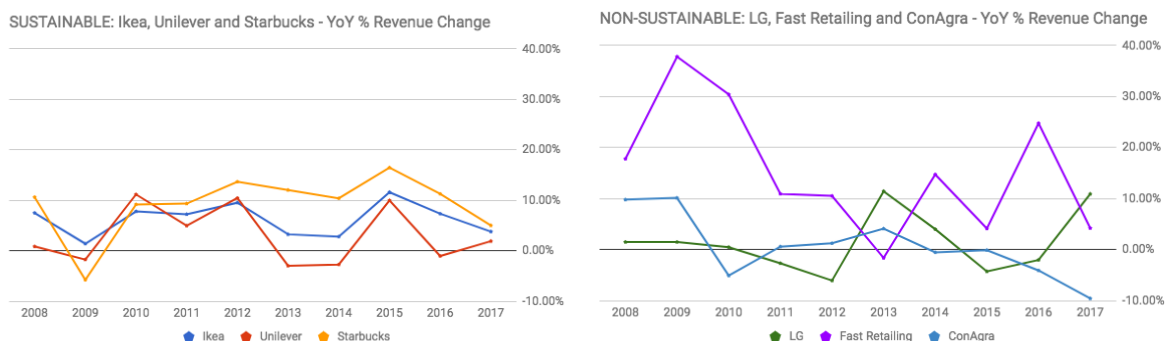


Figure 2: Sustainable/Non Sustainable Growth YoY Rate % (Yahoo Finance, 2018)

The first key findings from the revenue-related growth-rate financial analysis is the “gap” difference between sustainable and unsustainable. In the decade between 2007 and 2017, sustainable oriented company have been found relatively consistent in their growth, mostly

recorded in the -5/+15% range (a gap of 22.24%). Vice versa, the non-sustainable oriented companies ranged between -10/+40% (a gap of 47.49%). A table containing the full examination of the ranges of growth and related group “gaps” is presented:

Table 2: Full examination of the ranges of growth and related group “gaps”

Ikea	Unilever	Starbucks	Fast Retailing	ConAgra	LG
Max	Max	Max	Max	Max	Max
11.60%	11.17%	16.47%	37.81%	10.12%	11.42%
Min	Min	Min	Min	Min	Min
1.40%	-2.98%	-5.77%	-1.65%	-9.58%	-6.08%
<b>Volatility Measure (Difference between Min and Max)</b>					
10.21%	14.14%	22.24%	39.45%	19.71%	17.50%
1. Average Sustainable:	<b>15.53%</b>		1. Average Non Sustainable:	<b>25.55%</b>	
2. Range:	12.03%		2. Range:	21.96%	
3. Group Gap:	22.24%		3. Group Gap:	47.39%	
<b>1. Average Sustainable</b>	Represents the mathematical average of the sustainable companies difference in % growth between min and max rate during the last decade.				
<b>2. Range</b>	Represents the difference between the difference between the minimum average of sustainable companies % growth and the max.				
<b>3. Group Gap</b>	Difference between the min absolute value in % growth of the group (sustainable or unsustainable) and the max % growth in the group.				

The first finding suggests that unsustainable companies are subject to higher volatility in their growth-rate. As per Hemert (2014), this can be for a number of reasons, the main one being their resilience in case of Macro events (e.g. economy-operations-based). Unilever related to brexit-result and Fast Retailing related to Trump-election was analysed to test this theory.

## 2.2. Effect of events on companies share price performance



Figure 3: Share Price trend vs % daily change (Yahoo Finance, 2018)

Comparing the effects of the two events on the companies stock price the effects are fairly similar but with a surprising indirect difference. British people Brexit vote has affected Unilever stock price by nearly 5% the day following the vote. However, it recovered in the next 3-days. On the other hand, Fast Retailing lost 3% in market value following Trump's election (market response to the well known unwelcoming approach of US President Donald Trump towards Asia), and did not recover for more than 10 days. Hence the second finding: the lag of stock price re-appreciation for unsustainable companies in case of related market-events. It is however a combination of variables that driver stocks prices, sustainability being just one of them (Yadav et al., 2015).

### 2.3. Sustainability contributing to consistent share price appreciation

As per revenue, however, stock prices of sustainable companies did record a wider-negative-gap over longer period of time compared to unsustainable in the last decade.

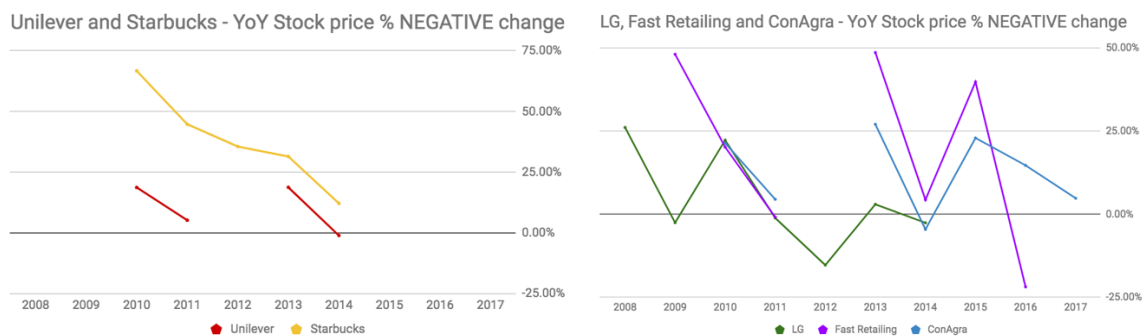


Figure 4: Share Prices downtrends year-on-year (Yahoo Finance, 2018)

As per negative stock price YoY% change shown above, the third finding emerged: companies with unsustainable practices analysed experienced steeper and more frequent share price change compared to sustainable ones over the same decade. Overall, companies displaying sustainable practices were found more lucrative and appetible to revenue growth. Recent professional reports, like 2017 Nordea »Sustainability Report« (Appendix 2) supports how companies with stronger ESG ratings outperformed laggards (measuring a peak of 42% vantage compared to unsustainable ones) (Beslik, 2018). Apple, for example, successfully drove revenue growth by reducing CO2 emission by 58% since 2011, bringing everyone along, from suppliers to local-utilities, for the ride as a catalyst (Sullivan, 2018). While share prices represents investors' sentiment towards the future growth of the firm, revenue performance is a measure of consumer-acceptance (Coglianese, 1999). To support the literature and provide applicable recommendations, consumers sentiment towards sustainable-business-actions was the subject of analysis in order to provide a large array of tangible actions that business can execute in the short-medium term. The results are part of Valente/Atkinson (2018) »Sustainability in Business: a Millenials Prospective«.

### 3. RECOMMENDATIONS

Despite the lack of sustainability, firms analysed have successfully met revenue growth over the last decade. Sustainability is not a successful component just yet, but is increasingly growing on importance. Companies have a time "limbo" where regulations are shaping and customers' awareness is increasing over time. Multiple actions can be taken to mitigate further missed revenue or inefficient costs by unsustainable practice, including recycle, research, technology adoption, financial consultancy and more. Furthermore, A 10.02% revenue average was missed by non sustainable firm every year.

Based on the six companies analysed, the average sustainable companies perform significantly better (+10.02%) during the last decade in terms of revenue. An internal audit to evaluate potential areas of improvement, before actual investments being made, can save the company a tenth of their revenue on average in future years. Strategic rather than opportunistic is the shift needed in today businesses' management. Lastly, Public sustainable firms stock prices were found to be recovering x5 times faster than unsustainable ones after negative news or damaging events (e.g. from elections events). While is complicated to forecast the effects on those events, trends and potential risks can be mitigated by completing internal research or outsourcing external consultants. Additionally, macro related events have financial risk that can be mitigated by shifting capital around FIAT currencies with the help of financial institutions. A very low-risk return is also achievable by sustainable investment instruments including: DCM, High yield, equity, mezzanine products that have to be chosen based on risk appetite. (BNEF, 2017)

#### 4. CONCLUSION

Increasing social pressures are reducing the boundaries of tolerance and patience in regards to lacking sustainable corporate actions. On the other end, farsighted business leaders around the world are increasingly realising the opportunities of fostering ways to leverage such attention in the space and few of them, as seen in this report, are already collecting results of that. Furthermore, data has proven the historical advantage in sustainable practices for the protection and consolidation of financial performance in business. Main ones being:

- Higher Profit - Socially responsible firms were found to be more lucrative and structured for revenue growth;
- Lowering Costs - Environmental operations and financial consciousness (also linked with innovation) were found being key pillars for internal optimisation in business; (Tavares, 2018)
- Grants, Zero-Interest Loans, Green bonds are just few example of the array of financial products companies can leverage to fund farsighted approaches to innovation.
- Reducing Risks - ESG factors were found positive by the current literature in reducing unnecessary risks, creating a barrier against macro economical unfavourable events.

It is increasingly evident how sustainability in business is becoming a crucial factor in determining future corporate success. Our society has a one-off responsibility to pave the way in pushing the dynamics on how profit and long term view in business is considered. Next generation shareholders have to be demanding positive returns as much as substantial actions to fight the increasing challenges affecting the well being of our planet.

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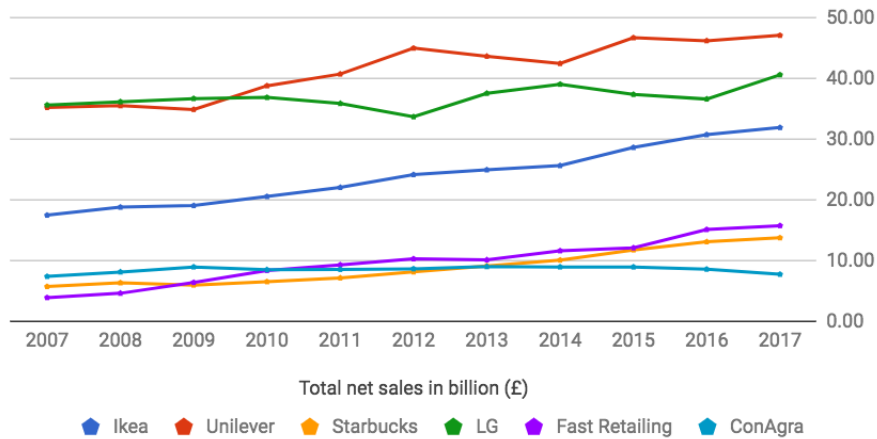


## APPENDIX

### APPENDIX 1 - Companies Revenue Case Study

Revenue (billion £)						
	Ikea	Unilever	Starbucks	LG	Fast Retailing	ConAgra
2007	17.54	35.25	5.81	35.67	3.99	7.48
2008	18.86	35.55	6.42	36.20	4.70	8.21
2009	19.12	34.93	6.05	36.73	6.48	9.04
2010	20.61	38.83	6.61	36.91	8.45	8.58
2011	22.11	40.76	7.23	35.92	9.38	8.63
2012	24.21	45.02	8.22	33.73	10.36	8.73
2013	25.00	43.68	9.20	37.58	10.19	9.09
2014	25.70	42.49	10.16	39.08	11.69	9.04
2015	28.68	46.73	11.84	37.41	12.17	9.03
2016	30.79	46.24	13.17	36.65	15.19	8.66
2017	31.96	47.12	13.83	40.64	15.82	7.83

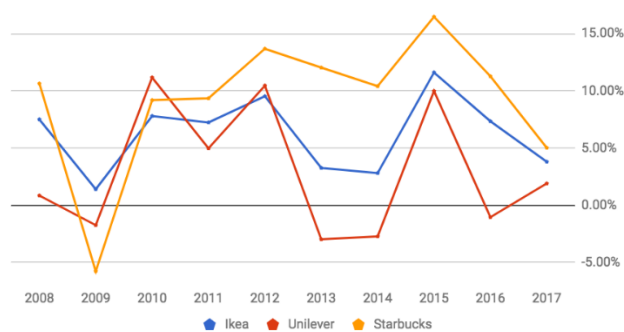
Ikea, LG, Unilever, Starbucks, ConAgra and Fast Retailing - Total Revenue (£B)



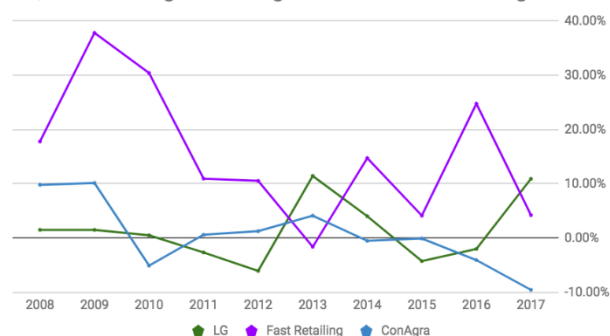
### Companies Revenue YoY % change Case Study

Revenue - YoY % Change						
	Ikea	Unilever	Starbucks	LG	Fast Retailing	ConAgra
2008	7.50%	0.85%	10.64%	1.48%	17.77%	9.78%
2009	1.40%	-1.74%	-5.77%	1.48%	37.81%	10.12%
2010	7.80%	11.17%	9.18%	0.48%	30.41%	-5.11%
2011	7.23%	4.97%	9.35%	-2.69%	10.93%	0.58%
2012	9.52%	10.45%	13.68%	-6.08%	10.51%	1.23%
2013	3.26%	-2.98%	12.03%	11.42%	-1.65%	4.09%
2014	2.81%	-2.72%	10.40%	3.99%	14.72%	-0.55%
2015	11.60%	9.98%	16.47%	-4.29%	4.11%	-0.11%
2016	7.34%	-1.05%	11.27%	-2.03%	24.74%	-4.10%
2017	3.80%	1.90%	5.02%	10.90%	4.20%	-9.58%

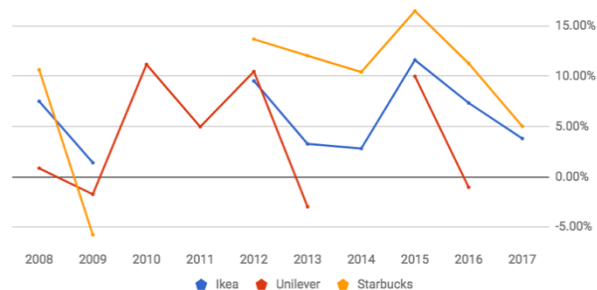
Ikea, Unilever and Starbucks - YoY % Revenue Change



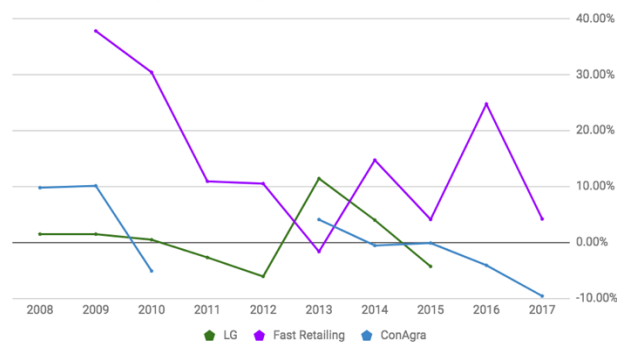
LG, Fast Retailing and ConAgra - YoY % Revenue Change



Ikea, Unilever and Starbucks - YoY % NEGATIVE Revenue Change



LG, Fast Retailing and ConAgra - YoY % NEGATIVE Revenue Change

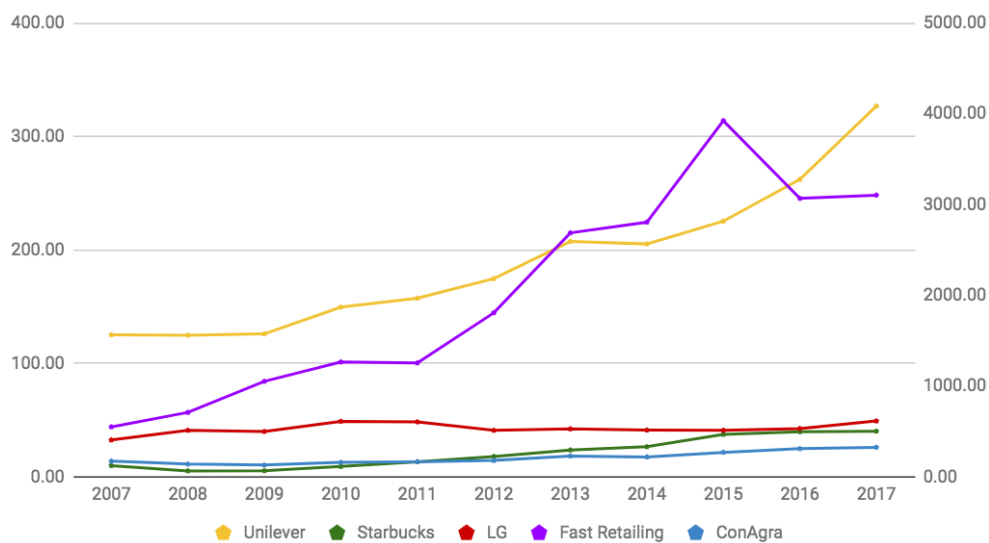


Ikea	Unilever	Starbucks	Fast Retailing	ConAgra	LG
<b>Max</b>			<b>Max</b>		
11.60%	11.17%	16.47%	37.81%	10.12%	11.42%
<b>Min</b>			<b>Min</b>		
1.40%	-2.98%	-5.77%	-1.65%	-9.58%	-6.08%
<b>Difference = Max - Min</b>					
10.21%	14.14%	22.24%	39.45%	19.71%	17.50%
<b>Average Sustainable:</b>	<b>15.53%</b>		<b>Average Non Sust:</b>	<b>25.55%</b>	
<b>Range:</b> (Av. Group Max - Min)	12.03%		<b>Range:</b> (Av. Group Max - Min)	21.96%	
<b>Group Swing:</b> (Group Max - Min)	22.24%		<b>Group Swing:</b> (Group Max - Min)	47.39%	

### Stocks case study:

Yearly Average Stock Price (£)					
	Unilever	Starbucks	LG	Fast Retailing	ConAgra
2007	1566.14	9.96	32.57	44.12	13.90
2008	1561.43	5.36	41.09	56.87	11.33
2009	1575.31	5.51	40.07	84.25	10.53
2010	1870.43	9.19	49.01	101.29	12.79
2011	1968.18	13.31	48.48	100.47	13.37
2012	2183.80	18.05	41.09	144.65	14.53
2013	2593.87	23.73	42.33	215.05	18.47
2014	2566.36	26.62	41.25	224.47	17.63
2015	2817.28	37.50	41.09	313.90	21.69
2016	3277.33	39.83	42.67	245.47	24.88
2017	4084.86	40.32	49.35	248.34	26.09

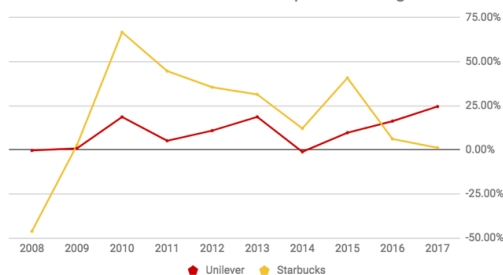
Ikea, LG, Unilever, Starbucks, ConAgra and Fast Retailing - Stock Price (£)



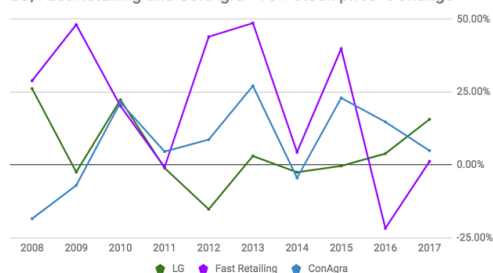
## Stock price % change Case Study

Stock Price - YoY % Change					
	Unilever	Starbucks	LG	Fast Retailing	ConAgra
2008	-0.30%	-46.16%	26.15%	28.89%	-18.51%
2009	0.89%	2.78%	-2.49%	48.15%	-7.03%
2010	18.73%	66.78%	22.32%	20.23%	21.44%
2011	5.23%	44.77%	-1.08%	-0.81%	4.54%
2012	10.96%	35.59%	-15.25%	43.97%	8.66%
2013	18.78%	31.49%	3.02%	48.67%	27.09%
2014	-1.06%	12.18%	-2.55%	4.38%	-4.51%
2015	9.78%	40.87%	-0.39%	39.84%	22.98%
2016	16.33%	6.22%	3.85%	-21.80%	14.73%
2017	24.64%	1.23%	15.64%	1.17%	4.86%

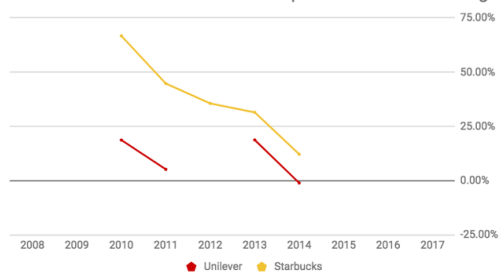
Unilever and Starbucks - YoY Stock price % change



LG, Fast Retailing and ConAgra - YoY Stock price % change



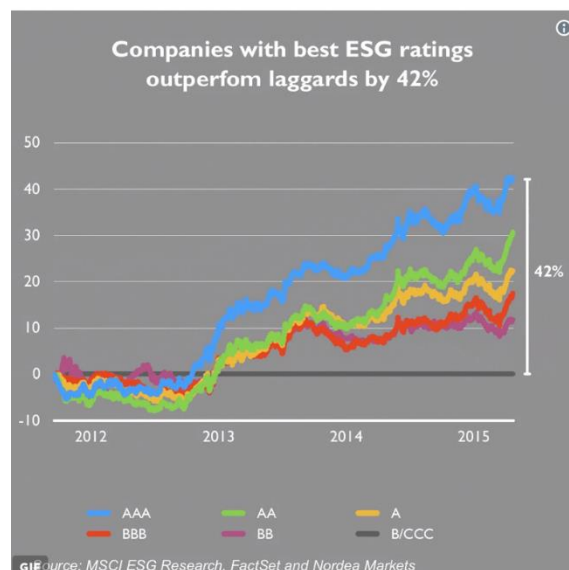
Unilever and Starbucks - YoY Stock price % NEGATIVE change



LG, Fast Retailing and ConAgra - YoY Stock price % NEGATIVE change



## APPENDIX 2 - Nordea Report (2017)



## IS THERE A WAY OUT FOR THE TURKISH ECONOMY?

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### ABSTRACT

*International trade is one of the most important issues of macroeconomics. Almost all international trade theories have tried to determine which country produces what, for which price it sells its products to whom. In a number of theories, these inequalities are based on the differences between factor endowment, while in some others they result from technological development or capital accumulation. However, very few theories have revealed that these differences bear the traces of colonial period. Financial liberalization and the spread of international capital movements by the end of colonialism were major developments in the second half of the 20th century. It is no coincidence that these developments occurred simultaneously. The financial revolution has led to a new kind of relationship between capital owner countries and the others. This is a sort of centre-periphery relationship. Those peripheral countries are the ones that have been affected by the hitches of last slowdown of the world economy. Just like Argentina, Turkey has encountered problems such as the higher inflation rate and the inevitable rise in interest rates, following the melting down in currencies in 2018. Again, in the same period, in contrast with the conventional economic views, current account deficit shrank depending not on the increase in exports, but the dramatic decline in imports instead. As a result of all these occurrences, there was a great loss of prosperity in the country. This study investigates whether it is possible for countries depending on the foreign capital like Turkey and Argentina to follow an independent policy from the fluctuations in the economic conjuncture or not. Is it possible to develop permanent policies that will eliminate dependency on foreign capital, instead of familiar ones such as targeting in inflation, exchange rate or current account deficit? Which has a higher cost? To develop and implement these policies, or to sway in every wind?*

**Keywords:** balance of payment, exchange rate, international trade, trade wars

### 1. INTRODUCTION

International trade was first discussed in the economics literature by the mercantilists. As a result of the feudal order's losing its power in parallel with the increase in mass production, a new form of confiscation had to be developed and this new way of gaining wealth for the feudal authority was to increase the foreign trade activity. This period, which can also be called the trade revolution, carries the first signs of the capitalist order (Yılmaz, 1992: 3). Mercantilism, though not a short period and a single doctrine, is treated with a generalization. According to this generalization, precious metals such as gold, silver, etc., which are the only source of the countries' wealth, should be increased as much as possible. The only way to increase the value of precious metals and increasing wealth accordingly, is to give foreign trade surplus. During the period dominated by mercantilism, the possibility of giving current surplus through foreign trade intervention was challenged. Finding new markets and making concessional agreements with these markets was an important way to give current surplus. However, another evolvment in the same period had a greater effect on wealth accumulation. In addition to finding a market, a very profitable form of mercantile activity such as creating a market has emerged. Mercantilist policies were carried out with the joint activity of state power and large companies engaged in trade activities. The creation of new markets was made possible by the military power of the state apparatus, one of these two partners, and by the expertise of the companies on overseas activities.

In the following period, the great powers of Europe established their colonies with their armies and companies, and continued to increase their wealth. The ideas claiming that the increase in production, and thus the increase of the foreign trade and the current surplus, caused inflation, with the industrial revolution, weakened the mercantilist idea, and allowed liberal voices that state intervention had a negative impact on economies to be arguable. With the capitalist mode of production taking effect, the mercantilist thought disappeared, but left the enormous wealth that it had accumulated as a legacy. Thanks to this wealth, the world has been described by dichotomies, where the capital has always been on one side. Below some of those dichotomies will be mentioned.

## **2. THE HISTORY OF INTERNATIONAL TRADE**

In this section, while examining the history of foreign trade from two different perspectives, we will try to present how those capital owner countries have captured and hold their historical positions so far.

### **2.1. On the basis of foreign trade theories**

In the process of the capitalist production, mercantilist policies that aim to accumulate wealth started to be problematic. Yarranton stated that for the welfare of a country, the welfare of other countries is crucial as well. Gervaise said that state interventions might distort the effective distribution (cited in Schumpeter, 1946: 374). In the following period, ideas that were able to make free foreign trade prevail started to be expressed loudly. However, the contradictions in some of these ideas are clearly visible. Hume, while arguing that the government intervention was irrelevant to increase wealth, the gold would continue to grow as long as the productivity continued and that gold would not increase the prices, also suggested the import duties that would encourage indigenous industry (Hume, 1752: 36). Smith, on the other hand, criticized mercantilism most on the basis of monopolistic activity, but said that monopoly is necessary during the trade with colonies (Yılmaz, 1992: 23-24). Smith's (1776) ideas about foreign trade, known as "the theory of absolute advantage", are deficient views that support free enterprise and rational behaviour. In fact, the first serious free trade theorem is "the comparative advantage" by Ricardo. With this theorem that states the countries should produce goods that are advantageous in production costs, rather than suggesting which country would benefit from the foreign trade more, Ricardo revealed that both countries would draw advantage from the foreign trade. (Yılmaz, 1992: 31). However, Ricardo's ideas do not include the demand for foreign trade. J. S. Mill (1848) highlighted the fact that the law of supply and demand, which cleans the domestic markets, did not operate in the foreign markets. He brought the mutual demand to the fore and became the first name with regard to the terms of trade in the current sense. His ideas became a bridge between Ricardo and Heckscher-Ohlin. Ohlin (1933) bases the requirement for trade between the two regions on the differences in the relative prices of goods and factors between these two regions. The basis of these prices is the factor endowments of the countries have. The lack of factor fluidity due to the borders of the countries makes foreign trade essential. However, this condition is not enough by itself. Demand conditions that will not eliminate this price difference are also required. This model, which shows the distinction between capitalist and non-capitalist countries, suggests that free trade emits prosperity by creating a division of labour between countries, without mentioning the historical origins or consequences of this distinction. Nevertheless, this assumption contains many deficiencies. For example, Leontief (1953: 126) states that the countries that hold capital can be manipulative by his famous paradox, showing that the capital-rich US is actually advantageous in the labour factor. Again, Vanek, trying to explain the difference between the countries, says that the technological equipment will affect labour productivity. He also states that the basis of the cost differences is not due to the factor equipment, but rather to the

differences in technological levels (cited in Helpman, 1998: 576). But without suggesting the origin of the difference between the parties of foreign trade and the results of this difference, it is unlikely to eliminate the deficiency only by suggesting the free trade. Foreign trade has always been one of the most important issues of growth and development economics. However, the approaches that examine the effects of foreign trade on growth exclude the effects of growth on income distribution. These approaches were only concerned with the effects of growth on the terms of trade (Yılmaz, 1992: 171). Bhagwati (1958) called this damage in the countries caused by the deviations in growth-oriented foreign trade strategies as immiserizing growth. So far, based on the factor endowment, we have discussed the contrast between the countries that have and do not have capital. Development economists also examined the difference based on the same basis as the contradiction between the developed and underdeveloped or developing countries. Although economists such as Lewis, Myint, Nurkse see foreign trade as an opportunity to start development in underdeveloped countries with no capital accumulation, they have said that the terms of trade in trade with the capitalist developed countries can easily be disrupted (Yılmaz, 20016). Since the developed countries can change positions more easily than underdeveloped countries, the underdeveloped ones could only come to a deadlock under free trade conditions. Singer (1968: 306-317) states that the workers of export sector in underdeveloped countries has a subsistence income level. Therefore, he says that the instability in the terms of foreign trade will directly affect the accumulation of capital. Moreover, if foreign capital is located in the export industry of an underdeveloped country, the development of this country will be much more difficult. However, it is possible to establish a basis for development by imposing restrictions on the transfer of the foreign capital abroad. Myrdal (cited in Kazgan, 1974: 313) also states that foreign trade is generally done among unequal ones. The qualified workforce and capital of the underdeveloped region move to the developed regions and contribute to the developed countries rather than their own. In other words, seeing foreign trade as the only way of development has many drawbacks. Again, these approaches distinguishing countries by their development levels based on capital ownership, focus more often on their foreign trade activity only, rather than the origin and results of the difference between countries. At this point, it would be useful to examine the theories of foreign trade that includes the phenomenon of imperialism. The reason why many of these theories were proposed was that the capitalist countries carried out their foreign trade activity for the sake of exploitation. According to Hobson (act. Gordon, 1968: 108), imperialism is the result of the misoperation of capitalism. The reason for the quest for the imperialist market is not the surplus of production resulting from industrialization, but the inadequacy of domestic demand because of the unjust income distribution. Similarly, Schumpeter said that it is due to the monopolistic formations that is a wrong application of capitalism (Yılmaz, 2016: 70). According to these two economists, imperialism would disappear as long as capitalism has a full functioning operation. Luxemburg (cited in Yılmaz: 2016, 56-57) sees imperialism as inherent in capitalism. Imperialism constitutes the final stages of capitalism as part of the expansion of capital. Lenin, who was affected by Hilferding, introduced the most comprehensive definition of imperialism. Lenin (1917: 111) states that capitalism has reached the stage of imperialism through various stages. These stages are the monopolization tendencies arising from the concentration of capital, the finance capital resulting from the integration of the banks and industrial capitals, the fact that capital export has become a necessity, the formation of monopoly capitalist groups and the division of the world by these capitalist groups. Wallerstein, who emphasized the feature of capital that transcends the borders, considers the world system approach he presented as a stage of capitalism just like imperialism. According to this approach, the world is divided into core, peripheral and semi-peripheral types a result of the division of labour required for production. While the core is the region that holds the capital and makes high value-added production with qualified labour force, the peripheral consists of regions that produce raw

materials and agricultural products with low technology and cheap labour. The semi-peripheral regions contain the characteristics of both. In this system, it is possible to talk about two different usages of power. The first is the imperialist pressure on the peripheral and semi-peripheral countries in order to increase the share of the core countries in the world market. The second is the hegemonic pressure that a central state can implement with its technological or military superiority. The hegemon has also the power to transform the trade policies. A core country stands up for decolonization until it becomes the hegemon. As long as it is in the position of the hegemon, it supports free trade. Finally, while going down from the hegemon's power, it takes sides with protectionism. (Yılmaz, 1992: 283-287).

## **2.2. On the basis of international organizations**

The consequences of the economic activities of the colonial period were a complete disaster for the world. As a result of the raw material and market search in the transition to the new mode of production, the world was shared by the great powers. In the two world wars caused by those who could not take a share or want to expand their shares, millions of people died, dozens of cities were destroyed, and misery became a common form of life. Naturally, international trade has been one of the most negatively affected areas in that period. The challenge of producing and trading under the conditions of war has led to the emergence of many international economic and commercial organizations, still existing today or having their successors. It is possible to say that the common goal of all these organizations, which have different functions, is not to continue the mistakes of the colonial period and to establish a free trade environment. In line with this goal, the first action has been to ensure peace. The United Nations was established immediately after the world wars in order to maintain the world peace and the environment of trust. The role of the permanent members of the Security Council in world trade reveals the ones who need this peace. Although the peace environment is necessary for free trade, it is not enough by itself. Trade is something that is mutually beneficial, no matter for whose benefit the result is, and needs a market. In this new world order, it is not possible to create a market like the one in the colonial period. Countries who have weak purchasing power lead to a weak global market. UNCTAD has been established mostly to prevent the underdeveloped countries that produce raw materials or intermediate goods from being out of the system. Because the export prices of the goods produced by these countries decreased by 7% between 1950 and 1962 while the prices of industrial products produced mostly by developed countries increased by 25%. This situation has also caused problems for the prosperity of the developed countries. Prebisch's thesis in the famous report of the first UNCTAD Conference forms the basis for this institution. In this report, it is proposed that underdeveloped countries should abandon the high protectionist and ineffective import substitution policies and develop strategies for the export of industrial goods. The task of the developed countries is to support these countries by encouraging tariffs in order to ensure the continuity of international trade (Alpar, 1988: 83-87). However, regulating the basic substance trade and stabilizing the prices of these goods and enforcing liberal policies in the underdeveloped countries will not be enough to sustain the world trade. Free trade led to the problem of balance of payments in underdeveloped countries and revealed the necessity of outsourcing for this purpose. The World Bank and the IMF -known as Bretton Woods Twins- are organizations that have emerged to address this deficiency. In the new monetary system, which emerged because of the abandonment of the gold standard, these institutions strive to resolve the recurring financing problems of developing countries. In other words, the stabilization of the global market created by security and development moves is provided by money and credit mechanism. The view of free trade is often explained by the theory of "comparative advantages" which claims that all the parties involved in trade will benefit from



it. The GATT and the WTO follow the rules of the free trade environment created. However, those who have “advantages” may stretch or break these rules due to the ineffective sanctions. As it can be seen, in this new post-war world order, the dominance of the countries that took their power from being capital owners have transformed. Moreover, in this way, sovereignty can be maintained easier than it was during colonialism. Financial liberalization has a great share in this process, which is also called post-colonial domination. Nowadays, large capital owners can easily transfer resources from one country to another through financial sanctions and financial attacks. In this way, it is possible to establish an exploitative relationship without attracting much reaction and sometimes even without being noticed.

### 3. INDICATORS OF TURKISH ECONOMY

Republic of Turkey, for a short period of its history approaching 100 years, which can also, considered as short, provided a full transition to free trade policies mentioned above. After the periods of inward-oriented growth, protectionist foreign trade and import substitution growth strategies, liberal foreign trade policy was adopted in the 1980s and these policies were implemented with full integration into the international financial system (Boratav, 2003). With the idea that the development can be realized through exports, the country has increased its industrial investments and realized the export move. However, the increase in imports was higher than the increase in exports due to the dominance of the assembly industry and external dependence of energy. The difference between import and export figures can be seen in Figure 1.

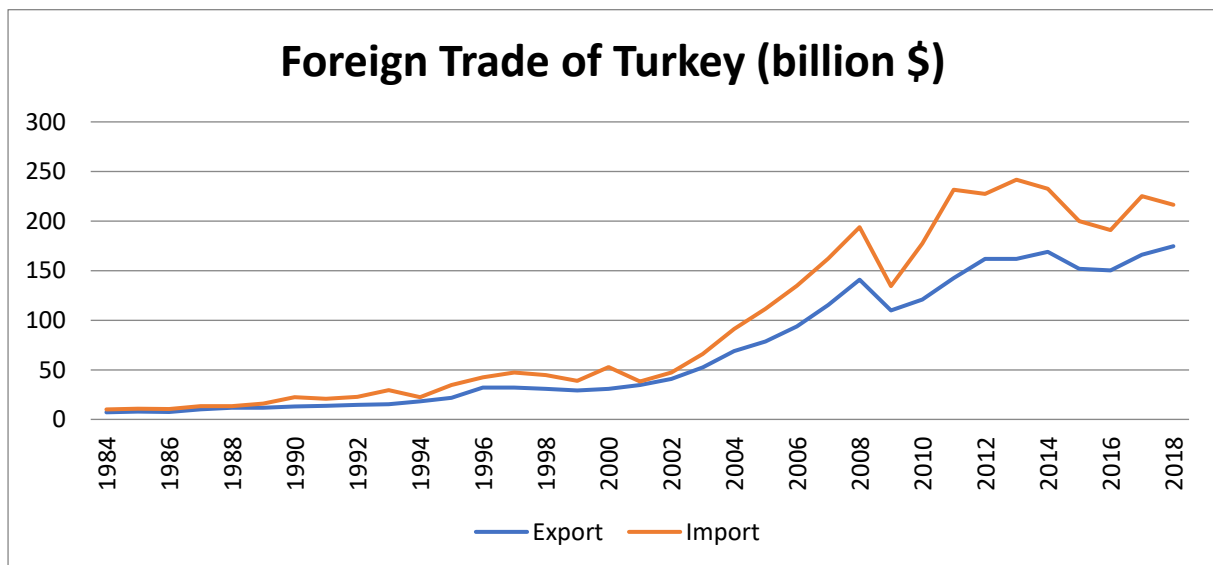


Figure 1: Foreign trade in goods of Turkey (billion \$) (authors' compilation according to the data of OECD, 2019)

In case of a deficit in the foreign trade balance, investments can only be made through external debt. Figure 2 shows that Turkey has chosen this path. While this debt does not pose a major problem in the years of growth based on imports, it rings the alarm bells for the country in this period of economic slowdown.

*Figure following on the next page*

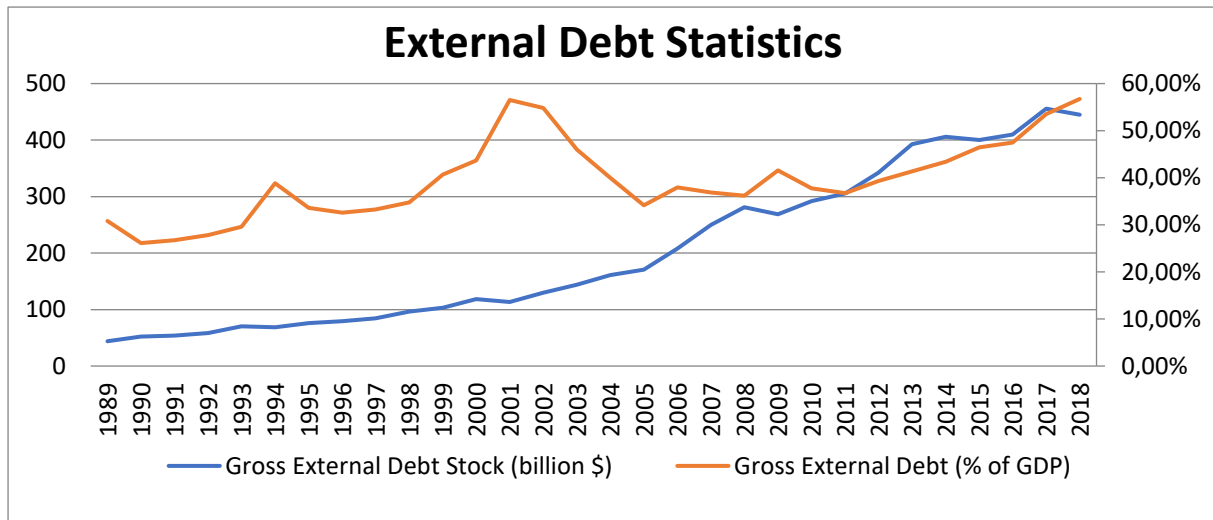


Figure 2: External debt statistics of Turkey (authors' compilation according to the data of Republic of Turkey Ministry of Treasury and Finance, 2019)

Devaluation is shown as a Keynesian solution for the countries dealing with balance of payments problems. It is predicted that decreasing the value of the country's currency would reduce the imports while increasing the exports. As a result, the current account balance would improve. However, as can be seen in Figure 3, this situation has ceased to be a continuous process and become not controllable anymore. Lerner's argument claiming that the devaluation is not an appropriate policy also support this point. Because, according to him, the capital owner countries have made the others dependent to themselves by import. It is almost impossible for small countries to use this weapon (Yılmaz, 1992: 154-155). Lerner recommends the use of the weapon of interest as an alternative. Nevertheless, interest in today's financial conditions under the dominance of capital, has ceased to be useful for developing countries.

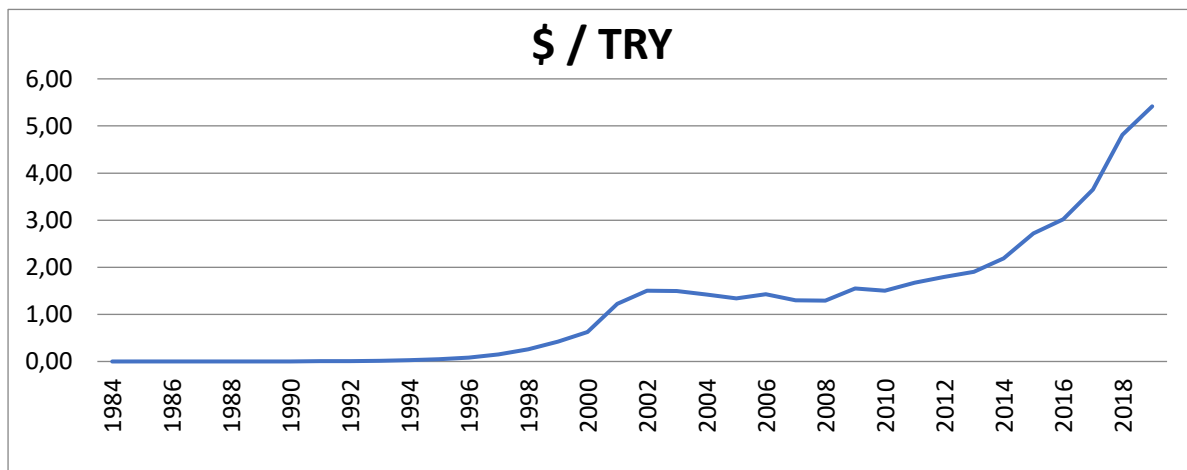


Figure 3: Exchange Rate of Turkish Lira (authors' compilation according to the data of Central Bank of the Republic of Turkey, 2019)

The short-term improvements occurred in Turkey's current account deficit balance in crisis periods, can be seen in Figure 4. According to the data released yet, there was a decrease in the current account deficit in 2018, when a great loss was experienced in the Turkish Lira. As noted in previous chapters, the improvement in the current account balance arising from the decline in imports, rather than the increase in exports, shows that the country has become dependent on imports, in contrast to the reason of its international expansion.

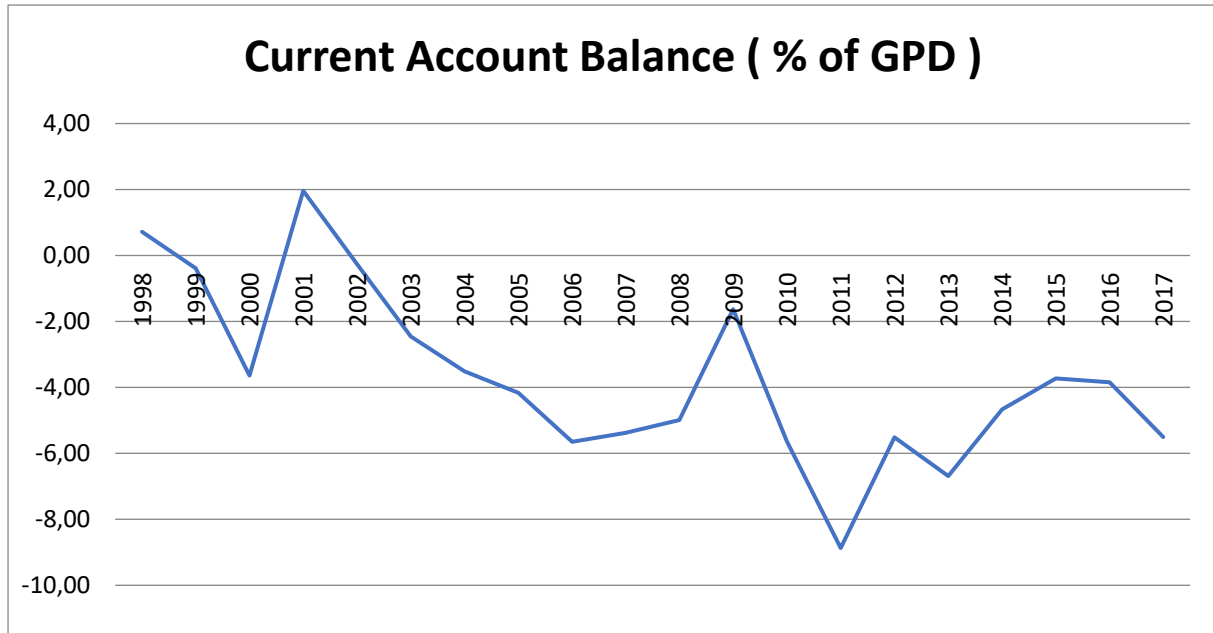


Figure 4: Current Account Balance (% of GPD) (authors' compilation according to the data of OECD, 2019)

#### 4. CONCLUSION

As we have tried to elaborate above, there is a clear distinction in the international system, regardless of its name. The source of this distinction is the capital ownership. At this point, the facts that the developing countries cannot develop and face the same problems chronically and even the capital owner countries that sanctify free trade break the rules they have established by neo-mercantilist policies point to a deadlock in the system itself. So, at this point, what should the countries like Turkey, which stay in the grip of interest rate and exchange rate and bogged down in inflation and in the chronic external debt should do? It is observed that a permanent improvement cannot be achieved with the usual prescriptions that the system's rule-makers have introduced. For now, although we do not have an alternative way out, we could still say in which direction the exit must be searched. Countries should reject the roles given to them by those who have pushed them into this position without rejecting their historical positions and they should choose their own sustainable strategies. This suggestion does not mean to be isolated from the rest of the world by drawing back to the national borders. Certainly, the empirical studies, which will carry the evaluations and findings of this study a step further, would be very useful in order to find a way for both Turkey and the other developing countries.

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# STUDY ON NATIONAL CULTURE AND INNOVATION IN EASTERN EUROPE

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## ABSTRACT

*The relationship between national culture and innovation at the national level is well established in the literature. However, ambiguity regarding the relationship still exists. The influence of different national culture dimensions in different empirical settings seems to provide contradicting results, especially when comparing countries with significant differences in national culture, such as Western European and Far Asian countries. In order to shed light on the understudied relationship between national culture and innovation in Eastern European countries we conducted an analysis of the relationship between Hofstede's national culture dimensions and the Global Innovation Index in selected countries to find out if the proposed relationships that can be found in the literature hold true for the countries of the former Eastern Block. In this way we hope to contribute to the literature studying this interesting phenomenon.*  
**Keywords:** Hofstede, national culture dimensions, innovation, global innovation index

## 1. INTRODUCTION

It can be stated that innovation is one of the key reasons for rapid technological development and economic growth. Hall et al. (2005) state that labor and capital used to be key economic resources, but today knowledge has taken their place. Innovation can be seen as a commercial outcome of applied knowledge (Crossan and Apaydin, 2010). When discussing innovation, one questions seems to come up quite often, and that is: Why are some nations more innovative than others? A number of reasons can be found in the literature. Some authors claim that a functioning national innovation system, composed of the government, business sector and universities is the key resource that directly affects a nation's innovative output (Fagerberg and Srholec, 2008). Some of the other reasons that differentiate countries are their geographical location; access to financial markets and skilled and motivated labor force (Jaffe et al., 1993). Another important determinant of innovation at the national level is national culture. National culture can be defined as a set of values and norms that shape the way things are done in a certain society (Hofstede et al., 2010). It is socially imprinted and can be seen as a set of best practices in a society accumulated over a long period of time. Therefore, it is temporally stabile and difficult to change. The relationship between national culture and innovation is well established in the literature, and a number of authors have analyzed how different national cultures tend to produce different innovative outputs (Shane 1993; Didero et al., 2008; Kaasa and Vadi, 2010). However, the difference in relationship between national culture dimensions and innovation in Eastern European countries has not been researched so far and this paper aims to fill that gap.

## 2. RELATIONSHIP BETWEEN NATIONAL CULTURE AND INNOVATION

### 2.1. National culture dimensions

National culture is a construct that came to business studies from anthropology and sociology. In earlier research papers it was commonly seen as an exogenous variable that has a certain influence in research models but was not thoroughly theorized or conceptualized. This changed, however, after Geert Hofstede, based on a large study of IBM employees from over 40 countries, managed to theoretically define and empirically prove the existence of different dimensions of national culture, all of which were linked to different types of cultural values. He called these dimensions the “national culture value dimensions”. All of the dimensions are measured on a scale from 0 – 100, and the value indicates the strength of a certain value dimension in a certain society. A number of authors later empirically confirmed Hofstede’s work and expanded the original four dimensions to the six dimensions we know of today. The national culture value dimensions are as follows:

- Power distance – This dimension is defined “the extent to which the less powerful members of organizations and institutions accept and expect that power is distributed unequally.” In this dimension, inequality and power is perceived from the lower ranked members of the society. In high power distance societies hierarchy is clear and the members of the society do not doubt it. In lower power distance societies the members of the society do not take authority and unequal distribution of power lightly and tend to question it (Hofstede et al., 2010).
- Individualism versus collectivism – This dimension measures the “degree to which people in a society are integrated into groups.” In societies that score high on individualism society members are often strongly related only to themselves or their family. On the other hand, societies that score high on collectivism tend to have strongly connected individuals that are usually integrated into larger in-groups. The group expects loyalty and support from it’s members, while on the other hand group members can expect support from the group (Hofstede et al., 2010).
- Uncertainty avoidance is third Hofstede’s dimension that measures tolerance for ambiguity in a society. It should not be mixed up with risk aversion which is different. In low uncertainty avoidance societies people accept the fact that something unexpected can happen and does happen. These societies tend to have fewer regulations and are used to ambiguity surrounding them. Societies that score high on uncertainty avoidance usually have much stricter norms and laws and are not comfortable with the idea of ambiguity. Masculinity versus femininity is the fourth dimension of the original Hofstede model. Masculinity in a society can be defined as “a preference in society for achievement, heroism, assertiveness and material rewards for success.” More masculine societies tend to have more assertive individuals who are focused on the material. Femininity can be defined as “a preference for cooperation, modesty, caring for the weak and quality of life.” Societies that score higher on femininity tend to have more equality between men and women in terms of labor market and work division at home as well (Hofstede et al., 2010).
- Long-term orientation versus short-term orientation is a dimension that was added to the original model. It can also be found by the name of Confucian dynamism in the literature. This dimension explains how a society views the connection of the past with the present and the future. Long-term oriented societies can be described as more pragmatic and problem oriented. The traditions are not that important in long-term oriented societies and change is accepted. Short-term oriented societies value their traditions more and don’t take to change lightly (Hofstede et al., 2010).
- The last dimension of Hofstede’s model is labeled indulgence versus restraint. Higher level of indulgence signifies that society is more oriented to leisure and enjoying the simple pleasures of life. High indulgence scoring societies tend to value work life balance more

and are more focused on achieving personal happiness. On the other hand, societies that score high on restraint have stricter social norms that regulate leisure and gratification of needs is controlled and regulated (Hofstede et al., 2010)

## **2.2. National culture dimensions and innovation**

As was stated in the introduction, national culture can be seen as one of the determinants of innovation at the national level. Newman and Nollen (1996) claim that differences in national culture often have a great impact on various initiatives in business organizations. Managers applying “one size fits all” techniques without taking into account their employee’s values and beliefs usually don’t achieve the expected outcomes. One of the examples for this is the introduction of quality function deployment in manufacturing companies in the USA. The function was developed as a quality tool in Japan where it showed great results. In the USA however, the implementation of QFD was met with great resistance from the employees and failed achieving its purpose. The same goes for trying to increase innovation output in organizations. Initiatives aimed at increasing innovation in an organization have to be congruent with employee’s core beliefs and values (Shane and Venkatraman, 1995; Laznjak 2012). The relationship between innovation and culture can be analyzed at three levels: individual, organizational and national (Laznjak, 2012). It is generally accepted that for an individual to be innovative he or she needs to be open minded, creative and willing to take risks. The same applies to higher levels of analysis as well. Innovative organizations tend to be more flexible, future oriented, creative and willing to take more risks (Dobni, 2008). When discussing innovation and national culture there is still an ongoing debate as to which national cultures are more favorable for cultivating innovation. Some scientists criticize using Hofstede’s national culture dimension in business research. Arguments are being made about their possible multicollinearity (Van Everdingen and Waarts, 2003). Kaasa and Vadi (2010) give recommendations to use national culture value dimensions composite indexes in order to minimize the risk of multicollinearity. Taras et al. (2009) state that Hofstede’s measures can be seen as average values and do not take into account variation inside a specific national culture. Kirkman et al. (2017) claim that national culture is a complex and multilayered construct which is too complex to be expressed just through numeric values attributed to different national culture dimensions. However, Hofstede and Minkov (2011) disagree, stating that the idea of national culture dimensions was never to measure all the variance inside one culture but to provide a tool for comparison of differences between national cultures of different nations. A string of scientists using and validating Hofstede’s national culture dimensions over the past three decades prove that national culture dimensions are a valid and important construct and that differences in national cultures have a large impact on many different organizational and individual behaviors and outcomes. Shane (1993) was one of the first scientist to analyze the relationship between Hofstede’s national culture dimensions and innovation in different countries. He found that uncertainty avoidance has the highest impact on national innovation rates. Countries that scored low on power distance and high on individualism also showed higher rates of innovation at the national level. A number of other scientists conducted similar studies in different points in time. Kaasa and Vadi (2010) found a negative relationship between power distance, uncertainty avoidance and masculinity, while there was a positive relationship between individualism and innovation performance in a number of European countries. In order to test for the temporal invariance of the relationship between national culture dimensions and innovation performance at the national level, Efrat (2014) replicated Shane’s (1993) study and found that “most cultural aspects still demonstrate strong and lasting impact on the tendency to innovate at the national level”. Smale (2016) states that national culture should be in the heart of innovation research. He explains how national culture defines interaction between individuals and organizations involved in innovative activities by shaping attitudes towards

failure, collaboration, resource sharing, creativity and entrepreneurship in a certain society. However, not all national culture dimensions influence innovation in perceived manner. Far Asian countries such as Japan, Korea and China score very high on collectivism yet manage to be among the most innovative countries in the world. On the other hand, there is also not enough research on the relationship between innovation and national culture dimensions in Eastern European countries. These countries were centrally planned economies governed largely by dictators or autocrat governments. It would be interesting to see if the relationships between national culture and innovation proposed in the literature hold for them as well. Kaasa and Vadi (2010) explains how it is perhaps important to analyze different combinations of national culture dimensions and not just the relationship between specific dimensions and innovation. This is one of the possible limitations of this research that needs to be taken into account. Another important issue tends to arise when discussing the relationship between national culture dimension and innovation, and that is the measure of innovation. Shane (1993) used per capita number of trademarks as a measure of national levels of innovation. However, due to differences in patent law in countries around the world and the difficulty of measuring how innovative each patent is, this measure can be described as very limited. Some other scientist tried using different measures for innovation at the national level, such as the number of scientific citations or the percentage of national GDP coming from sales of innovative products since innovation is defined as a commercial output of an idea (Fagerberg and Srholec, 2008). Some scientist proposed using the percentage of firm expenditure on RandD as a measure of innovation (Shane et al., 1995). All of these measures have different shortcomings, and in order to provide a holistic perspective of national innovation performance this study will use the Global Innovation Index (I Cornell University, INSEAD and WIPO, 2018). This tool provides a comparative analysis of innovation performance in almost all countries in the world. It is based on both innovation inputs and outputs. Inputs of innovation are represented through human capital and research, market and business sophistication, institutions and infrastructure, while outputs are measured through knowledge and technology outputs and creative outputs. As was stated earlier, there is a lack of research on the difference in relationship between national culture dimensions and innovation performance in Eastern European countries. In order to shed light on this understudied issue we propose a number of hypotheses to test if the relationship between national culture dimensions found in earlier studies hold true for western and eastern European countries since many eastern European countries went through significant institutional changes over the past thirty years. In order to have a larger sample and to see the potential difference in correlation between national culture dimensions and innovation performance we also included almost all of Western European countries in our analysis as well. When discussing the general determinants of innovation at an organizational level it can be stated that innovation is non-linear and requires creative thinking, flexible processes and an open mind set in order to work. It can therefore be expected that more individualistic societies should be more innovative since they let individuals express themselves, be creative and stimulate them to think outside of the box. This premise seems to hold for almost all national cultures in the world except for the far Asian cultures such as the ones in Japan, Korea and China who all score high on collectivism yet still have great innovation results. The first hypotheses of this paper is thus as follows:

- H1: Higher level of individualism positively influences the value of global innovation index.

Low power distance countries are characterized by open communication in organizations and lack of fear from authority. Employees in low power distance countries are also more willing to question management decisions. Innovation is a non linear process that is usually iterative and requires clear communication and cooperation between different hierarchical levels at an



organization. Individuals open to questioning the status quo are also expected to be better at innovation (Dobni, 2008). The second hypotheses of this paper is thus as follows:

- H2: Lower level of power distance positively influences the value of global innovation index.

National cultures with high long-term orientation value are more problem solving oriented and pragmatic. Long-term oriented societies are also not fixed on their traditions and are more willing to change their way of doing things. Long term-oriented societies tend to have higher growth rates when comparing to short-term oriented societies starting at the same level of economic development. All of the stated traits of long-term oriented societies should be beneficial for innovation at the national level. However, this proposed relationship has not been analyzed so far which leads us to the third hypothesis of this paper:

- H3: Higher level of long-term orientation positively influences the value of global innovation index.

Societies that have lower levels of uncertainty avoidance are characterized by the willingness of the members of the society to accept ambiguity in everyday life as a fact. These societies accept that unexpected things do happen in life and they tend to be more loose and have fewer regulations. However, a number of scientists have pointed out that higher levels of uncertainty avoidance can be beneficial for innovation. The reason for this is the fact that high uncertainty avoidance usually coincides with a strong legal system that is beneficial for patent protection and new idea development and commercialization. Therefore, although somewhat counterintuitive, it can be expected that higher uncertainty avoidance countries will have greater innovation performance:

- H4: Higher level of uncertainty avoidance positively influences the value of global innovation index.

### **3. RESULTS AND DISCUSSION**

#### **3.1. Methodology and results of empirical research**

In order to analyze the proposed relationship between national culture dimensions and innovation we used secondary data. Innovation was measured using the Global Innovation Index. The Global Innovation Index values for the selected countries as well as the values of national culture dimensions can be seen in Table 1.

*Table following on the next page*

*Table 1: Summary innovation index values for western and eastern European countries*  
 (Source: Authors based on Cornell University, INSEAD, WIPO “The Global Innovation Index 2018: Energizing the World with Innovation”, Ithaca, Fontainebleau, and Geneva, 2018 and [www.hofstede-insights.com](http://www.hofstede-insights.com))

	GII	PD	IND	UA	LTO
Romania	45,34	90	30	90	52
Bulgaria	37,68	70	30	85	69
Croatia	47,94	73	33	80	58
Poland	41,67	68	60	93	38
Latvia	43,18	44	70	63	69
Slovakia	42,88	100	52	51	77
Hungary	44,94	46	80	82	58
Lithuania	50,61	42	60	65	82
Estonia	55,64	40	60	60	82
Czech Republic	54,26	57	58	74	70
Slovenia	53,92	71	27	88	49
Serbia	43,5	86	25	92	52
Ukraine	38,52	92	25	95	55
Turkey	37,42	66	37	85	46
Greece	49,11	60	35	100	45
Russia	47,89	93	39	95	81
Albania	41,56	90	20	70	61
Austria	62,61	11	55	70	60
Belgium	59,53	65	75	94	82
Denmark	58,39	18	74	23	35
Finland	67,88	33	63	59	38
France	63,31	68	71	86	63
Germany	63,27	35	67	65	83
Iceland	58,22	30	60	50	28
Ireland	51,25	28	70	35	24
Italy	46,32	50	76	75	61
Malta	54,74	56	59	96	47
Netherlands	60,19	38	80	53	67
Norway	64,18	31	69	50	35
Portugal	45,71	63	27	99	28
Spain	57,15	57	51	86	48
Sweden	56,94	31	71	29	53
Switzerland	68,4	34	68	58	74
United Kingdom	60,13	35	89	35	51

In order to test our hypotheses, we did multiple linear regression analysis. Following the procedure set by (Kull et al., 2014) we computed the dependent variable (global innovation index) together with all independent variables (different national culture dimensions) and then following the stepwise procedure eliminated the non-significant relationships. This is a procedure that can be used when the analysis is done on a relatively low number of countries. In order to control for differences in economic development and institutional framework we added the GDP per capita for each country as a control variable in the model.

*Table following on the next page*

Table 2: Model 1 coefficients (Source: authors)

Model	Beta	t	Sig.
<i>I (Constant)</i>		3,814	,001
<i>PD</i>	-,245	-1,415	,168
<i>IND</i>	,016	,104	,918
<i>UA</i>	,238	1,698	,101
<i>LTO</i>	,257	2,309	,029
<i>GDP_PC</i>	,825	4,987	,000

a. Dependent variable: *GII*

The R square value of the first model was 0,679 showing that a significant amount of variation in the model was explained by model variables. Surprisingly, individualism was shown to be insignificant in the model so we removed it from the second model.

Table 3: Model 2 coefficients (Source: authors)

Model	Beta	t	Sig.
<i>I (Constant)</i>		4,652	,000
<i>PD</i>	-,253	-1,632	,114
<i>UA</i>	,235	1,738	,093
<i>LTO</i>	,262	2,590	,015
<i>GDP_PC</i>	,829	5,240	,000

a. Dependent variable: *GII*

After removing individualism as one of the independent variables the R square value of the model was increased to 0,69. Power distance does not seem to be a significant variable in the model so we followed the procedure from model 1 and removed it from the analysis. After removing power distance from the model the overall model significance decreased. Therefore, only model 2 was analyzed as the model fit the best fit. Long term orientation and uncertainty avoidance were the two dimensions of national culture that showed significant in the model. As hypothesized, long term orientation has shown positive influence on a country's global innovation index values. The same goes for uncertainty avoidance, that has shown to have positive and significant impact on the global innovation index in analyzed countries. Thus, hypotheses 1 and 2 of our research were rejected, while hypotheses 3 and 4 are confirmed.

### 3.2. Discussion of the results

The results of the study are somewhat surprising. Our analysis has shown that individualism does not seem to play an important role in a country's innovative performance. After removing individualism from the analysis, the overall significance of the model improved. There are a number of reasons why individualism could be non-significant in the model. Kaasa and Vadi (2010) state that it is important to analyze different configurations of national culture dimensions through composite national culture indexes that take into account not only the value of the selected national culture dimension but also the strength of its effect on innovation. It is possible that individualism does not play such a strong role in innovation performance of the selected countries. Majority of the countries in our sample are members of the European Union and thus share similar legal framework and funds for research and development at the national level meaning that innovation processes in these countries are somewhat uniform and could limit the influence of individualism on innovation. An analysis of a larger sample of different national cultures could provide us with different results. Power distance was also insignificant in the model. Innovation can be seen as a process that is consisted of two poles the first one being invention and the second one commercialization of ideas (Smale, 2016). Although the global innovation index can be seen as a comprehensive measure of innovation, it is more

focused on innovation outputs and results. A number of scientist state that creativity and flexibility are more important for invention, while control and hierarchy are more significant in the commercialization part of the innovation process (Khazanchi et al., 2007). One of the possible reasons for the insignificance of power distance in the model could be the use of global innovation index as a measure for innovative performance at the national level. As well as for the analysis of the relationship between individualism and innovation, it is possible that a larger sample of national cultures could give us more comprehensive results. Regarding the relationship between long term orientation and innovation, our research has confirmed that countries with higher levels of long term orientation have a higher value of the global innovation index ( $\beta = 0,262, \alpha < 0,05$ ). National cultures with higher values of long term orientation are more willing to embrace new ideas and solutions and are more pragmatic and problem solving oriented, all of the traits that can be beneficial to innovation. The positive hypothesized relationship between uncertainty avoidance and global innovation index has also been confirmed ( $\beta = 0,235, \alpha < 0,1$ ). Uncertainty avoidance is not necessarily related to risk aversion since it can be expected that national cultures that are more prone to risk taking should be more innovative. Uncertainty avoidance signifies that a national culture has values oriented towards eliminating ambiguity and uncertainty, and in order for innovation to thrive it is important that a country has a strong legal system that helps protect intellectual property and stimulates individuals within the country to pursue their innovative endeavors.

#### 4. CONCLUSIONS

The main research goal of this study was to show if the proposed relationships between national culture dimensions and innovation that can be found in the literature hold true for Eastern European countries. In order to strengthen and broaden our sample we took a number of Western European countries into the model. Our analysis has shown that higher values of long term orientation have a positive impact on innovation in both Eastern European and Western European countries. The same holds true for higher values of uncertainty avoidance present in a national culture. On the other hand, the proposed relationship between individualism and innovation as well as power distance and innovation were not confirmed and require further research. This study has a number of limitations. The first limitation is a relatively low number of countries taken into analysis. Another limitation is the unavailability of data regarding national culture dimensions for a large number of Eastern European countries (e.g. Bosnia and Herzegovina, Macedonia, Armenia, Georgia, Belarus, ...) that had to be taken out of the analysis. The third limitation is the lack of a comprehensive and complete innovation measure that would take into account all of the various phases of the innovation process as well as the innovation inputs and outputs. Regardless of these limitations, the study has achieved a part of its main research goal in proving that the proposed relationships between some national culture dimensions and innovation hold true for countries in East Europe. On the other hand, the study has also opened some new questions regarding the relationship between individualism and power distance and innovation that require further research. One of the propositions for future research would be to enlarge the number of national cultures taken into the sample and try analyzing different clusters of national cultures such as Scandinavian, Arabic, Far Asian, Anglo-Saxon and Slavic countries.

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## DIGITAL ORGANIZATIONS AND DIGITAL TRANSFORMATION

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### ABSTRACT

*It is evident that companies are spending more of their budgets on digital services, as most consumers and stakeholders are spending time online. Social media platforms and web 2.0 services have been praised as the most attractive marketing playground, where organizations can have an all-time presence, reach a wide range of audiences and more specifically - have two-way communication with their targeted groups. However, managers remain focused on digital strategies, whereas they should be focused on building digital organizations. As digital has a strong presence into the very core of the organization, this means it can transform companies from the inside, not only influencing their business performances but also their organizational structure, the communication inside and outside of the company, how decisions are made and the company culture itself. In this paper, we examine the case study of Eneco, how digitalization has improved the company's business model, and we compare their results with provided digital organization models.*

**Keywords:** *Digital organizations, Digitalization, Digital transformation, Organizational structure*

### 1. INTRODUCTION

Digitalization is viewed as the major cause for transformations across multiple aspects of business, as technological advancements in communication and IT technologies have shifted the focus of digitalization in every company sector, and not just marketing. Internet-based products and services have enabled other 3rd party companies to grow in offering their own ideas. Business leaders and decision makers are looking for strategic solutions and guidance in transforming their organizations. The economic and societal impact of digitalization is still relatively uncertain, as traditional business are still measuring the effects it could have. Modern organizations are tackling the market in a different way nowadays, mostly through developing and delivering digital products and services, which also enables them to communicate with customers and stakeholders through digital channels and offering their services to a wider market. In addition, although traditional organizations still focus on developing their digital strategies to reach consumers, they still fail to see the importance of using digital services in all sectors. It is more than evident that social media channels, machine learning through big data and other digitally based technologies are revolutionizing how industry is perceived and are having a large economic and social impact, especially through redesigning the work environment, creating new employment positions and influencing the organizational culture and structure to adapt from a traditional way of functioning. Benkler (2002) explains how digital technology enables organization members to be more self-organized, thus avoiding damaging effects of hierarchically organized systems such as delays and information loss.

When comparing traditional and digital organizations, the later ones can also potentially grow their business faster on an international level, due to being more adaptable to customer requests. It is also important to point out that digital business platforms have managed to acquire a strong global presence within a short period of time, thus disrupting the traditional organizational form of growth and having considerable implications for the company internationalization process. Moreover, it is noticed that digital technologies improve companies in operating their businesses faster and at a lower cost (Sambamurthy et al. 2003). In this paper, we will provide the aspects of digital organizations, a comparison on digital and traditional organizations, and how digitalization can improve performances and organizational structure. We will examine a case study to support the idea that digitalization and digital transformation.

## **2. DIGITAL ORGANIZATION**

Organizations today need to have a quick internal decision-making process and these decisions need to be backed up by timely analyzed data. Although it may seem that digitalization is a role for the IT department, authors argue that is more of a strategic and organizational move. (Kane et al, 2015) As business success is no longer obtained through being first on the market, companies focus on ways to lower costs while making the right decisions in a tight time frame, as well as investing in their workforce and talent pool. Authors advocate that the cost effectiveness, even in an IT business, is not regarded to additional funding or financing, but rather on product, service, marketing, organizational and competitiveness improvements (Kurien, Rahman, & Purushottam, 2004; Kämäräinen et al, 2001; Kontic, 2002). According to a research by MIT Center for Digital Business and Capgemini Consulting (Soule et. Al, 2016), a digital organization possesses a set of characteristics that collectively enable both Digital Capability and Digital Dexterity, as well as a mindset focused on finding digital solutions for the company. Digital Capability focuses on three areas:

- Customer Experience: using digitalized tech for customer communication and support
- Operations Efficiency: optimization and automatizations based on analyzed data.
- Workforce Enablement: using digital tools for efficient collaboration and knowledge sharing

Digital dexterity enables a digital organization to adapt its roles, responsibilities, and relationships flexibly. This empowers the organizations to adapt faster to changing consumer needs, and to grow in different areas. A World Economic Forum report has defined five digital operating models for a successful digital enterprise. Analyzing a number of leading companies who have used digitalization fully, these models have been applied across industries and vary in their focus, but all are based on some common principles. The models emphasize flexibility and an open culture that praises innovation and interaction with customers and partners (World Economic Forum, 2016, p. 19):

1. Customer-centric - A model that focuses on transforming front-office processes, with a decentralized structure and a “client first” culture
2. Extra-frugal - A standardized organizational structure with a high-quality service at a low cost, and a focus on optimizing manufacturing, supply, and support processes,
3. Data-powered - This model has its strength in analytics and software intelligence and an agile culture. The model focuses on innovation through empirical experimentation. This model is particularly interesting as it is built around a hub-and-spoke structure.
4. Skynet - Based on the famous movie name, this model makes intensive use of machines to increase productivity and flexibility in production, and these organizations have an engineer-led culture dedicated to automation.
5. Open and liquid - This model is focused on enriching the customer proposition and is characterized by constant dialog with the external world.

### 3. DIGITAL TRANSFORMATION

“Digital transformation” is a very used and common phrase/term among marketers, business managers, and decision makers, yet the focus is still on digital strategies in marketing. In a 2016 research conducted by MIT Sloan Management Review and Deloitte with more than 4800 executives, almost 90% of managers and executives anticipate that their industries will be disrupted by digital trends to a great or moderate extent, yet less than a half (44%) managers have responded that their organizations are preparing for the coming disruptions (Kane et al. 2015). The same global study of digital business indicates that only 15% of respondents come from companies with an early stage of digital maturity (Kane et al. 2015). These organizations are the ones where digital has transformed processes, talent engagement and business models, and these organizations, according to the respondents, have a clear and coherent digital strategy. When looking at this information, an important question is what is needed for an organization to become digital? A technology futurist Nicholas Negroponte (1995) predicted that the old industrial economy would be eaten away by a new digital economy. Traditional management theories point out that competitive advantage can be achieved through company positioning within a chosen industry (Porter 2004) or it can be achieved from a company’s unique resources (Barney 1991). These theories apply on traditional company structures and do not include a digital perspective of products and services. Authors (Bharadwaj et al. 2013) argue that relevant management studies up to now have not considered the impact of IT and digitalization into business strategies and that IT strategies were viewed as functional-level strategies. It is a common mistake to associate digitalization with IT. IT is undoubtedly a critical enabler of digitalization, but there is much more to digitalization than having the technology. The business point of view is critical when defining digital channels, customer interactions, products, and even internal processes. All along the way of digital transformation, IT must play a very active role because most of these aspects to be defined will have an impact on the technological architecture or technical components that must be assessed. IT must then play a role as a facilitator and guide the company towards innovative technical solutions that help achieve defined goals. Now the time has come to redefine the role of IT strategy and to create a fusion between IT strategy and business strategy into a digital business strategy. The development of social media and Web 2.0 has opened a completely new segment to communicate with consumers, but also the possibility to gain vital info on the consumer’s needs. Whereas consumers once gained power from the possibility to access user-generated content, companies now gain power from access to the increasingly large amounts of information that consumers produce (Labrecque, 2013). Companies adopt digital technologies to better sense and respond to customer needs, so it is clear that digitalization is transforming the company’s customer-side operations. On the other hand, Langer (2017) states that as digitalization takes place in reshaping customer needs, it also redefines products and services, as well as delivery mechanisms, and organization design. Some of the examples: Continental Airlines is using a data warehousing platform to gain access to real-time customer and flight information that helps them better understand and meet their passengers’ needs and wants (Watson et al. 2006). Similarly, Best Buy is also a company that implements digital technologies. The company uses data synchronization in order to improve customer service across its stores, and implemented an internal product management system for quality information improvements provided to in-store customers (Kovac et al. 2009). So digital transformation requires transforming the core of operations and processes. The outcome should not be the growth of digital functions compared to core functions, but the transformation of functions so they are adapted to digitalization. According to a WEF report (World Economic Forum, 2016, p. 9) there are three key areas that companies will need to redefine in order to become digital enterprises:

- digital business models (what companies need to do);
- digital operating models (how they can do it);



- and digital talent and skills (who they need to work with to succeed).

McKinsey's survey (Bughin et al., 2017) identified that fails in organizational culture are one of the key obstacles to a digital transformation and company success. Arthur D Little consulting (Fernandez-Olano et al., 2016, p.2) reports that digital transformation plan has two main options to choose from:

- To set up a central organization under a CDO (Chief digital officer), who is in charge for the whole digital transformation process
- Or to have decentralized digital functions, meaning to distribute key digital functions (tuning the digital process and adapting products to the digital world, exploring new ventures) to the traditional managers of these functions

As both options have advantages and disadvantages, depending on the previous system and the goals an organization wishes to achieve, they can opt for one of the options. A CDO option is usually a more common strategy, as it has clear KPIs and responsibilities, whereas the second option provides digitalization closer to the various business departments. Also, there is an option to develop offshoot digital companies inside organizations, which is seen a lot in the banking and telecommunication sectors.

#### **4. CASE STUDY ANALYSIS**

We will examine the case study of Eneco (Giron, 2016), a group of five companies that is active in the energy sector. Eneco is one of the largest producers, energy suppliers and traders in Holland and its businesses are in natural gas, electricity, heat, and in sustainable energy projects. The case is how they have managed to create a digital organization and redefine their business and organizational model. We will compare their results with the literature scope provided in this paper. The company predicted a big change in energy production in 2006, when sustainable and locally produced energy sources were to replace centralized and fossil fuel-based energy. The new transition was to focus on production of green energy in collaboration with citizens and business customers. In 2007, Eneco came out with its new corporate mission, which was to "enable sustainable energy for everyone", starting its energy supply transformation. In 2016, the progress was evident as 25% of its total energy supply comes from sustainable sources, yet Eneco was now facing a competitiveness problem. They have identified three main business problem areas:

- The rise of locally produced energy by their customers resulted in a decrease of demand for their production and services
- The customers are switching to digital customer-centric firms who are disrupting traditional energy utilities providers
- New markets are opening in the electric-car businesses, as EU governments are encouraging electric-car manufacturing.

In response to these problems, by instructing its CIO to develop a new business technology (BT) transformation, Eneco started a transformation of its business model and technology. The idea was to enable Eneco's business units to understand the value of digital technologies in order to be relevant to customers. The transformation had three phases: 1) Operate a business technology transformation; 2) Reinvent the business model via digital platforms and 3) Multiply and scale digital platforms investments. Each phase had several key tasks, which were necessary to complete the digital transformation. Eneco was streaming to become a customer-led company, so they began using Net Promoter Score and customer satisfaction systems. In the first phase, the company transformed from a centralized tech management system into an organization of smaller tech management teams working in different business units.

This was done with the intention that each business unit should be customer centered, as opposed to the traditional business functions such as marketing and customer service. All of the smaller business unit teams operated in a network, and this improved skills for each of the teams and raised collaboration among units. All of the units were held responsible for their transformation budgets and strategies, even though that, in the beginning, there was a strong internal cultural roadblock. This was mostly because IT was not held in the highest regard among the stakeholders. This shift was of the highest importance in raising the value of digitalization among the workers and changing the business mindset. The change was a step for one of the ideas: to make tech managers into business technology consultants – as this work resulted in developing a new CRM system to raise sales based on creating genuine packages according to customer profiles. The second phase meant that company was willing to become fully digitalized customer centered business, even if it meant sacrificing revenues. Eneco needed to quickly develop new business models so the revenues could improve, so the idea was to create a digital platform: a smart thermostat designed to enhance customer experience. The platform Toon was developed with the help of a local start-up called Quby, as Eneco and Quby then worked together to commercialize Toon to Eneco's 2 million customers. The device is sold for 275€ or a 4 year plan with a free installation of 75€. <sup>1</sup> In the end, Eneco acquired Quby, which still develops the platform. In order to make the digital app platform interesting to a larger group of customers, Eneco opened up the Toon platform to external developers during a hackathon organized in March 2015 and in September launched a Toon Open API initiative. As the company created an open innovation ecosystem they hope it will improve the development of new services and related revenue streams. The fast success of Toon enabled Eneco to go into phase three, which was developing a new business unit: Eneco Innovation and Ventures (I&V), as it "searches for and invests in start-ups and scale-ups that can help use sustainable technologies and innovative business models like the big drivers to accelerate the energy transition."<sup>2</sup> The focus is to develop a venture capital capability to accelerate the growth of digital platforms, as Eneco wants the Innovation and Ventures BU to generate 50% of global revenues by 2025. Apart from the financial results increase, Eneco has other improvements: Improved customer satisfaction: 7.6/10 in 2017<sup>3</sup> and Net Promoter Score rose from -20 in 2013 to -12 in 2015.<sup>4</sup>; Increase in customer loyalty through added value additional value delivered to customers via a different additional option on Toon. This enabled a higher interaction with customers, as it was on a daily basis comparing to traditional electrical billing. From this, we can see that Eneco has opted to a structural and decentralized digital transformation, as their CIO has made it possible to do the transformation not under his direct supervision. After the transformation, we can also confirm that Eneco has done a textbook example of digital transformation, as the WE Forum stated three key areas needed to be changed:

1. Adopted a digital business model – changed the way they do business by digitalizing their service; The risk in this transformation was that the managers of the previous business models were not on the get-go for the new digital services, yet higher customer loyalty and other results have shifted the business model
2. Changed to a digital operating model by acquiring Quby and developing Toon, but also by developing tech business units. From a centralized structure with standardized business functions into a company that has a strong customer orientation and its business units can work independently. The networking among them has led to an open learning culture.
3. Digital talent and skills - Eneco has seen the potential in digitalization and the development of their Innovation and Ventures sector has clearly demonstrated their intentions on

<sup>1</sup> As stated on Eneco website, Retrieved on 10 04 2019 from <https://www.eneco.nl/energieproducten/toon-thermostaat/>

<sup>2</sup> As stated on Eneco website, Retrieved on 10 04 2019 from <https://www.eneco.com/what-we-do/ventures/>

<sup>3</sup> Annual Report 2017, Eneco, Retrieved on 10 04 2019 from <http://yearreport.enecogroup.com>

<sup>4</sup> Annual Report 2015, Eneco, Retrieved on 10 04 2019 from <http://annualreport.eneco.com>

investing in talents and skills of start-ups so they can contribute in the mission of providing sustainable energy for everyone.

Eneco has understood that in order to digitalize itself it must give an additional value to the customer, so we can conclude that the company is a mix of a customer-centric model and open and liquid model.

## 5. CONCLUSION

Competing in the digital world is increasing each year and companies need to understand that the digital transformation is necessary in order to survive the ever-changing environment. It is not just about getting better IT equipment or improved technologies, as its more about taking the strategical shift in the organizational structure and business goals. Digital cannot be a strategy, not even a long-term one. Investing in digital takes time, yet the benefits are obvious in a mid-time frame. Digitalization is more about creating a digital business culture, investing in the people who work in the company and redefining the business model. Regardless of the digital transformation results, digital transformation is more about rebuilding a company. The stakeholders and top management need to understand that digitalization doesn't involve getting the IT department to do the work and reducing the number of employees, but rather providing the workers with options to focus more on building the brand in a creative way instead of doing the operational tasks; using data to make decisions easier and logical rather than collecting it; communicating with customers in order to get tailor-made services in products that respond to their needs instead of giving them the service the company thinks best. The so-called "digital giants" such as Airbnb and Uber, who represent the sharing economy companies, as well as other online communication companies like Slack, have changed the way company structure and value is built, disrupting the ownership system and focusing on consumer needs. Digital business culture is an open culture that involves shared learning for everyone. Decision makers and company leaders will have to change their cultural mindsets in order to help develop collaboration and what is more important – risk-taking. Business leaders should also identify and understand which aspects of the current culture could create roadblocks for a complete digital transformation process. All of these details were present in the Eneco case study and only when these organizational changes have been implemented the company can go from doing digital to being digital.

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