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New Product Pricing Strategy: Skimming Vs. Penetration

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Abstract: Adopting a pricing strategy becomes crucial in the current high-competitive environment. Many pricing strategies were developed as a response to the market's needs. Skimming pricing strategy and penetration pricing strategy are the most popular pricing strategy followed by companies for pricing a new product. Some circumstances and factors affect which one of these strategies should be adopted. Each type of these strategies has its merits and demerits. Gaining high profit in a short time and excellent customer's perception of the product quality is the most advantage of skimming pricing. On the other hand, avoiding the threat of competitors and leading the market through the high diffusion of the product are the main pros of penetration pricing. The right decision taken to determine the suitable price means the success of the product, which in turn, the success of the company through achieving its objective. This study demonstrates the difference between the mentioned above (skimming and penetration) from different aspects. The theoretical literature review methodology was employed in this research to answer the following question: what is the optimal pricing strategy should the marketer/decision-maker follow to achieve the firm goals?

Keywords: Pricing strategy, Skimming, penetration, new product, marketing

Introduction

The ways of pricing have been changed over time. In primitive society, they were exchanging commodities for other goods, which almost they are equal in value. For instance, one sheep equals a bag of wheat. While in the new community, the exchange of goods and services becomes with money. The value of the goods and services determined if there is someone who has the willingness to pay for it.

Although it is not a daily basis mission, Pricing is one of the most critical managerial decisions. Due to the lack of the history of the new product, marketing, and pricing of the new product need deep thinking and force the company to follow a specific approach. Spann et al. (2015) mentioned that the pace of launch a new product in the base of high-technology, the pricing of such product becomes a

critical mission, where the success of this mission means the success of the company (Spann, et al., 2015).

The second part of the marketing mix is the pricing process of the products or services after the finalization. Therefore, in the current era, choosing the optimal price needs a specific strategy depending on different factors (Kienzler & Kowalkowski, 2017). There are many pricing strategies presented in the literature such as cost-plus pricing, psychological and odd pricing, promotional pricing, nevertheless, Skimming pricing strategy and penetration pricing strategy are the most presented and recommended in the literature for pricing new product and service (e.g., (Reketye & LIU, 2018) (Kotler & Armstrong, 2012) (Spann, et al., 2015)). For the reasons above the researcher shed light onto these two types of pricing strategy (penetration pricing and skimming pricing); moreover, the relationship between the market and the price, and pricing objective took place in this paper

1 Pricing and marketing

In the marketing mix, there are multiple variables. However, pricing is considered the most elastic one due to the pricing ability to affect the profitability of the firm in a short time frame (Darden, 1968). Through the pricing strategy, many factors studied before setting the price for the product or service (Kienzler & Kowalkowski, 2017). (Udell, 1964) Stated that factors are affecting the implementation of the pricing strategy include: concerning the need and demand for such product or service, the level of competition, and conditions related to the markets and economics. In other words, to reach the optimal price for product or service, the company should balance between the three Cs (Customers, company, and competitors) (Reketye & LIU, 2018).

Souza et al. (2004) demonstrated that understanding the market through the acquisition of sufficient knowledge about the different variables, besides knowing the internal company component, will reduce the complexity of the pricing strategy (Souza, et al., 2004). Where price considered one of the essential factors in the success of the product and, therefore, achieving the corporate objectives (figure1).

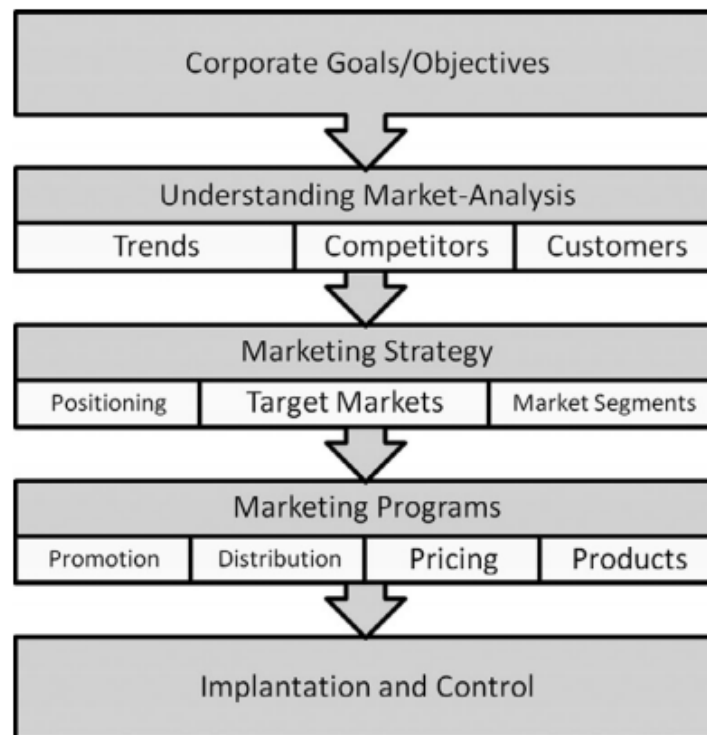


Figure (1) marketing steps. Source: (Simkin, 2000)

The company focuses more on the customers either present customers or prospective customers in the term of price, not only the rivals (Davcik & Sharma , 2015). Therefore, the Company should concern about the pricing strategy, particularly in case the competitors launch a new brand with keeping the same price. Also, the pricing strategy should be altered in case any competitors change in the price of the product or the service. Many companies depend on the manager's insight and experience. Therefore they consider pricing strategy the most straightforward strategy within marketing processes (Kotler & Armstrong, 2012).

2 Pricing Objectives

Pricing objectives mean the goals that the organization seeks from the pricing. Pricing decisions and objectives relate to and significantly affect other functional areas such as financial accounting and production. It is necessary to harmonize and align these goals with the goals of the Organization (Avlonitis & Indounas, 2005). The following are a set of goals that the organization seeks to achieve:

A. Long-term survival:

Organizations generally seek to reach the goal of survival through success in the market and persistence in work, especially organizations that have distinct brands. Moreover, organizations should know that the lack of value-added to their products means that they fail (Oxenfeldt, 1973).

B. Maximizing profits:

Through this goal, organizations seek to maximize and increase profits by estimating demand Cost and different prices. Therefore that they choose the price that earns a high profit or a high cash flow (Avlonitis & Indounas, 2005). However, this objective is not easy to achieve because it is difficult to estimate demand accurately (Oxenfeldt, 1973). The administration in these organizations largely ignores the effects of the rest other marketing mix elements as well as competitors' reactions and limitations on the prices.

C. Market share leadership:

Some organizations seek to be the market leader by adopting the strategy of Low costs to achieve good long-term profitability or by linking its price policy with the quality of the product. Therefore, organizations should pay more attention to the other marketing mix. The penetration strategy helps to achieve the firm goal depending on two points: to avoid the potential of entering new competitors and Reduce prices and increase sales and thus lead to cost per unit coverage (Avlonitis & Indounas, 2005).

3 New product and Pricing strategy

New products and services coming in different shapes include the product and services developed for the first time or improvement on the current services or product. Krishnan et al. (1999) Mentioned that it is not easy to arrive at an appropriate pricing strategy for the new product. He referred that to the diffusion of the product in the market as well as the product encompass the complex dynamics (Krishnan, et al., 1999).

New product prices should meet the company strategy by increasing profit and satisfying customers. Product quality and price are the prime factors that affect the success of the product once it is launched in the target market (Smith, 1986). Therefore, the company Decision maker responsible for the product's success.

The pricing policy is a philosophical guide or a specific event designed to influence and determine pricing decisions. Pricing policy gives approaches to reaching pricing targets as an essential consideration in developing a strategy (Kotler & Armstrong, 2012). The pricing policy as a set of rules, methods, procedures, and measures that determine the appropriate price of the company's

products, which ensures the achievement of the objectives of the company within a limited period (Rekettye & LIU, 2018). There are two pricing policies:

1- Skimming Pricing

2- Penetration Pricing

Pricing policies are the general framework through which the management can find its price decisions. Pricing strategy helps the decision-maker to determine the right price to achieve the pricing goals. It also reduces its effort to find such decisions. Price policy helps to coordinate the pricing decisions and the image that the consumer carries to his marketing component (Kotler & Armstrong, 2012).

3.1 The Skimming pricing

A skimming strategy is known as charging a high price once the product is launched in the target market and then lowered over time (Dean , 1976). (Rekettye & LIU, 2018) Demonstrate that the promotion budget plays a primary role in the skimming strategy. Two types of skimming strategies have emerged, either fast skimming or slow skimming, depending on the amount of the promotion budget.

The amount will pay on Creating and developing an innovative product that is very high. Therefore, the pricing of skimming is the best strategy a company should follow to gain a high position in the market and cover the product developing expenses (Toptal & Çetinkaya, 2014). The results of Hanif (2014) study showed that the quality of the Product, Product brand name, Technology, and Innovation used affected the skimming pricing positively. Therefore, Skimming pricing usually used with innovative technology products (Hanif, 2014).

“learning curve effect” is one of several factors that play a significant role in declining the product price over time. This factor means that the cost of the production decrease as the experience increase, customer demand, and the activities which are practiced by the rivals (Smith, 1986). An excellent example of declining the price by the time is the prices of the T.Vs and electronics equipment. The initial price for such devices was very high, and it was affordable for a small segment of customers, then the price decline yearly (Bayus, 1992). Figure (2) shows the three potential causes of the pricing in skimming pricing after a while of launch the product or service.

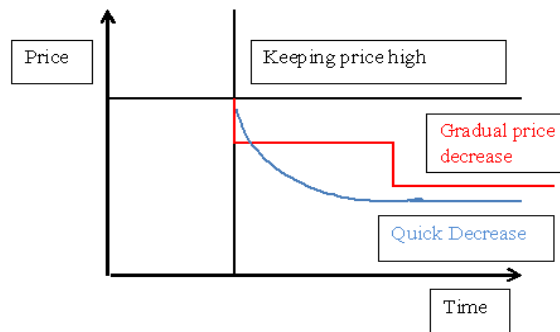


Figure (2) skimming strategy. Source (Rekettye & LIU, 2018) P. 124

The customers' common belief that the high price indicates high product quality. Therefore, applying skimming pricing reinforce a prestigious position of the product. Moreover, the company can allocate a substantial amount for promoting, marketing, and distribution product through the high profit that they can gain at an early stage (Rekettye & LIU, 2018). On the other hand, setting an initial high price probably an obstacle to accepting the product by customers as fast as possible. Therefore the market becomes a fertile environment for competitors to show up (Deshpande, 2018). There are appropriate conditions that indicate the success of launching a new product at a high price. Elastic of the demand on the early stage should be very low beside the market should be segmented consider as the critical condition to apply pricing skimming (Rekettye & LIU, 2018).

3.2 Penetration pricing

On the contrary of skimming pricing, the initial price in the penetration pricing strategy is set at a lower price compared to similar products. The additional cost for the marketing and promotion sets the pricing of penetration into two groups; quick penetration and slow penetration, wherein marketing cost is higher in quick penetration (Rekettye & LIU, 2018). However, overall, reaching fast sales and keeping the rivals away are the main penetration pricing strategy objectives.

In a contract of skimming pricing, penetration pricing applicable if the elastic of high price of demand. As well as the absence of patent protection, or there is a potential threat by competitors is an encouraging reason to adopt the penetration pricing strategy.

Selling a large number of products in a short time, therefore increasing the profit through accumulating the small amount contribution of each product, is one of the penetration strategy advantages. Moreover, the low price increases the possibility of fast diffusion of the new product and decreases the probability of the rivals or competitors to enter the market. In turn, increase the market share of the company

and increase the promotion and marketing portion for the product (Rekettye & LIU, 2018).

The general customers believe that the low price means low quality is the main drawback of adopting the pricing of penetration. Moreover, the ROI for the firm will be very low due to the small profit contribution. Penetration pricing is a long-term strategy. Therefore, companies should be more careful in case they adopt this strategy. Nevertheless, penetration pricing is suitable in case the price elasticity of the new product or service very high — moreover, the penetration strategy the right choice in case no elite market.

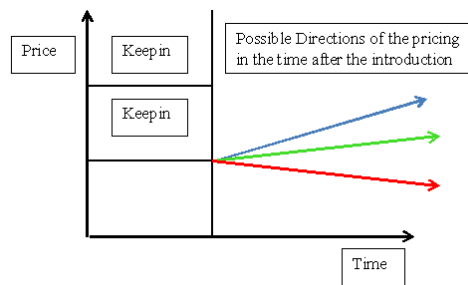


Figure (3) a penetration pricing strategy. Source (Rekettye & LIU, 2018) P. 128

Discussion and conclusion

The new product's optimal pricing strategy should the company followed depends on different factors and circumstances. Indeed, the high price in the skimming pricing can be preserved for an extended period only if the firms incessant a monopolistic product. Moreover, brand loyalty keeps the firm from the competition or imitation threat; for instance, the majority of Ray-Ban customers keep loyal to the brand and return to buy the same brand. Customer's sensitivity for price considers as main factors which guide the company to follow the skimming pricing or penetration pricing, for example, customers of cosmetic. Where penetration pricing applied in case price sensitivity very high and competition on the market very high (Kotler & Armstrong, 2012).

The firms usually plan to adopt the skimming pricing strategy, where keeping high prices once the product launched, then by the time, the price becomes lower than the initial price (Dean , 1976). The Promotion and marketing of the product are essential processes. The number of expenditures spends on marketing in skimming pricing very high, while the amount of penetration pricing very low. Nevertheless, skimming pricing is appropriate when capital returns expected in over a short period (Rekettye & LIU, 2018). Usually, the company with extraordinary reputable adopt the skimming pricing for its innovated product or service. Therefore, customers respect the effort made by the company by accepting the high price for the innovated product or service (Hanif ,2014). On the other hand, some circumstances force the company to set a low price. Even though the expected profit very low and ROI take a long time, in addition to the bad image

quality taken by the customer for product or service, make an increase in price on the future impossible (Marn, et al., 2013).

Many researchers recommend skimming strategy for pricing new products regarding the high profits which the company can achieve (Kotler & Armstrong, 2012). Particularly in high-technology and innovated products where the life cycle of such products very short, for instance, digital camera (Spann, et al., 2015).

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CSR Activities of Tunisian Eco-Labeled Hotels

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Abstract: The purpose of this study is to compare the CSR content on hotel websites and in guest reviews. Our research results outline the difference between the CSR activity hotels and the real consumer experience, so called value-action gap (VAG). The survey was conducted on the five hotels in Tunisia that obtained Tunisian Eco-Label. Through content analysis, we reviewed information on CSR available on hotel websites, and reviewed a total of 4017 French and 7029 English reviews on TripAdvisor, of which 166 guest comments reflect CSR activity. The results of the research have shown that hotels inform guests on their websites of their CSR activities in varying degrees of detail. The comments were mainly positive in the CSR categories, but not all CSR topics were included. Two Value-action Gaps (VAG1, VAG2) were identified. The results of this research can greatly contribute to building CSR strategy for hotels

Keywords: CSR, guest review, hotels, sustainability, value action gap

Introduction

The importance of sustainability has come to the forefront since the 1970s, a trend that has been reinforced by industrialization processes (Hsieh, 2012). Today, tourism accounts for 8 percent of carbon emissions (Lenzen et al., 2018) and hotels are responsible for 9 percent of energy use (IEA, 2018). Nowadays, hotels are increasingly adopting simple and cost-effective CSR practices such as recycling, reusing products, and reducing waste. The need for responsible and sustainable endeavours does not only come from the industry, but hotel guests are increasingly looking for sustainable solutions when traveling (Yi et al., 2018). Designing sustainable hotels is an industry solution that enhances the satisfaction of environmentally friendly guests. By rethinking comfort factors, water and energy use, and sustainable products, luxury hotels are adhering to international standards and emphasizing the importance of society and the environment (Cherapanukorn-Focken, 2014) and therefore, they are able to meet today's conscious consumer expectations.

1 Literature review

1.1 Value-Action Gap (VAG)

Outlining the value-action gap (VAG) is essential for measuring the sustainability of CSR initiatives, as it shows the gap between prior service plans / values and actual actions (Persson - Vejseli, 2013). One of the positive examples of VAG-based solutions was demonstrated in the Swedish hospitality sector. Gothenburg hotel management has managed to bridge the gap between value and action with the help of a well-known local environmental certificate, Miljöbas (Björnefors - Kjellsson, 2014). First Hotel Chain and Hotel Riverton were among the first to obtain this certification (First Hotel, 2019; Hotel Riverton, 2019). The reason for this certification is that, unlike other local eco-certifications, Miljöbas imposes less stringent requirements on applicants, making standardizing green practices easier for hotels. Nevertheless, the performance of Gothenburg hotels is not negligible, as their sustainability efforts have successfully bridged the gap between environmental values and real action.

In contrast to Swedish hotels, the failure of VAG bridging can be found in the United Arab Emirates and other countries (Al-Aomar-Hussain, 2017; Rowe, 2018). Baker et al. (2014) found that hotel visitors do not exhibit consistent behaviours; there was a mismatch between the consumers' behaviours and the eco-friendly attitudes. While hotel guests show an interest in environmentally friendly and sustainable solutions, in real decision situations, sustainability considerations are often overlooked. The phenomenon can be linked to the adverse effects associated with sustainable practices. In particular, sustainable practices in the hospitality sector often lead to decreased luxury and comfort, which in turn creates an erroneous perception that the hotel chain is adopting the green practices to cut costs (Baker et al., 2014). This is also contradicted by several surveys which show that the possibility of cost reduction was only a secondary consideration when introducing sustainability efforts (Smith et al., 2015). However, the guests were less motivated to select a hotel solely based on the availability of green packages.

Bocken (2017) pointed out that hotel management plays a key role in shaping consumer decisions, as many marketing tools can be used to encourage sustainable consumption. One of these options could be, for example, the introduction of loyalty programs and other related incentives that can enhance the use of green products and services and thus improve the success of sustainability (Smith et al., 2015).

1.2 Corporate Social Responsibility among Sustainable Hotels

The sustainability of the hotel industry is influenced by both external and internal factors (Garay-Font, 2012). External factors are related to the interests of stakeholders while internal factors are basically tied to the personality and expertise of the leader, such as ethical issues and profit realization considerations. CSR is already playing an important role in international hotel chains such as Hilton, Fairmont, IHG, Marriott or Scandic (Turner, 2010). The Marriott chain deserves special mention, which, by supporting the LGBTQ community, demonstrates the group's commitment to social equality and acceptance (Marriott, 2019). Other hotels use green stars to indicate their commitment to protecting the environment (Ozdipciner et al., 2016). According to reports from the Hilton Group, the hotel group has doubled its social spending in recent years, halving its ecological footprint (Hilton, 2018). The strategy was based on trends in previous hospitality decisions. Overall, hotel chains focus on different factors in their CSR strategy, but are primarily geared to consumer needs and hotel services.

Global surveys of the hotel industry show that corporate social responsibility and conscious attitudes towards sustainable practices have become stronger among companies (Martínez - Del Bosque, 2013, Martínez et al., 2014). Financial savings from CSR practices also contribute to accelerating change. Consumer loyalty and positive public opinion are the pillars of successful CSR, which can indirectly increase the company's profit-making ability (Alles – Marques, 2011, Turner, 2010).

A report from Melia Hotels International also confirmed that the hotel chains owe their industry recognition and awards to their CSR policies. One of the hotels has been awarded the “Best Initiative in Corporate Social Responsibility and Ethical Conduct” thanks to the CSR initiative (Melia Hotels, 2014). However, it should be noted that sustainable practices may not be ubiquitous due to lack of consumer confidence and lack of recognition of sustainability constraints (Jones et al., 2016; Villalonga, 2018). According to Chun (2016), materialist principles reinforce consumer skepticism about corporate social responsibility.

However, the lack of empirical data limits the value of online advertised services. Holcomb et al. (2017) also emphasize the lack of literature on CSR initiatives and the lack of specialized literature due to the limited availability of activities. However, further commitment (sensitization) in the tourism sector is needed, and in many cases, cost-effectiveness and luxury conditions override CSR considerations (Coles et al., 2015). Adaptation of sustainable practices also requires the development / improvement of a governmental support environment (Robin et al., 2016), which may ultimately contribute to bridge the VAG.

After reviewing sustainability practices and the benefits of CSR, it has become clear that hotels can greatly improve the progress of their current CSR activities, and there are many ways to overcome VAG. Further prospects for development

depend on whether the development of a sustainable brand can override materialist consumer demands.

2 Methodology

2.1 Data collection

The Tunisian Government and more precisely the Tunisian Ministry of Tourism and the Tunisian Ministry of Environment introduced the Tunisian Ecolabel certification in 2009. The awarding system of the Tunisian Ecolabel is a voluntary certification system under which the Ecolabel is awarded after verification of the conformity of the product to a set of technical and ecological criteria throughout its life cycle. The "Ecolabel" certification offers the company a better visibility and competitiveness of its products / services through credible information dedicated to consumers, a better management of the environment through a rational use of natural resources and a reduction of its impacts on the middle (Institut National de la Normalisation et de la Propriété Industrielle, 2019).

To help companies certify their products / services, the International Centre for Environmental Technologies of Tunisia offers support programs provided by specialized experts. For the hospitality sector, the criteria aim to limit the main environmental impacts of the three phases of the service life cycle (purchasing, service provision, waste), thus promoting more responsible tourism. In particular, they aim to reduce energy consumption as well as water consumption. They also aim to optimize waste management, promote the use of renewable resources and less harmful substances for the environment and promote environmental communication and education (Ecolabel Tunisien GRECO, 2009).

In order to examine hotel sustainability and CSR practices and understand how guests are experiencing hotel sustainability and responsibility activities during their stay at the hotel, all selected hotel websites (English and French versions) and all of their English and French guests' reviews on TripAdvisor needs to be compared, which helps to discover value-action gaps (VAG) between the two sides. In Tunisia, only five hotels were awarded the Tunisian Ecolabel certification, and these hotels are analysed in our study. Three research questions were analysed by qualitative content analysis.

- RQ1: Which CSR activities do hotels communicate on their websites?
- RQ2: Which CSR topics are mentioned in hotels' guests' reviews?
- RQ3: In which CSR topics are there value-action gaps?

2.2 Analysis framework

The first step in analysing the CSR content on the website and the TripAdvisor feedbacks was to collect the categories previously used in the research on this topic and to develop a proprietary category system. Yi et al. (2018) analysed reviews of top green hotels on TripAdvisor., 737 of the 7,370 comments had 'green' feedback, which was largely positive. The guests highlighted the reflective roofing system, the rainwater treatment system and the green training of the guests. De Grosbois (2012) examined the websites of the 150 most popular hotels in the world for CSR communication in 5 topics: environmental goals, quality of employment, diversity and accessibility, social and community well-being and economic well-being. He noted that many hotels report their commitment to CSR, but few initiatives are reported on their websites and their results are not very well documented. Ettinger et al. (2018) examined the website and the feedback from TripAdvisor of 47 Austrian CSR certified hotels, using De Grobois (2012) categories. Jogdan and Sawant (2018) analysed online CSR reports from four hotel groups in India with qualitative content analysis interpreted in eight major categories. Among the CSR initiatives, energy, waste and water management, sustainable development, diversity and inclusion, community well-being and environmental awareness were the most mentioned activities, so they typically prefer environmental CSR. While CSR linked to the development of tourism, as heritage preservation is overshadowed. Millar and Baloglu (2008) conducted a consumer survey of 12 green items in hotels, which found that towel replacement, energy-saving bulbs and selective trash were the most commonly accepted green items, while soap dispensers or low water pressure were already negatively rated. Ásványi and Komár (2018a,b) examined Hungarian Green Hotel award-winning hotels and comments received on szallas.hu, analysing information on hotel sustainability in eight categories. Inoue and Lee (2011) specifically examined the relationship between CSR and corporate financial performance in the tourism sector, which was evaluated on five topics: employee relations, product quality, community relations, environmental issues, and diversity issues.

Based on these previous researches we categorized CSR related information to eight categories: responsible attitude, environmental responsibility, responsible products, local environment, education of guests, equal opportunities, local community and attitude of employees. Each of these categories represents a grouping of codes and keywords belonging to the same topic. For example, to be classified in the responsible attitude category, the guests' comments and hotels' websites' details and descriptions needs to contain at least one of the following keywords: green hotel, green program, green policy, responsible attitude, sustainability, environmentally friendly and logo. The second category, environmental responsibility is represented by keywords such as recycling, towel and linen reuse, water, energy, led, glass, paper, plastic, waste and dispenser. The keywords organic, bio, fair trade, local and environmentally friendly belong to the

responsible products category. The fourth category, local environment contains the codes: organic garden and green environment. The category education of guests has the words guest incentive and green programs. Accessible, disables and barrier free belong to the equal opportunities category. Community is in the seventh category, local community. Finally, staff and employees are the keywords in the attitude of employees category.

3 Results

3.1 Analysis of hotel websites

All five hotels have both an English-and French language websites and we thoroughly examined both websites for each hotel. We found that, for each hotel, there is the same information, word by word, in both the English and French versions. Therefore, they show the same values. Four of the hotels are 4 star hotels and one is a 5-star hotel. They are all in different locations. However, all of them are all-inclusive beach resorts. On the one hand, local environment, equal opportunities and local community are the only three categories that were mentioned in all of the hotels' websites. Indeed, as all of the hotels are located by the beach, local environment has a great value. Only one category, responsible products, wasn't mentioned at all in any of the websites. Responsible attitude and environmental responsibility were mentioned in three of the hotels' websites, while guests' education and employees' attitude were mentioned in only two websites.

The Fiesta Beach hotel is the most specific of the five hotels about its CSR activities. Besides mentioning the five hectares of palm trees garden and describing the rooms that are built in local style and designed to naturally keep the freshness, its specifically describes how their concern is to serve and take care of customers, to ensure the well-being of staff, support humanitarian and social activities and preserve the environment for tourism development. Furthermore, they explained how the Directorate General is fully committed to putting all the human and material resources available to the quality and environmental security team by preventing, reducing and avoiding as much as possible the pollution of the atmosphere, land and water as well as by reducing consumption of natural resources and recycling waste and sorting to protect the nature. The hotel's website also gave details about encouraging customers, suppliers and other stakeholders to get involved in environmental protection, training and sensitizing the hotel staff to protect the environment and comply with environmental policy and, finally, continuously improving environmental protection and promoting good environmental practices to avoid anything that harms the environment. The

website didn't stop at that but described all of the above elements with many details and thorough explanations and description (Fiesta Beach Hotel, 2019).

The Marco Polo hotel didn't give any detailed description but just mentioned that it asserts clearly its commitment for sustainable development by adopting the ten universal principles related to human rights, labor standards, environment and fight against corruption. The hotel also ensures to conduct business in an environmentally responsible manner ranking CSR and the protection of the environment as main priorities (Marco Polo Hotel, 2019).

Marhaba Palace and Salem, almost didn't give any environmental related description. they only mentioned their green surrounding gardens, the good accessibility for wheelchairs and their proximity to local stores, shops and restaurants (Marhaba Palace Hotel, 2019., Salem Hotel, 2019).

Riadh Palms has the second best detailed website thoroughly mentioning the hotel's CSR strategy and importance. It ensures mastery of energy consumption resources, mastery of air emissions and noise and conduct of the necessary actions for the prevention of the environment. The website also mentions the promotion of the traditions and the local culture, whether by the food served at the hotel, by the proposed visits or activities offered by the hotel or the decoration used. Moreover, the hotel invites its customer and its employees and all stakeholders to adhere to its charter and to support sustainability efforts (Riadh Palms Hotel, 2019).

Table 1: Mentioned CSR values of hotels

Hotels / Categories	FIESTA BEACH	MARCO POLO	MARHABA PALACE	RIADH PALMS	SALEM
Responsible attitude	X	X		X	
Environmental responsibility	X	X		X	
Responsible products					
Local environment	X	X	X	X	X
Guests' education	X			X	
Equal opportunities	X	X	X	X	X
Local community	X	X	X	X	X
Employees' attitude	X			X	

Source: own edition

3.2 Analysis of guest reviews

All the guest reviews were downloaded from the TripAdvisor regardless of when it was written. The data was downloaded in November 2019. From a total of 13366 reviews, 7029 English comments and 4017 French comments were found, of which 107 English and 59 French guest reviews with CSR content were analysed. For the English reviews, the percentages of CSR-related comments typically ranged from about 1 to 1.5%. Hotel Fiesta Beach had above average CSR comments (18.9%), which is probably due to its website providing relatively detailed information on its CSR activities. However, for the French reviews, the percentages of CSR-related comments are significantly low (from 0.06 to 2.23%). This shows the importance of the guests education category which was only mentioned 3 times in all the French comments.

Within the CSR comments, each comments related to CSR was treated as a separate factor. For the English reviews, we were able to analyse a total of 345 CSR-related factors in the 7029 comments containing CSR. For the French reviews, we were able to analyse a total of 181 CSR-related factors in the 4017 reviews mentioning CSR. In the first round, we examined whether the given factor appears in the comment in a positive or negative way. It is to be noted that, although a factor is negative in the field of CSR, in many cases guests evaluate it as positive. For example, changing towels and linen every day served as a positive image of the hotel. However, in our analysis, we considered it a negative factor and this according to the CSR area and not the guests' sentiments or opinions. We found that, in both languages, there were much higher positive comments than negative ones. In the English reviews as well as the French ones, both local environment and employees attitude categories had the highest positive factors. This is due to the fact that the hotels are located in such a beautiful environment by the sea with nice big gardens that, according to the guests, were being tended to everyday all day long. It is also due to the fact that all the hotels are family holidays resort and, therefore, guests enjoyed the extra attention and friendliness of the staff. Environmental responsibility had very high negative comments because of the excessive use of plastic cups. Although, and as explained by the hotels, the use of the plastic cups is necessary in the beach and around pool area for safety reasons, it is possible to trade the disposable cups for reusable ones and to stop using straws. The guests' education is rarely mentioned but when it is, it is mainly as a negative factor. Indeed, many of the guests were bothered by other guests who didn't care about food waste. As described in the comments, many of the guests would pile food on their plates during the breakfast, lunch and dinner open buffets and then barely touch the food at all. Some of the guests also wouldn't mind throwing their trash everywhere and in inappropriate places (i.e.: cigarettes in the sand, plastic cups in the sea).

Overall, the reviews confirm that there is a significant difference between the CSR activities seen by the hotels under review on the website and the practices seen and known by the guests.

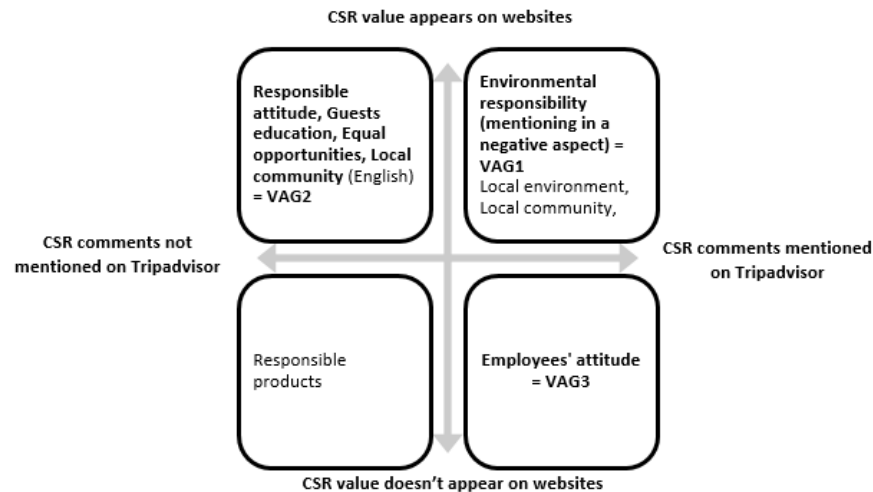


Figure 1. Value-action gaps, Source: own edition

After analysing hotel websites and TripAdvisor feedbacks, we compared the two results to answer our third research question: which CSR topics formed the value-action gap (*Figure 1*). For the Fiesta Beach Hotel, the CSR information available is extensive and covers many areas of CSR, but, although feedback shows seven categories out of eight it is still considered a GAP as in each category only one or two factors are mentioned. The CSR attitude of the hotels has been mentioned only two times by the guests. Concerning the environmental responsibility, although the website emphasizes that towels and sheets are changed only on request each day, in practice, the opposite is true, although only a minority of guests find it difficult to get fresh towels every day. Responsible products are never featured on the website and in the reviews, so in this CSR category, guests experience what the hotels write on their website. The education of the guests is not strong enough, as there are some cases mentioned. Which is unfortunate because guests' education can be a key factor for the hospitality sector to become more responsible. The beauty of the local environment is very welcomed by the guests.

Value-action gaps could be seen between CSR topics on hotel websites and guest reviews on TripAdvisor. On the one hand, there are topics that appear as values on the website, showing that they are important CSR activities in hotel operation, but the guests experience the opposite of that, which they also mention in comments mainly related to environmental responsibility. Towel reuse and plastic cups were the most common (*VAG1*). On the other hand, we can find information in certain CSR categories on the hotels website, but guest reviews do not include the topic at

all, such as the involvement of the local community and the attitude of the employees. That is, the value appears but is not perceived or noteworthy by the guest on the activity level (VAG2). Thirdly, we may experience a value-action gap in the sense that the hotel itself does not display the CSR topic in its values, but is nevertheless highlighted by guests as a positive aspect of the hotel's CSR activity, which applies most to the employees' attitude category (VAG3).

Conclusions

Based on the results of the research, *the following steps should be considered for successful CSR practices*: to *implement* not just mention the CSR activities on websites or formulize them as future goals; to strengthen the *environmental responsibility* activities; to expand the use of *responsible products*, as this is always valued positively by guests; to make *local environment* green where possible, as Yi et al.(2018) environment encourages tourists to be more environmentally conscious; to *educate guests* in a more detailed, frequent, and understandable way, using interfaces that truly deliver information to guests, such as towel change in the bathroom, behaviour towards all-inclusive buffets, turning off all the lights and AC/heating system before leaving the room and throw garbage in indicated containers; to emphasize on equal opportunities and widen accessibility; to work with the *local community* and possibly involving guests; to make *employees' commitment* to CSR visible, since this is not reflected at all in staff feedback; to highlight *economic responsibility*; to request *more and more detailed feedback from guests*, as they highlight the value-action gaps that need to be solved.

The study evaluates the CSR activity of hotels by analysing guest reviews, adding *new results to the literature on responsible accommodation*. However, based on the results, we see that there may be differences between responsible and sustainable accommodation strategies and real hotel practices, as we have experienced a value-action gap in three ways.

In our study, we examined only the websites and guest reviews of five Tunisian eco-labelled hotels to explore the value-action gap. However, looking at top green hotels in other countries and taking into account different national and cultural differences may increase the validity and generalizability of the research. The study is limited to only 5 hotels, so it would be worth increasing the number of hotels analysed to generalize the conclusions. Unfortunately, it has been announced that the Tunisian Ecolabel has been cancelled, so in the future we would like to examine closely the reasons of this failure as well as observe the practices of hotels in Tunisia that have standardized labels.

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Connections Between Basic Infrastructure and Industrial Commons in Hungary

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Abstract: Pisano and Shih have written about the „industrial commons” for the first time in 2012. It means a critical mass of buyers, suppliers, competitors, infrastructure, educated workforce and universities and other educational institutions in a geographical area. Industrial commons arise from a self-strengthening cycle, whereby companies want to be as close to their buyers as possible, which pulls along their supplier network. Their theory was based on their own – American – experience but world’s economy is different. For example in East-Central Europe the whole economical system was lagged behind the market and they tried to do their best to keep up. The question lies ahead: is there any possibility to change the direction and make the „industrial commons” for themselves? The most spectacular element of this system is the basic infrastructure. Having public roads, railways or river ways could make a city – or even a region – rich and wealthy but lacking such elements of infrastructure could make them poor. In my presentation I would like to point out that governments can go upside down within the „industrial commons” and decide where to invest first.

Keywords: industrial commons, basic infrastructure, East-Central Europe, regional development, industrial development

Introduction

The purpose of my study is to present the infrastructural situation of Hungary in the 21st century, with special regards to basic infrastructure, through an American economic concept. After reviewing the relevant literature on the subject, I examine the views on infrastructure and the different schools of thought in this respect. Then, by means of the relevant Hungarian data, I would like to present what opportunities the current government has for developing its economy instead of a bottom-up system fundamentally based on the situation prevailing in the USA. Due to the scale and magnitude of the topic, I am only dealing with the road network as a part of the basic infrastructure, as they are spectacular and quite

expensive investments that can only be realised with the involvement of the state in the planning, financing and implementation of the projects concerns.

1 The Concept of Industrial Commons

Pisano and Shih (2012) call industrial commons a critical mass of suppliers, customers, competitors, skilled labour, universities, and infrastructure that belong to the same industry and are located in a particular geographic area. While Porter (1993) emphasized competition between competitors, Pisano and Shih focus on the symbiotic relationship between economic and state actors within the industrial commons.

The formation of industrial commons was described by the two authors as follows. Companies want to be close to their customers, which attracts suppliers. If a new competitor enters the market, its most logical game-theory move would be to settle in the vicinity of its existing rival system. This will attract additional suppliers and skilled labour to the area, and sooner or later the universities and infrastructure that will serve it will emerge. This virtuous circle then will work spontaneously.

A key feature of industrial commons is that every economic entity benefits from its existence due to the fact that it provides a larger workforce and thus allows knowledge to flow between companies. Because of the concentration of the supplier system, for example, in accordance with the five forces by Porter (2008 [1979]), competition become fiercer, which will decrease the cost of the company's raw materials and reduces their bargaining power.

The process of formation also shows how an industrial commons can disintegrate. An economic downturn or, for example, outsourcing may result in the above process stopping or even reversing (Pisano & Shih, 2012). Suppliers and skilled workforce usually move on when companies go out of business or stop operating. Declining labour supply and increasing bargaining power of suppliers will result in intensified industry competition (Porter, 2008 [1979]). This can be an incentive for companies to outsource or can cause companies to go bankrupt. Similarly to the evolution of industrial commons, their decline is a self-reinforcing process, but a vicious circle this time.

The best example for this in Hungary is the automotive industry, which I have previously analysed for this purpose (Duczon 2019). It becomes clear, that in order to develop the national economy, it may be necessary to develop infrastructure within the country, which may attract new companies to the country or reduce tension between different regions within the country. Infrastructure plays an important role in the life of a company, as Pisano and Shih (2012) noted in their model, because the absence of it makes it almost meaningless to establish

a company in a particular geographical unit. This is almost in line with the European Union's White Paper on Transport, whereby a well-built infrastructure can contribute to the prosperity of the regions of the Earth and has a stimulating and economic impact. (White Paper, 4)

Following the change of regime, several car factories have been established in Hungary. They include Opel (Szentgotthárd) and Suzuki (Esztergom), followed by Audi (Győr), Mercedes-Benz (Kecskemét) and most recently BMW (Debrecen). From the number of factories, it is easy to see that Hungary has become a favourable location for the automotive industry, because over the years a serious system of supplier has been established. This began the development of industrial commons, which later became a self-accelerating, productive process.

2 Definition of infrastructure

Today, infrastructure is one of the most widely used and much disputed concepts of economic development. The original meaning of the word in Latin means base structure, basic structure or simply the basis or fundament of something. In the modern sense of the world, it usually has technical connotations, as it will be seen later. The use of the term became widespread dominantly during major wars, such as during the Second World War in the United States while, according to other opinions, as early as during the Napoleonic wars. To supply the huge armies in the 19th century, some special transport solutions were needed that required long-term strategic planning. This is how the construction of various roads - paved macadam roads and later railways - has gained momentum, which is still play indispensable and important role in economic activities. Researchers and experts agree that the development of infrastructure can have a major impact on the social conditions of a certain area (country, region, settlement), both in positive and negative sense (Brodorits, 2004, 6-7).

The concept of infrastructure has been the subject of several in-depth studies by economic experts and continues to be a topic of debate for experts in the field. Due to the numerous definitions, it may be necessary to classify them at some level, as they represent relatively well-defined thematic units.

The American school of thought considers infrastructure mainly as a material-technical concept. According to Hirschman, due to the scale of the infrastructure, it can be considered as "social overhead capital" because without it, no economic activity (e.g. production) can be pursued. In this sense, it not only covers technical content but also includes other measures necessary for economic functionality (e.g. legal regulations, public health, etc.) (Árva, 2014: 4-5).

On the other hand, the German school of thought also highlights the underlying institutional and humane-resource issues of economic activities. In Jochimsen's

view, not only material infrastructure but also institutional (1) and intellectual infrastructure (2) are required for an efficient (economic-production) system to function. The former includes all the traditions and customs of economic production. The latter contains knowledge made up of individual skills and experience and its various corporate dimensions (Brodorits, 2004, 9-10).

Using the results of the two schools of thought, there is a so-called structural school which is striving to achieve unity. According to J. Tinbergen, infrastructure is the basic structure all production is based on, and as such, it is considered a superstructure. Metastructure is found between the two, and, in accordance with his analysis, it represents the institutional-spiritual sphere of the system. This is due to the fact that structuralist researchers do not consider it possible to create a global infrastructure, because that would result in the loss of unique characteristics related to a specific place (Brodorits, 2004, 11).

The mini encyclopaedia of economics, compiled in this spirit, illustrates the concept as follows. Infrastructure is "the collective name for economic conditions (road network, transport, ports, utilities, public education, etc.) that do not directly participate in the production process but indirectly influence the development opportunities of production" (Brüll – Varsádi 1972, 170).

According to Kőszegfalvi (2009), infrastructure is one of the key elements of economic development. His theories, divide them into two major parts. The first is the so-called technical (land-based) infrastructure, including transport, transportation, energy, water and sanitation and sewage systems, as well as communications and telecommunications network and facility systems. The other one, social (human) infrastructure includes housing, trade and catering facilities, healthcare, educational and cultural institutions; various facilities for sports, mass recreation and leisure.

2.1 Basic infrastructure

Taking the different approaches in consideration, it became evident how diverse approaches the experts apply when targeting each segment of the infrastructure. However, it may be necessary to use a single firm concept, rather than a wide variety of definitions requiring technical and engineering background. An excellent example of this is the widely used system of conditions known as "basic infrastructure", which includes essential things which are in fact essential for pursuing any economic activity. Accordingly, the following technical conditions are included here:

- Road network (road, fixed track, [railway], airways, waterway)
- Water supply and Sewerage system (drinking-water network, sewage network)
- Power management (gas and electric grid)

The development of basic infrastructure plays a major role in the competitiveness of a country. As one can see, it contains basic requirements without which production is almost completely unthinkable. Its development can make a major contribution to the development of a settlement or region whereby it can decrease the fragmentation of the national economy and improve the quality of life of its citizens (Brodorits, 2004).

Development of infrastructure can have a strong impact on several sectors at the same time, as its development and maintenance can act as an industrial common attracting different suppliers and workforce. A typical example of this was railroad construction in the 19th century, where the emerging railway network in fact gave a new momentum to the development of mining and heavy industry. In today's sense, infrastructure development can be considered not only in the short term, but also in the longer term. By building the basic infrastructure, old companies can gain a competitive advantage (for example, by building a new access road) and attract new settlers to the markets.

2.2 Road network

A special feature of transport infrastructure is that it has a point and line-like structure at the same time. In this sense, public roads and fixed track systems (railways) represent the first category, while the second category includes air and waterways. Taking a closer look, however, they are not clear either: while a ring road or junction, as the name implies, can break the linear character of roads; an air corridor or the water itself gives room and flexibility to the latter category (Brodorits 2004).

The European Union (EU) policy has paid particular attention to the improvement of European transport conditions, which was made possible by the TEN-T programs mentioned above. In the 2014-2019 period, the European Commission subsidized 45 projects, granting EUR 1.1 billion (1.07 billion from the Cohesion Fund) was added. Three further programs in the territory of Hungary but without Hungarian beneficiaries, were subsidized by granting EUR 35.9 million. The majority of the tenders realised under CEF (Connecting Europe Facility) were actual implementation works (20 projects), there were 11 studies and the rest (14) included both. The figure below shows the amount of the subsidies concerned.

Table 1. CEF Transport funding per transport mode

	Million euro	Number of projects
Rail	860	11
Road	133	10
Inland Waterways	83,3	13
Air	15,6	11
Total	1091,9	45

Source: CEF Transport Grants, 2014-2019

It is clear from the statistics that the railways benefited the most from the four major means of transport, with 80% of the total subsidy being given to it. The development of public road network, which is relevant for the aim of this study, had a relatively modest share of almost 10%. However, the development of inland waterways required the highest number of projects (EUR 83.3 million), which may be the consequence of the concept of environmentally-friendly transport and the opportunities lying in the utilisation of domestic rivers. The European Commission has provided 86% of the total funding for the development of rail and waterway transport, which is an excellent opportunity to tackle the challenge of green transport, one of the EU's objectives. (CEF Transport Guide, 2019).

Road infrastructure can therefore play a key role in the rise of industrial commons. In this system, each element has its own task. Expressways and main roads represent the main bloodstream, i.e. the development and maintenance of them are of paramount importance for various economic activities (trade, services) and tourism itself. Main and secondary roads can represent a major economic potential, especially for agricultural operators, as their development and maintenance can facilitate access to their lands and the transport of products. The role of the local, lower level roads in this structure is the involvement of local communities in the main bloodstream. This is also significant because, in many cases, this can be the only way out of the unfavourable economic and social processes for micro-regions. The labour force tend to migrate from the settlements permanently, leaving only the elderly people at home. As a result, these areas may lose out on large investments, thus they impeded the emergence of industrial commons. Development of public roads can help to enable typically small settlements to join main roads.

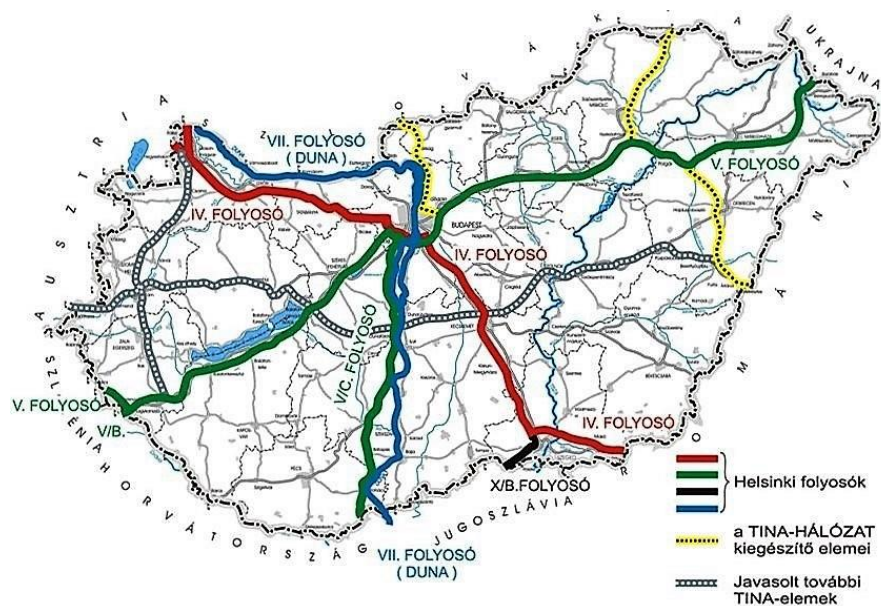
It is evident from this that the state can contribute to the economic activities of certain regions from top to bottom and determine its future path of development through developing the road infrastructure. Here, too, the saying goes, anyone who is left out of this development plan may miss out on economic investments that could even determine the future of a region.

The National Transport Infrastructure Development Strategy, issued in 2014, detailed the government's views on infrastructure development. Programs using both Hungarian and European Union funds can contribute to the country's

economic competitive edge and create new opportunities for the Hungarian economy. The most prominent of the operational programs for 2014-2020 is ITOP (Integrated Transport-Development Operative Program); its first priority is the development of International (TEN-T) road accessibility.

The first pan-European transport development was decided on in the 1990s, with the aim of involving countries outside the Union - the East. After lengthy negotiations, the European transport ministers adopted the new, multimodal corridors in 1997, named after the city where the related decision was made in: Helsinki. Five of them pass through Hungary, such as Corridor IV. (Berlin - Budapest - Istanbul axis), Corridor V (Venice - Trieste - Budapest - Lvov), Corridor V / C. (Plocse - Sarajevo - Budapest); Corridor VII (Danube) and X / B. (Budapest - Belgrade) (Fleischer, 2002). Fleischer (2002) pointed out at an early stage that the Hungarian transport structure, which is in fact a single-centre on (Budapest), faces serious challenges, therefore we cannot accept the European efforts that make these challenges even more severe. In his opinion, Hungarian needs can be helped by North-South and East-West type developments, which could both alleviate the burden of Budapest and the resort towns around Lake Balaton, and respond to local needs (such as the Szolnok-Veszprém motorway).

Figure 1. The Helsinki corridors



Source: LogSpeed. Logistics, freight forwarding and transportation. <http://www.logsped.hu/hf.htm>

Following the EU accession of the region (2004), the perception of these routes has changed since they are now part of a common EU strategy. That was the

beginning of the rise of Trans-European Networks (TENs), which are based on national land-based infrastructures. Developing and coordinating them can increase cohesion and mobility within the European Union, which was one of the prime conditions of the organization (free movement) (Kisgyörgy, 2014).

An important goal is the interconnection of different means and directions of transport through the development of intermodal nodes (IMN). They intend to connect different transport systems in several ways, thereby increasing the competitive edge of the area and connecting them to the economic circulation. The following nodes are going to be built in the country: Eger, Kaposvár, Miskolc, Nyíregyháza, Székesfehérvár, Tatabánya-Bicske (Homolya, 2017).

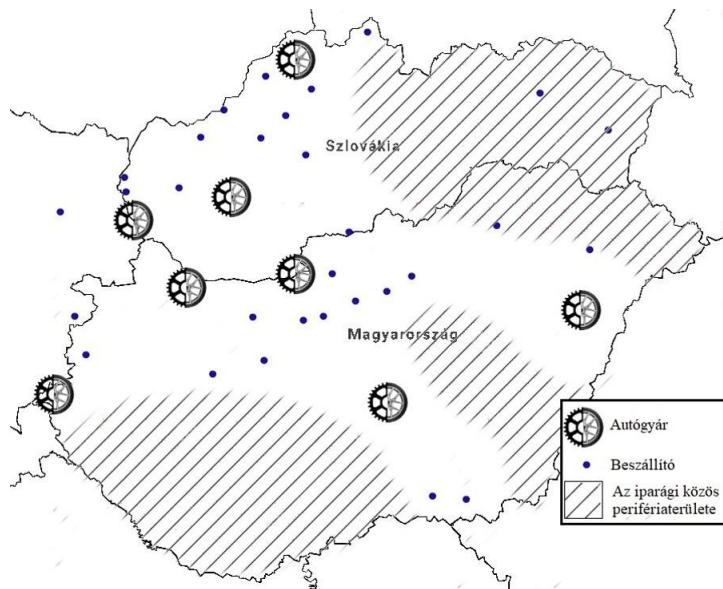
2.3 The Hungarian public road network

The construction, operation and maintenance of public roads is considered to be a very costly investment and the sector is therefore subject to state intervention. Well-constructed roads have a slow return; therefore local governments can only monitor traffic roads of local character.

The tasks of the state related to infrastructure are very broad. They include the operation and maintenance of the existing road network. They can provide resources for this in different ways: on the one hand they can help investments with renovation programs (from domestic or EU sources), and on the other hand, they provide funds from the fees related to road maintenance. The length of the toll-road network in 2017 consisted of two major sections. The first includes the expressways (motorways), which were then about 1350 kilometres long. The second part is made up of toll roads for trucks, which were 6,849 kilometres in the same year (Homolya, 2017).

Due to the state's influence, it also responsible for design and construction. Its purpose is to enforce national economic aspects, which may have several elements. From the economic point of view, the most important aspect is to ensure adequate competitiveness and the establishment of industrial commons as mentioned above. The essence of top-bottom organization in the formation of industrial commons is that government decision-makers can use the infrastructure to attract investors to the country to develop the national economy with a multiplier effect. An excellent example of this is the formation of the Hungarian and Slovakian automotive industrial common.

Figure 2. The Automotive Industrial Common of Hungary and Slovakia and its Peripheral Area



Source: edited by the author himself based on data by Invest in Austria (2018), Slovak Investment and Trade Development Agency (2018) and Hungarian Investment Promotion Agency (2012).

The figure clearly shows the geographical location of the automotive manufacturing capacity. In my previous work (Duczón 2019) I have already presented a detailed analysis of this. From our point of view, it is worth paying attention to the peripheral areas of the country. As industrial commons evolve, there is a tendency to have parts of the country that do not benefit from them. They include the southwest and northeast of the country, which do not fit into the existing structure. Therefore, it is a priority task for the state to ensure that these regions are somehow involved in this system. This could be achieved by the development of education or, for example, a through a series of infrastructure reforms.

The government therefore intends to develop intra-country mobilization in several ways in order to reduce lagging regions and increase economic investment. This could include connecting county seats and towns with county rights into the motorway network. a good example of this was taking motorway M6 to Pécs. The next step could be the extension of the various existing motorways to the national borders, whereby transnational - regional - economic relations could be developed, too. In addition to maintenance tasks, improvements and developments are also needed, including the construction of bridges, bypasses and 2x2-lane highways as part of the national strategy.

Table 2. The Key Data of the Hungarian road infrastructure in 2017

Indicator / dimension	Length of motorways per 100,000 inhabitants (km)	Length of expressways per 100,000 inhabitants (km)
Central Hungary	4,9	14
Central Transdanubia	18,7	24,7
Western Transdanubia	12	33,4
Southern Transdanubia	26,3	38,2
Transdanubia	18,8	31,7
Northern Hungary	12,3	15,3
Northern part of the Great Plains	11	13,5
Northern part of the Great Plains	14,2	17,2
The Great Plains and the Northern areas	12,4	15,2

Source: Figures in the table have been calculated by the author based on 2017 data by CSO.

It can be concluded from the data that Southern Transdanubia is the worst in terms of motorways (26.3 km of motorway for 100,000 inhabitants), followed by Central Transdanubia (18.7 km for 100,000 inhabitants). Northern Hungary, mentioned above regarding automotive industry, boasts better conditions in this respect, with having 12.3 km of motorways for a hundred thousand people in 2017. It can be stated that Transdanubia, especially its south-southwest corner, has a significant disadvantage in the development of motorways, which cannot be mitigated even by the industrial unit located in the western part of the area (Szentgotthárd, car factory). A similar trend can be observed in terms of expressways. Southern Transdanubia has the worst situation once again (38.2 km for one hundred thousand people), followed by Western Transdanubia (33.4 km for one hundred thousand people). In contrast, Northern Hungary boasts better figures in the same indicator: it has 15.3 km of expressways per 100,000 inhabitants. Taking a closer look at the 2017 data, one can have a better understanding of the strategic vision behind government development programs such as Intermodal nodes. It also draws attention to the regional disparities that the government must pay attention to if it is to avoid destabilizing the country.

Conclusion

Based on the ideas of Pisano and Shih, it can be concluded that the Hungarian infrastructure development contributes to the establishment of industrial commons. The Hungarian government is actively involved in the creation of such structures, which can simultaneously increase the country's competitive edge and bring the different regions of the country closer to one another. The European Union's development programs and subsidy systems can contribute to the development of a country's competitiveness. This will enable them to be integrated into the European market and then into the global market. One of the best examples of this is the development of the Hungarian basic infrastructure, especially the issue of road network development. Comparing the regions, it became evident that without the development of the road network or the maintenance of the existing one, there could be parts of the country which may be left out of the great economic developments. Therefore, the state must take active initiatives to ensure that these lagging areas should not disappear for the economy, on the contrary, improve their situation through various proposals.

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The Entrepreneurial Willingness of IT Professionals

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Abstract: Work as an IT professional comes with unique circumstances, especially with proper language skills. Labor shortage, dozens of specializations, borderless opportunities, appreciation can characterize the life of a well-developed IT professional. Because of the high added value, the multinational companies are willing to pay a notable amount of money for them, and next to it, they could be the heart of the Information Technology Startups. This research examines the entrepreneurial willingness in the IT sector.

Keywords: Information technology, IT salary, startup, entrepreneurial willingness

Introduction

Hungary is a popular target for foreign multinational companies to outsource their IT requirements or to establish a new site for their corporation. The information technology related area allows for Hungarian employees to create goods without raw materials. The IT field gives an excellent occasion for entrepreneurs and startups to break out from the Eastern European circumstances and reach globally significant success. It is the goal for the person, the nation, and the government to improve and support the Hungarian startups and entrepreneurs.

Our research examines the influencing factor of the entrepreneurial willingness of IT professionals tries to reveal the positively influential conditions.

1 Startup and IT

Startups, as an entrepreneurial form, did not appear in the public mind until recently. Lucky and auspicious are the people who saw the opportunity and the potential, since the attitude of the entrepreneur plays an essential role in the success of a startup.

What is a startup? There are so many concepts behind this business, whether we are talking about an inside person or thinking of a startup as an outsider. There is no clear definition for startup in this case, but an outstanding startup is about giving the world more value. It offers some niche goods or services. As the world is packed with many different technologies, using them as a startup is primarily about providing innovative solutions to the public with the technology. Fortunately, building a startup has one of the attributes of globalization. A startup entrepreneur wants to make the world a better place with the values that his company provides, even globally, as fast as he can. [1]

Startups appear in Hungary with a minimal number, but nowadays, they are bursting into the public consciousness, so at the level of competitiveness, we are moving closer to the Western ranking. Perhaps this was also because the Hungarian mentality was less supportive of entrepreneurship. However, this is starting to turn around, with the result that more and more people are willing to do business. The reasons, of course, are individually chosen, mostly because of the negative experience they want to make the world better, to step into something better. [2], [3]

As mentioned, the world has become obsessed with digitalization and technology, so in most startups it is not possible to not employ a well-trained IT person, be it a programmer or a developer. The local Forbes' press researched the hottest successful startups in Hungary. There were 15 startups, of which 12 so 80% of Hungarian startups are heavily IT related. Furthermore, this is why IT plays a significant role in the life of these businesses. [4]

Besides, the features of a startup can be listed as being up-to-date and continuously innovating. IT technology is also continually evolving, and those professionals who are open and able to keep up with the constant revival of the world are becoming more up-to-date in the startup world, essentially becoming critical people over time. As with almost all of our competencies, as starting a startup can be practiced within various domestic competitions, competitions, and incubator programs. These include the Be Smart startup competition and the Start it @ K&H incubator program. Participating in these programs has many benefits; for example, if a team has a good idea, the team will receive individual mentoring from start to market as soon as possible. It also helps to minimize the number of crashes. The Statista investigated the reasons that could lead to the failure of the business. Moreover, these are no market needed, no money out there, poor product quality, and pricing/cost issues. [1], [5]–[7]

2 IT salary

The average gross salary of full-time employees at the national level in enterprises with at least five employees, in budgetary institutions and in non-profit organizations that are significant for employment is 371,100 HUF in 2019 April.[8]

The Hungarian economy is growing after the last economy crisis, and it is still evolving. However, the inflation of the Hungarian currency is high too.

In the ever-changing IT labor market, labor shortages are still significant, accounting for about 22,000 vacant positions. R&D centers are opening, companies in many sectors are undergoing digital transformation, new positions and new technologies are emerging, and salaries are rising; these trends and expectations will also characterize 2019. [9]

The figure 1 shows the salary difference of some randomly picked senior positions based on the Hays salary report. It is essential to see the year distribution of salary growth. [9]

Year	Sr. Security Engineer		Sr. Project Manager		Sr. Network Engineer	
	Salary	Ratio	Salary	Growth	Salary	Growth
2016	950 000 Ft		1 100 000 Ft		650 000 Ft	
2017	950 000 Ft	100%	1 100 000 Ft	100%	850 000 Ft	131%
2018	1 200 000 Ft	126%	1 100 000 Ft	100%	850 000 Ft	100%
2019	1 200 000 Ft	100%	1 200 000 Ft	109%	850 000 Ft	100%

Figure 1

Salary growth of randomly picked IT positions. [9]

The figure 2 shows the top salaries based on Practice Areas. The IT sector has the notable fourth place from 39 another area based on the non-representative results of a Hungarian salary site, which is a well-known Hungarian salary database, but the statistics is from self-declaration not from an official controlled source. The best in the result is the Company lead management area, and the Head of IT salary is 1 164 350 HUF. As we see, the average salary of the IT area in the top 5. [10]

Area	Avg. salary
Management	1 027 684 Ft
Leasing	642 214 Ft
Management	612 914 Ft
Information technologies	583 154 Ft
Technology, development	576 772 Ft

Figure 2

Information technology area average salary. [10]

The NoFluffJobs job portal offers job advertisements with salary ranges based on experience, and an IT Security System and Support Engineer's salary is around 1 200 000 HUF based on the information available on this site. The gross salary of an IT Project Manager is around 900 000 HUF, and for Sr Network Engineers, they would offer 900 000 HUF and for Senior DevOps Engineer 1 500 000 HUF. Based on the previously mentioned results, we can bravely say the IT sector has excellent salaries for experienced IT experts.

3 KATA tax

In the Hungarian tax system, KATA (Itemized Tax for Small Taxing Businesses) tax is the most popular and simplest tax method for start-ups and small businesses.

Who is recommended for the KATA tax payment method:

- Individual company,
- private entrepreneur,
- limited partnership with private owner,
- general partnership with private owner.

The simplest and quickest of the above options is the private entrepreneur.[11]

3.1 KATA tax rate

KATA is a flat tax so there is no possibility to the accounting and deduction of costs. KATA tax is 25.000 HUF / month in case if you have a 36-hour employee relationship in addition to your individual proprietorship. But if you are a full-time self-employed your KATA tax is 50.000 HUF or 75.000 HUF which depending on your preferences and your needs. KATA tax is due by the 12th of the month following the reference month. The tax amount must be transferred to the official bank account number of the Hungarian tax authority. [11]-[12]

The KATA tax has income limit which is 12 million HUF. If the amount is above 12 million HUF value, in this case the limit tax rate is 40%. It must be paid not later than the 25th of February after the current year in addition to the flat tax. In this case the private entrepreneur will not get out of the taxpayer status of KATA. [13]

3.2 Contribution base

In KATA taxation, the 50.000 HUF / month flat tax corresponds to 81.300 HUF contribution base while the 75.000 HUF / month flat tax contributes to 136.250 HUF contribution base. It means that the amount of the KATA tax will cover the health insurance and pension contribution. [11]

Advantages of KATA:

- it can be used optional to multiple taxes,
- the amount of the monthly tax is fixed,
- the administration is very simple if you do not have employees,
- it is choosable, leaveble or modifiable during the year,
- you will not be deleted from KATA even if you exceed the specified income account (but it is necessary to pay an extra fee). [11]

Disadvantages of KATA:

- suggested only in domestic business relations and under the ‘exemption of VAT’ status,
- in EU and non-EU relation the administration of VAT is very complicated and the simple administration of KATA can quickly disappear,
- people coming from different tax construction will face grand difficulties in accounting,
- does not make you excused from local business tax, but you can choose a special, cheaper solution
- you are insured for a relatively amount,
- if certain criteria persist, you have to report together with your customer, therefore this may result a disadvantaged situation on the market for people using KATA,
- your KATA status can be deleted if you have unpaid taxes. [11],[13]

4 Survey

Through the analysis of available resources, We gained a wealth of information. We discovered many relationships and relationships that have a tremendous impact on general IT entrepreneurial willingness. We want to position the new

information even better and get a clearer picture of the research area through our quantitative survey of general entrepreneurial willingness.

The tool of our quantitative research was an online questionnaire created via Google, and the survey was shared via the snowball method. A total of 129 fill-ins were achieved during the data collection period. All 129 responses were evaluated, and no answers were excluded. After the modifications needed for processing, the Excel file containing the results was imported into the IBM SPSS version 24 statistical software, and the tests were performed with this program.

The respondents to the questionnaire were 64% male and 36% female. The distribution of respondents by place of residence is shown in the figure 3.

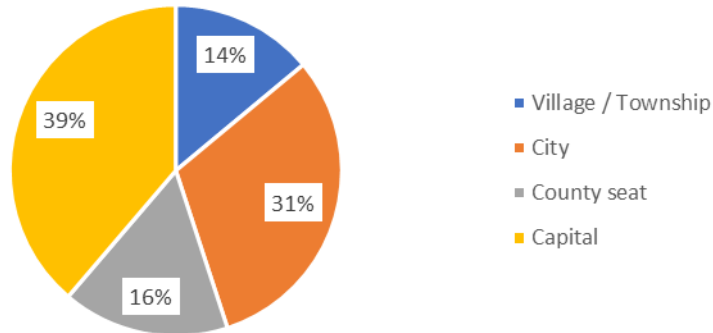


Figure 3

Distribution of respondents by place of residence. (Source: prepared by the authors)

The distribution of answers shows the entrepreneurial willingness of IT professionals is differs from other non-IT fields. The two groups in the figure 4 are the IT professionals and everyone else, as the figure shows the IT professionals are more refusing against the entrepreneur world than the other fields.

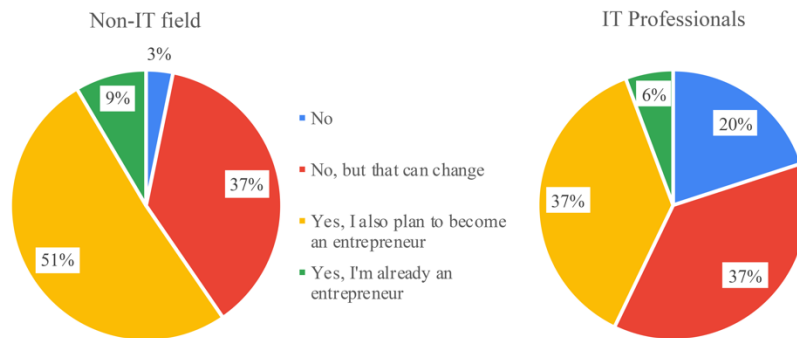


Figure 4

Entrepreneurial willingness of IT and non-IT responders. (Source: prepared by the authors)

Conclusion

The main goal of this research is to find the primary connection between the entrepreneurial willingness of IT professionals and the circumstances. Based on the survey, the most significant factor is an inappropriate leader as they think they would be a better leader than their leaders. Next to it, they believe they are good leaders. There are several other essential skills, like team organizer skills, and they think they are popular. They want to redeem the world and do not like being restricted. Their motivation to become an entrepreneur is to create better conditions for themselves. Still, the most important thing is to create better conditions for their colleagues. If the right time is there, they can grant the necessary capital, and they are confident with their entrepreneurial knowledge. They see high revenue and financial stability behind the entrepreneur life.

The efficient development and operation of startups require sophisticated knowledge. Thus, having the right amount of capital and the right idea to start a business is not a guarantee of success. Capital is just one tool. A well-run business is based on both mindset and culture. Moreover, all of this should start at school.

Lessons should be introduced into the education system, already at the grammar school level, to familiarize oneself with the functioning of all things and, thus, the attractiveness and qualities of the entrepreneurial lifestyle. It is not only these skills that need to be acquired, but also the knowledge about digitalization, as the businesses of the future are already born in the digital world. [14]

Prepare prospective students for the challenges they face if they want to become entrepreneurs or startups. Besides, equip students with the skills needed to build a successful business based on innovation. One of the best ways is to involve entrepreneurs, which can be done within the classroom or in an e-learning system. [14]-[15]

To improve the entrepreneurial willingness of IT professionals necessary to make the economic subject more practice-oriented for IT students and improve the connection between IT bachelor programs and economics master programs. Another opportunity to organize economics training and workshop focused on IT professionals.

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Innovation in the Rural Development with Hungarian Examples

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Abstract: Several studies have examined the relationship between innovation and economic development and found that there is a link between the two. Rural areas are typically agricultural-centered, but that does not mean that there is no industry or service area. The study examines the role of innovation in rural areas. How unique or different is the characteristic of an urban area in relation to the innovation? Research, development and innovation activities in the quadrants of research, support, education and education, as well as innovation activities, need strong support in rural areas where there are already disadvantaged municipalities and activities. Research has shown that increasing R&D can be a first step in adapting to changing economic conditions. The income of innovators can grow even with less successful innovations. Education and training stimulate innovation and job creation. Producer cooperations can significantly improve the transfer of innovative knowledge and promote EU-wide dissemination among members. The innovative activities of clusters cover the innovation process, from information sharing to generating joint innovation. Rural development partnerships can generate significant added value in the dissemination of innovation by representing societal values and interests and helping to mobilize local initiatives.

Keywords: innovation, sustainability, rural development.

Introduction

The main objective of rural development policies is to promote the vitality of rural areas, which includes the preservation and viability of their economic, social and natural resources. This requires strong, cohesive communities, a stable, strong economy and the protection and even reproduction of natural resources. If these conditions are met, the quality of life of the rural population will increase. According to Kukorelli (2015), there are five qualities to ensure this.

The first is innovation, which helps bring about a new quality that has not been present in processes or physical reality. Innovation is not only a social but also an economic advantage. According to Schumpeter (1980), innovation is a novel combination of factors of production, a new production method, a new resource, a raw material, an equipment, a process, a market or a reorganization of an existing

industry. Since then, there have been changes that have made the concept of innovation more widespread. According to the OECD (2005), innovation is a new or significantly improved product, service, process, solution, marketing or organizational management approach that occurs in practice, in the organization, or in employment relationships. Any scientific, technological, managerial, organizational, financial or commercial process that promotes or directs development. Here's how innovation can be:

Product innovation for which the product or service has been significantly renewed, in whole or in part, process innovation, in the case of which the production and logistics method has also been partly or completely renewed. Marketing innovation means innovation, introduction related to the market, product, consumer channels, while organizational and management innovation means the renewal of management, or the restructuring of the organization or the development of working relationships. (OECD, 2005)

The second factor is sustainable development, where we are present on earth in such a way that both our activities and our existence are viable and sustainable in the long term.

The third is the competitive rural space, which means that there are production factors and methods in the area that ensure that products and services of the right quality are delivered to consumers at the right price, thus enabling the region to sustain economic development (Lengyel 2003),

The fourth is a knowledge-based rural society - a person with competitive training and knowledge is in a position to enter the labor market, providing continuous training for the labor market conditions created by the knowledge economy in order to sustain its growth,

Fifth is the acceptance of the need for new functions and their spreading and grasping. This is because rural areas are also affected by globalization and changes that are unrelated to it, with the result that new types of needs, services, jobs, economic functions are emerging. There may be changes in social formations or even in technologies. The rooting of these is a prerequisite for viability. (Kukorelli, 2015)

1 Innovation and its characteristics

When examining innovation, it is important to look at the level at which it is applied. Comprehensive, or more local. From this point of view, it is possible to speak of individual, group, enterprise, regional, national, larger regional, ie cross-border or global innovation. Innovation, if spread and applied, will eventually lead to success. Because innovation is an investment, that is, whether it pays off or not,

and its payback period is still questionable. It also carries risks. That is, it is far from certain that it will succeed. The pace of innovation can be intermittent or continuous. In the first case, innovation is a change that results in greater development with new technologies, while continuous innovation is characterized by an improvement in certain functions of the product. (Szabó, 2012)

The concept of rural innovation was introduced by Schumpeter, which differs from the concept known in the life of companies. The point is that the issue is examined on an area basis, not on an organizational level. While we have already described corporate innovation, rural innovation includes all the changes, developments and developments that have not occurred in the area before. (Schumpeter 1939) In the countryside, the extent to which innovation can be realized and diffused is highly dependent on the relationship between the economy and society. Rural communities and societies are more closed than urban communities and less open to change. Yet change is inherent in life, and a village man living in a community closer to his natural habitat is rooted in traditions so much that he rejects, or at least is more cautious about, change. One reason for this may be that he is more skeptical of the changes presented by the urban technocratic man and is more attached to tradition. This may have the advantage that some of the innovations have not been studied in their social context and impact, so that the rejection of change may even be true. For this reason, the introduction of innovations means not only economic but also social change and demands a social task. If this happens, it may result in a positive change, ie acceptance of the change. It came mainly in the late 20th century and appeared as social innovation. It is characterized by facilitating acceptance and participation of communities in change. (Kukorelli, 2015)

With these new innovations, new paths, goals, new organizational, regulatory, and new lifestyles can be achieved. They enable a new and solution-oriented life that is easy to plant and distribute in local communities and institutions. (Zamf 1994.)

As discussed, rural innovation is strongly tied to the place, that is, they are created locally and modified, changed and used there. In most cases, agriculture and agriculture are linked to the countryside, to rural development. This means competitive agriculture with high quality and productivity, the spread and use of new technologies. Research networks in the 1970s and 80s facilitated its existence and spread. So the related product development was solved. Product mediation and development takes place in the countryside, and its spread is also connected here. (Enyedi, Rechnitzer 1987).

Agrarian-related innovations may include:

-As innovation requires significant R&D activities, it requires significant capital. This can result in floral breeding or veterinary development,

- Improvements in processing, trading, which may result in demand-driven supply or use of by-products,

- in the final phase of production and services, independent innovations such as recreation, new markets, rural or agro-tourism.

Networking and diffusion of telecommunications tools can help spread innovation in rural areas. (AKI, 201)

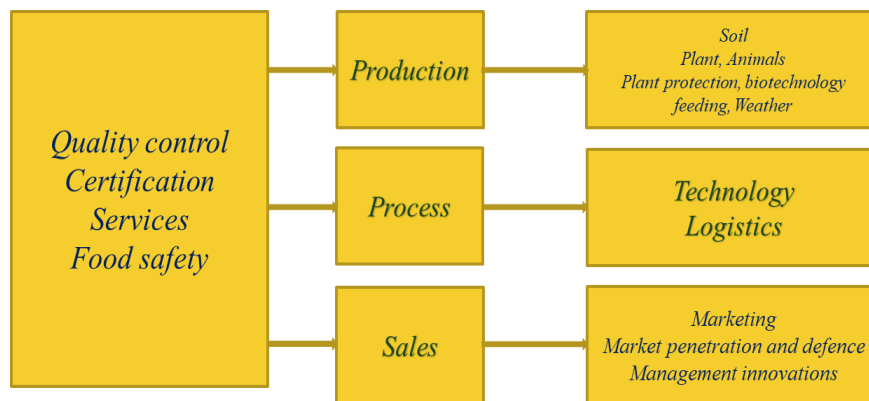


Figure 1. Areas affected by agricultural innovation

Source: AKI own edition

If you want to group innovations related to the countryside, the following solutions can be found.

- production, use of renewable energies, biodiesel, bioethanol or other agricultural products

use of product-based energy, solar collectors, solar energy, wind energy, geothermal energy,

- products and services related to the improvement of quality of life: healthy foods (whole foods, non-chemical products), organic or organic products, environmentally friendly products and services,

- nature tourism activities and recreational activities for the urban population.

Innovation affects not only urban areas but also rural areas. Innovations from the city or companies to the countryside are slower to spread, but they have an impact on the social and economic life there. The creation of innovations can be linked to centers, which means that their access to the countryside is an adaptation. Such innovations include:

- processes to support rural urbanization, also known as counter-urbanization, whereby settlements in the countryside bring new experience, increase expertise, thereby increasing the human and social capital of the area,
- spread and use of telecommunications, Internet,
- internet-related services such as health and welfare services,
- e-learning courses. (Kukorelli, 2016)

2 Domestic examples of innovation

Budapest centered situation is typical, while Székesfehérvár, Győr and Budapest are the main axis of domestic development. Not surprisingly, this area has the highest expenditure on innovation. EU and domestic grants are one of the main sources of domestic innovation activities. According to Dőry (1996), in several counties (Pest, Borsod-Abaúj-Zemplén), those involved in innovation gained extremely high development resources between 1991 and 1994. Grosz et al. (2004) found that at the rural level, the biggest problem faced by organizations is to provide services in the development process was the unpredictability of their funding, the low or lack of available resources. This results in a reduction in the efficiency of these organizations and the risk that funding problems may lead to their dissolution. (Grosz et al., 2004)

In general, it can be stated that the domestic GDP is approx. 0.6-1.4% is spent on research and development.

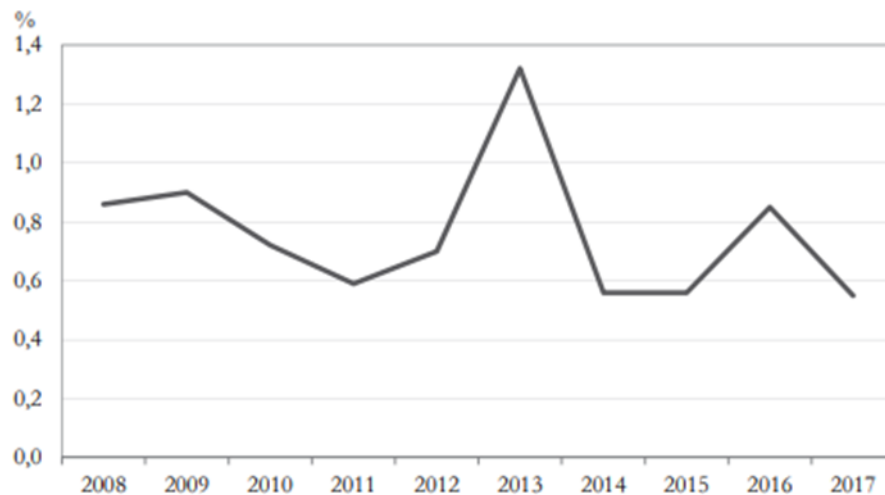


Figure 2 Government expenditure for R&D

Source: Eustat, own edition

According to Gajzágó and Gajzágó, the main topic of innovation tender sources was the development of R&D enhancing services, 40% of the calls were related to this. More efficient use of aid for R&D service development would support innovation. However, we are currently experiencing efficiency problems. The Hungarian support system is unpredictable, unstable in time, based on projects, lacking a comprehensive strategy that could provide some stability and, as a result, create uncertainty among applicants. If the subsidy system were to be stabilized in time, it could significantly increase efficiency, with the result likely to have an impact on GDP. (Gajzágó and Gajzágó, 2019)

Domestic innovation activity is stable at between 1% and 1.5% of GDP, which is not outstanding compared to European countries. As domestic GDP increased steadily from year to year, it can be concluded that the level of innovation increased in absolute terms during this period as well.

In 2018, HUF 3 129 billion of the domestic budget R&D allocation was spent on innovation. 30% (39 billion HUF) was spent on research to increase general knowledge, 23 billion HUF (18%) was allocated to industry, including production and technology development, 11 billion HUF (8.8%) was allocated to agriculture, 19 billion HUF (15%) health, with socio-economic research at the expense of these sources. (KSH, 2018)

In 2018, companies used the results of all their research and innovation activities not only in their core business but also in other areas. Companies in the agriculture, forestry and fishing sectors used the most, with 76% of their expenditure in their respective branches. Industrial enterprises have the highest proportion of R&D activities in their main activity (industry (48%), including manufacturing (47%), public administration, education, health care (45%) and information, communication (40%)). It is also common for construction and other market service companies to carry out their R&D activities in other professional fields. (KSH, 2018)

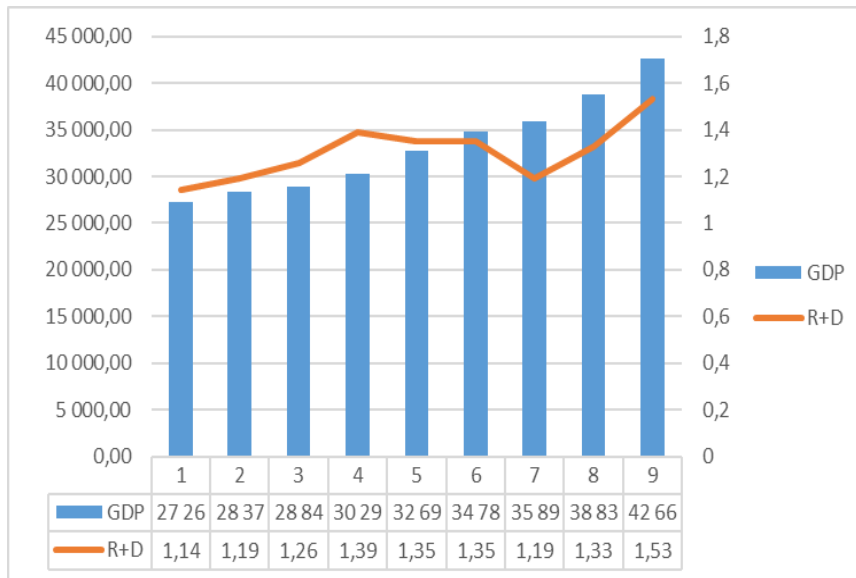


Figure 3 Ratio of R&D and GDP in %

Source: KSH 2018

Research and development has not changed significantly over the last decade. It is typically Budapest and Pest counties where this activity is most intensive. There were 3,491 research facilities in the country, 52% of which were located in the central region of the country. 61% of researchers worked here and 69% of full-time employees. The weakening role of the Northern Great Plain and the strengthening of Central Transdanubia and Northern Hungary can be witnessed. Central Transdanubia spent the most on research and development in rural areas, but Northern Hungary was the largest contributor to growth. This is partly due to the redeployment of central resources and companies located in the regions. South

Transdanubia achieved the lowest R&D expenditure in 2018, which is a projection of the decline in this region.

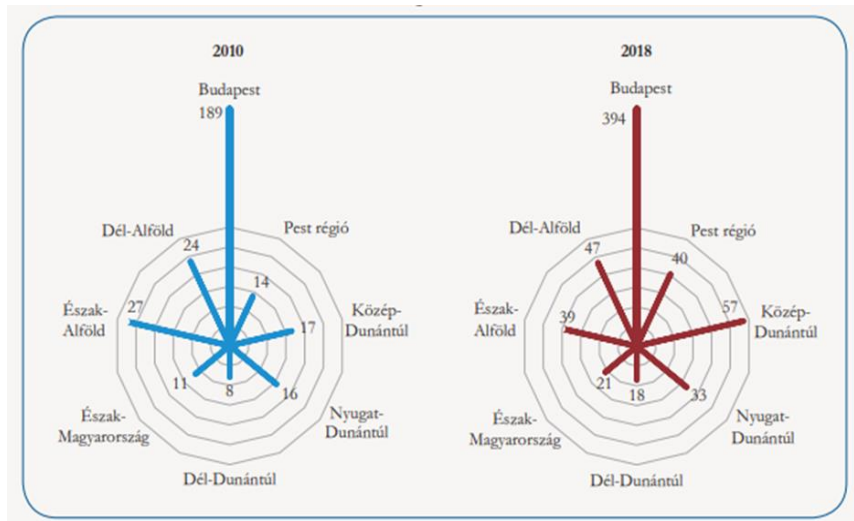


Figure 4. R&D expenditures by region, billion HUF

Source: KSH, 2018

Conclusion

Innovation activity is not only important for the national economy as a whole, but also especially for rural development, as rural areas are less open to development than in urban areas. The seclusion, or traditional wisdom, of these areas can only be resolved through inter-community cooperation and agreement. In economic terms, there is certainly a correlation between economic development and the level of innovation activity, which is why it is of the utmost importance to make people living in these areas open to innovation. Regional differences in Hungary are also reflected in the intensity of innovation activities. In the central, industrially more developed areas of the country, its extent exceeds that of the underdeveloped areas, and this should be given special consideration in development.

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Sports Sector in Focus Changes in the Economic Data of Sports Organizations

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Abstract: Hungarian sports funding has undergone significant changes in the past decade, and the sector, previously struggling with a lack of resources, has become a state-sponsored strand. The study presents the differences by analyzing the accounting statements of different types of sports organizations and by using economic data from sports companies. Economic data were collected from the organizations' publicly available accounting and financial reports. The incredible change is illustrated by the fact that the per capita income of nonprofit sports organizations increased nearly fivefold between 2011 and 2017. Financing through the corporate tax system, which is a special Hungarian subsidy system, is well reflected in the revenues of the sports federations concerned. The total revenue of the six affected sports federations increased from HUF 12 billion in 2011 to HUF 58 billion. Furthermore, accounting reports highlight the fact that NGOs in the sports sector have a special asset structure. This is reflected in the ratio of accrued expenses and funds.

Keywords: sport sector, sport financing, subsidy, financial reporting

Introduction

Recently, sport has become one of the determining factors of the national economy in Hungary. Growth has been ubiquitous in the various forms of organizations operating in the sports sector but to a varying extent. Changes in economic characteristics in the sports sector can be obtained from public economic reports, data from the National Tax and Customs Administration (NAV) and the Central Statistical Office (KSH). In the course of the analysis, the accounting reports of sports federations and sports associations were reviewed, which, in total, represents nearly two hundred reports. This is complemented by the public data of the KSH and the data on sports companies with the assistance of the NAV.

The role of public funding in the Hungarian sports sector has increased since 2010. On the one hand, the amount of direct state aid has increased, and on the

other hand, with the introduction of the TAO system, part of the corporate tax payable by businesses has been transferred to the sector. The three main pillars of the funding system are the funds through the corporate tax system, development support for priority sports and the developmental program. This process is reinforced by the central budgetary support of international and domestic competitions. The revised sports strategy has enabled the development of many areas of the sports economy, including the creation of sports facilities [1]. The change in funding was necessary because the sports sector in Hungary had been struggling with a lack of resources for years. In the socialist system, the state provided the majority of funding, but after the change of regime, neither the business sector nor the private sector was able to provide sufficient resources. However, sports federations continued to be dependent on state aid [2]. And while the goal was to create market-based financing, even during this period, the state appeared as the founder of public bodies and public foundations [3]. The sports sector is receiving increasing attention not only in Hungary but also internationally. Among the entertainment industry, sports developed the fastest [4]. However, going to games in Hungary is still an unattractive form of spending free time [5]. As a consequence of economic growth, besides non-profit organizations, profit-oriented enterprises have also appeared in this [6].

The aim of this new support system is the promotion of the participation of younger generations in sports and inspiration for a sporty lifestyle. As a long-term goal, it is important to mention that the system also increases the social base of pastime sport activity [7], improving the health of the population in the long run. In an economic sense, this is also important because sport activities that are suitable for improving the health of those practicing it are not only durable goods for consumption but are also capital goods [8] [9]. Apart from all this, sports can contribute to the social development of a locality [10]. [11]. Expenses devoted to sports can also increase economic efficiency. It also has to be taken into consideration that competitive sports are often seen by certain nations as special kinds of resources that can improve national well-being [12].

1 Sports organizations

1.1 National data for nonprofit sports organizations

Nonprofit organizations in the sports sector are operating in many forms: foundations, nonprofits companies, and sports associations as the most widespread form. The sports association is the traditional organizational unit of the Hungarian sport, the workshop of leisure sports, competitive sports, talent management, and youth training. As a result of the change in funding, the number of non-profit

sports organizations and their revenues also started to increase, which is duly reflected in Table 1. In the study, the known date of the recent period are presented every two years.

Table 1. Some typical data of non-profit sport sector

Source: ksh.hu

	Number of sport organizations (piece)	Proportion of organizations within the nonprofit sector (%)	Total income (billion HUF)	Rate of income within nonprofit sector ((%)	An organization average revenue (thousand HUF)
2011	7 563	11,5%	52	4,2%	6 848
2013	7 722	12,0%	77	6,2%	9 920
2015	8 865	14,3%	179	11,6%	20 202
2017	9269	15,2%	291	15,1%	31 373

As Table 1 shows, the number of sports organizations is slowly rising between 2011 and 2017. Their total revenue increased from HUF 52 billion to HUF 291 billion. This also meant that the revenue per organization increased almost fivefold during the period under review. Within the non-profit sphere, the proportion of sports organizations and their revenues increased. In particular, the change in the revenue ratio is significant, from 4.2% to 15.1%.

1.2 Spectacular team sports

An important change for the sports sector is that from 2010 it has been treated as a strategic sector at the national economy level. The first economically significant change began with the introduction of the so-called TAO support. The word 'support', however, does not accurately reflect reality. As a result of legislative changes, companies may transfer a portion of their tax directly to sports organizations instead of paying it into the central budget as tax. This means the assign of a certain proportion of the crowdfunding. With the deployment of the system, the five selected sports (football, handball, basketball, water polo, hockey), the so-called spectacle team sports, have gained significant resources. Volleyball entered the program on July 1, 2017. The significance of the TAO system is that almost every organization in a given sport independently develops a sports development program and submits a grant request, and then, in the case of a favorable evaluation, becomes eligible to seek sponsorship, either a sports federation or a sports association. This, at the same time, the system's biggest

problem. Organizations that cannot find a sponsoring company simply do not get the resources they need to operate.

Evolution of revenue of associations operating in the spectacular sport

As for the accounting and financial reports, the accounts for the period 2011-2017 were the subject of the investigation. The start year is the same as the actual start of the system. The reporting and accounting systems of NGOs have also changed in recent years, and the unified disclosure of data is also linked to the year 2011. Total revenue for sports organizations is comprised of the following main items: membership fee, state and municipal aid, sponsorship support, sales revenue from broadcasting rights, revenue from event organization, donations, corporate sector support, financial operations revenue, and in the case of the spectacular team sports income from the TAO support. Table 2 shows the total annual revenue of the six spectacular team sports.

Table 2. Income of federations (thousand HUF)

Source: yearly financial reports

	2011	2013	2015	2017
<i>Hungarian Football Federation</i>	9 478 538	19 881 663	25 313 769	44 922 341
<i>Hungarian Handball Federation</i>	699 048	2 458 291	4 363 382	8 191 975
<i>Hungarian Basketball Federation</i>	316 653	2 192 004	2 962 311	4 208 181
<i>Hungarian Ice Hockey Federation</i>	549 575	1 138 029	1 109 414	2 171 159
<i>Hungarian Water Polo Federation</i>	597 213	1 193 547	993 399	2 277 467
<i>Hungarian Volleyball Federation</i>	100 603	259 955	563 828	913 993
<i>sum-total</i>	11 741 630	27 123 489	35 306 103	58 236 490

Table 2 shows a significant increase in revenue for each federation involved in spectacular team sports. The specialty of the Hungarian system is that income categories are not regulated by law. Thus, some federations have listed the support received through the corporate tax system as a central budgetary aid and some have not. The lack of regulation is due to the fact that these revenues have no tax implications, so they are not really controlled by anyone. It is clear from the table that the total revenue of the federations has increased fivefold. Since the TAO system not only provides funds to federations but also to associations directly, the capital inflow into the sector is higher. The purpose of the system was to support sports for the new generation and implement facility development projects. The figures show that this will be achieved, as the number of certified players continues to grow. Another expected effect was the improvement of effectiveness. Indeed, according to research on football, the results achieved in the field are

greatly influenced by the amount spent on each team [13] [14]. However, there is still no significant improvement in this area. Of the spectacular team sports, only water polo continued to qualify for the Olympics.

The structure of assets shows a significant difference from the general one, both in the ratio of accrued expenses and in the proportion of cash. Figure 1 shows the accrued expenses. For an average organization, this percentage is around a few percent. In the sports sector, it has a value of more than 15% everywhere thanks to multi-year subsidies and post-financing facility development projects.

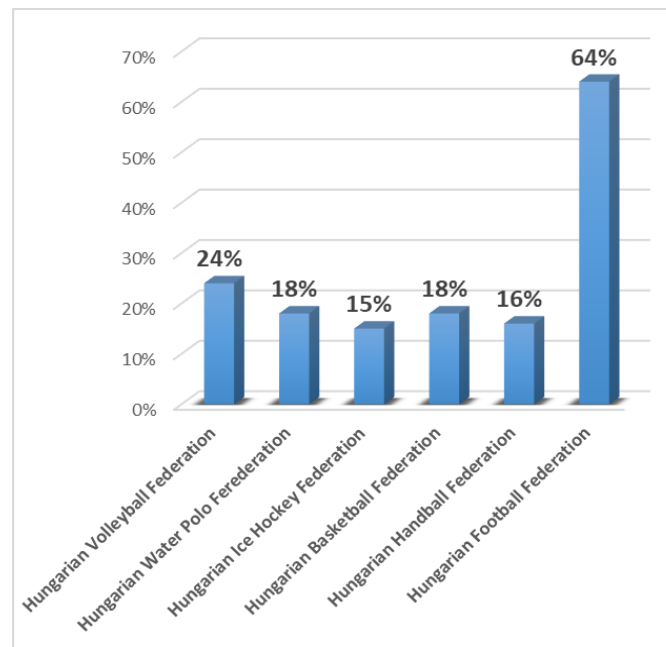


Figure 1. The proportion of passive delimitation, 2017

Source: yearly financial reports

The proportion of funds is shown in Figure 2. Businesses strive to have enough cash to pay off short-term liabilities. In the case of sports federations, the extremely high rate is justified by post-funded projects and facility investments. Most of these projects are implemented by sports associations and are subsequently funded by the federation. As these amounts are forwarded to the federation by the state, they appear on a separate account, but in the financial reports of the federations.

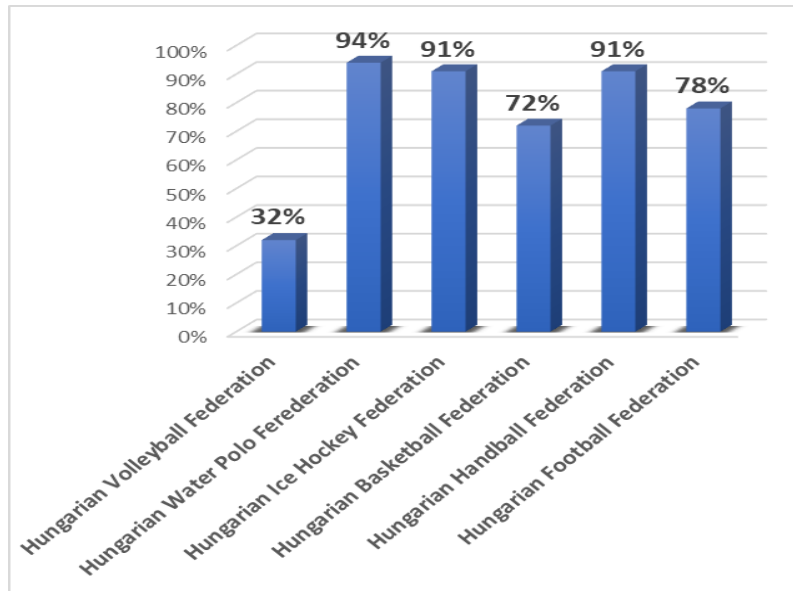


Figure 2. The proportion of funds, 2017

Source: yearly financial reports

1.3 Management information for sports associations

There are several changes connected to the year 2013. One is the launch of Priority Sports Development Program and the Developmental Program, both programs started with sixteen different sports. In addition, the government decided to grant special state subsidies for six associations. In the first year, all six associations received at least 300 million HUF, which has since multiplied. Each of the six associations selected by the government was so-called “success maker big clubs”, according to the categorization by Bukta (2013) [15]. What is also common to all of them is that they have their headquarters in Budapest. As previously mentioned, sports associations can be found anywhere in the country. However, if we look at performance, even since the start of the modern Olympics, Budapest's centrality can be observed, and the decision is expected to reinforce this trend.

Table 3. Income of sport association (thousand HUF)

Source: yearly financial reports

	2011	2013	2015	2017
<i>Budapesti Honvéd Sportegyesület (BHSE)</i>	446 609	1 163 937	1 388 469	2 130 964
<i>Budapesti Vasutas Sport Club (BVSC)</i>	395 254	851 129	788 481	1 693 560
<i>Ferencvárosi Torna Club (FTC)</i>	403 605	2 978 203	2 574 868	5 469 254
<i>Magyar Testgyakorlók Köre (MTK)</i>	123 365	547 733	1 355 046	1 879 592
<i>Újpesti Torna Egylet (UTE)</i>	824 125	1 006 293	1 075 836	1 940 716
<i>Vasas Sport Club (Vasas)</i>	240 250	773 072	1 656 256	2 165 313

In six sports associations, we examined the membership fee and how it changed. One year is 2011 when it was the first time a significant state resource in the sports sector appeared. The other year is 2017, the year of the research, a year for which a comprehensive data set was available. For five of the six associations, membership fee rates indicate a decrease. More importantly, the value is below 10% everywhere. This is a good reflection of the fact that the civil sector in sport is not currently run by the members of sports associations. Central resources and tax support everywhere exceed the 80% threshold. There are clear dangers to this. Today's Hungarian sports organizations do not make their own income. This degree of dependence could shake up the entire system in the event of a change of government strategy.



Figure 3. Membership fee rate 2011, 2017

Source: yearly financial reports

1.4 Sports enterprises

The study shows sports enterprises data for 2010 and 2016. The National Tax and Customs Administration provided data for these years. Compared to 2010, the growth rate is clear, with improving trends in the sector. Table 4 shows the summary data. The number of companies operating in the sector increased, the net sales revenue increased even to a greater extent and the number of employees also increased 1.5 times. This is significant because in the sports sector atypical forms of employment are typical [16]. Data provided by the NAV also included the fact that the consolidated earnings before taxes of the sector in 2016 were positive for the first time.

Table 4. Sport enterprises

Source: NAV

	<i>2010</i>	<i>2016</i>
Number of enterprises (piece)	5 448	8 463
Net sales revenue (billion HUF)	79	164
Number of employess	10 887	15 332

Summary

Sports organizations operate in different forms in Hungary. One can find both for-profit and nonprofit organizations. The sports association is the most widespread form in the field of sports services. What is interesting about the organizational system is that the federations also function as special sports associations. One can meet sports organizations run as companies in team sports. The research involved the analysis of accounting and financial reports for several types of organizations. The common point for all of them was a clear increase in revenue and assets. Examination of the structure of revenue revealed that the share of crowdfunding, direct state aid in particular, has increased.

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Leave or Stay? School Leaving Problems

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Abstract: In Hungary, school leaving is a huge problem. It is not unusual to measure about 50 percent dropout rate, which is higher than Europe's average, so I started studying this incidence's background. We already know that the most common reason behind that big number is demotivation, leaving school for work, losing their community, and so on, but I started analyzing these situations deeper. I realized that universities have already tried to lower the rate with unique solutions, like mentor-programs, tutoring, e-learning etc., and it already decreased the chance of school leave, but in most cases, they have no documented ranking how much student-keeping projects helped one by one. I would like to revise these programs, rate their efficiency, likability and compare them to student's preferences. When it is completed, I properly rank them, this way I can show which ones are not useful. In the current state of the inquiry, I already created a beta-test, where I asked my focus group about the core questions and they gave ideas about how I can improve it. My goal is to ask most of the Óbuda university junior, this way I can collect data and analyze correlations. At the end of the study, I want to present a solution that will help reducing this percentage.

Keywords: Drop-out, Student-keeping projects, Junior preferences

1 Drop-out

Dropping-out of a school can be devastating, especially if it is not planned. This is the worst case that can happen to a student and it can destroy their goals, lives. Most of the time a student who dropped-out because of bad grades, doesn't start over at another school, they just gave up on studying and start to work. The probability that they will not enjoy the work they do is high as well. As a university, we should prioritize this problem and try to decrease it's percent. [5][13]

- **Definition**

“Dropping-out” is a process, where the student of the highschool or college, leaves the teaching system without a degree. This is just the last step of a whole staircase that leads them to this choice. Plenty part of the student’s life can affect their road towards the school-leaving. Students, who leave the school are more likely to require social support and their chances to improve are lower. [1][8]

- **Unified values of leaving**

Until 2016, there was no unified way to measure dropping-out. Every university had its own way to define this problem and this is why the Hungarian Rector Conference created a new workgroup to map out drop-out tendency and the way that leads to leaving in every institution. Their goal was to unify the values and analyze it that way. In 2019, there are 65 Universities in groups of governmental, ecclesiastical and private. This project became harder since there was no common property in the leaving-process. In the beginning, the values were quite diverse and they were incomparable but most of the universities, that has been analyzed, defined it as “drop-out happens when someone leaves the school without a degree.”. This is flawed since not every student who leaves stop studying and goes to work. There are occasions when a student plans the leave for another school that is more appealing. In the end, this is the most precise definition, because it is really hard to follow a student and check if the studying continues or not.[14]

- **Hovdhaugen grouping**

In Hovdhaugen’s book, he grouped the affected sides of a drop-out as national, institutional and individual. Every part is involved in decreasing it’s rate, but they all have different significant interests why they want it. The broadest one is the national since it can be influenced by various external variables. The Institutional level’s viewpoint describes the drop-out rate the most since it stands the closest. It’s most important value to keep the student who applied to their school and help them to receive a degree. The last level is the individual where we see the problem from the student’s point of view. We can analyze their choices and the progress towards the school leaving.[3]

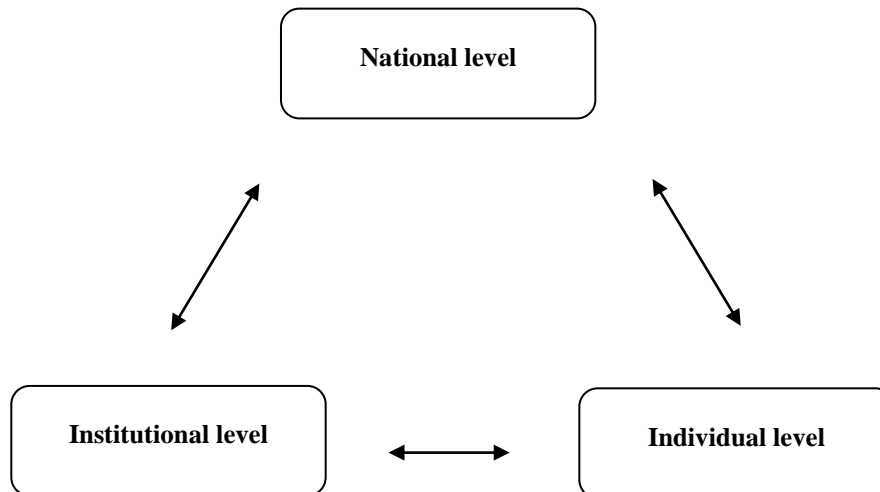


Figure 1

Hovdhaugen levels[3]

National level

As I mentioned above this is the broadest level. One of the goals is to help the individuals to maximize their talent while making sure this is the most beneficial way to integrate the students to the labor market. This can be reached if we support and help the pupils to reach their degree and confirm that the nation's investment in the university does not go to waste. In Hungary, our government tries to encourage who want to improve their skills with a wide range of assistance. They grant multiple places in a university where the good students does not have to pay for their semester. They support these people with scholarship, petitions where they can research, presentate, improve their competence.[3]

Institutional level

This level can measure the drop-out rate and the successfully earned degrees at the same time, they can have the biggest impact on the issue. Their primary goal is the same as the first importance for the national level.

Decreasing the number of the students who leave can be a prestige requirement since fewer drop-out means the school is more successful in teaching. For example, University of Obuda have multiple ways to decrease this rate. They apply mentor program, have ways to practise specific lecture by students who already finished the lesson. In the past few years they started e-learning with more or less success. The main problem with these programs is that it has not been analyzed how it affects the student drop-out rate. It should be main priority since that way they could grant or take resources from a specific project that does well or does not help to decrease school-leaving.[3][6]

Individual level

This might be the hardest level to analyze since we can not ask every student about why they chose to leave. In this part we can group this level to push, pull and fall out. The pull, when the student is affected by something that is not connected to university. The most common pulling factor is work or family related. The push, when the school leaving happens because of the university. Usually this means the school is more difficult than it was expected. In the end, fall out is the process that contains every situation that is not push or pull. Demotivation, lack of social interaction and friends or just simply the student is disinterested.[1][3]

2 Circumstances of applying

In theory, students who did not apply to a university does not affect the drop-out rate since there is no student status but if we further investigate it we will realize how a mass of pupils choose the wrong university for them because this is that period where they have to decide about their future and they are more likely to get influenced. If we want to decrease the drop-out rate, it should be our necessity to inform juniors in a compact, understandable, clean way about the school's expectations. It is in the favor of the institution to apply students who are properly informed, otherwise the chances of leaving increases. This is the reason why universities hold events such as open days, various days about the profession that is being studied there. These programs are usually for everyone because this way a school can increase its fame among the people.[2][7][9]

Family and money related issues

In the last middle-school year, most of the students start to show interest towards university. They usually read about the stereotypes of the universities broadcasted by the media which has the ability to distort the truth. A student's plan is mostly affected by their socioeconomic status and their families microenvironment. What are their family status, what are their parents highest degree, what do their relatives work, how are their financial status and it can be an influential factor where do they belong in the society. If a student comes from a family with higher standards, his future plans will be more important and he starts to realize how important studying is. Contrary to the last sentence, if someone comes from a family with lower standards, it will be harder for him to apply to a university since they might not be able to afford it. His plan will be based around working as soon as possible to create a living space for himself. [4][10]

Social issues

The decision of studying or going to work put a huge pressure on last year students, this is the reason why they can over exaggerate or compensate it with unconcern. The examples they see in the family group or by relatives can make it harder to decide since it shows them how good or bad studying can be. It is a common concern if someone chooses a faculty, it determines where the student will work for the rest of the life. This is a false view because it is very common that students after university start to work in a different work place. [11]

As described so far, students must choose wisely where they apply. They should know their skills, abilities, limits otherwise, the chance of making a bad decision about their carrier is going to be higher than it should be. Career guidance counseling helps enlighten students about their interests. [12]

3 Research and early analyzed data

As the quantitative part of our research we created a questionnaire survey with google forms since it is easy to use, it's user interface is informative and it is an overall good choice. This was the beta phase of the test where we asked our focus group of 7 about the reasons of drop-out, the usefulness of the programs what is trying to decrease it's rate and the overall satisfaction about the university work against school leaving.

Hypothesis

Since we made a beta-test with our focusgroup, we couldn't validate our hypothesis, but we are looking forward to confirm them in our public survey. We tried to define specific theories, this way we can confirm or disprove them. In the later stages of our research, we will ask teachers about why and when and we will improve our hypothesis.

- We think that if we average the answers for "How big was the drop-out rate in 2018?", they will reflect the actual percentage, which is around 40%. Students exactly know how big of a threat this can be and they are enlightened about the size and volume of the school leaving.[13]
- We agreed on the most impactful reason why someone would leave school is demotivation. Students usually give up after the blockades they meet in the first few semester. This part is the hardest to analyze because multiple reasons can cause loss of motivation. We will try to inspect this reason thoroughly.
- We expect to see a common unsatisfaction towards the programs which are made for decreasing the drop-out rate. Juniors usually

think that it is not beneficial for the university to decrease this percent. Moreover, they think universities are causing the school leaving with classes that produce the most fails in the first and the second semester. These lessons usually have 70-90% fail rate.

Questions

Since the created survey is not relevant other than gaining experience and improving our questions and getting ready for the public form, we would like to discuss about why we want to ask the specific questions we chose. First of all, we asked about if the students of the University of Obuda know the actual percentage of the average of drop-out rate. This question tests their common knowledge of the area so we thought this would be the easiest way to check if people are proficient or not.

After that question, we made them a chart where they could value the relevance of specific school-leaving reasons. This will help us understand what students feel the most relevant and we will be able to focus on that area.

The next question was almost like the last one but they can give points to programs that are useful in decreasing the rate of drop-out. Our main goal, other than mapping out the reasons behind leaving school, is to analyze already used projects that is helping or at least we think is helping to decrease the percentage.

We want to check these projects more in-depth, that is why we made another question about them but this time they had to rank them. With this 2 question, we will be able to create a ranking system where we can order by the most useful towards the least efficient.

Improvings

After we gave the survey to our focusgroup, they filled it out and gave us comments about the questions. After we revised their observation how we should improve the form, we made some modifies the the survey:

- They proposed that we should examine how travel time or college dorm affects this rate so we will add another question about how much time it usually takes getting to school and how harder does it become to keep up to date because of that.
- They mentioned that we should ask seniors about which semester was the hardest this way we can prove or disconfirm if the first two semester is the hardest.
- They said that we should add another question where students can write about how could the university increase its effectiveness and maybe some of the ideas might be good to check out.

- **Drop-out values of Neptun**

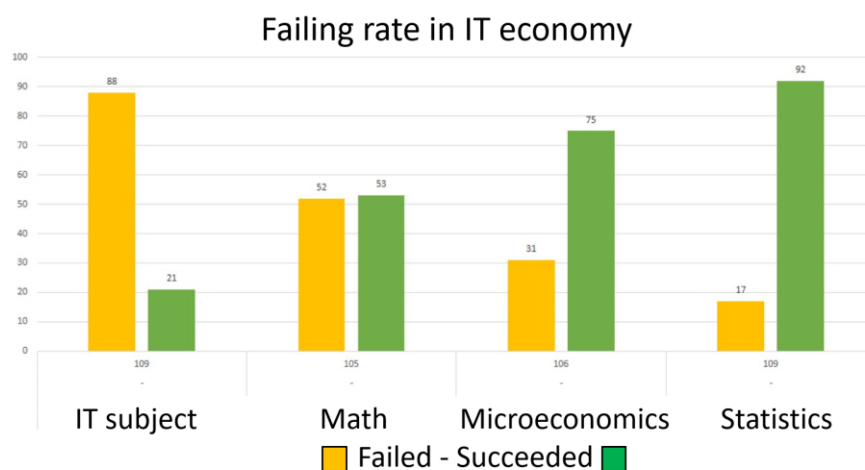


Figure 2

Failing rates in a semester(Neptun data)

This semester was the first for the IT economy. It became obvious that the IT subject was too harsh with the first year pupils, mostly because the first expectations were wrong. No one knew that it will be this difficult, because everyone who applied thought that this department would be more focused around economic, not IT. This shows that the university did not inform the students about the seriousness of IT part. Since then, they changed the curriculum of the IT economics so the Informatic side became easier in the first two semesters. Moreover, the university tried to inform the students about the equal difficulty in the economic and the Informatic side. This helped reducing the fail rates and it definitely helped decreasing the drop-out rate of the department.

Conclusions

The importance of this topic needs us to map out the problem. Even though the university has around 5 to 6 projects that help reducing the drop-out rate, this percentage hardly decreases and mostly just stagnates. There is no universal solution to this problem, so we have to identify what would be good for the students in this school.

We are in the most important stage right now. We read the theoretical background of the topic, we created a beta-form that we got improvements from our focus group and now we have to modify our google survey and send it to every student of the University of Obuda. If everything goes as planned, we will be able to send

out the form around January. From February, in the next 5 months we will analyze the data, ask the teachers about their perspective on this topic, create the ranking system for the projects that helps reducing the drop-out and in the end we might be able to reduce this rate. Even if it decreases by one student thanks to our research it is definitely worth our time.

Acknowledgement



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Decision-making Process of Prospective International Students: a Proposed Generic Complementary Model

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Abstract: The global education market is rapidly expanding and the number of students has increased significantly over the last years. Despite this positive development, German universities are affected by a high international competition. Prospective students can choose of a broad variety of educational products and will apply at several universities at the same time. To support marketing departments of higher education institutions, the paper provides a generic conceptual model on the decision-making process of potential international students including influencing parameters. Applying a scoping study and content analyses, the concept bases upon theoretical concepts in this field but also the latest empirical findings.

Keywords: Higher Education Marketing, decision-making process of international students, scoping study

Introduction

According to a study by Ken Research and Euromonitor International, the global education industry is not only among the largest sectors worldwide but also one of the fastest developing (Euromonitor International 2017, Ken Research 2011). Hereby, the global higher education market plays a significant role: The number of students has more than doubled between 2000 and 2014 (207 million) (UNESCO 2017). In 2009, China, India, the US and Russia have a combined share of 45 per cent of total global tertiary enrolments (British Council 2012). “A key feature of the global tertiary education sector has been the growth in internationally mobile students. Their number has risen from 800,000 in the mid-1970s to over 3.5 million in 2009” (British Council 2012: 4). In 2016, there were about 3.5 million foreign students within OECD areas (OECD 2018). Despite an increased share of foreign students among freshmen at German higher education institutions (hereinafter: HEIs) (2004: 19,5%; 2016: 24,8%, (Statista 2018)) and almost no study fees, Germany still ranks below countries like the US, the UK,

Australia and France (British Council 2012) with respect to the number of foreign students enrolled. According to a report by UNESCO, private universities in particular benefit from the global market growth (UNESCO 2017) although it did not change the disparity of access to college (across 76 countries, 20% of the richest 25–29 year olds had completed at least four years of higher education, compared with less than 1% of the poorest (Bagri 2017). As the demand for higher education is going to rise in the future, German governments and (public) HEIs have to respond adequately, to secure German HEI will not be left behind.

It is important to understand that HEIs in today's globalized world are considered businesses, whether they are profit or non-profit, private or public organizations (Hemsley-Brown & Oplatka 2006). Therefore, HEIs employ the same methods and tools that have been endorsed in the business world and use marketing to identify and satisfy the needs and wants of their customers – potential international students (hereinafter: PIS). “Globalization and market pressure in the education sector have propelled higher education institutions to constantly review on the need of economic accountability and performance improvement, many universities aim to increase the number of students admitted as a means of increasing their income while the admitted students are considered as customers” (Watjatrakul 2014: 676). Farjam and Hongyi consider students to be “consumers in higher education,” who “exist in positional market, where institutions compete for the best students while the applicants compete for the most preferred institutions” (Farjam & Hongyi 2015: 72). Understanding students as customers and attracting PIS with marketing programs sounds simple. In fact, it is quite a challenge:

“Across the European Union, higher education institutions are operating in an increasingly competitive environment. Nowhere is this more apparent than in the area of international student recruitment, where increased student mobility combined with an increase in the number of institutions offering English-language degrees has created more choice than ever before for international students.” (QS Enrolment Solutions 2017) Setting up appropriate marketing programs is not only seen as a competence by HEI anymore, it is performed & supported by regional and national governments as well (Cubillo et al. 2006, GATE-Germany 2018b). The UK Government is said to have sponsored several initiatives to become the world's leading nation in international education (Binsardi & Ekwulugo 2003).

The “decision to study overseas is one of the most significant and expensive initiatives that students may ever undertake” (Cubillo et al. 2006: 102 referring to Mazzarol 1998) and international education is not a frequently purchased service by this target group (Nicholls et al. 1995, Cubillo et al. 2006). Hereby students will consider various aspects in addition to the program offered by a foreign HEI (like safety, security, cultural activities, country image etc.) (QS Enrolment Solutions 2017, 2018).

To support German HEIs in meeting these challenges, the DAAD (= German Academic Exchange Service) has set up different research and supporting programs (GATE-Germany 2018a). However, these programs do not fully support HEI marketing departments in understanding the decision-making process of PIS. Knowledge of the decision-making process and its influencing factors are a central prerequisite for attracting PIS to study programs at German HEIs. The purpose of this paper is to propose a generic conceptual model on the decision-making process of PIS including influencing parameters. Our work will be based upon theoretical concepts in this field but also the latest empirical findings.

1 Theoretical perspectives on decision-making processes of prospective international students

1.1 Methods

To summarize and structure the existing theoretical knowledge on decision-making processes of PIS, a scoping study was performed. “A scoping review or scoping study is a form of knowledge synthesis that addresses an exploratory research question aimed at mapping key concepts, types of evidence, and gaps in research related to a defined area or field by systematically searching, selecting, and synthesizing existing knowledge.” (Colquhoun et al. 2014, p. 1292-1293). This research method was applied by using the methodological steps outlined in the Arksey and O'Malley (2005) framework.

Following the first stages of the scoping study, seven models were selected for further analysis (s. table 1). It needs to be stated here that a large majority of the identified sources are older than 20 years. Only the concept by Oliveira & Soares was published within the last five years.

1.2 Findings

The identified theoretical concepts were examined in a descriptive analytical manner with respect to: (1) the general research approach; (2) sequences and (3) presented influencing factors of the decision making process of PIS (= stage 4 “Charting the data” of the scoping study according to Arksey & O'Malley(2005); s. Colquhouna et al. 2014). In the following chapters, results of the performed scoping study will be presented.

1.2.1 General research approach

With regard to the general research approach it needs to be stated that a large majority represent conceptual models, either own creations or generic concepts resting upon existing concepts in that field (s. table 1). Moreover, only the concepts by Cubillo et al. (2006) and Oliveira & Soares (2016) address decision-making practices of PIS in particular. All of the reviewed concepts included parameters of decision making.

Table 1:

Selected theoretical concepts on the student decision making process

Age of concept	Author	Year	Title of the conceptual framework	Research Approach	Population	Integration of parameters
≤ 10 years	Oliveira & Soares	2016	Conceptual Model for the decision process of international students	Literature Review & Qualitative Study (interview with currently enrolled students in engineering programs at a public university in North of Portugal)	PIS	X
11-20 years	Vrontis et al	2007	Concept a: Preliminary integrated generic higher education student-choice model	Generic Concept build upon Jackson (1982); Chapman (1986) & Hanson and Litten's (1989)	US/CA	X
	Vrontis et al	2007	Concept b: A contemporary higher education student-choice model for developed countries	Conceptional Model	Students from developed countries	X
	Cubillo et al	2006	A model of international students' preferences	Conceptional Model	PIS	X
	Perna	2006	Conceptual model of student college choice	Conceptional Model	US	X
21-30 years	Hanson & Litten	1989	Mapping the road to academe	Conceptional Model	n.d.	X
> 30 years	Hossler & Gallagher	1987	Three-Phase model of college choice	Generic Concept build upon Alexander (1978); Anderson, Bowman, and Tinto (1972); Jackson (1982); Litten (1982); Chapman (1981)	US/CA	X
	Chapman	1981; 1986	A behavior model of the college selection process	Behavioral Model	CA	X
	Jackson	1982	Combined student choice model	Conceptional Model	US	X

1.2.2 Stages of the decision-making processes

Except for the concept of Perna (2006) and Cubillo et al. (2006), all reviewed processes span three or five stages. Five-stage concepts suggest strong dependences on the traditional decision-making process of consumers in general (Kotler et al. 2008). Perna “uses the term ‘college choice’ to refer to all phases” (Perna 2006, p. 101) of the decision-making process. Her concept centers around an evaluation of expected monetary and non-monetary benefits and expected costs, whereby evaluations are “influenced by an individual’s academic

preparation for college and availability of resources to pay the costs of attendance” (Perna 2006, p. 116). To evaluate similarities and differences in the order of stages, all stages were colored based on content similarities (s. table 2).

Most of the concepts begin with the recognition of a need to study which can turn into aspirations to study abroad. According to Oliveira & Soares (2016), students’ main motivation for leaving their country of origin is the goal of seeking an international experience for personal, academic and professional development. Following the stage “*Need recognition & aspirations to study abroad*”, PIS most likely start to search for information (about studying abroad in general, HEI, study programs etc.) to satisfy their needs (=Search Stage). Jackson (1982) did not include a search stage. Within the concept by Hanson & Litten (1989) as well as in the generic concept by Vrontis et al. (2007) a distinction between “locating information” and “gathering information” is made. In the latter case, this may be caused by building upon student decision-making processes from the 1980s. In the same sense Chapman (1986) and Hanson & Litten (1989) assumed that prospective students form a set of potential HEIs before their search. As information-seeking processes have been technologically improved, enabling potential students to gather information globally and simultaneously, the separation as well as the formation of a fixed set of alternatives before searching will not be considered appropriate anymore.

Table 2:

Comparison of stages of identified student decision-making processes

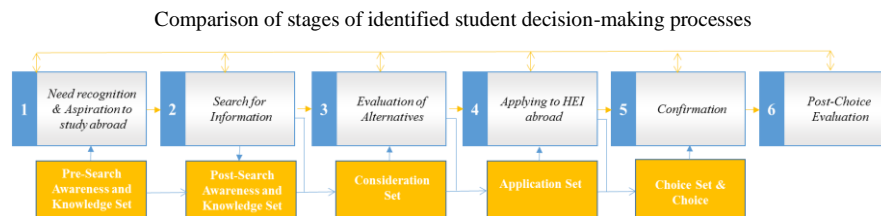
Jackson (1982)	Chapman (1981 & 1986)	Hanson & Litten (1989)	Hosler and Gallagher (1987)	Perna (2006)	Cubillo et al (2006)	Vrontis Generic Model (2007)	Vrontis Contemporary Model (2007)	Oliveira & Soares (2016)
I Preference stage (educational aspiration)	I Pre-search stage (List of considered colleges)	I Having college aspirations	I Pre-disposition (Determination of study aspiration)	Evaluation of expected monetary and non-monetary benefits and expected costs	Purchase Intention of PIS regarding the destination country as provider of the education service	I College aspirations	I Need Recognition	I Need recognition
II Excluding institutions from the prospective list	II Search Stage	II Investigation of HE and creation of set of candidates (sub-phase: Searching & gathering information)	II Search			II Search process	II Info Search	II Information search
	III Application Decision	III Process of applying and enrolling	III Choice (which college to attend)			III Information gathering	III Alternative Evaluation	III Evaluation of alternatives
III Evaluation stage	IV Choice Decision					IV Sending Application	IV Purchase & Consumption	IV Purchase & Consumption
	V Matriculation Decision					V Enrolling	V Post-consumption Evaluation	V Post-consumption evaluation

Decision making takes place in the third stage, whereby some researchers separate this stage into a pre-purchase stage “*Evaluation of Alternatives*” and a purchase stage “*Application Decision*”. In the later stage PIS have to decide, when, what for and where to apply (Vrontis et al. 2007). At this stage, a high involvement from students can be assumed (Nicholls et al. 1995; Cubillo et al.

2006). This supports the separation of a pre-purchase and purchase stage according to the Contemporary Model by Vrontis et al. (2007) and Oliveira & Soares (2016).

Furthermore, the purchase stage may be divided into three sub-stages: Applying (Chapman 1986; Hanson and Litten 1989; Vrontis et al. 2007); Matriculation Decision (Chapman 1986) and Enrolling (Hanson and Litten 1989; Vrontis et al. 2007). As a large majority of PIS apply on average to 5 HEI (QS Enrolment Solutions 2018), an equation of applying and enrolling may be considered as unrealistic. Therefore, a separation of the purchase stage into “*Applying at an HEI abroad*” and “*Confirmation*” is considered suitable. The later includes matriculation decisions as well as enrolling at an HEI overseas. Chapman (1986) integrated “*Matriculation Decision*” to take the likeliness of changed circumstances into account due to timing differences between application (spring) and matriculation (fall). Additionally, a majority of college-choice research supports the idea, that “inaccurate or incomplete information may affect a student’s decision, the decision would still be rational provided that it was based on a reasoned reaction to the information available to them at the time that they made the decision” (DesJardins and Toutkoushian, 2005, p. 218). The final stage indicates a “*Post-Choice Evaluation*” of the experienced education abroad (Oliveira and Soares 2016; Vrontis et al. 2007). This stage will not be examined in further research, as the focus lies upon initial decisions.

Figure 1:



Within the course of the investigation a close alignment of more recent concepts with the classical consumer decision-making process can be stated. We strongly support the comparability of consumer decision-making processes for complex services with the decision making of PIS on foreign educational products. Yet, we would recommend further specifying the generic concept in two aspects:

- (1) Firstly, none of the existing concepts integrated feedforward **and** feedbackward interrelations between all stages of the decision making process. However, both exist within the classical buying process (Tyagi & Kumar 2004) as well as in real life: Through this process, the aspiration to study abroad may be narrowed down to a set of potential countries based on the gained information about visa requirements. And following a rather rational approach of decision making, the ideal process assumes that the gathered information will influence the evaluation & choice of prospective HEI by the PIS.

- (2) Secondly, the decision-making process must include the consideration set of potential HEIs within students' choice. Due to the internationalization of the education market (e.g. by the Bologna Reform), the mass adoption of the internet, as well as the penetration of mobile technologies, there is a huge offer of study programs and simply too much information out there. Following Shocker et al (1991), we assume that students' "decision making is based upon hierarchal or nested sets of alternatives which [...] are processed by the decision maker prior to choice" (Shocker et al. 1991, p. 182). All potential solutions (study programs, HEIs, countries etc.) which in general satisfy the need to study abroad shape the universal set of a PIS. Although information searching has been improved, it can be assumed that PIS may not know about all existing solutions. Instead, their decision making will be limited to the solutions which they come across or know about (=awareness or knowledge set) (Donkers 2002). From this set the consideration set evolves, which holds all acceptable alternatives or solutions for later consideration in decision making (Chapman 1986). The consideration set is purposefully constructed, influenced by context factors and outcomes of decision-making stages. The application set consists of the most relevant solutions (= choices) which the PIS will select from the consideration set and where students are going to apply. (Chapman 1986; Jackson 1982); Hossler and Gallagher 1987; Shocker et al. 1991)

Upon that stage of research, the decision-making process of PIS will be shaped as presented in figure 1. This cycle of stages will be used in further research on the influencing factors of students' decision making.

1.2.3 Influencing parameters of the decision-making process of prospective international students

Looking at the type of influencing factors, it needs to be stated that combined or complementary models dominate the research. All concepts include indicators from economic as well as sociological models. Economic concepts build on the economic model of human capital investment, whereas student investments in education are a result of a comparison of expected lifetime monetary and non-monetary benefits and expected cost. (Becker 1962, 1993; Ellwood and Kane 2000; Paulsen 2001 cited in Perna 2006). Although students will certainly face incomplete or incorrect information, this approach follows a rational behavior pattern in decision making (DesJardins and Toutkoushian, 2005). Sociological models try to explain the influence of socioeconomic backgrounds on students' choices (Terenzini, Cabrera, & Bernal, 2001; cited in Perna 2006). As both concepts have their limitations, a combination is viewed beneficially in the literature (Perna 2006).

With respect to stages 1-5 of the developed generic theoretical concept on the decision-making process of PIS (s. figure 1.), all stated parameters were gathered and classified by applying content analyses. Notwithstanding the high relevance of

the concept by Oliveira & Soares (2016), it must specifically be addressed here that their plotted concept stated fewer parameters than they discussed previously. Within our studies we integrated only the parameters plotted (s. Oliveira and Soares 2016, p. 138).

Table 3:

Influencing factors on stage „Need recognition & Aspiration to study abroad” (based on Jackson 1982; Hanson & Litten 1989; Hossler and Gallagher 1987; Vrontis et al. 2007; Oliveira & Soares 2016).

(a) Individual Factors	(b) Environment	(c) HEI	(d) High school
<p>A1: Student Characteristics: race, income/resources, socioeconomic status, parent’s education/job, family culture/background, religion, sex, proximity to a university at home country</p> <p>A2: Personal Attributes: class rank, academic ability/aptitude, students/academic performance/achievements, self-image; personal value, benefits sought, personality, lifestyle/social context, educational aspirations</p> <p>A3: Motivational Attributes: outcome of international experience</p>	<p>B1: Home Country <i>B1a: General</i> occupational structure; economic conditions, cultural conditions <i>B1b: Public Policy Aid</i> <i>B1c: Influences/Media</i> parents, career, neigh-borhood, counsellors, peers, communications, college officers</p> <p>B2: Destination Country <i>B2a: General</i> occupational structure; economic conditions, cultural conditions geographical location destination country; cost of living <i>B2b: Public Policy Aid</i> <i>B2c: Influences/Media:</i> social references and personal recommendations (parents, peers), available info destination country</p>	<p>C1: Characteristics: cost/ financial aid; size & location; control (public/private); program availability</p> <p>C2: Actions: recruitment activities; admissions policies; aid granted; communications</p>	<p>D1: High School Characteristics: social composition; quality; curriculum; programs</p>

Stage 1 - Need recognition & Aspiration to study abroad: With respect to the first stage, four main factors are considered in the literature: (a) *Individual Factors*, (b) *Environment*, (c) *HEI* as well as (d) *High School* (Hanson and Litten 1989; Jackson 1982; Oliveira and Soares 2016; Vrontis et al. 2007). Except for the contemporary model by Vrontis et al. (2007), all parameters are specifically related to influencing aspirations to study (abroad). As some concepts represent generic works, a broad agreement is no surprise. Yet, a more applicable classification was derived from content analysis. Student characteristics, personal as well as motivational attributes, represent individual factors. From our point of view, environmental factors shall be further separated into home-country specific and destination-country specific factors, as varying conditions across countries may pull (better occupational or economic conditions in foreign country), or push (lack of opportunities to study in domestic area, censorship etc.) human capital abroad (Oliveira and Soares 2016). Unfortunately, the influence of HEI was not pointed out in the concept by Oliveira & Soares (2016). The presented parameters are considered relevant for study decisions in general (Hanson & Litten 1989; Hossler and Gallagher 1987; Vrontis et al. 2007). By looking at empirical studies

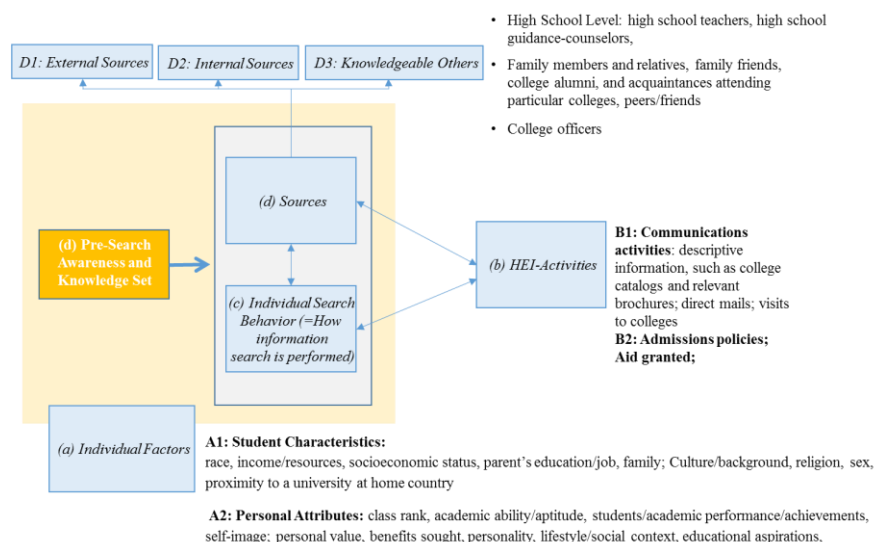
in chapter 3, the influence of the main characteristics of foreign HEI will be further investigated. The impact of the attended high school is only addressed by concepts focusing on students in general, not on PIS. For the decision making process of PIS this factor is viewed as subordinate as it mainly influences the decision to study in general.

Stage 2 - Search for Information: Five out of seven concepts listed relevant factors influencing students' search (Chapman 1981 & 1986; Hanson & Litten 1989; Hossler and Gallagher 1987; Vrontis et al. 2007; Oliveira & Soares 2016). According to these concepts, five relevant factors have to be considered: (a) *Individual Factors*; (b) *HEI-Activities*; (c) *Search activities performed by students*; (d) *Sources* and (e) *Pre-Search Awareness & Knowledge Set* (s. figure 2).

As described before, students start their search based on a "Pre-Search Awareness & Knowledge Set" (=preliminary college value, (Hossler and Gallagher 1987)), that includes HEIs which students came across in preceding periods. According to Hossler and Gallagher (1987), HEI-activities, search activities performed by students as well as existing sources influence each other. On the one hand, HEI carry out target group-specific marketing activities to search for students and, on the other hand, potential students search for relevant information about HEI. Following Vrontis et al. (2007) it can be assumed that individual determinants have an impact on the student's pre-search awareness & knowledge set and search activities, as well as sources used by the student.

Figure 2:

Influencing factors on stage „ Search for Information” (based on Chapman 1981, 1986; Hanson & Litten 1989; Hossler and Gallagher 1987; Vrontis et al. 2007; Oliveira & Soares 2016)

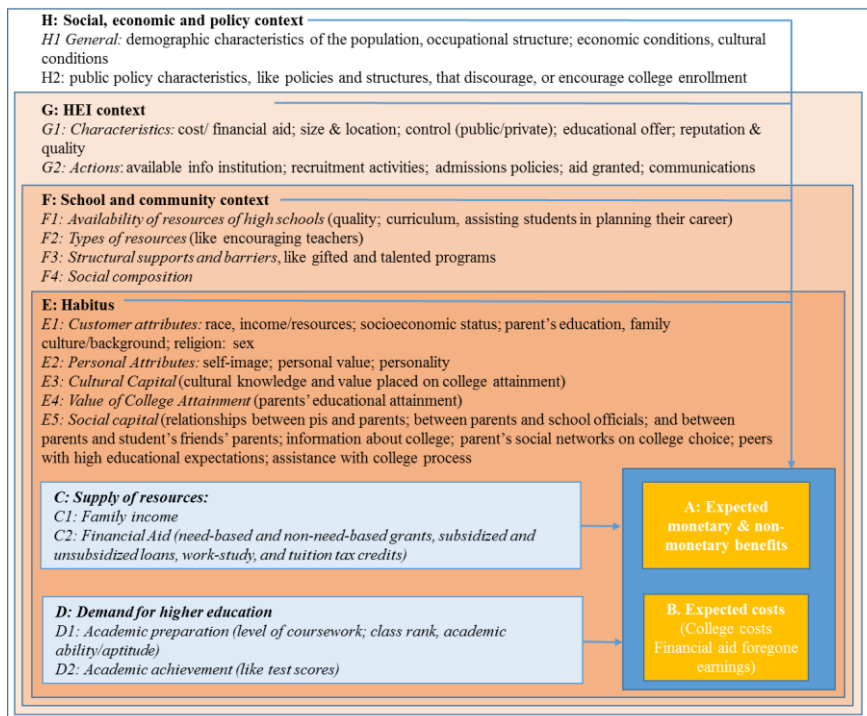


Stage 3 - Evaluation of Alternatives: The concepts by Jackson (1982); Perna (2006); Vrontis et al. (2007); Oliveira & Soares (2016) deal with the evaluation of alternatives. Yet, only Jackson (1982) and Oliveira & Soares (2016) speak of stage-specific evaluation criteria, like college costs, job-benefits/employability, HEI characteristics and influencers. Even though marketing departments of HEI may favor rational decision making and a fixed set of evaluation criteria for more efficient targeting, academics point out that “there is not one set course leading to college enrollment but that multiple routes are possible” (Perna 2006, p. 116).

Consequently, the concept by Perna combines economic and sociological models to the largest extent and puts an evaluation of *expected benefits* and *costs* in focus (Perna 2006, p. 115). Moreover “assessments of the benefits and costs are shaped not only by the *demand for higher education* and *supply of resources to pay the costs* but also by an *individual’s habitus* and, directly and indirectly, by the *family, school, and community context, higher education context, and social, economic, and policy context.*” (Perna 2006, p. 119). On this account, our classification of influencing factors follows the conceptual model by Perna (2006) adding factors which were specifically mentioned in other concepts (s. figure 3).

Figure 3:

Influencing factors on stage „ Search for Information” (based on Chapman 1981, 1986; Hanson & Litten 1989; Hossler and Gallagher 1987; Vrontis et al. 2007; Oliveira & Soares 2016)



Stage 4 - Applying at HEI abroad: Within the fourth stage, PIS will define their application set consisting of universities they are going to apply to (Chapman 1986). In that sense, Cubillo et al. (2006) use the term purchase intention, which “is defined as the intention of the student regarding the destination country as provider of the education service” (Cubillo et al. 2006, p. 104 referring to Peng et al. 2000; Srikatanyoo and Gnoth 2002). According to our research the act of shaping the application set and sending applications will be influenced by: (a) *individual factors*; (b) *location-specific factors of the destination country & city*; (c) *HEI*; (d) *high school* and (e) *student's expectations about the probability of admission* (Chapman 1981, 1986; Hanson & Litten 1989; Cubillo et al. 2006; Vrontis et al. 2007).

Table 1:

Influencing factors at the stage „Applying at HEI abroad” (based on Chapman 1981, 1986; Hanson & Litten 1989; Cubillo et al. 2006; Vrontis et al. 2007)

Consideration Set				
(a) Individual Factors	(b) Location	(c) HEI	(d) High School	(e) student's expectations about the probability of admission
<p>A1: Student Characteristics: race, income/resources, socioeconomic status, parent's education/job, family; Culture/background, religion, sex, proximity to a university at home country</p> <p>A2: Personal Attributes: class rank, academic ability/aptitude, students/academic performance/achievement, self-image; personal value, benefits sought, personality, lifestyle/social context, personal improvement, ethnocentrism, educational aspirations</p>	<p>B1: Destination Country <i>B1a: General</i> occupational structure; economic conditions, cultural conditions geographical location destination country; cost of living</p> <p><i>B1b: Public Policy Aid</i></p> <p><i>B1c: Country Image</i> cultural proximity social and academic reputation socioeconomic level</p> <p><i>B1d: Influences/Media</i> parents, career, neighborhood, counsellors, peers, communications, college officers</p> <p>B2: City city dimension city image cost of living environment</p>	<p>C1: Characteristics cost/ financial aid; size & location; control (public/private); program availability; proximity, ambiance,</p> <p>C2: Actions: recruitment activities; admissions policies; admit/deny aid granted; communications written information campus visits communications admission/recruiting</p> <p>C3: Institution Image quality of professors institution's prestige international recognition communication facilities on campus</p> <p>C4: Programme evaluation programmes recognition programmes suitability programmes specialization costs and finance</p>	<p>D1: High School Characteristics: social composition; quality; curriculum; programs</p>	

Stage 5 – Confirmation: The 5th stage of the decision-making process is of very high importance for both PIS and HEI: In that stage PIS make their final “buying” decision about the educational product. For HEI, the definitive number (and quality) of freshmen and the final amount of public funding (based on the number of students) will be defined. Despite this importance, only the concepts by Chapman (1981 & 1986); Hanson & Litten (1989); Hossler & Gallagher (1987) and the generic concept by Vrontis et al. (2007) have specifically addressed this

stage within their research. As the generic concept by Vrontis et al. builds also upon models from the 1980-1990, research in that stage needs to be considered as rather outdated. Additionally, there is a broad consensus about the importance of *HEI actions* as an influencing factor within that stage. Yet, Hossler & Gallagher (1987) highlight the limited impact of HEI at this point: "... most institutions are eliminate before they can really 'court' prospective students" (Hossler & Gallagher 1987, p. 218).

2 Empirical studies on decision-making processes of prospective international students

In the second stage of the review process, empirical data on the decision making of PIS was searched and examined to specify the stages or add further influencing factors in the derived theoretical generic model. A prioritization of the identified factors was also of interest within this research stage. The search for available empirical studies was carried out through database research via *google* using the key word '*international student survey*'. The high number of search results was reduced by the use of selection criteria such as the year of publication (no older than five years) or the focus of the survey on the European higher education market. Studies focused on one specific country or region of origin of PIS were eliminated since differences between nationalities were not in focus of our research. Based on these criteria five studies were selected:

Table 4:

Empirical studies on decision making processes of PIS (Hobsons EMEA 2014; QS Enrolment Solutions 2017, 2018; QS Intelligence Unit 2016, 2018)

Author	Year	Title	Sample	Focus of survey
Hobsons EMEA	2014	Beyond the data: Influencing international student decision making	18,393 PIS who had enquired to a UK or Australian higher education institution	decision-making process of international students aspiring to studying abroad
QS Intelligence Unit	2016	What Matters to International Students? Global Overview	1,800 students in 11 countries globally	common motivations and priorities of PIS
QS Enrolment Solutions	2017	International Student Survey Europe	18,706 PIS from 187 countries worldwide,	international student motivation and decision making;

			interested in studying in Europe	communication preferences and used digital channels
QS Intelligence Unit	2018	Applicant Survey 2018: What Drives an International Student Today?	16,560 PIS	motivations and decisions higher education applicants make, linked to the current political and economic context in the US and Europe as host countries for higher education
QS Enrolment Solutions	2018	International Student Survey European Union	22,838 PIS who identified that they are considering studying in the following European countries: Germany, the Netherlands, Sweden, France, Italy, Denmark, Austria, Hungary, Spain, the Czech Republic and Latvia	international student motivation and decision making; communication preferences and used digital channels

2.1 Empirical findings on the decision making process

The stages of the decision making process of PIS were addressed within the studies by Hobsons EMEA (2014) and QS Enrolment Solutions (2017 & 2018). With a focus on PIS enquiring to study in the UK or Australia, a specific order of choice was identified by Hobsons EMEA (2014): “Course, then country, then institution: that is the order of an international student’s decision-making process. Students select a course to study first, then they evaluate the country and only after doing that will they select the institution” (Hobsons EMEA 2014, p. 4). In a later study this fact was also proven for PIS interested in studying in Europe (QS Enrolment Solutions 2017, p.7). The recent *International Student Survey* by QS Enrolment Solutions even strengthens the importance of “subject & course” above the university.

2.2 Empirical findings on influencing factors

Based on the theoretical generic concept of the decision-making process of PIS (s. figure 2), all empirical studies were examined for influencing factors. The most important criteria considered by the students (top 5 or highlighted results by the authors) were taken into further consideration.

Stage 1 - Need recognition & Aspiration to study abroad: Only two of five studies have taken up influencing factors of the first stage. While QS Intelligence Unit (2016) addressed factors motivating PIS, the QS Enrolment Solutions (2018) focused on concerns of PIS to study abroad:

Figure 1:

Influencing factors of students decision to study abroad (QS Enrolment Solutions 2018; QS Intelligence Unit 2016)

Factors Motivating PIS to study abroad	Biggest concerns of PIS about studying abroad:
PIS from developing markets: <ul style="list-style-type: none"> - study as an opportunity to access a better quality of education - Access more specialized and established programs in their chosen field, - contributing to the development of their own country, - get a more internationally famous university on their CV, - standing out in their own national employment market (employability) PIS from developed markets: <ul style="list-style-type: none"> - extended networking opportunities, - improved employment prospects 	#1: Cost of living (80%) #2: Availability of scholarships (69%) #3: Finding accommodation (57%) #4: Safety (57%) #5: Getting a job (54%)

Stage 2 - Search for Information: Hobsons (2014), QS Enrolment Solutions (2017 & 2018) inquired about factors of PIS while searching for and pre-evaluating potential foreign HEI. Although these studies did not put great emphasis on that stage, four factors could be derived: (1) *social media*; (2) *website of HEI*, (3) *response time of HEI after an enquiry* and (4) *agents*. According to QS Enrolment Solutions (2018), 65% of the PIS use social media platforms before they make an enquiry. In 2017, even 85% of the PIS stated they used social media. With regard to the response time, PIS expect at least weekly contacts by the HEI after their enquiry (QS Enrolment Solutions 2017). The use of agents was only addressed by Hobsons (2014), whereby the study underlined that these third parties only play a role for about 10% of the respondents, mainly PIS of South East Asian nationality.

Stage 3 & 4 - Evaluation of alternatives & Applying at HEI abroad: According to the analyzed empirical studies, PIS follow a specific order in making their study choice: course – country – town – university (s. section 3.1). Therefore, it's essential to look at the specific influencing factors of these sub-decision making stages as we may assume they are also relevant criteria for evaluation.

Factors influencing the choice of field of study were addressed by QS Enrolment Solutions (2017 & 2018). Both of these studies emphasized factors such as *teaching quality*, *tuition fees* as well as a *high graduate employment rate*. Among the relevant factors are also criteria such as the *ranking of the course*, *good reputation* as well as *studying with like-minded people*. By comparing both studies, it seems that in the latest report PIS put their personal development more in focus: 72% of PIS state that they chose their course based on their *career planning*. With respect to the high importance of this sub-decision stage further investigations are recommended.

With the exception of QS Intelligence Unit (2016), all studies contained factors influencing country selection. There are different factors of importance between 2014 and 2018. Due to this fact, it is not possible to derive an overall ranking. Instead a set of stated most relevant factors of PIS shall be provided:

Figure 2:

Set of most relevant factors influencing country choice of PIS (Hobsons EMEA 2014; QS Enrolment Solutions 2017, 2018; QS Intelligence Unit 2018)

(1) Quality of education compared to home country/ teaching quality International recognition of qualification of guest country/ well-ranked universities	(2) Country's attitude to international students/ safety of destination country	(3) Costs (affordable cost of living, scholarship/financial aid availability)
(4) Ease of getting a visa	(5) Good graduate employment options	(6) Person-related reasons (cultural interest and lifestyle, institutions I'm interested in are located there)

“The considerations made when choosing a town or city to study in were similar. The top two most important factors were again considerations of teaching quality and the welcoming nature of the location” (QS Enrolment Solutions 2017, p. 9).

All studies included criteria to evaluate and choose foreign HEI. Factors which were identified majorly and are rather highly ranked by PIS include: (1) *funding availabilities (scholarships) & tuition fees*; (2) *academic reputation & ranking (in a student's chosen subject & global preferred) & prestigious brand*; (3) *teaching quality*; (4) *course match to own expectations* and (5) *extent to which international students are welcomed*. Additionally, *entry requirements* were mentioned by PIS

interested in studying in the UK or Australia (Hobsons EMEA 2014) and 45% of PIS considering studying in European countries value *good career service and links to employer* (QS Enrolment Solutions 2018). QS Intelligence Unit (2016) researched that PIS sometimes meet difficulties assessing information they need to reach a thoughtful decision. Due to the fact that PIS will most likely search from abroad, the *Digital Communication by HEI* will influence their choice as well (QS Intelligence Unit 2016).

Recommendations, advice and feedback from others are an important source for PIS while making their decision (QS Enrolment Solutions 2017). In the latest report by QS Enrolment Solutions 60% of PIS stated that they had been affected by influencers at some stage. “45% of them claiming that the *experience of friends and family* has influenced their choice of country to study in.” (QS Enrolment Solutions 2018, p. 17). QS Enrolment Solutions (2017) found, that *parents, career advisors and career counsellors* as well as *friends* are key influencers of PIS.

“The vast majority (73%) will only consider five universities or fewer, this means that a significant proportion (27%) are considering applying to six or more universities underlining the increased competition European universities face from their global competitors” (QS Enrolment Solutions 2018, p. 13). With regard to “Stage 4 - Applying at HEI abroad”, students use and are influenced by *Social Media* (QS Enrolment Solutions 2017, 2018). Furthermore, 68.6% state in the early report to expect at least a weekly *communication by HEI*. This is also expected by 78.7% of the PIS during “Stage 5 – Confirmation” (QS Enrolment Solutions 2017).

When comparing the results from the scoping analysis on theoretical concepts with the empirical results on the decision making process of potential (international) students, the following conclusions can be drawn:

- (1) Both kind of sources must be viewed as useful complements of each single source as both offer advantages but hold limitations in respect to their use in educational marketing as well. Empirical studies provide clear recommendations to marketing departments of HEIs but they do not map the full complexity of the context in which students make their choices. Thus, their marketing measures are based on a simpler image of conditions and may not be perfectly targeted at the needs, wishes, problems etc. of PIS. The advantage of complementary theoretical models, on the other hand, is the mapping of the “full” context of decision making processes. Yet, they do not offer hands-on recommendations for marketers and are simply too complex for daily use in marketing.
- (2) With regard to the first stage “Need recognition & Aspiration to study abroad” empirical studies provide additional value, as they describe motivations, but also concerns of PIS in going abroad in more detail. This also counts for the “Search for Information” stage. Empirical studies are more

recent in respect to (digital) communication behavior and expectations of PIS on the communication to/ from HEIs.

- (3) Empirical studies did not differentiate between “Evaluation of Alternatives” and “Applying at HEI abroad.” Yet they provide clear criteria for choice making, which can be considered relevant evaluation criteria as well. Additionally, these studies provided new knowledge on the size of the application set, the order of choice and the influence of new information and communication technologies. Based on the empirical findings, theoretically derived influencing factors on the decision making process may be prioritized.

3 Summary model & managerial implications for hei

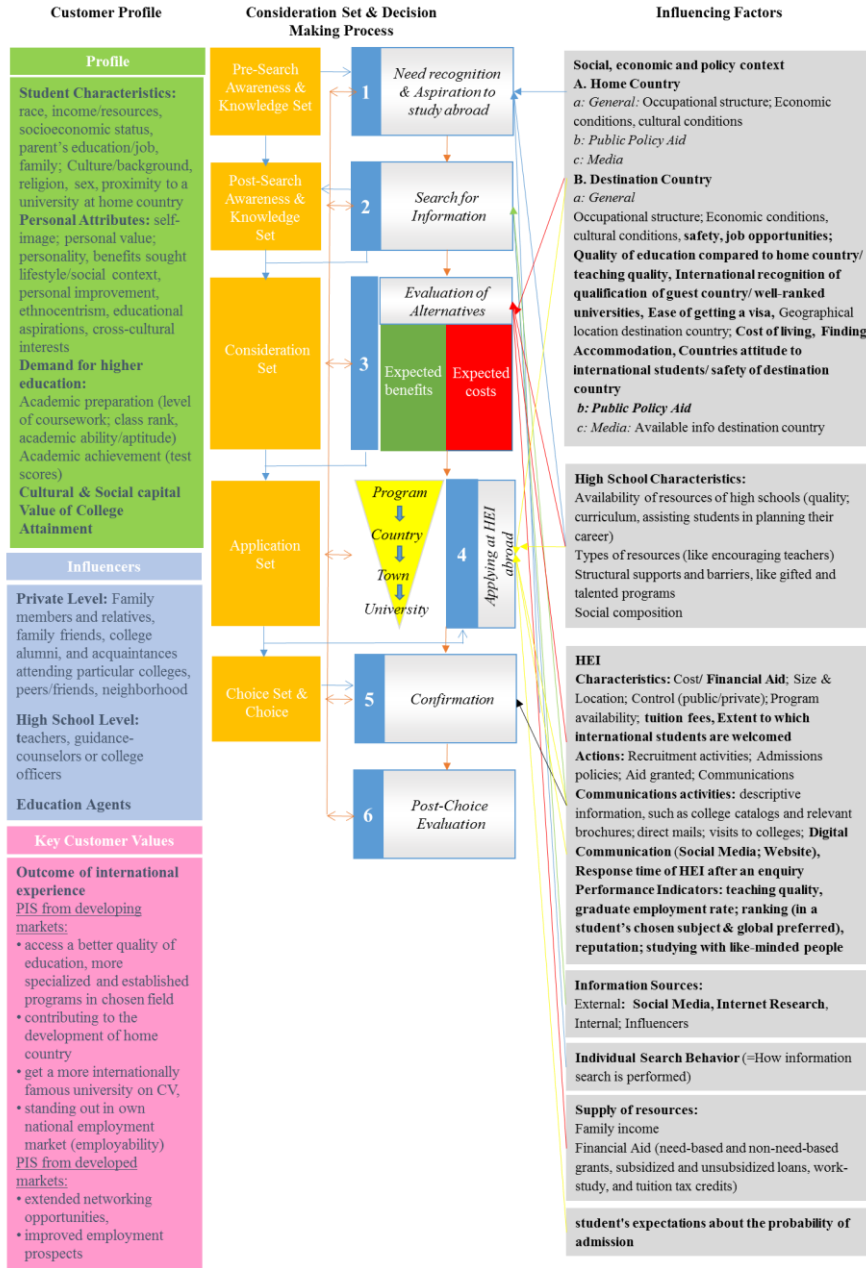
At this point a presentation of our generic concept, which is based on an aggregation of the gained knowledge on theoretical complementary models and empirical findings, is expected. However, our generic concept would be characterized by the same limitations as the existing theoretical concepts: too complex and less practice-oriented for use in HEI-Marketing. For this reason, we have tried to transfer our knowledge on the decision making process and its influencing factors to a practical marketing tool. The *Buying Proforma* by Dibb/Simkin was used as a basic framework as it is “built on the accepted best practice principles from the buying behaviour literature and, over the years, has proved very successful in portraying the nature of the customer challenge” (Dibb and Simkin 2008, p. 42). The *Buying Proforma* integrates (1) a Customer Profile; (2) Buying Center Composition (= people involved in the purchase and their respective roles); (3) Key Customer Values (= factors considered most important by customers); (4) Buying Process Mechanics (= steps involved in the buying process) and (5) the Core Influences (= any factors which have an influence on the buying decision) (Dibb and Simkin 2008).

The developed *Buying Proforma* holds all the relevant information on a general PIS, making choices to study abroad. More relevant influencing factors which were highlighted in the empirical studies are in bold print. We advise marketing departments to use the provided proforma as a starting point and ask to develop target market specific proforma (PIS of a specific region or country in focus) and integrate their findings. Additionally, we hope our idea stimulates creative thinking about communication and service offers to PIS. Not to mention the opportunity to create more efficient marketing activities by considering pull (= marketing measures to create demand for studying abroad) as well as push (=

focus on countries in which conditions support study abroad aspirations of PIS) dynamics in attracting PIS.

Nevertheless, our efforts have to be critically viewed as well. Firstly, there are limitations on the nature of the performed scoping study. Research was focused on English sources only and it will be necessary to investigate the importance of each influencing factor of a student's decision making. With respect to those limitations, we recommend quantitative studies across students from different countries to verify our concept, develop target group-specific buying proforma and to weigh the importance of factors. Secondly, we tried to reduce the complexity of decision-making processes by developing a *Buying Proforma*. To which extent the proposed proforma proves a better practicability also needs to be investigated.

Figure 3: Buying Proforma of PIS



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Workplace Selection Preferences of Electrical Engineering Students of Hungarian Universities – Early Research Findings

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Abstract: The research explores the workplace selection preferences of Electrical Engineering (EE) students in Hungarian universities. The theoretical framework of the interdisciplinary research is guided by employer attractiveness, career decision making, social network, and migration theories. Early research findings based on key informant interviews provided interesting insights. On-line surveys and interviews with EE students are ongoing to expand findings and to answer all research questions.

Keywords: employer attractiveness, career decision making, social capital, social network, migration, electrical engineering students, Hungarian labour market, mixed methods research design

Introduction

This research investigates the workplace selection preferences of electrical engineering students of Hungarian universities. It has been documented that in recent years there is a shortage of engineers in Hungary. A research by Manpower (2015) concluded that between 2010 and 2015 the professional talent shortage increased globally, as well as in the EMEA¹ region, and in Hungary. The research also noted that engineering was one of the top four ‘hardest to fill positions’ globally between 2006 and 2015. Engineering was named as one of the three most significant career opportunities and as the second most critical profession in terms of the future of Hungary (Manpower, 2015). The criticality of the engineering profession combined with the difficulty to fill open engineering positions creates challenges to the Hungarian economy (MTI, 2015; Sági, 2015).

The demand for highly skilled engineering talent is rising in Eastern Hungary. Several high-tech, multinational companies announced investment plans into Eastern Hungary. The total investment value is close to 400 billion Hungarian

¹ EMEA = Europe, Middle East, Africa

forint (around 1.2 billion Euro), and the number of planned new workplaces around Debrecen is more than 4000 (Trangbaek, 2015; autopro, 2015; MTI, 2016; HIPA, 2016; HBN-PA, 2017; HAON, 2017a; HAON, 2017b; HAON, 2018). Table 1 below lists the high-tech, multinational companies which announced investment plans into Eastern Hungary, the investment values, the number of new workplaces planned to be created, and the location of their investments.

Company name	Investment value (HUF)	Number of new workplaces	Location	Source
National Instruments (ni.com)	5.5 billion	210	Debrecen	(HIPA, 2016)
Lego (lego.com)	30 billion	1600	Nyíregyháza	(Trangbaek, 2015; MTI, 2016)
Continental (continental.com)	5.1 billion	681	Debrecen	(autopro, 2015)
Krones (krones.com)	15 billion	500	Debrecen	(HAON, 2017b)
Thyssenkrupp (thyssenkrupp.com)	11 billion	250	Debrecen	(HBN-PA, 2017)
Diehl (diehl.com)	2.7 billion	150	Debrecen	(HAON, 2017b)
BMW (bmw.com)	330 billion	1000	Debrecen	(HAON, 2018)
Total	399.3 billion	4391		

Table 2 List of high-tech, multinational companies which announced investment plans into Eastern Hungary; Source: (Trangbaek, 2015; autopro, 2015; MTI, 2016; HIPA, 2016; HBN-PA, 2017; HAON, 2017a; HAON, 2017b; HAON, 2018)

The investment in the area is linked to the ability of companies to recruit highly skilled workforce. Many of the new workplaces planned to be filled with electrical engineers. Therefore, understanding the factors which attract electrical engineering talent can increase the chance to deliver returns on the planned investments and can promote future and further investments into the region.

1 Literature Review and Theoretical Framework

Employer attractiveness is a very complex concept which is widely researched by multiple disciplines including management science (Gatewood, Gowan and Lautenschlager, 1993), vocational psychology (Soutar, 1983), applied psychology (Jurgensen, 1978), communication (Bergstrom, 2002), and marketing (Ambler and Barrow, 1996; Gilly and Wolfenbarger, 1998; Ewing, et al., 2002). One frequently cited definition of employer attractiveness is *“the envisioned benefits that*

potential employee sees in working for a specific organization. It constitutes an important concept in knowledge-intensive contexts where attracting employees with superior skills and knowledge comprises a primary source of competitive advantage.” (Berthon, Ewing and Hah, 2005 p. 151). This definition is relevant to this research as electrical engineering is a knowledge-intensive profession. The definition highlights that despite of the shortage of engineers in the labour market, companies with higher employer attractiveness can increase their chance for success and their competitive advantage.

In economic terms, shortage appears when the demand exceeds the supply (Samuelson and Nordhaus, 2004). The shortage situation can be resolved by increasing the price of the object. The increased price will reduce the demand and increase the supply, which will result in a new equilibrium (Samuelson and Nordhaus, 2004). Based on this economic analogy some may assume that increasing the salary of electrical engineers can address the shortage situation. However academic research suggests, that salary is one, but not the only one factor influencing the workplace selection process.

The Employer Knowledge Framework (EKF) introduces several factors influencing employer attractiveness and groups the factors into three categories (Cable and Turban, 2001). First, *employer information* includes factors such as organization size, level of centralization, geographical dispersion, organization’s concern for society and the environment, organization values and culture. Second, *job information* includes factors such as the type of work, job title, job level, job descriptions, salary, and career advancement opportunities. Third, *people information* “refers to the type of individuals that comprise an organization and who would be potential co-workers to a job seeker” (Cable and Turban, 2001 p. 126). The categories and the factors introduced by the EKF provide additional considerations for this research in exploring the preferences of electrical engineers during their workplace selection process.

Several academic research confirmed that the importance of Employer Attractiveness Factors (EAF) differs based on multiple variables. Some variables influencing the importance of the attractiveness factors are gender, age, academic performance, level of education, working experience, employment status of parents, disciplinary background, and country (Lievens, Hoye and Schreurs, 2005; Taylor, 2005; Ng and Burke, 2006; Bonaiuto, et al., 2013; Ng and Gossett, 2013; Bendaraviciene, Bakanauskiene and Krikstolaitis, 2014; Holtbrügge, 2015; Kuron, et al., 2015). Based on the above academic researches, the EAFs can not be generalized to all professions, in all countries, in all life cycle stages of the research population. Therefore, it is recommended to explore the EAFs considered by the electrical engineering students in Hungary during their school to work transition period.

Beside employer attractiveness, several other theories can help to explore the research topic in a wider and deeper context. Theories about the different career

decision making styles (Gati, 1986; Gelatt, 1989; Hodkinson and Sparkes, 1997; Hodkinson, 2008), theories about the influence of social networks (Granovetter, 1973; Bourdieu, 1986; Coleman, 1988; Putnam, 2001), and theories about the impact of internal and external migration (Todaro, 1969; Massey, 1993) are few examples of additional concepts for considerations. Based on its limitations, the main focus of this paper remains in the theory of employer attractiveness.

2 Research Methods

The study uses mixed methods research design (Guba, 1990; Wildemuth, 1993). In the first phase of data collection, qualitative data were collected through semi-structured interviews from 52 key informants. In the second phase of data collection, quantitative data were collected through online surveys from 164 electrical engineering students. In the third phase of data collection, additional qualitative data is planned to be collected through semi-structured interviews from electrical engineering students.

Mixed methods research generally takes longer, requires more resources, and uses different sampling techniques and data collection procedures (Tashakkori and Creswell, 2007). Key informants were selected with purposive sampling. Key informants included hiring managers, HR managers, recruiters of engineering employers, headhunters of recruitment agencies, university professors, career advisors, deans of electrical engineering faculties, and members of several engineering associations in Hungary. The key informants had thousands of meaningful conversations with early career electrical engineers. Therefore, key informants were expected to have deep understanding of the workplace selection preferences of the research population. The face-to-face, semi-structured key informant interviews required a lot of travels within Hungary. However, the personal meetings helped to build strong professional network and identified additional interview candidates using snowball sampling.

Electrical engineering students in eight Hungarian universities had access to the online survey. The research was promoted in various forums considering the different permissions, requirements, and preferences of the universities. Some universities provided direct access to students during lectures and seminars. In these cases, the researcher introduced the research, explained the benefits of participation, and students voluntarily filled out the survey on their handheld mobile devices. Other universities did not allow direct access to students, but recommended online promotion of the research. In these instances, the research information and the survey link were posted in several Facebook pages. The posts were published on the official Facebook page of the electrical engineering faculty and on the Facebook pages of electrical engineering associations. Beside the Facebook posts, students also received an email from the university student

council to promote the participation in the research. Each Hungarian university with electrical engineering faculty received a unique link to the online survey. The unique link helps to avoid accidental mix of data and enables the continuous tracking of survey responses for every university.

The mixed methods research unites the benefits of the qualitative and quantitative methods, which improves the overall strength of the findings and offsets the limitations of the two methods. The research was designed to ensure high level reliability. Careful research design and proper documentation allows the research to be replicated by others at different times, in different regions, with different population. However, the limitations of the research should be recognized in terms of validity and generalizability. First, the research participants are contacted only one time during the project. Therefore the internal validity of the research can be lower than in case of a 'before and after' or in case of a longitudinal study. Secondly, the data and the analyses presented in this paper are based on 52 semi-structured interviews with key informants and 164 online survey responses from electrical engineering students. The second and third phase of data collection is still ongoing. Therefore, the final findings of the research may differ from the early findings presented in this paper. These limitation should be carefully considered before making any generalization of the research findings presented below.

3 Analyses and Early Research Findings

The different types of research data collected during mixed method research should be analysed differently (Tashakkori and Creswell, 2007). During the semi-structured interviews, key informants were asked to list the EAFs considered by the electrical engineering students during their workplace selection process. Then, key informants were asked to identify the three most important factors influencing employer attractiveness. Majority of the key informants emphasized salary and other monetary benefits as the most important EAF. Few of the key informants answered the interview question by simply singing the famous pop song of ABBA: "*Money, money, money...*". Beside the monetary compensation, interviewees also highlighted the importance of several non-monetary EAFs. Many key informants mentioned the significance of flexible working schedules and work-life balance. Some key informants indicated that EAFs are changing over time and they recognize an increased relevance of flexibility and work-life balance in recent years. Several key informants revealed that most electrical engineers can be demotivated by repetitive, monotonous work and can be motivated by professionally challenging, creative work.

The online survey included thirteen EAFs presented in Table 2 of this paper. Several scales measuring employer attractiveness were considered during the

selection of the thirteen EAFs. These measurement scales included Lyons Work Values Surveys (LWVS) (Lyons, 2003; Kuron, et al., 2015), the Organizational Attractiveness Extraction Scale (OAES) (Bendaraviciene, Bakanauskiene and Krikstolaitis, 2014), the Employer Attractiveness Scale (EmpAt) (Berthon, Ewing and Hah, 2005), and the scale used by Universum in the World's Most Attractive Employers survey (Universum, 2019). The electrical engineering students were asked to select the five most important factors they consider during their employer choice and rank them in order of priority. A score was assigned to every factor with a rank: the most attractive factor received score of five; the second most attractive factor received score of four; the third most attractive factor received score of three; the fourth most attractive factor received score of two; and the fifth most attractive factor received score of one. If a factor did not make into the top five ranking, it received score of zero. At the end of the scoring process an average score was calculated for all the thirteen EAFs.

Based on the above described scoring method 'Competitive salary and monetary benefits' was identified as the most important EAF, followed by 'Long term job security' and 'Flexible working schedules allowing work-life balance'. Table 2 below lists all the thirteen EAFs with their corresponding average rank.

Employer Attractiveness Factor (EAF)	Average Rank
Competitive salary and monetary benefits	2.96
Long term job security	2.15
Flexible working schedules allowing work-life balance	2.05
Good colleagues to work with	1.63
Wide range of development and career opportunities	1.15
Good leadership to work with	1.03
Attractive work environment	0.96
Professionally challenging, creative work	0.88
Convenient location	0.71
Innovative modern technology	0.70
International travel opportunities	0.47
Positive employer image	0.18
Inspiring mission	0.13

Table 3 The list of Employer Attractiveness Factors (EAF) in descending order of their average rank (Online survey question: "Which of the following factors are most important for you when making your employer choice? Please select top 5 and rank them.) (n=164)

An important contradiction should be noted between the findings from online survey and the findings from key informant interviews. Although 'Long term job security' is the second most important EAF based on the online survey, none of the key informants mentioned 'Long term job security' as an important EAF during the interviews. On the contrary, several key informants highlighted the short term time orientation of electrical engineering students during their workplace selection process. One of the key informants described the electrical

engineering students as a generation who “*want it all, and want it now*”. Another key informant explained that as soon as the early career electrical engineers accept a job offer, they immediately start to look for the next job to take advantage of the labour market opportunities.

The difference between the responses of students and responses of key informants about short and long term time orientation was also confirmed by two other survey questions. First, 85% of electrical engineering students agreed or strongly agreed with the following statement: ‘I’m ready to make short term compromises to achieve my long-term career goal(s).’ Second, only 20% of the survey respondents agreed or strongly agreed on the statement that ‘I try to maximize the short-term benefits even if I have to sacrifice my long-term career goals.’ In fact, 46% of the respondents disagreed or strongly disagreed with the second statement. Figure 1 below shows the number of respondents on a five point Likert scale for the two questions about time orientation in the online survey.

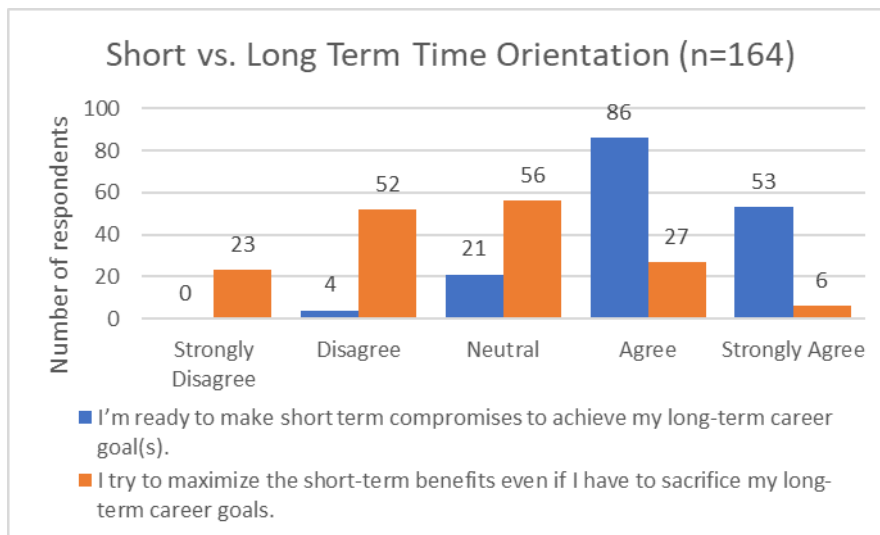


Figure 4 Short vs. long term time orientation on five point Likert scale (n=164)

In summary, the answers of electrical engineering students showed that majority of the respondents have *long term* time orientation and they *are ready* to make short term compromises for their long term benefits. On the other hand, the answers of key informants showed the opposite result. Key informants suggested that electrical engineering students have *short term* time orientation and they *are not ready* to make short term compromises for their long term benefits. It is important to note that additional responses to the online survey may change the early research findings shared in this paper.

Conclusions

Both the qualitative and the quantitative data showed that salary and monetary benefits are the most important EAFs for electrical engineering students of Hungarian universities. Flexibility in working schedules and work-life balance are also important factors during the career decision making process. Key informant interviews and online survey responses of electrical engineering students showed consistency in the above two conclusions.

However, key informant interviews and online survey responses of electrical engineering students showed inconsistency in terms of short vs. long term time orientation. On one hand, key informants emphasized that electrical engineering students are short term oriented. On the other hand, majority of electrical engineering students declared long term time orientation and willingness to make short term compromises in order to achieve their long term career goals. The additional information planned to be collected during the second and third phase of data collection may offer resolution for the contradiction between the qualitative and quantitative data.

It is important to recognize the limited generalizability of these findings. Career decision making is a very complex phenomena which can not be simplified to the ranking of different EAFs. Therefore, it is recommended to extend the research with other theories which may refine its findings and provide a clearer picture about the workplace selection preferences of electrical engineering students in Hungary.

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Alternative Dispute Resolution in Hungary and in Spain. Are Conflicts Expensive for Us?

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Abstract: The warnings of encouraging litigation seem to have fallen into deaf ears, as the number of incoming cases to courts are still on the rise. Nonetheless, to address disputes, there are also increasing numbers of mediation cases. This study compares alternative dispute resolutions in two different national contexts and reviews the possible advantages of this method in conflict management. Our study is intended to review if context can help explain the increasing popularity of alternative dispute resolutions? We examine the status of mediation, as an alternative dispute resolution procedure, in both Hungary and Spain, to compare this alternative to the court proceedings filed annually. The study addresses the question of whether mediation reflects a more economic driven mentality, and what the drivers for this type of resolution are. We also examine the cost to the parties involved in conflicts who choose mediation in both Hungary and Spain. The way conflict is resolved can vary, however acting on a basis of mutual trust in conflict resolution management method, helps to obtain a fairer resolution to the dispute and this can be systematically facilitated. This form of conflict management can also help enable the parties to take responsibility for themselves in resolving their disputes.

1 Conflict is everywhere

Conflict is everywhere. It can be found in human interactions as well as business interactions. Companies involved in formal conflict, search for lawyers and leaders that resolve conflict in an efficient way. This means not only to address the issue of conflict and come to a solution but also to do so with the best use of resources possible and that assures a final solution rapidly. In the last quarter century, alternative dispute resolutions (ADR) has become an increasingly efficient and popular strategy to conflict management. Among the most well-known ADR methods are mediation, conciliation, negotiation and arbitration. (Lieberman, Henry, 1986).

Litigation present a series of inherent disadvantages for companies - the parties lose control, the lawyers and the judicial system have power over the timing and procedure of the conflict resolution, and in result, disputes can take years to come to any resolution. The parties lose the ability to communicate with each other in order to resolve the problem. This causes most business relationships to be ruined and erodes trust and cooperation. Also, the costs of litigation increase significantly due to delays and (mostly) the lawyer's fees. The companies that become embroiled in litigation can lose its competitive advantage.

On the other hand, ADRs have become progressively common due to the advantages to litigation such as benefits in costs, simplicity and maintenance of the power of the entire state of affairs. In case of usage of these methods, a resolution is only reached if both sides accept to engage in this voluntarily. This own-willed approach to a conflict management implies a rationalized approach to the conflict at hand. This same rationalized approach also looks to quick conclusions that allow to construct a scheme to frame the relationship to prevent future disputes.

While there are some notable nuances between the different ADRs, they share the common feature: the dispute is mostly decided by the parties involved and less power is given to the third party involved (i.e. mediator, referees). Whereas in the case of litigation, the jury is granted absolute powers for the resolution of the conflict and to enforce this resolution. In mediation, the parties determine the result of the dispute and are in power of the conflict management the whole time while in arbitration, the result is determined in accordance with a rule, the law applicable. In both cases of ADR, when deciding on a result, the parties can take account for a wider range of rules, and in particular, their respective commercial interests. (Bercovitch & Jackson, 2001) Therefore, mediation and arbitration are procedures based on interests and rights. The fact of taking commercial interests into account also means that the parties can decide the result by reference to their future relationship rather than solely by reference to his past conduct.

As stated by Abraham Lincoln, the role of lawyers in conflict management should be that of a facilitator, and conciliator. If lawyers fail to do so, they will only

magnify the divisiveness and become part of the problem, rather than part of the solution. (Reavley, 1990, Nies, 1991), Rambo, *Lawyering: The Need for Civility in Civil Litigation*, 32 IDEA 1, 1-2. This leads the conflict to transform into a destructive phase in which the parts are adversarial and confrontative. This destructive phase is an outcome that is not desired by the parties and that results in increase of costs, resources and impedes dispute resolution. The relationship between opposing parties and their capacity to cooperate and even trust the other party in their capacity to manage conflict the conflict can be resolved more rapidly, with less cost to the parties and in a constructive manner. This type of resolutions may even help rebuild connections, restore matters to its original state, create new relations between parties and develop communications between them.

The term conflict (Coser, 1956, Dahrendorf, 1959, Pondy, 1967, Fink, 1968) Some conceptual difficulties in the theory of social conflict. *Journal of Conflict Resolution*, XII, 4 has no single clear meaning. Much of the confusion around the definition has been created by scholars in different disciplines who are interested in studying conflict. Reviews of the conflict literature show a conceptual sympathy for, but little consensual endorsement of, any generally accepted definition of conflict. There is tremendous variance in conflict definitions, which is mainly defined according to two approaches. First, a more specific approach which includes a range of definitions for more particular interests or areas. Second, a broader approach which include a variety of more wide-ranging definitions that attempt to be more all-inclusive in the subject matter. We use the definition of Rahim (2011) which is more of a broader approach. According to this author, "conflict can be considered as a breakdown in the standard mechanisms of decision making, so that an individual or group experiences difficulty in selecting an alternative". Conflict is even published by authors on the side of peace: "Peace is nothing more than a change in the form of conflict or in the antagonists or in the objects of the conflict, or finally in the chances of selection." (Coser, 1998)

Some important aspects to consider regarding the nature of conflicts are the intentions, motives and evolution of the interests of the parties involved in the dispute. If the parties are focussed on one aspect of the nature of the conflict and mistrusts the opposing party, this might escalate and impede alternative dispute resolutions. In acting as problem-solvers and looking to resolve the conflict, the parties develop some trust in the conflict management process. This can be seen as a: "agree to disagree" approach to conflict. The development of trust between parties, even though they disagree on an issue, can be an asset and may help reduce transaction costs. This approach favours ADRs methods such as mediation or arbitration. (Cserépi, 2017):

2 Price of the conflict

2.1 Hungary

In the case of Hungary, the conflict management revolves around different litigation costs. Some of the most important costs are signalled in the study. In the case of litigation, which continues as the most popular formal conflict management procedure there are several costs to bear in mind. First, one can clearly compare the type of costs a plaintiff might have during a civil procedure. To this point, a plaintiff reviews general data about court fees. Regarding the court fees, the most significant question is the cost of court fees which depends on the value of the cause of the lawsuit.

Another important cost other than court fees is the court fee duty which has to be paid before or simultaneously with the filing of the complaint. This duty can amount to 6 per cent of the disputed claim, (therefore this is not a fixed cost, rather it is proportional to the amount of the dispute).

In other alternative dispute resolution methods and civil and non-litigation proceedings, this fee is based on, unless otherwise provided by law, the value of the subject-matter of the proceedings at the beginning of the proceedings and the value of the claim or part of the claim disputed in the appeal proceedings. When the value of the subject matter of the proceedings cannot be determined, and unless otherwise provided by law, the basis for calculating the fee of civil litigation shall be:

- 1089€ in litigation before the district court and 622€ in non-litigation proceedings;

At the Tribunal:

- 1867€ for litigation at first instance and 1089€ for non-litigation proceedings,
- In appeal proceedings, in the case of litigation, 933€ and in non-litigation proceedings 529€,
- In appeal proceedings before the court of appeals, in case of litigation 1867€,

in non-litigation proceedings 933€;

- Retrial procedure: 1556€ in appeal proceedings
- 2178€ in the review process (1990:XCIII. Act on Fees)

If a party states several claims arising from a legal relationship or from several legal relationships in a proceeding, the total value of the submitted claims shall be

taken into account in determining the value of the subject matter of the proceedings.

- The fee for the divorce is 93€. It is not possible to take into account the value of the claim for the settlement of the housing usage in a marriage dissolution claim when determining the fee. If the party claims other property rights, only a portion -over divorce case fee- will be paid.
- Fees for labour disputes - if the value of the subject matter of the proceedings cannot be established - 31€.

In Hungary, the costs of the fees of experts, translators, interpreters and the compensation of witnesses are also regarded as procedural costs. Other costs in connection with the court procedure are the costs of administrator trustees, the costs of inspections conducted on premises (cost for “going over” or local inspection) and the costs of the courts' correspondence.

2.2 Spain

The conflict management for litigation processes in Spain is complex due to the combination of relations between the various legal operators and the authorities several different authorities (autonomous) that make up the public judicial administration. The judicial system is often criticized for the excessive slowness on the one hand, opaque functioning (particularly for citizens), and because it is considered to be excessive or disproportionate regarding its costs.

There have been notable efforts of the Central Government and the Autonomous Communities Governments to improve the efficiency and effectiveness of the services offered by this public service. Efforts have been concentrated in two fronts: First, through the creation of public offices that provide a structure for the various legal professionals (lawyers, prosecutors, and experts to a lesser extent). Second, the governmental agencies have adopted a tariff regulation specifically designed to protect people from risks that may result from a lack of information. Nonetheless, there are still many legislative loopholes and several instances found through litigation that are seriously damaging to citizens and make processes unnecessarily long.

The total cost of a procedure depends not only on the professionals who will be involved, but also on the nature of the dispute of the type of procedure and its complexity. To any of the fees that plaintiffs face, a fixed fee for right of procedure is added that is calculated according to the dispute and the person (physical or juridical). Tax fees have to be paid before any introduction of proceedings. Intervening agents, translators and interpreters may also be involved depending on the complexity of the dispute, which will result in a higher cost than the mere intervention of a lawyer and a prosecutor. The lawyers' fees will vary according to the Autonomous Community and the territory of this according to the

province. In fact, each Bar Association (i.e., Madrid, Castile and Leon, Barcelona, Andalusia) publishes its own criteria for guidance on fees, while the rights of prosecutors are set for the entire territory of the Spanish State and the Fixed procedure fee is also a national tax.

Plaintiffs can obtain an idea of the proportion of each cost in proportion to the value of the disputed claim (even though some are not stated according to the value of the dispute and are fixed taxes). A regular litigation process in Spain is more or less reflected in these costs:

Court fees	10% - 30%
Bailiff fees	5% - 20%
Lawyer fees	80% - 95%
Expert fees	5% - 15%
Witness compensation	1% - 3%
Translation/interpretation	10% - 20%

When analysing litigation processes in a more international viewpoint, the legal costs can be considerably higher, precisely because of the cross-border nature of the dispute. In these cases, plaintiffs should consider the increase in the costs of translations and interpreters, of witnesses and lawyers travel, if deemed necessary. Increase in costs are also manifested in the more expensive costs for notification or execution of decisions, or those related to the obtaining of evidence. All of these cross-border litigation costs can be a barrier to access to justice, and increase the transaction costs for litigation, primarily to individuals and small companies.

The fixed fee for cost of procedure (bringing the conflict to the courts) mentioned previously are generated according to a fixed scale. These costs are represented in the following manner:

- In civil matters the fixed costs range from 90 to 600 € according to the procedure:
 - 90 € for civil proceedings oral and negotiable instruments.
 - 150 € for ordinary procedures, judicial liquidation of companies, or forced execution of enforceable titles of extrajudicial origin as stated in Article 517 of the Code of Civil Procedure.
 - In administrative litigation matters, the fixed cost is:
 - 120 € for a quick procedure.
 - 210 € for an ordinary procedure.

To the taxable base litigators add a variable cost according to the applicable percentage which varies, according to the rules of procedure between 0,5% to a

maximum of 1 million euros and 0,25% of the amount of the litigation decided by a judge, but never exceeding 6,000 €.

To this fixed procedural tax may be added, if the proceedings so require, costs relating to the copies of the application and the attached documents to be submitted at the same time as the lawsuit. Each copy must be accompanied by as many copies as there are parties to the proceeding, the original documents must be delivered to the judge. These other procedural costs also include obtaining, once the judgment has been rendered, original documents brought to the proceedings and that each party is entitled to be returned. While these might not seem to be elevated costs, and depend on the issue of the conflict and number of parties involved, they may prove to be relevant if there is an elevated number of parties and subject matter. These expenses are paid by the public prosecutor, who presents to his client a bill of fees that takes into account these fees and whose rates set by Royal Decree 1373/2003 of 7 November published in the Official State Gazette no. 278 of November 20, 2003 and are as follows:

- To obtain and authorize copies, the public prosecutor will receive the sum of 0,16 euros per sheet (Article 85).
- For any request to the court of restitution of the documents or obtaining a copy of the judgment rendered certified in conformity with the original the prosecutor will perceive the sum of 2.97 €, (Article 88).

Article 24 of the Royal Decree also provides that the parties shall pay the following procedural costs:

1.- For each request for the provision of a deposit, for the presentation of documents outside the time allowed for the presentation of evidence, for the lifting and cancellation of a confiscation, for the determination of the amount of the procedure, for an adjudication, a subrogation of rights or a withdrawal, the public prosecutor will receive the sum of 22,29 euros for each one of them.

2.- For each request for measures to provide a guarantee to the creditor, such as the anticipated methods of proof, the preventive entries of confiscations entered on the public registers such as those of the property and their extension, the opposition to the confiscation by a third party, confiscation of remuneration, increases in the amount of confiscation, and confiscations of convictions in absentia, the prosecutor will receive the sum of 37.15 euros.

3.- For the patrimonial investigation carried out, the public prosecutor will receive the sum of 30 euros.

One of the mentioned shortcomings of the litigation process are its many (and long) phases. After a first lawsuit is filed, there are several appeal processes that might be taken. This of course impacts in the length and duration of the conflict. Some of the costs related to these appeals are:

Fees for the payment of a fixed procedural right for judgments that may be the subject of an administrative appeal, this appeal can be both before the civil court that before the administrative court contentious in case of judgment at first instance, or an appeal in cassation against the judgments of the Court of Appeal as described in Article 35 of Law 53/2002.

As in the first instance, this right includes a fixed share according to the procedure and the jurisdictional order, and a variable rate whose result is obtained by the application, at the tax base determined by the procedural laws, of a pre-established rate according to the following scale:

- The fixed share in both the Civil Juridical Order and Administrative Litigation:
 - 300 € for appeal proceedings.
 - 600 € for the appeal in cassation (last instance/high court).
- Variable rate: From 0 to 1,000,000 € the applicable rate is 0,5%
 - For the sums above the applicable rate is 0.25%, up to a maximum of 6.000 €.

The table below provides a summary and comparison of fixed (not litigation subject matter value-based) litigation costs in Hungary and in Spain.

Hungary	Spain
<p>When the value of the subject matter of the proceedings cannot be determined, and unless otherwise provided by law, the basis for calculating the fee of civil litigation shall be:</p> <p>- 1089 € in litigation before the District Court and 622 € in non-litigation proceedings.</p>	<p>In civil matters the fixed costs range from 90 to 600 € according to the procedure:</p> <p>- 150 € for ordinary procedures, judicial liquidation of companies, or forced execution of enforceable titles of extrajudicial origin as stated in Article 517 of the Code of Civil Procedure.</p> <p>- 90 € for civil proceedings oral and negotiable instruments.</p>

<p>At the Tribunal:</p> <ul style="list-style-type: none"> - 1867 € for litigation at first instance and 1089 € for non-litigation proceedings, - In appeal proceedings, in the case of litigation, 933 € and in non-litigation proceedings 529 €, - In appeal proceedings before the court of appeals, in case of litigation 1867 €, <p><input type="checkbox"/> in non-litigation proceedings 933 €;</p> <ul style="list-style-type: none"> - Retrial procedure: 1556 € in appeal proceedings - 2178 € in the review process (1990:XCIII. Act on Fees) 	<p>The fixed share in both the Civil Juridical Order and Administrative Litigation:</p> <ul style="list-style-type: none"> - 300 € for appeal proceedings. - 600 € for the appeal in cassation (last instance/high court). <p>Variable rate: From 0 to 1,000,000 € the applicable rate is 0,5%</p> <p>For the sums above the applicable rate is 0.25%, up to a maximum of 6.000 €.</p>
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Table 1.: Comparison of fixed (not litigation subject matter value-based) litigation costs in Hungary and in Spain.

Source: own research

3 Data Collection

To go deeper into the topic of analysis, we contacted experts on the subject. The profile of the subjects were lawyers, businessmen and officials from both Spain and Hungary. We consulted them on the topic of analysis, the research tool used was a survey. The survey can be defined as a primary technique of obtaining information, based on an objective set of people. The data collection is made up of a series of questions that the researcher administers and applies to the people of analysis in order to obtain the necessary information to determine the values or responses of the variables in the study. (Malotra, 2018). The study made a questionnaire in the subject of costs of court proceedings and costs of alternative dispute resolution in the countries mentioned. In each country 20 expert people were contacted and responded the questions. The questions of the study focused in asking about the cost of litigations and cost of ADR, specifically:

1. Do you know the difference regarding the formal method of conflict resolutions: a. litigations (Court proceeding) or b. the the costs of alternative dispute resolution (ADR) such as Mediation and Arbitration?

2. Are the cost of alternative dispute resolution (ADR) inferiors to the litigations (Court proceeding)?

- The 45% of respondents know the differences between the ADRS and the cost of litigation because they have heard it from other people, such as: acquaintances, friends, colleagues, lawyers.
- The figure shows that 30% of respondents know the differences between ADRS and the cost of litigation because they experience with them.
- The rest of the participants 25% they cannot provide information about it. In many cases, companies/Businesses do not know about their existence, which is an obstacle to its potential use.

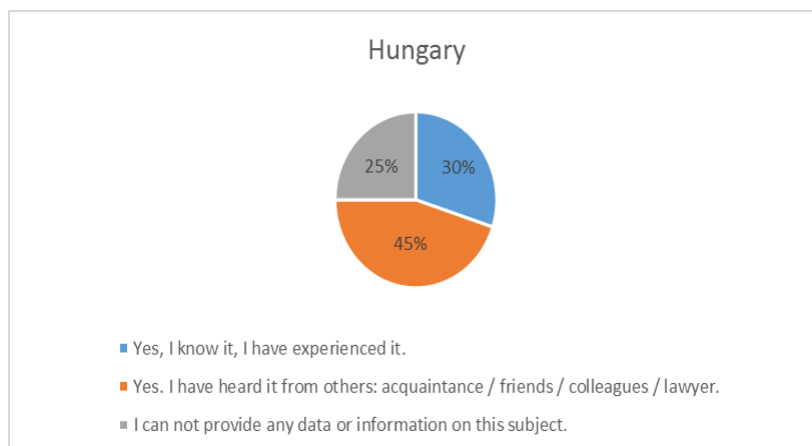


Figure 1. Identification of differences between methods of conflict resolutions (ADR/Litigation) in Hungary

Source: own research

- The figure shows that 55 % of respondents know the differences between ADRS and the cost of litigation because they experience with them.
- The 35% of respondents know the differences between the ADRS and the cost of litigation because they have heard it from other people: Acquaintance, friends, colleagues, lawyers.
- The rest of the participants 10% they cannot provide information about it. Some define ADR as parallel judgments and this positioning is detected in other interviews.

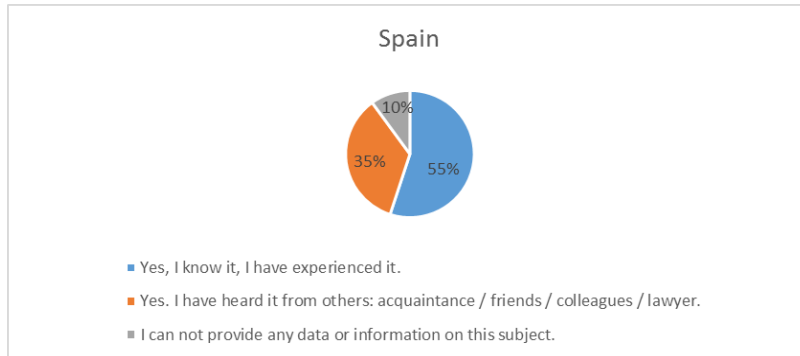


Figure 2. Identification of differences between methods of conflict resolutions (ADR/Court Proceeding) in Spain

Source: own research

In Spain most participants know the difference between ADR and Cost of litigations because they have experienced with them. Regarding Hungary most participants know about the difference because they have heard it from another person (Lawyer, colleagues, friend, acquaintance). It is important to highlight that one of the motives of the unawareness of the conflict resolution methods is the limited knowledge that exists of methods that comes from press releases and publicity campaigns from the Chamber of Commerce to advisers or articles in the press in both countries.

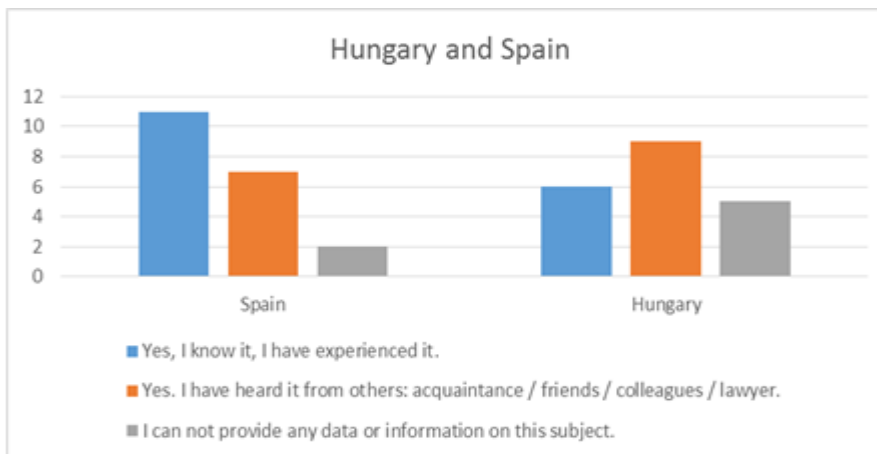


Figure 3. Comparative figure with information of both countries (Hungary and Spain) regarding question 1.

Source: own research

Once we had asked of the knowledge of the formal conflict management options, we focus on the knowledge of the cost implications of each of the strategies. We then asked about the awareness of the cost relation and to know about the reputation or experiences of the experts we have consulted. The 45% of the participants knew about the inferior cost of ADR because they have heard it from others (Acquaintance, friends, colleagues, lawyers). The 30% of participant knew that the cost of alternative dispute resolution (ADR) are inferiors to the litigations (Court proceeding) because they have experienced it. The rest of the participates (25%) can not provide information about this cost differences.

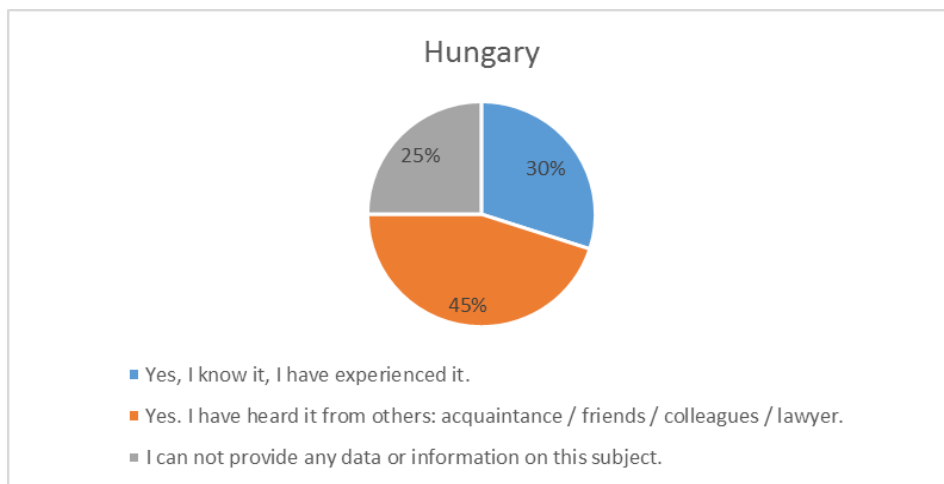


Figure 4. Perception of Cost of ADR inferiors regarding the cost of litigations in Hungary

Source: own research

In Spain the 45% of participant knew that the cost of alternative dispute resolution (ADR) are inferiors to the litigations (Court proceeding) because they have experienced it. The 35% of the participants knew about the inferior cost of ADR because they have heard it from others (Acquaintance, friends, colleagues, lawyers). The rest of the participants (20%) cannot provide information about this cost differences.

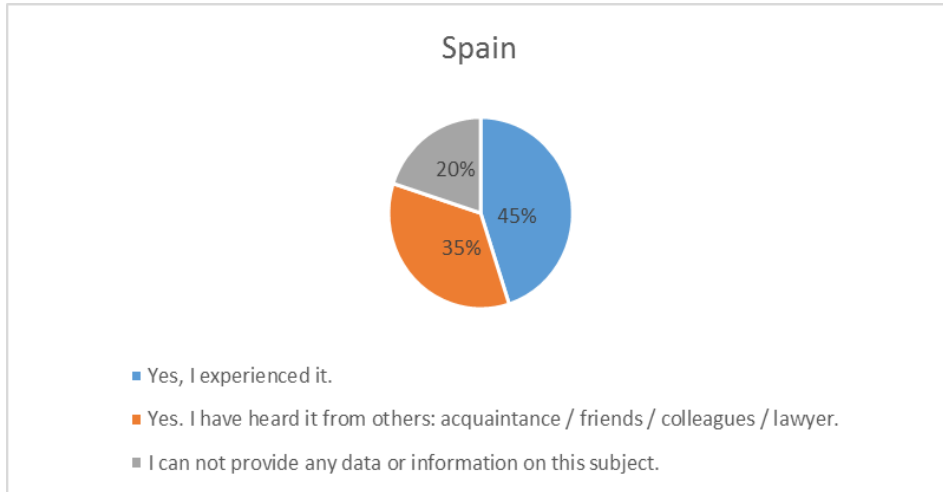


Figure 5. Perception of Cost of ADR inferior to litigations in Spain

Source: own research

In Spain most participants know about the inferior cost of ADR because they have experienced with them. Regarding Hungary most participants know about the difference because they have heard it from another person (Lawyer, colleague, friend, acquaintance).

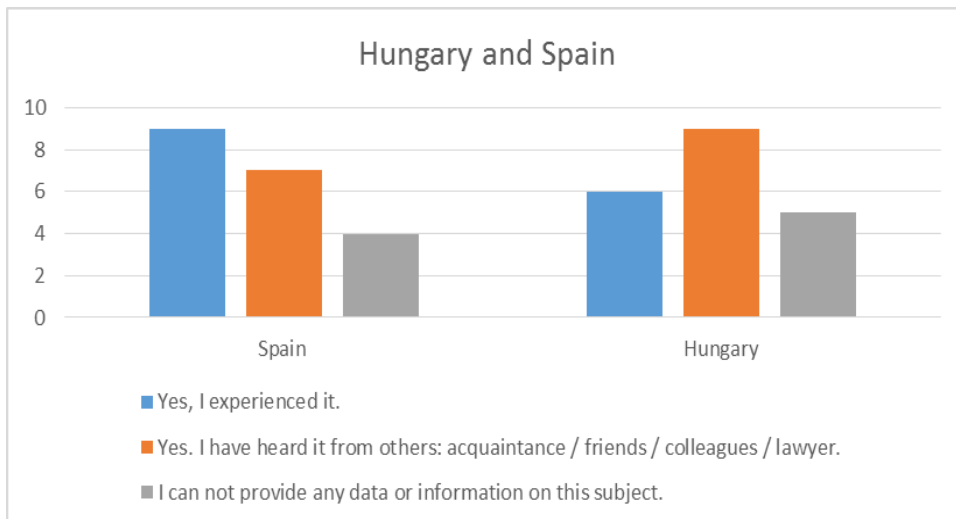


Figure 6. Comparative figure with information of both countries (Hungary and Spain) regarding question 2.

Source: own research

Conclusions

The results of this study suggest that according to the current data of proceeding fees, alternative dispute resolution in terms of cost, are a more economical alternative in conflict management as they allow a more expedite resolution. In addition to court proceedings, alternative dispute resolution (i.e. mediation, arbitration) is another way to achieve a lasting more peaceful solution to conflicts. As it allows the parties to maintain the negotiation power necessary to conduct the conflict management, it helps them keep communications open. This also seems to be hinted in the respondents' answers to the above question in this study performed in Hungary and in Spain. There is an almost 50% divide in those who prefer to compromise and will even accept a certain loss of power in order to obtain a better resolution. The study highlight the significance of power relationships in conflict management and the selection of ADR. The preference towards ADR is an indication that parties see the conflict resolution as an opportunity to grow and progress the relationship with other parties rather than a battle that must be won. As the Spanish saying suggests: "It is best to have a bad resolution than to have a good conflict". There is also indication of a 50% chance the conflicts is resolved satisfactory for the parties. Results in different contexts do not signal significant differences in the selection of ADR or litigation as conflict management strategies. The conditions under which ADR are chosen in conflicts (particularly in international conflicts) have not yet been fully reviewed. This study brings attention to the effect of context on this choice. The findings point to a general increase in ADR in both contexts, while litigation seems to be on the rise as well at a slower pace. This suggests that firms are eager to find more cost-effective solutions and that conflict management positions that are less confrontative are increasingly preferred. The study postulates that formal disputes that are characterized by willingness of the parties to settle peacefully, maintain cooperation and surrender a position of power to reach a better resolution for the parties will increasingly pick ADR over litigation procedures. This is a promising outcome as companies seem to be looking to diminish the cost of conflict in different contexts.

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Challenges and Lessons Learned in Alternative Dispute Resolution

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Abstract: Currently, conflict management in Hungary is an activity that can be conceptually linked to alternative dispute resolution. One of the options for alternative dispute resolution is mediation. Mediation is an activity in a regulated procedure, which procedure is directed by an intermediary person. 2002 LV. Act on Mediation provides a framework for clients and mediators in which conflict management can take place. Tools and methods of conflict management can be learned by studying the domestic and international literature in theory, but it should be emphasized that the mediation procedure can be practically implemented, but only after the completion of each procedure, that is, by reaching an agreement, lessons can be learned and conclusions can be drawn. Mediation has been an opportunity for natural and legal persons since 2002, and this opportunity presents constant challenges. This study seeks to focus on and investigate the need for a completed case within a reasonable time, based on domestic regulations and highlighting some international examples.

Keywords: conflict; conflict management; mediation procedure; settlement

1 Introduction

This article aims to summarize the position of mediation, through introducing the regulation of the United Nations, of the European Union with the aim of displaying methods that are globally, internationally usable and applicable without borders. Scholars and practitioners widely acknowledge trust's importance. (McKnight, Chervany 1996). Research argues that social capital as proxied by trust (Rousseau et al. 1998) increases aggregate productivity by affecting the organization of firms.

However the field of business mediation can not be clearly separated from other mediation types, business mediation often fuse with them, furthermore research shows that mediation have to be viewed as complementary elements of an integrated system and that the key to successful dispute resolution in international business is conscious and creative design of conflict management process. (Bühning-Uhle et al., 2006). Research show paths of the negotiation space and

negotiation strategies, agreements between nations, firms, and individuals facilitate trade and ensure smooth interaction. Researchers agreed with International Business scholars who say that such questions need to be addressed using an inter-disciplinary approach. We use bargaining theory models of rational behavior and the negotiation literature to explain various Brexit options and predict their consequences. (Ott, Ghauri, 2018)

Due to the increasing number of conflicts in the international arena, and the numerous attempts to settle them, the attention of scholars has recently turned to one of the most effective methods of conflict management, international mediation. The theoretical construction best describing and explaining the process and the outcome of mediation is the contingency model of international mediation. The main postulate of the model is that mediation is a context-driven process: the attributes of the conflict in question, the participating parties, the identity of the mediator etc. all have an influence on what type of mediation strategy is selected, and thus what kind of outcome is achieved. The main innovation of the model is that it does not attempt to separate the mediation process from the wider political, economical and social surroundings of the conflict. (Szent-Iványi, 2014)

2 Procedure based on trust. Mediation, alternative dispute resolution

Mediation

Modern international conflict resolution offers a variety of tools for management and strongly encourages the emergence of conflicts, as effective conflict management does not only affect the business and economic development and efficiency of the business, but also the stability and development of the national economy. (Sáriné 2012)

Mediation is the process in which the resolution of the parties' conflict is supported and guided by a neutral third party, the mediator, until the parties reach an agreement.

Mediation is preceded by conflict. Conflict is a necessary or actual conflict of interests, in which situation the need of the stakeholders is to resolve the conflict.

Mediation is a conflict management process based on the aim, help the parties reaching a consensus. A real win-win outcome may be reached by the parties with the support of an independent third party. Methods in mediation are evaluation, restoration and transformation. In case of a conflict, escalation is based on evaluation, communicated by one party, this involves another evaluation, which are based on emotions. Observation without an evaluation is necessary and useful in the process of mediation, where the consensus has to be reached. Transforming the conflict to connection is one of the most important aim in mediation, where the interests are in the highest degree about trust, peace, assets, economy. The

restorative method is the method by which we can never be mistaken and will always be necessary during dispute settlement. Aim is to restore trust, peace, relations, emotions, assets, partnership, cooperation.

Mediation means a process, irrespective of the expression used or the basis upon which the process is carried out, whereby parties attempt to reach an amicable settlement of their dispute with the assistance of a third person or persons (“the mediator”) lacking the authority to impose a solution upon the parties to the dispute. (United Nations 2019)

Conflict

Conflict is inevitable among humans. It is a natural outcome of human interaction that begins when two or more social entities (i.e., individuals, groups, organizations, and nations) come in contact with one another in attaining their objectives. Relationships among such entities may become incompatible or inconsistent when two or more of them desire a similar resource that is in short supply; when they have partially exclusive behavioral preferences regarding their joint action; or when they have different attitudes, values, beliefs, and skills. Another definition of conflict would be “perceived divergence of interest, a belief that the parties’ current aspirations are incompatible. (Rahim, 2011)

We could ascertain that compromise and consensus are one in the same, but there are very important differences between the two definitions.

To compromise is to make a deal between different parties where each party gives up a part of their demand. In arguments, compromise is a concept of finding agreement through communication, through a mutual acceptance of terms—often involving variations from an original goal or desire.

The idea of compromise is usually based upon competing demands and some willingness to give up some part of the demands. Each party says they are willing to give up on getting a portion of their demands to get the other to make an agreement. If there is agreement they feel like they lost or won but neither party trusts the other to follow through. The compromise soon collapses and is often forgotten. This leaves both parties with an increasing sense of powerlessness, bitterness and distrust. The status of related companies in relation to the compromise is as follows: on the one hand they are not sure about their needs, on the other hand, it is urgent for them to agree with the other party with their opinions and interests.

Conflict is a situation in which individuals are emotionally affected. In conflict interest are in collision and trust is lost between the parties (Table 1.).

TABLE 1 CONFLICT BETWEEN PERSONS

Person 1	Person 2
collision of interest(s)	collision of interest(s)
loss of trust	loss of trust

Source: edited by the author

The term conflict (Fink, 1968) has no single meaning. Most of the confusion around the definition was created by scientists from different disciplines who are interested in studying conflicts. The literature review of the conflict shows the conceptual complexity of the commonly accepted definition of conflict.

Having recognized that conflict is an important social concept, we can then look into the special case of organizational conflict. Conflict is certainly one of the major organizational phenomena. Pondy (1967) observed that organization theories “that do not admit conflict provide poor guidance in dealing with problems of organizational efficiency, stability, governance, and change, for conflict within and between organizations is intimately related as either symptom, cause, or effect, to each of these problems”. (Rahim 2011)

3 Conflict management

Conflict-management is an activity and a kind of communication the methods of which can be applied extensively, internationally, regardless of borders. When people are able to understand and communicate their needs clearly, conflict may lead to connection. People have a common sense, that to solve, resolve, to transform a conflict is better than live with or in it. It is a common sense, that nonviolent communication (NVC) leads to effects, it is productive. This paper would like to present some of the resources, of the living instruments, from which humans, business environment, legal entities can choose. The mission is to know how, where and when to make the right step in the space of alternative dispute resolution until we reach the solution, so mediation is an international tool with methodology to help humans and also legal persons to reach an agreement.

Conflict management is a creative facilitation for persons that can be used to develop profitable professional levels in society for individuals, businesses and focus on the dynamism and balance of conflict and harmony. Conflict management is one of the ways of achieving peace. Peace is nothing more than a change in the form of conflict or in the antagonists or in the objects of the conflict, or finally in the chances of selection. (Coser 1998) According to the social meaning of conflict and peace (Lederach, 1995) persons, organizations, working places, families, neighbours, states, consumers in different cultures can bring themselves to a position to do able to make their own decisions. Socio-moral climate is positively related to innovation. The positive relation between the socio-moral climate and innovation was mediated stepwise through debate and decision comprehensiveness. (Seyr, 2014)

Apart from some of the highlighted Hungarian examples, they give an insight into where the alternative dispute resolution is today - alternative dispute resolution can be found in many countries in the world. To strive for peaceful conflict management and peaceful resolution of disputes, today we call court mediation,

mediation, conciliation, arbitration, litigation, and arbitration services as an alternative dispute resolution.

Doing conflict management can be mediation, conciliation, facilitative (lead) negotiation, arbitration. To manage something means to lead something or somebody, holding the case in the hands of the conflict manager (mediator, arbitrator). From the word manage, “manus” has the latin meaning “hand”. Hold the case in the hand and lead it from the conflict until solution.

After mediation trust may be even bigger than before the dispute as parties are more likely to perceive their business partners as reasonable and responsible people, with whom they can go through conflicts and resolve the problems in a proper manner, without court. (Zaleski, 2015)

Different leadership styles are associated with conflict resolution styles. Leaders who are predominantly in the transformative leadership style have adopted integrative and mandatory conflict management styles. Leaders who are mostly transactional style leaders, represent a compromise (unified) conflict management style. While the laissez-faire management style has adopted the avoidance conflict management style. (Saeed et al, 2014)

In Rahim's (2011) typology, organizational conflict management styles are:

- Integrating
- Obliging
- Compromising
- Dominating
- Avoiding

Leadership styles of leaders in the organization system are:

- Transformational
- Transactional
- Laissez-faire

Saeed and his co-workers (2014) consider integrating and obliging as constructive conflict management, while dominating and avoiding styles as destructive conflict management.

Their assertions have been confirmed in their study, according to which the transformational leadership style has a positive relationship with a constructive conflict segmentation and a negative connection to this style of leadership in the destructive conflict management style.

There is also a link between transaction management style and compromise conflict management style.

Partial connectivity can be demonstrated by the identification of laissez-faire leadership with a destructive conflict management style. However, the laissez-faire leadership has a negative relationship with constructive conflict management styles.

Examining business alternative dispute resolution, there is a proven relationship between leadership styles and conflict management styles among managers, executives, and in the management of interpersonal (managerial and subordinate) conflicts. Researchers (Saeed et al, 2014) state that leadership is one of the most frequently studied phenomenon in the field of management.

4 Time

Everyone shall have the right to have any charge against him or her, or his or her rights and obligations in any litigation, adjudicated within a reasonable time in a fair and public trial by an independent and impartial court established by an Act. (The Fundamental Law of Hungary)

Mediation is at varying stages of development in Member States. There are some Member States with comprehensive legislation or procedural rules on mediation. In others, legislative bodies have shown little interest in regulating mediation. However, there are Member States with a solid mediation culture, which rely mostly on self-regulation.

For the purposes of the Directive a cross-border dispute shall be one in which at least one of the parties is domiciled or habitually resident in a Member State other than that of any other party on the date on which:

- (a) the parties agree to use mediation after the dispute has arisen;
- (b) mediation is ordered by a court;
- (c) an obligation to use mediation arises under national law; or
- (d) for the purposes of Article 5 an invitation is made to the parties. (Directive 2008/52/EC)

In the Hungarian legal regulation there are several ways for businesses how to resolve disputes, how to resolve a conflict, how to continue with business partners. Courts fulfill the task to decide in the complaints of clients, to run the procedures of trials.

What is the number of mediators and how many cases are there yearly to solve. From the year of the Act on Mediation has become to effect, from the year 2007, can we observe an increasing will of natural and legal persons to initiate

mediation? The number of registered mediators at Ministry of Justice between 2010-2016 were the following:

	2010	2011	2012	2013	2014	2015	2016
Registered mediators at Ministry of Justice.	1272	1408	1578	1615	993	1041	1168

Table II. Registered mediators at Ministry of Justice Hungary 2010-2016

After three years of increasing in number of registered mediators, a relapse can be observed in 2014, which has been followed by again with slow increase in 2015 and 2016. The requirements of further training and continuative education of mediators included in the legal regulation may influence the issued registered mediators.

The numbers of incoming cases speak about stagnation despite of the Hungarian indicated title 'It is bad to litigate' (Ábrahám, Eörsi, 2003). Perhaps people and decision makers change their minds and make the choice to choose alternative dispute resolution. Between 2010 and 2016, on the basis of data giving of registered mediators Table 2 shows the conformation of mediated cases, separately the cases with a successful agreement at the end and separately the cases without a successful end.

	2010	2011	2012	2013	2014	2015	2016
successful	216	708	370	589	851	864	983
unsuccessful	63	203	160	204	260	487	400

Table III. Incoming cases to registered mediators at Ministry of Justice Hungary 2010-2016

Conclusion of the Mediation Process according to Article 35. of Act on Mediation 2002. LV. provides that a mediation process is deemed concluded

- a) on the day the settlement is signed,
- b) on the day on which one of the parties informs the other party and the mediator of his withdrawal from the mediation process,
- c) on the day on which the parties unanimously declare in front of the mediator their request to close the mediation process, or
- d) after the end of the fourth month following the signing of the statement, unless otherwise agreed by the parties.

The mediator shall record the settlement made in the presence of the parties in the language selected for the mediation process and shall supply a copy of the settlement document to each of the parties. The settlement document shall be signed by the mediator and by the parties at the same time. The four months period to make an agreement and make our own decisions can be adopted as reasonable time.

Conclusions

Suggestion of author is to emphasize the importance as an obligation and possibility of having a decision in cases, conflicts, within a reasonable time. Mediation gives worldwide an international possibility to reach this aim. As provided by the United Nations Convention on International Settlement Agreements Resulting from Mediation Preamble states that the Parties to this Convention recognizing the value for international trade of mediation as a method for settling commercial disputes in which the parties in dispute request a third person or persons to assist them in their attempt to settle the dispute amicably. Noting that mediation is increasingly used in international and domestic commercial practice as an alternative to litigation. Considering that the use of mediation results in significant benefits, such as reducing the instances where a dispute leads to the termination of a commercial relationship, facilitating the administration of international transactions by commercial parties and producing savings in the administration of justice by States, convinced that the establishment of a framework for international settlement agreements resulting from mediation that is acceptable to States with different legal, social and economic systems would contribute to the development of harmonious international economic relations. (UN Convention on International Settlement Agreements Resulting from Mediation)

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Better Online? Efficiency of E-learning Courses

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Abstract: The Z generation, which makes up most of the university's students, is already living on the Internet. They shop, live their social life online and their daily tasks are also managed through the net, so it is likely that web learning is preferred over traditional classroom courses. E-learning courses can be a solution, because their purpose is to improve the quality of the learning and teaching. They have many advantages for example allowing information exchange between points that are far from each other, eliminating tempo constraints and students being able to learn the subject at an individual pace and method. The University of Obuda consider it as an objective to advertise many e-learning courses in line with student's needs. Unfortunately, in many cases they are not correspond to the expectations, mainly because there is no unified expectation. The main purpose of my research is to inspect the completed courses and to prepare an integrated rating system. Asking students what they are making up for such courses and comparing them to the already finished ones, suggesting a review of them, resulting e-learning courses that can help to prepare successfully. At present, the first phase of research is taking place, in which, based on the literature, I ask a focus group from the students of the university about e-learning courses, resulting a system of basic rating criteria.

1 Generations

The Cambridge Dictionary says generation is all the people of about the same age within a society or a particular family. The grouping of generations is not unified, as different researchers made different sections, based on the things and attributes they thought is important. It follows, that the names can be different, too. The table below shows the birth dates and names of the groups used in the literatures.

Howe & Strauss (1991)	Lancaster & Stillman (2003)	Oblinger & Oblinger (2005)	Mccrindle Research (2012)
Silent Generation (1925-1942)	Traditionalists (1900–1945)	Matures (1900–1946)	Builders (1925-1945)
Baby Boom Generation (1943-1960)	Baby Boomers (1946–1964)	Baby Boomers (1946–1964)	Baby Boomers (1946–1964)
13th Generation (1961-1981)	Generation Xers (1965–1980)	Generation X (1965–1982)	Generation X (1965–1979)
Millennial Generation (1982-2004)	Millennial Generation (1981–1999)	Net Generation (1982–1991)	Generation Y (1980-1994)
-	-	Post-Millennials (1995-)	Generation Z (1995-2010)

Figure 1
Generations [1][2][9][10]

The Baby Boom Generation was born during the period after the war. They are curious, humanity and respect are important for them. The Boomers who were born after 1956 are much more disappointed, they lost their optimism, but they have principles and they are creative. [1]

The Generation X'ers are today's parents. In some studies, they are mentioned as digital immigrants. They were born during the technological breakthrough, so the continuous progress is not strange for them, but they prefer the traditional tools and methods. On the other hand, members of Generation Y are the first generation of digital natives, they can easily get through today's fast moving world, they try to be up to date at technical acquis and when they meet something new they try to use it, instead of getting frightened. [3] [11]

1.1 The Digital Generation

Generation Z is the second digital native generation, they are 10-24 years old, so they make a great share of higher education students. This is why their description is more detailed. The generation gets its other names by the behavior and activity of its fellows. These names are Facebook Generation, Dotcom Children, Zappers and IT Generation. [4]

According to a study, their most important features are they live their social life online, they live in a faster pace than their ascendants, they are brave and outgoing, but they respect the rules less. [4] Another author states that they use

digital technology to express themselves, they show in the social media that everything is perfect around them. Multitasking and task-switching are typical activities, these means youngers do different thing at the same time and change between them often. For example, they study, listen to music and chat with their friends at the same time. In addition, they require that most of the information they get to be available in digital form. It is important to give attention to this in their education. [5] I think it is important to mention that it is an average characterization, the fellows of the group can be different.

1.2 The games, internet and education

A lot of people say that the new generation can not concentrate for a long time. It is partly true, but several research and the daily experience prove, they can pay attention to something for hours, but not for everything. For example, they can spend hours playing a game, watching series or films, the key is the interest.

They accustomed to the environment that requests fast reactions and gives fast feedback because of the opportunity given by the video games, action films and the advanced technology. [3]

At the end of the 20th century, the explosive release of the digital technologies affected education too. Half of the university students belong to the Generation Z, who spend their free time online using laptops, tablets and mobile phones. This means that institutions must adapt to the expectations of the generation. The students changed, and they are not the same as whom the current educational system was made for. [3]

Their teachers, in most of the cases, are members of Generation X., so they are less proficient in digital technologies than their students, who want to include IT tools. As its result, so-called 'generation gap' was formed between teachers and students, which sometimes affect communication, makes it harder and often seems that teachers and students speak different languages.

The digital immigrant teachers presume students are the same as they were and the old, well-tried techniques can work nowadays. [3] But the truth is the new generation needs new techniques. This situation requires flexibility and consciousness from both the educators and the institutions, too.

The fast speed of information flow makes it hard to hold the student's attention with traditional, frontal tools. They prefer visual representations to long, unstructured texts. [12] This means it is not very easy to an undergraduate from Generation Z to sit through a longer, even 120-180 minutes lesson, where the professor explains curriculum in a monotonous, concentrated style. It would be more beneficial developing a way to help them to learn in their own way and speed.

This needs new methods. “The process has already begun – I know college professors inventing games for teaching subjects ranging from math to engineering to the Spanish Inquisition. We need to find ways of publicizing and spreading their successes.” [3] The teachers have several possibilities, one of them is they can ignore the changed environment, act like the digital native and immigrant topic would not exist and continue teaching with the traditional, well-tried methods until they retire and the next generation takes their places, or instead of this, they accept the situation, that they became immigrants in a new, digital world and ask their colleagues or even their students for help, and with a little creativity they find new methods to pass on their knowledge to the new generations. One of this innovation’s result is the implementation of e-learning at universities.

2 E-learning

E-learning is the information technologies effectively used for educating, but in fact it is more than that. This kind of education has existed only for 30-40 years so it does not have a coherent definition. I want to highlight one definition from the literatures: “The e-learning is instruction delivered on a digital device that is intended to support learning. In e-learning the delivery hardware can range from desktop or laptop computers to tablets or smart phones, but the instructional goal is to support individual learning or organizational performance goals.” [8]

It has a lot of advantages why students prefer, such as it easily can be reach at any time, from anywhere, it can be processed on an own way and speed. It is profitable for everyone that the learning process can be traced, and both the teacher and student see where are problems, arrears and what changes are required in the future.

2.1 Evolution and current forms of e-learning

The first, rudimentary form of e-learning was CBT (Computer Based Training), where the educational materials could be reached on an electronic data carrier (for example CD or Floppy) instead of papers, books or notes. Its advantage that students get not only texts, but videos or audio files, which they can listen or watch anywhere, anytime again. One of its **disadvantages is the one-way communication, because there is no connection between the student and the teacher, since the data storage transmits only the substance. The next milestone was the WBT (Web Based Training)** which means computers are connected with networks. This helps to overcome the long distances since students and teachers are able to communicate more easily than before. Later, online

learning was based on WBT, with the difference of the network, which connects the computers is the internet. [6]

Nowadays there are many forms of e-learning. I would like to explain the two most common of them. The first is blended learning, it means there are traditional classroom lessons too, but a part of the lesson is in e-learning form. It takes advantage of both technologies, because students can learn in their own way and speed, but they can easily communicate with their teachers. [7]

The second form is e-learning. Unlike blended learning, there is no (or rarely) personal consultation, which can complicate studying. There are many types of it based on the student-teacher relations. The first type is e-learning controlled by the students. In this case, there is no connection between the student and the teacher, or the other students, the lessons contains the instructions. The second type is assisted e-learning, where the students can communicate with each other, or a helper, but they are not teaching, they only can help to solve the problems. The third type is the teacher controlled e-learning. It is distance education completed with web technologies. The students and the teacher communicate in real time, they help each other. [6]

2.2 E-learning at University of Obuda

The University of Obuda consider it as an objective to advertise many e-learning courses in line with student's needs. This is currently possible on two platforms: within the framework of Moodle and K-MOOC. Moodle is a learning platform which is made to provide educators, administrators and learners with a single robust, secure and integrated system to create personalised learning environments. The advantages of the moodle are the following: it is easy to use it, the interface is transparent and what is more important for Generation Z, it has an application for smartphones so they are able to learn anywhere, for example, while travelling. [13]

The K-MOOC is operated by University of Obuda. It offers MOOC type online courses in hungarian language for the students of the joined universities. MOOC is massive open online courses, where massive means mass educational goal, open is the free access of educational materials and online means it is available from any browser, any computer or smartphone. [14]

3 The research

My research is based on a survey with a focus group which contained mostly open-ended questions about the university's e-learning courses. The group consists of six people, they are all students of the University of Obuda from

Generation Z. Because of the small size of the group the research is not representative so formal conclusions cannot be drawn from it, but it may serve as a basis for my subsequent research.

I asked the following questions:

1. List the elements that a good e-learning curriculum should contain!
2. The elements mentioned above, in what proportion they would be appropriate in a good online course? 'What ratio of the elements mentioned above would be ideal for a properly structured online course?'
3. Is there any element that you think should not be included in a well-made curriculum?
4. On a scale of 1-5 (not important - very important), how important are the following? Text, video, audio, pictures, explanatory text, sample exercises, curriculum related items
5. On a scale of 1-5, how satisfied are you with the current courses?

At the first question the sequence is also important, because the first mentioned element is usually the most important one for the responder. I want to confirm this with the fourth question. The second question is relevant because, even though the good elements of the curriculum consist of, a too long video or too much text can be complicating factors, as a short sentence that is too vague or confusing because of its shortness. The third question is to express possible negative opinions, so I am not just paying attention to what students need, but it also reveals what they do not prefer at all. The fifth question is also significant because it shows whether the curriculums need to be improved or the majority of students are satisfied with their current quality.

3.1 The result

Most of the answers to the first question were in agreement, five of them mentioned videos at the first place and at the fourth questions's answers it also get higher 'points', so I think it must be an important point when analysing the courses. However, it is not sufficient. I only got two answers for the third question, but they said it is important that the curriculum should not only contain one type of elements, it must contain at least two types of them. This is also supported by the fact that it turns out the answer given to the fourth question, it is essential to a well-processable curriculum, among the video to include images and graphics, explanatory texts and if the the curriculum justifies it, elaborated sample assignments is also a requirement from the students. The curiosities related to the curriculum is generally rated as medium, so I do not find it important to verify its existence.

However, it is important to pay attention to the rates mapped out in the second question when assembling an electronic curriculum. Ratios and quantities refer to the weekly processed lessons. According to 5 of the 6 students surveyed, the length of a video that can be properly processed and students are really able to pay attention from the beginning to the end, is maximum 30 minutes. They suggest that if a curriculum requires more time, it should be split into more parts and more videos. In case of text syllabus, that they can read or are willing to read (and they might take notes) it is three or maximum four pages, depending on the content of important and noteworthy information.

In reality, teachers often upload the whole textbook without any helping context, even though students think it is the least helpful way to master a subject. This may also be due to fact that Generation Z prefer visual or audiovisual stimuli to longer, monotonous, unstructured texts. However, the reason for the result can be that students at University of Obuda have unlimited access to online textbooks and lecture notes, so not requiring them to be re-uploaded.

In addition, 4 students mentioned that they are much more effective at learning when they are "forced to do it" and, although they are often not happy, their results are better when exams and tests are more often. This can be accomplished at a blended course in the classroom events with small tests, and at e-learning subjects with online short tests.

All in all, a curriculum can be considered an appropriate e-learning course based on the following criteria:

- Curriculum divided into units (units to be processed weekly or monthly)
- Contains video for a maximum of 30-40 minutes
- The video is supplemented with explanatory text or graphics, but not more than 3-5 pages
- If required by the course syllabus, upload sample assignments with solutions
- Verification test to help students test their knowledge

3.2 Review of the courses

In my research I analyze three online courses from my previous university studies. The first 'A' is an economy course, which is obligatory at every economic major at University of Obuda. It includes the curriculum divided by weeks, a weekly part contains a video and a slideshare, a test for self-checking and emphasizes the related chapters of the textbook and the exercisebook. It is clear, easy to navigate through the uploaded units. As I mentioned the course also contains video, but in half of the cases it is more than 50 minutes long. This is too long for an IT generation to catch their eye from start to finish. This results in wavering attention, requiring them to watch the same video multiple times.

There are no diagrams or explanatory text on the subject's online interface. One reason for this is that the structure and composition of the subject do not justify them and the text is spoken below the video. However, the lack of text is important, as it makes it difficult to search in the syllabus since it is only possible to retrieve an example or definition by rotating the video.(rewatching the needed part of the video) As it is an economic subject, calculus can be found in almost every part of the syllabus, so sample calculations are required and these are uploaded as well. This is also important because a student can more easily make up for a backlog or missing a consultation, especially if the calculation task is detailed. Each test contains 8-10 questions, which can be solved three times. In addition, twice in the semester there are bigger tests, which contain 30 questions and with which you can retrospectively check your knowledge.

In summary, there is one shortcoming in the e-learning material of subject 'A', the explanatory text which can be easily corrected. If this substitution is made, the curriculum can be qualified as appropriate based on the evaluation system I have set up.

The second 'B' subject is an obligatory programming course for every IT student at the university. The online lessons of this course is only completing the classroom lessons and the subject itself is not e-learning. Nevertheless, the lecture and the practical part are well separated from each other, and within them the weekly division makes it easy to search for any part of the lesson. The logical basics of programming are presented by instructors through short videos and animations, with explanatory text underneath each video, which also provides proper searchability. A detailed description of the programming problems solved in practice was added week by week, and after a while - leaving time for individual solutions - the solutions were also accompanied by detailed explanations, so in the case of a miss, the student does not get an irreplaceable backlog. The tests are not available for every module, only every 2-3 weeks, but if the student wants to, they can work in advance, or if they do not feel confident after 3 weeks, it is not too late to revise previous lessons.

In summary, the online curriculum of subject 'B', while serving as an adjunct, is appropriate based on a pre-defined set of criteria, can serve as a good model for future e-learning courses.

The third 'C' is a mathematics subject that is mandatory for engineers. The online curriculum is only intended to support the lecture, yet it is structured over several weeks and topics, with a clear structure and easy search. It does not include video, which can be detrimental to understanding such complex calculations may not always be understood in a textbook. Sample assignments are also only uploaded from the textbook and the online curriculum also does not include tests, so students cannot assess their level of knowledge, although the nature of the subject would make it more difficult to accomplish than subject A or B.

Summarizing the evaluations of the 'C' course according to the pre-set criteria, it does not meet the students' expectations, but due to the difficulty of teaching the subject, the conversion of a mathematical subject into an e-learning course would require more complex solution and control.

Based on the answers to the fifth question, students are dissatisfied with the current standards and they think that the online curriculum should be modified and improved. This is confirmed by the results of my research, according to which one of the three substances tested was adequate, one needed minor additions and one should be completely redesigned to be student-friendly still in the 21st century.

This result raises further research questions, such as, do the same assessment criteria apply to all kind of subjects?

Conclusions

As the answers given by the group show, there is no curriculum that meets everyone's expectations and needs, as there are many opinions, styles and thus appropriate learning methods. Nonetheless, with the help of the grading system I have created, the general requirements of the electronic curriculum can be checked and improved in order to prepare students effectively.

The new generation spends their day in front of YouTube and other video sharing portals, so it's no wonder that learning is easier with videos. Length requirements are clear signs of an accelerated world, we don't have the time to read longer texts, watch longer videos, enough to know briefly the important things.

In comparing 'A' and 'B' subjects, 'A' proved to be more appropriate, even though it is not a complete e-learning subject, but this is not the case with 'C', which requires a complete rethink of its creators. This comparison is the basis for my further research.

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Entrepreneurs and Small Businesses: International Expansion Strategies

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Abstract: In today's global economy, many entrepreneurs, small and medium enterprises are opting for an international expansion strategy as a key component of their growth strategy. International market offers far greater business opportunities than operating in domestic market alone. The aim of this paper is to examine the strategic options available to small businesses when they decide to enter international market. This paper will argue that entering international market can also cause certain business problems. The paper will discuss the necessity of quality preparation, in order to overcome possible obstacles, such as lack of knowledge on international market and on legal regulations, lack of qualified employees, as well as deficiency of other resources. The aim of this paper is to highlight the opportunities and threats posed to entrepreneurs, small and medium enterprises in the Republic of Serbia, while defining strategic options for international market entry and expansion.

Keywords: International market, entrepreneur, small and medium enterprises, small business, entry strategy, expansion strategy, Republic of Serbia.

Introduction

Globalization of world business, global liberalization of economic policies and the elimination of barriers to foreign capital entry, led to international expansion of entrepreneurship in almost all countries in the world today [1]. International market offers entrepreneurs significantly greater business opportunities, than restricting their business to the domestic market alone. Some of the options are: achieving economies of scale, entering a new environment that fosters innovation and development, and meeting advanced technologies and knowledge. All this enables entrepreneurs to increase competitiveness, further growth and development, increase profitability, and numerous other strategic benefits.

International entrepreneurship generally refers to the expansion of entrepreneurial activities beyond national borders, and implies the strategic goals achievement by initiating these activities to increase business profitability [2]. In today's global and increasingly virtual economy, many small businesses are opting for an international expansion strategy as a key component of their overall growth strategy. Entering the international market, however, can also cause certain

problems in business due to lack of knowledge about the international market and lack of knowledge of its business operations, lack of qualified people, differences between national regulations in domestic and foreign markets, protection of intellectual rights, loyalty and preferences of domestic customers, etc. For this reasons, good preparation for entering the international market is of the utmost importance.

1 Prerequisites for entering the international market

In order to successfully enter a foreign market, entrepreneurs must be ready for new challenges and risks, and must possess specific knowledge and skills as well as human, financial, material and technological resources. Entrepreneurs should undertake an analysis of strengths, potentials and degree of readiness of their organization for international operations [3]. It is also necessary to analyze the conditions for entry into foreign market in order to facilitate the decision making about strategy selection, as well as the entrepreneurial options. Based on an analysis of conditions in international market, an entrepreneur should make four basic strategic decisions [4]: which market to enter; when to enter that market; to what extent to exit; what exit strategy to apply.

While the market choice depends primarily on the assessment of economic growth and development, and on the market potential, a proper estimation of entering time also influences the final entrepreneurial action. Proper timing depends on a number of facts regarding the market preparation by the supporting organizations [3]. The optimal way depends on various factors such as: transportation costs, trade barriers, political risks, economic risks and organizational strategy [5]. In order to reduce the risk, it is necessary to collect all the important information that may influence the business venture, then analyze the information collected, and make the optimal business decision [6]. Among the most important information that entrepreneurs need to analyze are the following factors: language barriers, marketing barriers, legal barriers, access to raw materials and human resources, government obstacles, and in addition, factors such as: national culture, corruption level, and international security [6].

2 International market entry models

Entry models are a part of international business theory that explains why and how entrepreneurs internationalize their business activities [7]. Therefore, a brief overview of relevant entry models follows, and it should be emphasized that neither model represents a rule that will completely lead an organization to successful international business [8].

One of the oldest and most famous models is the stage of development (SD) model [9]. This model is linking organizational entry strategy to a foreign market

with its development degree. According to SD model, the development of international business is a long and gradual process that is limited by the geographical expansion and the ability of management. Transaction cost analysis (TCA) model [10] is characterized by a foreign market entry strategy that takes into account both long-term efficiency and foreseeable risks. Risks could be lack of resources, external and internal insecurity, and free market economy. Organizational structure is determined by minimizing transaction costs. The ownership, location, and internalization (OLI) model [11, 12] ignores significant strategic elements for entering foreign markets. This model is guided by the strategy that ownership and business location are key elements in choosing a foreign market entry strategy. The next model, the organizational capacity (OC) model [13], connects the foreign market entry strategy with the organizational capacity. The idea is to enable international appearance through the desired level of development of production and organizational capacities. Hierarchical (H) model [14] emphasizes the complex decision-making process regarding the foreign market entry strategy. There are different factors at each decision-making level in organization, emphasizing the importance of decision-making process optimization.

3 International market expansion strategies

The emergence of globalization at the end of the 20th century, and the highly developed global competition today, makes international entrepreneurial appearance impossible without a well-designed strategy that will enable the entrepreneur to become a successful competitor on the target international market. A quality strategy involves first and foremost careful selection of markets where an entrepreneur can sell his products competitively. After that, the entrepreneur should choose the entry time, the volume of international business, and the products offered, and ultimately the foreign market entry strategy.

The most common international market entry strategies are outlined below [15].

Ethnocentric strategy in which the entrepreneur is primarily oriented to domestic market and distributes only superior products to international market (the ones that can succeed in that market). The entrepreneur does not require any specific international market entry strategy.

Polycentric strategy refers to the business of entrepreneurs who are oriented at only a few foreign markets. Therefore, attention should be paid to a particular market and a business strategy should be defined for each, since each individual market is specific.

Regiocentric strategy is developed in accordance with the characteristics and requirements of each region in which the organization operates. Significance and impact of regionally oriented business is increasing with the creation of European integrations such as European Union, NAFTA, ASEAN, and other regional organizations.

Geocentric or global strategy is unique throughout the world market and considers the world a unique market. Global strategy focuses on creating new products or services that have global use and on converting existing products into global ones. Implementing such a strategy requires considerable resources, experience and defensive competitiveness.

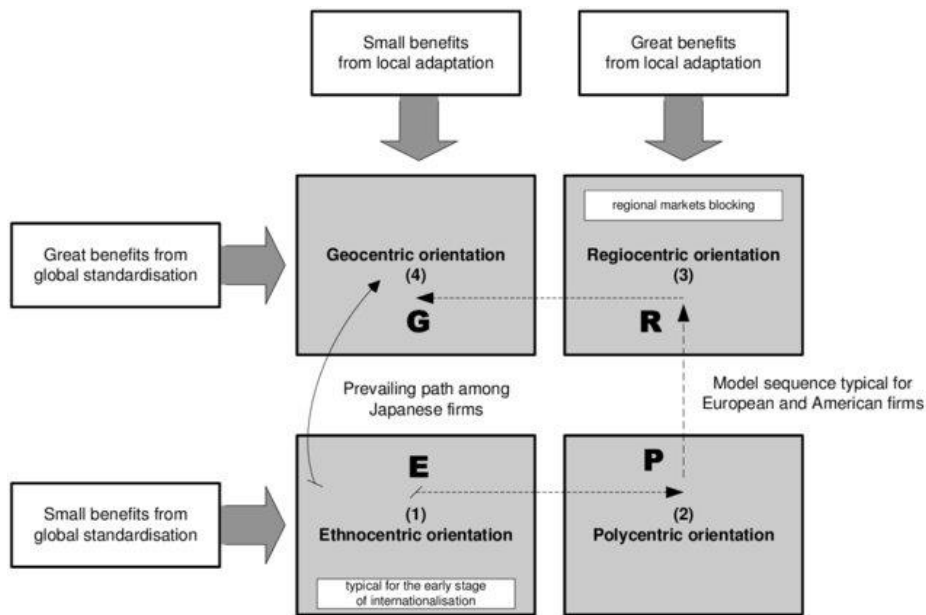


Figure 1
The path of international market entry strategies

Source: Wach, K. (2014). International Strategies of Businesses: Some Evidence from Internationalised Polish Firms (chapter 3). In: Gubik, A.S. & Wach, K. (eds), International Entrepreneurship and Corporate Growth in Visegrad Countries. Miskolc: University of Miskolc, pp. 41-56.

4 Factors affecting the selection of international market expansion strategy

Before an entrepreneur decides to enter the international market, it is necessary to determine the factors that influence the selection of international market entry strategy. There are three groups of factors that influence this choice. Those are [16]:

- strategic factors
- environmental factors
- transactional factors

Strategic factors limit the choice of strategy and are particularly important for selection of international market entry strategy. They cover the following aspects:

1. The extent of national differences. The choice of strategy depends primarily on the entrepreneur views and his goals for appearing in a particular market. Also, different modes of international appearance require different levels of international market experience and knowledge. If the entrepreneur strives for stronger integration of its business units, a direct ways of entering a market would be more useful (such as opening a branch). On the other hand, if an entrepreneur wants to participate in different markets without strong integration, then licensing, franchising or joint ventures may also be a good choice.
2. Degree of economies of scale. One of the reasons for entering the international market is cost savings, by increasing the volume of business operations. When selecting a strategy, both technical and non-technical sources of cost savings must be assessed. Less cost savings will be achieved if a multinational strategy is implemented, while a global strategy will generate significantly greater savings. It requires quality coordination and control of all business operations. In this case, foreign direct investment is the best choice.
3. Concentration means that in a given market, only a few organizations control most of the sales. With increasing concentration, the market often approaches an oligopoly or even a monopoly. Success in such a market depends on coordination of strategic goals. Foreign direct investment in this case is also the best solution.

Environmental factors relate to the competitive pressures and environmental conditions that exist in international markets. Four factors deserve attention.

1. Risk of investing in the country. Before choosing how to enter a foreign market, entrepreneurs should assess four types of business risks: political (political instability), ownership and control risks (expropriation risks), operational risks (local price control) and transfer risks (currency rates and monetary issues). If risk is high, the entrepreneur should choose the type of business that requires limited investment of resources, such as export or licensing.
2. Location knowledge. Organizations should understand the economic, social, technological and cultural values of potential markets. However, to understand these factors, it takes years, sometimes decades, of experience. If entrepreneurs feels that they are not familiar with international market, they should choose doing business without significant investments, such as franchises or exports.
3. Demand conditions. If a market is uncertain due to declining demand or recession, the entrepreneur should definitely choose doing business with less investment of resources.
4. Competitive conditions. These conditions define the competitive advantage degree of entrepreneur, as well as the strategy that should be used for market entering. When market competition is high, the entrepreneur should certainly again use an entry mode that requires limited investment of resources, for example franchises.

Transaction factors are related to the business costs in international market. Two factors are of great importance.

1. The value of specific knowledge. By protecting their intellectual property, entrepreneurs today seek to protect certain specific knowledge. However, when selling licenses, there is a real danger that other organizations will obtain certain information, and thus diminish the competitive advantage of licensee. With the franchise, there is a similar danger. For example, once competitors gain access to technology, or technology solution, they could develop a replacement technology. The aforementioned ways of doing business cannot therefore fully protect the entrepreneur from potential loss of specific knowledge. Therefore, the risk of imitation should be considered when choosing the international market, especially if the country is underdeveloped. Some of the problems mentioned above could be solved by foreign direct investments, but at the same time, other risks could be created. Therefore, the organization must analyze the cost-effectiveness of setting up its own subsidiaries, and compare this with export risks and costs, licensing or franchising costs. The higher the profits, and the greater the need to retain control over specific knowledge, the greater is the need for foreign direct investment.
2. Quiet knowledge. Organizational competitive advantage can be tangible or intangible. Tangible competitive advantages are materialized into the technological resources of organization. However, intangible or quiet knowledge is placed in the minds and experiences of entrepreneur and his employees. This knowledge is often crucial for the quality and speed of decision making. Therefore, when choosing entry strategy, entrepreneur should also determine the level of quiet knowledge required for a particular business in the international market. When retaining and preserving this quiet knowledge is of great strategic importance to entrepreneur, he should not use a license or franchise when making an international appearance. Instead, entrepreneur should consider the foreign direct investment option.

Conclusions

International business strategy enables entrepreneurs to expand their profitability opportunities through activities outside the domestic market. Entrepreneurs who expand their business by entering the international market, are trying to make a profit by selling their products and services in markets where domestic competitors do not produce, or cannot produce, in sufficient quality, price or quantity. Applying an international entrepreneurial strategy makes sense if small business possesses valuable key competences that domestic competitors in foreign markets do not have, and if it faces relatively weak legal constraints and barriers to entry into international market. In such circumstances, international entrepreneurial strategy could be very profitable.

In conclusion, it should be emphasized that the quality and correct way to enter international market is a critical step in defining the overall strategy of international appearance. It should be emphasized that the international market entry strategy is not exclusive, that is, the entrepreneur can simultaneously use several strategies, depending on the conditions prevailing in international market.

Entrepreneur could choose several international market strategies, a franchise in one market, a direct export in another, and a foreign direct investment in a third.

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Insight into the Theoretical Background of the Role of Social Media in SME Sector

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Abstract: The aim of the article is to provide an insight into the theoretical background of the role of social media in SME marketing strategy. The significance of our topic is that social media has been greatly appreciated, especially for the SME sector. The study approaches the under different aspect. Taking into consideration the steps of the preparation of the social media marketing content plan, we present the importance of the topic under consideration for the small and medium-sized enterprise sector and the potential of them. We are focusing on the growing importance of social media in the 21st century, comparing the situation in Hungary, Slovakia and Austria. The main benefit of the study is that it provides a comprehensive picture of the growth of social media in the SME sector

Keywords: theoretical approach, social media, SME sector, innovation

Our research focuses on an area that is considered to be relatively new and aims to introduce the reader to the role of social media in the marketing strategy of small and medium-sized enterprises. As a first step, it is important to note that there is a great deal of uncertainty about the definition of each term, which means that we are seeing more and more expressions today. Noteworthy are Enterprise 2.0, Social Software in the Workplace, Enterprise Social Media (ESM), and Enterprise Social Networking (ESN). In addition to allowing the flow and processing of diverse information, Enterprise 2.0 responds to the ever-blurring nature of external and internal organizational boundaries. In contrast, the concept of Social Software in the Workplace is more based on a technological approach. The system is capable of providing each user with the ability to create different public or semi-public profiles in a closed system. In today's world, the terms Enterprise Social Media and Enterprise Social Networking are dominant. The difference between these two definitions is minimal. While the first term focuses on the communication interface itself, the second term on the previously mentioned community interface means networking of individual members of the organization (Baksa-Drótos, 2018). According to some surveys, 94% of businesses today do not take advantage of social media. As a result, this part of the small and medium-sized enterprise sector cannot create a competitive advantage over those who take the opportunity and seize the opportunities. But what are these, and what exactly

are the benefits? The first and most important factor for businesses is feedback from customers. Different social platforms are best suited for this (eg Facebook, Twitter). Social media is also an excellent tool for generating future demand, as it enables the company to communicate in advance its target product or service to the market. In many cases, businesses also use the aforementioned platforms to offer various discounts, as in addition to monitoring the customer's daily life, this method increases the likelihood of making a purchase. It is important to keep in mind that community media is the most valuable part of social media. It sounds simple, but it is by no means continuous, as it requires a lot of time, energy and, last but not least, capital. Additionally, spreading good news is one of the important features. The basic mission of a business is to make a profit, which will not work without the good news spread among customers. On the other hand, due to an inappropriate move, good news can very quickly turn into bad news. At the same time, a company can build brand loyalty by providing a good quality product or service. Creating a community is not a priority factor and very often businesses forget about this function. Social media interfaces are a great way to create different communities (like creating a fan group for a brand). In addition, customers need to feel the importance of their opinion to the company. This step is essential to build the right confidence. Key features include expanding the customer base. In addition, with the help of social media, your business has up-to-date information about your customers and the latest trends. Value creation as a key function also receives little attention. Last but not least, it is important to mention networking. People want to communicate with people, not businesses. And social media provides the opportunity for the user to follow one person, not a business (Sallai, 2011). Because information is readily available to everyone in today's world, one-way communication is constantly being replaced by a more complex model in which not only businesses communicate with consumers, but individual consumers as well. In addition to traditional marketing communication tools, the so-called earned media has emerged, which means communication between consumers, where large amounts of information about products and services appear on each platform. In addition, its importance is further enhanced by the ability of businesses to inspire consumers and encourage them to work together to improve and develop their products and services (Csordás-Markos-Gáti, 2013). Social media has completely changed the way businesses communicate, enabling businesses to customize their messages and make them interactive with users. Research by Trusov, Bucklin, and Pauwels in 2009 shows that word of mouth advertising has a major influence on acquiring new customers on social media platforms. As a result, social media platforms are proving to be the most powerful tool to drive customer mindset. According to Corometics, social media can be defined as the fastest growing marketing channel in the world. According to research conducted by Castronovo and Huang in 2012, social media can be used to measure awareness, increase sales, and build loyalty. Oracle (2012) and Salerno (2013), respectively, have found that consumers are responsible for shaping a company's brand and service by communicating with other consumers,

which greatly influences business revenue. As traditional marketing methods are less and less effective, companies need to integrate social media into their strategies in order to increase their profitability and develop a competitive advantage. In addition, social media offers many opportunities for SMEs willing to use these tools. These include creating a competitive edge and better communication (Meske and Stieglitz, 2013), more effective collaboration with suppliers (Michaelidou, Siamagka & Christodoulides, 2011), brand and reputation development (He, Wang and Zha, 2014), and market research (Kim, Lee and Lee, 2011).

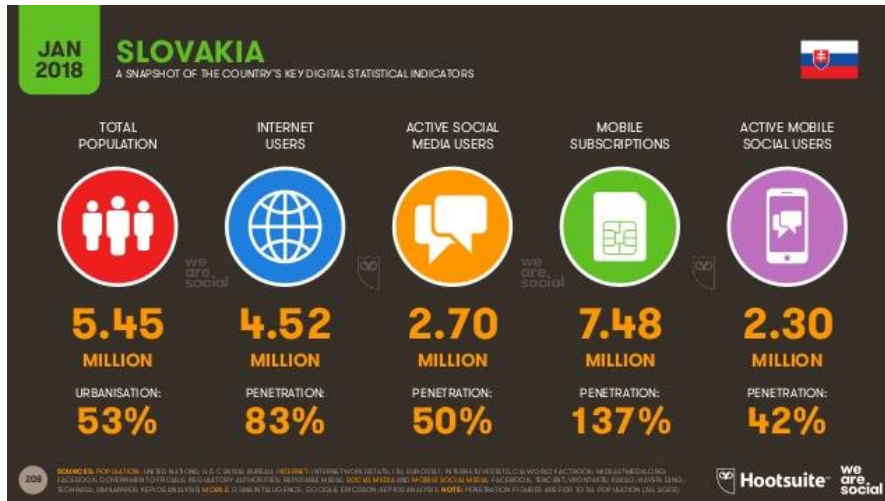


1. figure: Digital World in numbers

Source: Global digital report (2018)

While apparently more and more businesses are aware of the importance of social media, they are still skeptical about the benefits of using the aforementioned platforms because they do not have a large budget. Social networking has become an essential element of marketing strategy, only works and succeeds as long as the right professionals are employed, helping to position the brand.

Compared to the EU average, Slovakia is ranked in the middle of several cities around Hungary. More than 80% of the population are Internet users, of whom more than 50% are active on social media. According to the Global Digital Report of January 2018, of the 2.7 million active social media users, 2.3 million users have access to social media via their mobile phone. In Slovakia 72% of Internet users have used social media services at least once, with almost 10% above the EU average. In terms of communication 55% of people in Slovakia use social media to communicate with each other. It is noteworthy that information retrieval is not considered to be a key factor in Slovakia due to research results (Bumm SK, 2017).



2. figure: Digital in 2018 in Eastern Europe

Source: <https://blog.hootsuite.com/11-people-join-social-every-second/>



3. figure: Digital statistical indicators from Austria

Source: Global Digital Report, 2018

On the third figure we can see some digital statistical indicators from Austria. It shows the total population, the numbers of internet users, the active social media users, the mobile subscription and the active mobile social users. We can see that compared the total population the numbers are huge. Almost 90% of the total population is an internet user, and half of the population is an active social media user and this number is constantly growing day by day.



4. figure: Digital in Hungary, 2018

Source: Global Digital Report, 2018

The last figures shows to the reader the same indicators from Hungary. Compared to Austria we can conclude that the numbers of Internet users are a little less but compared to that the numbers of active social media users are higher which is very interesting and on the other hand it raises questions. Some research says that these numbers are rapidly growing here as well. As a result we can conclude that the role of social media is changing and growing everywhere. Therefore companies, especially the SME sector need to keep up with these changes. But how can they do it? It is important to mention an essential activity, which is to create a so-called marketing content plan. The first step is to identify the target consumer. Social media platforms can help you to understand customer needs and build trust if the business takes enough time to understand the mindset of their target customers. Next, you need to determine exactly why and for what the company wants to use corporate social media and identify the so-called KPI (key performance indicator). This activity is necessary because it is impossible to evaluate the success or failure of the plan without setting goals. The selection of the right social network is also worth mentioning, but before a business makes a decision, it has to do some essential research. It is important to focus on two important areas: network demography and cross-platform interaction. When the company has successfully decided which social network to focus on, the next step is to plan your content, which is important to be specific, relevant, and not least unique. The focus should be on creating content that involves the target audience. Now the company is aware of which platform is the best for them, the next step is to engage in two-way communication to find out exactly what kind of content the consumer needs. It is important for the company to follow their competitors, but do not copy, just be inspired! After completing the research, your business is ready to create content. The first step is to decide which target consumer you want to target. Then you will

need to define the topic and then the title of the article, which should include the meaning of three keywords. By transactional concept we mean attracting people who are looking for the best or cheapest product or service. Information as a phrase includes the "we" and "how" elements, while the navigation keyword concludes that consumers will find what they are looking for, which is usually brand name. Finally, the content of each section should be outlined and divided into 4 main sections: introduction, body, conclusion, and call preference. When you know what kind of content you want your company to create, you need to create a so-called content plan which includes, for example, the date of publication, the title, the type of content, the distribution channel, and the keywords. After that, it is worth looking back at the previously mentioned two way communication as this is the basis for building trust. If the company spend more time and energy to communicate through social media, the consumers will feel safe. The final step in a media plan is to measure success. The undertaking must be aware of the fact that each effort has produced the expected results. This area can be divided into three different parts: transformation, achievement, and commitment. The conversion process, also known as conversion, helps you determine if it is a social media sale. If not, the company should change its business as quickly as possible. Google Analytics, which gives you all the social data you need to measure conversions, can help. By access, we mean how much content you create resonates with your target audience. And with engagement, metrics can be used to measure engagement, including clicks on social media posts, comments and mentions, Facebook, Instagram, and LinkedIn shares. With this information, we have come to the conclusion that creating a social media plan can make a huge contribution to increasing engagement and building and maintaining trust (Warren, 2017). Another important factor is conducting a social media audit. But what does this concept mean? During this process, the company collects and analyzes detailed data from all media accounts. This includes examining your business, your results, your audience, and your investments, including your advertising costs. In fact, it seeks to determine whether social media efforts are relevant to achieving their current goals. In addition to engagement and clicks, you should also consider average response rates and response times. The social media audit can be divided into 4 sections, which makes it easier to evaluate the results. As a first step, it is important to gather all the social media metrics that a company can use to measure results. This includes: number of followers, shares, comments, clicks. If the definitions are done, it is important to examine what types of comments are the best on each platform and which platform is the most valuable to the company. This is followed by an examination of the demographics and interests of the community. If the company is aware of who their target audience is and how they communicate with them on social media, the next step is to look at how they use social media platforms and what types of content they share and how often. The final activity of the audit is to control the budget and calculate the return. This part of the audit involves examining what percentage of the company budget is spent on social media

(advertising expenses, consultancy fees, employees, competition software). Then you need to compare your earnings with the results you received. While control is extremely time consuming, it is worth investing in, as it helps the company know what works in social media, what it can improve and who its target audience is. In addition, the results obtained may help to build stronger social media campaigns in the future (Ana, 2017).

Summary

Based on previous research, the study summarizes the role of corporate social media in business, with a strong focus on the theoretical role of small and medium-sized enterprises in their marketing strategy. The authors examined the role of social media in Slovakia, Austria and Hungary. They concluded that the importance of social media is growing rapidly and companies should keep up with this growth if they would like to gain a competitive edge. The study will also provide the reader with a comprehensive view of each step in the preparation of an appropriate marketing content plan and the conduct of a social media audit. From the point of view of the research it is important to mention that the authors plan to further investigate the topic in the future, involving qualitative research processes. They would like to extend their research to other countries.

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Communication Problems Arising from Cultural Differences During English Negotiations

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Abstract: In the last few decades, the main factor which affected the global economy was the globalization. As a result of globalization, the nations aren't separated by borders anymore. This integration has an impact on the economy and society too. The different cultures make contact, because of personal, educational, or business reasons, and the connection requires a universal language. As the effect of the globalization, the international negotiations become more frequent, and English is the primary language of the business life. But despite the business partners speak the common English language, they do not think in the same way. The main goal of this research is to generate a better understanding of the problem that while the primary language of international negotiations is English, but because of the cultural background, the individuals do not understand the same meaning behind their expressions causing misunderstandings and problems. An exploratory research with in-depth interviews helps to comprehend the problem. The result of the study provides information to individuals who frequently participate in international negotiations or work in multicultural workplaces.

Keywords: cross-cultural, intercultural, internacional, negotiation, communication

Introduction

The main factor, which affected the global economy in the last few decades was the globalization. As a result of globalization, the nations aren't separated by borders anymore, and this integration has an impact on the economy and society too. The process of globalization has created a global interdependence and fundamentally changed the economic system and resulted in the free flow of people, capital, and information. The countries' economies linked with each other, and companies compete in an international field. The process of globalization is not a new phenomenon, but it has accelerated in the last few years as a result of technological development. Caused by the integration process, the different cultures make personal contact, and communication requires a universal language. The lingua franca in the XXI. Century is English. The culture influences the way

how a person thinks, learns, and communicates and also the way how someone interprets the surrounding environment. These are the reasons, why despite the individuals with different cultural backgrounds do speak the universal English language, they do not always mean the same content behind their expressions. Because of globalization, the international negotiations become more frequent, and English is the primary language of the business life. A negotiation is always a complex progress, but when it takes place between parties from different cultures, to avoid any misunderstanding more attention may be needed from the participants.

The purpose of this research is to discover the occurrence that the cultural background affects the output of international negotiation; to make a better understanding of the problem why during English language international negotiations, misunderstandings happen caused by the fact that different cultures have contrasting ideology; and to determine the issue that although parties speak universal English language during a cross-cultural negotiation, they do not mean the same content with their expressions.

The literature review expounds the phrase of culture in the view of its influence on business behavior. The literature review describes the definition of negotiation. It also outlines what differences may be expected in a situation when parties with different backgrounds negotiate, the potential problem sources, and the categories of diverse cultures by self-worth and belief of value.

The primer analysis is an exploratory research with in-depth interviews. The empirical study aims to comprehend the problem of misunderstandings caused by cultural background between non-native English speakers in the course of international negotiation. The data was analyzed by the grounded theory method, which is appropriate for empirical research, as the experience and opinion of respondents inquired. This research focusing on the business negotiations ignores the political and diplomatic meetings. The result of the study provides information for individuals who frequently participate in international negotiations or work in multicultural workplaces.

1 Literature Review

1.1 Meeting of Different Cultures

As a result of globalization, the borders between countries have faded, and the different cultures get in touch with each other on a daily basis. The culture in which we grow up has a far more significant influence on our everyday life than we might think. Most of the effects are not even conscious and involve the private

and business life too. Culture has an impact on our thought process, the way we learn, communicate, negotiate, and resolve conflicts (Kumar, 2015). As the web of business transactions have grown worldwide, cross-cultural communication became frequent. Due to the significant influence of cultural background on people's personalities, different cultures negotiate in a particular way, and thereby an international business meeting requires conscious preparation.

The phrase culture has many definitions. According to Hofstede (1984), culture is the collective programming of the mind that differentiate members of one group from another. It strengthened throughout history and seen as an uncertainty reducer factor during social changes (Illés, 2018). As stated by Tylor (1871), culture is the complex whole, which involves belief, knowledge, art, morals, law, custom, and any other capabilities and habits achieved by human as a member of society. Culture is a group phenomenon, a closed system, which provides cohesive force to the members of the community (Csath, 2008). As the effect of the dynamic changes caused by globalization, the national cultures have lost their predictive nature, which resulted in uncertainty for society.

Different national cultures have divergent economic values and paradigms; and this factor has an expanding influence on global trade (Chikán 2002). The mentioned process has changed the nature of international relations, because individuals have to work in a much closer relation than before. People with diverse cultural backgrounds have different values and business purposes. Any global business transaction, project, investment, or cooperation requires the understanding of cultural environment and values of the parties (Routamaa & Brandt, 2008). When entering a foreign market, the individuals have to count with the specifics of the new environment and adequately adapt to these factors.

Some researchers believe that the process of globalization has a homogenizing effect on the national cultures (Friedman, 1990, Szentes, 2002), while others assume the opposite, that the globalization contributes to the recurrent empowerment of the cultural heterogeneity (Amin, 1997). From one perspective, the global integration leads to an undivided universal culture, while the dominant universal culture threatens the national or local ones with destruction (Szentes, 2002). The domination of the English language within global electronic communication, and the powerful influence of Western-American lifestyle only strengthens this process. From another perspective, the domination of English language communication makes the connection possible between those people, who come from different parts of the world, and they may not have any other options to establish relations (Szentes, 2002). This phenomenon brings closer the various individuals to each other around the world, and cognition of different cultures helps develop the collective consciousness of belonging to one universal human race (Szentes, 2002).

1.2 Cross-cultural negotiations

Every negotiation is a social interaction between parties, whose purpose is to make a business agreement that fulfills both parties' diverse goals (Wheeler, 2004). Interests in negotiation situations may be different or opposite; therefore, the business meetings may be interpreted as a balancing activity between two differing poles (Dankó, 2004). The cross-cultural negotiations are more complex than within-the-culture ones because of the personal factors of individuals. The reason is that the person's cultural background influences the knowledge, values, norms, and behavior (Chang, 2003).

When arriving in a foreign place to make a business deal, the person will experience differences in some fundamental factors. According to Kumar (2015) the following differences may arise during an international negotiation: the partner strives for a long-term business relationship, or just a one-time deal; wishes to fulfill his interests or to a win-win situation; negotiates in a formal or an informal attitude; shows direct or indirect communication style during the process, shows or hides his emotions; and decision making by the leader or by the group.

Dankó (2004) specifies three factors, which may be a source of problem during the cross-cultural negotiation process; these are the stereotypes, cultural shock, and ethnocentrism. **Stereotype** is an aversive attitude against a person only because he belongs to a particular group (Forgács 1998). **Cultural shock** may be experienced in a completely foreign environment, when the individual feels insecurity because he does not have any previous knowledge, how to behave in the new situation (Varga, 2018). **Ethnocentrism** is an ideology, when the person's culture is the center of everything and appreciates other civilizations compared to his own culture (Ortutay, 1977).

In the view of cross-cultural business interactions, the person's self-worth and belief of values in society are vital factors. From this aspect, cultures could be classified into three categories: dignity, face and honor cultures (Ayers, 1985). In **honor** culture, being ethical is essential; reputation is a crucial factor in society (Leung & Cohen, 2011). The members of the community have to suit to the social obligations, but against the face culture, the hierarchy in honor is instable (Aslani et al., 2016). In a negotiation situation, they are competitive and able to do anything to avoid seem weak (Leung & Cohen, 2011). Honor culture is typical in Latin-America and certain areas of the Middle-East. In **dignity** culture, the focus is on the individual's accomplishment, achieved goals, and individuality (Leung & Cohen, 2011). Not a priority in dignity culture to suit the local norms; in a negotiation situation, they focus on maximizing their outcomes (Aslani et al., 2016). Dignity culture is typical in the European-Union and the United States. In **face** culture, the most crucial factor is the individual's position in the social hierarchy; to suit the hierarchical commitments, make harmony and stability in the

face society (Aslani et al., 2016). They are the least competitive culture, which is typical in China, Korea, Japan, and certain areas of the Middle-East.

In a globalized world, adequate intercultural competence has become a key factor, and efficient cross-cultural communication is a must-have at a company, which competes on a global field (Kumar, 2015). In a cross-cultural team, the issue of motivation requires attention because individuals of different origin may be incited with diverse motives. Moreover, beside negotiations, cultural differences may cause misunderstandings between individuals who speak the same language (Kelemen-Erdős & Molnár, 2019). As a metaphor, if we compare cross-cultural negotiation to dance, it would be awkward if one partner starts waltz and the other does tango (Adair & Brett, 2005). This thought shows how important to respect the cultural differences during international negotiations. If we understand that negotiations are conversations aimed to reach an agreement, and different cultures negotiate in different ways, then we already have the basis of international negotiation skills (Kumar, 2005).

2 Methodology

I approached the issue with qualitative analysis and exploratory research. This method fulfilled the overall aim of the study, because the purpose was to make a better understanding to the defined problems and to specify the correlations. The purpose of a qualitative analysis is not to make a representative outcome or the objective exploration of the issue, but to analyze the personality, opinion, experience and the subjective reality of the individuals (Gelencsér, 2003). When I started to investigate the defined problems, I already had a significant amount of mosaic data from observation during my work and from my partners. Mosaic data is a kind of information collected unplanned from informal sources (Veres et al., 2006).

For the exploratory research, I obtained the data with in-depth interviews. This method allows the respondents to share their opinion, ideas, and experiences, which pieces of information was useful for my study. The sample contained 16 members, women, and men over 25 years who participate in intercultural negotiations. An interview took about 30-40 minutes in both Hungarian and English language; therefore, I had to face the problem of equivalence. The guide was focusing on the interviewee's opinions and experience and asking for sensitive data was avoided.

I used the grounded theory methodology to analyze the data. This process positioned between theoretical and empirical research. The grounded theory based on per sentence data analysis and continuously generates new research questions, ideas, and categories during the investigation. With the application of this method,

the theory involves from empirical data (Glaser & Strauss, 1967). The gathering and analyzing of data have to be extended until the new pieces of information can give a different point of view to the study. When this point was reached, and theoretical saturation has developed, this indicates the end of the research phase (Kenesei & Stier, 2015).

3 Results

I approached the problem from different perspectives like how the respondents prepare for an international meeting, what do they keep in attention during the process, what kind of stereotypes are they experiencing, what is the key to success, and what leads to misunderstanding. My respondents have business experience in the EU countries, North- and South America, Middle-East, and Asia.

The respondents agreed on the fact that a cross-cultural meeting requires adequate preparation. The preparation process consists gathering information and research on the internet. The three categories of this subject are local cultural specifics, partner and/or company, and the topic of meetings. The local cultural specifics involve taboos and forbidden topics. Before the meeting, the participant must prepare from non-business topics for "*small talk or icebreaker*", because a short conversation is capable of making an informal atmosphere which contributes to a successful outcome.

According to the findings, I formulated four categories on the factors which have to be kept in attention during the process of a cross-cultural meeting. These are the non-verbal communication, patience, clear communication and the respect of cultural differences. The category of patience refers to the different interpretation of time dimension among cultures. The respondent with experience in Latin-America or Middle-East highlighted the "*inaccuracies, delays and slips*" and the "*unnecessarily long dragging of decision-making*". Clear communication means that the receiver interprets the message in the same way as the sender. According to the participants, clear communication is the most critical factor during a cross-cultural meeting. One way to prevent this issue is by asking after every relevant section that "*do you understand, everything is clear?*". The respect of the partner's culture is a crucial factor when doing business on an international field. The respondents agreed on the fact that respectful behavior shows honor to the partner, which also contributes to the positive outcome.

The findings of my research showed the importance of a local ally or third partners. "*It's important to have a trustworthy local partner, who communicates in the local language, always helps, and knows the local laws and rights.*" According

to the respondents, with the help of a local ally, a product with less quality could sell equally well as one with a superior quality.

I asked the respondents to evoke a successful cross-cultural negotiation and explain which factors lead to success, and I defined four core categories on this topic, which are win-win tactics, competitive offer, the respect of culture, and patience. The participants agreed on the fact that if during the negotiation, they also focus on the business partner's interest, he will behave in the same way, and the agreement will satisfy both parties.

I concluded during the inquiry of misunderstandings, that if interpreters are used during a cross-cultural negotiation process, no misinterpretation happens. I defined three categories which may lead to misunderstanding during an intercultural meeting; these are the unclear communication, the different interpretation of time dimension, and the different negotiation behavior of cultures.

I investigated the tactic habits in cross-cultural situations and defined three core categories which are: sincerity, conformity to the partner, and win-win tactics. Some of the respondents highlighted the tactics of asking more than they wish to get as an outcome, because they can reduce the price if the partner starts to bargain.

I concluded from the outcomes of the in-depth interviews that the respondents mix the expressions of stereotypes and racism. The findings presented that every participant of the research experienced stereotypes during business. The older persons have more cultural stereotypes than individuals in their thirties or forties.

I approached the problem from different perspectives, gathered diversified pieces of information and with the grounded theory methodology, I defined seven core categories as the outcome and summary of this study: communication, local cultural particularities, partner and/or company, win-win situation, topic of the negotiation, patience, nonverbal communication.

The **clear communication** is the most important factor when negotiating in a cross-cultural environment. The cultures have different mentality and ideology; thus, they interpret certain expressions in a divergent way. The individual has to prepare from **local cultural particularities** before a cross-cultural meeting and have to respect these during the process. If the participant handles this factor inadequately, it may lead to an unsuccessful outcome. Before the negotiation, the individual has to gather information on the **partner and the company**, which he wishes to make a deal with, and respect him and his culture during the whole process. A **win-win situation** is the kind of negotiation's outcome, which is positive for both parties. The respondents highlighted the importance of focusing on the partner's interests as well, because this behavior may contribute to the successful agreement. Before the meeting, the participant has to investigate the **topic of the negotiation**. He needs information on how the specified culture

relates to the issue, and about the legal aspects of it. To avoid language problems, he must know the terminologies of the negotiated issue. **Patience** refers to the different interpretation of time dimension. To be aware of the local civilization's attitude to punctuality can be vital and saves the parties from many awkward situations. The respondents agreed on the importance of observing the **nonverbal communication signs** because it helps make conclusions about the partner's intentions. But must not be forgotten that some nonverbal communication signs have diverse meanings in different cultures.

Conclusion

The research highlighted the significance of the cultural background during negotiation processes, because it affects every aspect of life as business behavior. I analyzed the English language used for international business meetings. The purpose of the study was to make a better understanding of how cultural background affects the output of a cross-cultural negotiation. I made a qualitative, exploratory research, I collected data with in-depth interviews and analyzed with grounded theory methodology. I approached the problem from different perspectives, gathered very diversified pieces of information, and with the grounded theory methodology, I defined seven core categories that influence the output of an international negotiation and appoint further research directions. The main categories are: communication, local cultural particularities, partner and/or company, win-win situation, topic of the negotiation, patience, and nonverbal communication. The study appointed further research directions for my future work and I formulated four research questions.

The findings highlighted the role of patience during a cross-cultural meeting, which refers to the different interpretation of time dimension. That is a hard-to-understand factor for the individual because, in some cultures, to appear at the exact date of an appointment is not self-evident. **Q1:** What are the reasons behind the different interpretation of time dimension among different cultures. The findings of the study showed the importance of intention to a win-win situation, because it may lead to a successful agreement. In practice, the cross-cultural meetings frequently end with a win-lose or a lose-lose. **Q2:** What are the cultural related reasons for the win-lose or lose-lose situation on an international negotiation? My current research does not investigate the role of intermediary parties, even though their presence is frequently vital for the occurrence of a business meeting, which involves individuals from different countries. **Q3:** What is the role of intermediary parties in the success of cross-cultural agreements? As an effect of globalization, individuals have the opportunity to live, study, or work abroad, and this widens their horizons and changes their attitude to foreign people. There is a contrasting discovery among my findings that while younger respondents' opinion is the cultural differences will fade in the near future, the older respondents are sure that these differences will be intensified. **Q4:** How or in what directions will the cultural differences change in the near future as a result of globalization?

The findings of the study can be suggested for the individuals who attend international meetings or work in a cross-cultural team.

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The Propensity for Mandatory Audit Rotation and Its Impact on Earnings Management: An Evidence from the United Kingdom

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Abstract: In the recent years, the frequent occurrences of massive accounting scandals related to earnings management have provoked alarm in the financial market about the accuracy of financial reporting statements as well as the credibility of external auditors. Therefore, Mandatory Audit Rotation (MAR) rules have been enacted in many countries in order to tackle these enormous accounting frauds. In the United Kingdom (UK), since the MAR rule introduced in 2012, there have not any researchers investigating the effectiveness of this rule. Hence, this study is undertaken to examine the effectiveness and the necessity of the latest MAR rule in the UK by testing the influence of audit rotation activities and audit tenure on earnings management of companies in the FTSE 350 Index. Practical implications of this study not only prove that FTSE 350 companies should be required to shorten their audit tenure by rotating their audit engagement more often in order to decline the degree of earnings management, but they also strengthen support for the essentiality of MAR legislations in the UK when showing that longer audit tenure actually leads to more earnings management of FTSE 350 companies.

Keywords: Mandatory Audit Rotation (MAR), external auditors credibility, earnings management

Introduction

The credibility of financial statements and the efficiency of audit functions have been blooming concerning problems in the worldwide financial market since the beginning of the 21st century after a large number of accounting scandals occurred throughout the world. In response to this burning issue, many countries (e.g., the United States of America (U.S.) in 2002; the United Kingdom (UK) in 2012; the European Union (EU) in 2014) have enacted audit rotation rules in order to shorten the audit tenure and to enhance auditor independence. Since then, the

effectiveness of audit rotation has been the subjects of many academic researchers; however, the final agreements have not been reached yet.

In the UK, all companies listed in the FTSE 350 Index have been required to tender their audit engagement every ten years since 2012 (The UK Corporate Governance Code 2012). Although there were several researchers investigating the influence of audit rotation on earnings management in the UK financial market in the past, there has been little empirical study about its actual impact after the introduction of the new mandatory audit rotation rule in 2012. Thus, it is required to explore the capability and the essentiality of this new rule in addressing earnings management issues in the UK.

The intended sample used in this study to test the research' hypotheses consists of all companies listed in the FTSE 350 Index in the UK. The investigated period of time is a ten-year period between 2006 and 2015. Following previous research by Matsumoto (2002); Davis et al., (2009), this study uses discretionary accruals as a proxy to estimate the degree of earnings management. Additionally, the number of auditors employed by each firm in the FTSE 350 Index in the period between 2006 and 2015 represents audit rotation activities in this research, whilst audit tenure is defined as the length of a firm-auditor engagement.

The results acquired from this research suggest two main points. As can be implied from the first result, the increasing number of auditors engaged by each firm in ten years contributes to the decline in the degree of earnings management. Thus, this result has affirmed the effectiveness of MAR on lowering earnings management in the UK. In terms of the second result, longer tenure is found to result in more earnings management strategies. Hence, the second result from this study has emphasized the fundamental need of MAR enactment in the UK, which can definitely help to shorten the harmful long audit tenure. In general, it may be evident that both main results show support for the success of MAR in confronting earnings management issue and the essentiality of MAR legislation in the UK.

The remaining parts of this study are organized as follows. Firstly, the research demonstrates theoretical information about earnings management and presents the review of prior related research, which then paves the way for the development of two hypotheses on the effect of audit rotation activities and audit tenure on earnings management. The following part illustrates the research method and the formation of two regression models. Finally, the research draws conclusions and makes several suggestions for future research.

1 Literature review

1.1 Earnings Management

Earnings management is the situation in an organization when managers manipulate financial reports legally or illegally to demonstrate an untrue picture of the firm's financial conditions with the hope of meeting earnings expectations.

The main motivation of earnings management roots from the significant influence of earnings on the decision of investors and stockholders, since investors usually consider earnings as an indicator for a firm's financial health and its future prospects. In reality, the strong reaction of the stock market or investors and bondholders to firms' earnings announcements under specific conditions has been suggested in academic research carried out by Bailey, Karolyi and Salva (2006). In addition, managers, especially those with high equity incentives, are so sensitive to future stock price performance that they tend to manipulate their earnings in order to satisfy analysts' expectations (Cheng and Warfield, 2005). All in all, it is the influence of earnings reports on investor behaviour that incentivize managers to choose their earnings-optimizing financial reporting strategies (Abarbanell and Lehavy, 2003; Goel and Thakor, 2003).

1.2 Audit rotation

1.2.1 Overview of mandatory audit rotation rules

To deal with severe accounting frauds, in the early 21st century, the Sarbanes-Oxley Act (SOX) requiring five-year audit partner rotation was enacted in July 2002 by The U.S. Congress. After that, the requirement for five-year mandatory audit partner rotation for listed audits was also introduced in 2004 by the Auditing Practices Board under the authorization of the Financial Reporting Council in the UK, targeting at improving financial reporting reliability and the independence of auditors. Then, in 2012, the Financial Reporting Council in the UK enacted a rule in the UK Corporate Governance Code which requires FTSE 350 companies to tender their audit every ten years. A similar legislation was also introduced in the EU for all EU public interest entities in June 2014.

1.2.2 Mandatory audit rotation activities

For those supporting MAR, they believe that audit rotation could bring 'a fresh look' (The Conference Board, 2003, p.39) to corporate's finance, and the work of an auditor could improve due to the peer pressure from his or her successor auditors. This perspective is strongly supported by Lu and Sivaramakrishnan

(2009), who state that MAR exerts a statistically positive impact on higher audit quality in the first years of an audit engagement by virtue of the ambition to provide more effective auditing methods of newly appointed external auditors. Furthermore, not only the first years but also the last years of an audit-client relationship can experience dramatic improvements in audit quality. According to Lennox et al. (2014), the peer review between predecessor and successor auditors paves the way for the higher detection of financial reporting frauds, which can result in the significant audit adjustment in last years of an audit term. On the other hand, a number of researchers demonstrate that low audit quality is likely to take place in the first several years of an auditing term due to the unfamiliarity of new auditors with their clients (e.g., Carcello and Nagy, 2004; Litt et al., 2014). Due to the unsolved conflicts and little research regarding the impact of MAR on earnings management or financial reporting enhancement in the UK since the new MAR regulation was adopted in 2012, one out of two main objectives of this study is to determine whether this MAR rule actually can make a great contribution to lessening earnings management of FTSE 350 companies. Based on the belief of MAR legislators and supporters, the first hypothesis is built as the following:

Hypothesis 1: More audit rotation activities have a statistically positive effect on lessening the degree of earnings management.

1.2.3 Audit tenure

One of the main purpose of the MAR is to shorten the audit tenure, which is believed to be the main cause of the decreasing in the auditors' independence. Hence, many researchers investigate in the relationship between audit tenure and audit credibility in order to test the effectiveness of the MAR rule.

To support for the idea of shortening the audit tenure, Lennox et al. (2014) proves that a strong mutual bond between auditors and firms in a long auditor-client relationship, which leads to poor audit quality and low independence, could be hampered thanks to MAR. Furthermore, several researchers have discovered that long tenure actually loosens auditors' independence, which then directly does harm to audit quality (e.g., Dopuch et al., 2001). As a result, the elimination of auditor independence and accounting frauds due to long auditor-client relationship may be considered as the most principal intention of MAR enactments. On the contrary, in the research of Myers et al. (2003), there is a decline in the discretionary accruals used in conjunction with long audit tenure, implying that a long auditing relationship could help to reinforce financial reporting quality. Explaining their result, Myers et al. (2003) emphasizes that long-term auditors would pay more attention to their clients' income-increasing and income-decreasing accruals, which could then prevent any earnings frauds. To summarize, the relationship between audit tenure and earnings management detection is still the contentious topic among academic researchers, and it needs to be determined in further research. In this study, the second hypothesis will evaluate the necessity for MAR enactment in the UK by

testing whether longer audit tenure can truly do harm to financial reporting credibility in the UK financial market. Consistent with the reason for MAR enactment, the second hypothesis of this research is given as follows:

Hypothesis 2: Longer audit tenure has a statistically positive influence on the increase in the degree of earnings management.

2 Methodology

2.1 Data

The sample firms used to answer the two research questions are all UK firms listed in FTSE 350 Index. The FTSE 350 companies are selected because the FTSE 350 Index consists of 350 largest UK companies listed in the London Stock Exchange, and FTSE 350 companies have been required by the Financial Reporting Council in the UK Corporate Governance Code to rotate their audit appointment every ten years since 2012. However, this study focuses on only 327 companies listed in FTSE 350 Index instead of 350 companies, since there are 23 companies containing either many missing data or no auditors' information.

All the data used in this research are secondary data. While auditors' information was obtained from the BVD database and annual financial reports of each firm in ten years, financial data for each company from 2006 to 2015 were acquired from the Datastream database.

Yearly historical financial data of FTSE 350 companies are scrutinized for the period between 2006 and 2015, because this period experienced a variety of significant occurrences in the worldwide financial market. the ten-year audit tendering rule for FTSE 350 companies in 2012.

2.2 Multivariate regression models

There are two multivariate regression models built to test two hypotheses of this research. Regression models adopted in this research were developed by Dechow et al. (1995) from the Jones Model (1991). This study uses Eviews for the statistical and econometrics analysis. The method adopted to estimate two regression models mentioned above will be Ordinary Least Square (OLS) method.

The first target of this study is to examine the effectiveness of MAR rule in the UK by exploring whether the audit rotation activities can make a contribution to preventing earnings management strategies. Therefore, the hypothesis is given below:

Hypothesis 1: More audit rotation activities have a statistically positive effect on lessening the degree of earnings management.

The first multivariate regression model to test Hypothesis 1 is estimated as the following:

$$\begin{aligned} LDA_{i,t} = & \beta_0 + \beta_1 NUMBER_OF_AUDITORS \\ & + \beta_2 CHANGE_ONCE \\ & + \beta_3 CHANGE_MORE_THAN_ONCE + \beta_4 BIG4 \\ & + \beta_5 SIZE_{(CONTROL)} + \beta_6 AGE_{i,t (CONTROL)} \\ & + \beta_7 ROA_{i,t (CONTROL)} \\ & + \beta_8 MARKET_TO_BOOK_{i,t (CONTROL)} \\ & + \beta_9 LEVERAGE_{i,t (CONTROL)} \\ & + \beta_{10} CASHFLOW_{i,t (CONTROL)} \\ & + \varepsilon_{i,t} \end{aligned}$$

On the other hand, the second goal of this study is to test the necessity of MAR enactment. As mentioned in the Literature Review chapter, accounting frauds are thought to have their roots from long audit tenure MAR legislators and supporters; thus, it is necessary to enact MAR rules. Therefore, the essentiality of MAR enactment in the UK will be reaffirmed if longer audit tenure is proved to result in more earnings management if FTSE 350 companies. Based on this belief, the second hypothesis of this study is given below:

Hypothesis 2: Longer audit tenure has a statistically positive influence on the increase in the degree of earnings management.

In order to test Hypothesis 2, the multivariate regression model is built as the following:

$$\begin{aligned} LDA_{i,t} & = \beta_0 + \beta_1 TENURE + \beta_2 SHORT + \beta_3 LONG + \beta_4 BIG4 \\ & + \beta_5 SIZE_{(CONTROL)} + \beta_6 AGE_{i,t (CONTROL)} + \beta_7 ROA_{i,t (CONTROL)} \\ & + \beta_8 MARKET_TO_BOOK_{i,t (CONTROL)} + \beta_9 LEVERAGE_{i,t (CONTROL)} \\ & + \beta_{10} CASHFLOW_{i,t (CONTROL)} \\ & + \varepsilon_{i,t} \end{aligned}$$

3 Findings and conclusion

This analysis is built with the main intention to explore the effectiveness and the necessity of MAR enactment in the UK. This study is designed in the context of over three years after the MAR enacted in the UK, so that it can help to satisfy the urgent need for research about MAR and provide the latest evidence from the UK financial market to this academic field. There are two questions designed in this research. The first question aims to test the capability of MAR in the UK by examining whether more audit rotation activities, which are presented by the number of auditors employed by FTSE 350 companies from 2006 to 2015, can contribute to lowering the degree of earnings management. The second one tries to

confirm the necessity of MAR enactment by scrutinizing whether longer audit tenure actually results in the rising level of earnings management.

Consistent with the research's first hypothesis, the corresponding regression model reveals an evident fact that the increasing number of auditors engaged in ten years paves the way for the lower discretionary accruals. As this result demonstrates the fact that audit rotation activities indeed contribute to lessening the degree of earnings management of FTSE 350 companies, it has provided support for the effectiveness of MAR in the UK. In terms of the second research question, the result from the corresponding regression model has stated that the longer the audit tenure, the more earnings management reported from FTSE 350 companies. Hence, this result helps to reaffirm the fact that MAR is truly needed to be enacted in the UK to eliminate the root of earnings management of FTSE 350 companies – long audit tenure.

Further research can be conducted with the purpose of recommending either the number of times that each company should switch its auditor within a specific period of time, or the best appropriate audit tenure of each auditor-client relationship to achieve the ultimate objectives of MAR. Furthermore, investigating how auditor switches occurring within or outside Big Four affects the capability of MAR will be another helpful addition to this research area.

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The Urge of Share & Fear of Missing Out - Connection between culture shock and social media activities during Erasmus internship

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Abstract: International student mobility (ISM) is a perfect opportunity for the students who complete a short-term internship in another European country to develop their cultural competences as well. Most of the students have some previous knowledge regarding cultural differences, but they are not well prepared for the arising problems such as culture shock or intercultural communication difficulties. Longer time abroad causes cognitive and behavioral changes in the interns: they have to face anxiety resulting from contacting a new culture, feeling of confusion and loss, and incompetence caused by loss of accustomed cultural clues and social rules. Both ends of the socialization spectrum (from social isolation to overactive social life) trigger oversharing on social media and deepen Fear of Missing Out (FoMO). This study addresses the nature, causes, and stages of culture shock, and aimed to determine if there a relationship between the culture shock and social media use of students who participate in Erasmus internship program, and to explore the students' perceptions of social media activities related to oversharing and FoMO.

Keywords: international student mobility, Erasmus, internship, culture shock, social media, Facebook, Instagram, FoMO

Introduction

Nowadays, students can spend their internships abroad, and due to the Erasmus program, they can work in different European countries after their graduation as well. The aim of these student mobility programs is the possibility to gain work experience, practice foreign languages, and connect with new cultures. Before the era of total connectedness through social media, and internship abroad was a different experience: interns had to have a laptop or computer and to visit a library or find a wifi signal somewhere to upload and share their best photos with the family and friend via email. The process was time-consuming and difficult. Nowadays, every student has smartphones, and due to the lack of roaming fees in

the EU, their connectedness to the social media platforms is continuous. Missing friends does not mean the same as ten years ago, and their everyday life can be checked easily via Facebook or Instagram. This new form of connectedness is a double-edged sword, negative posts are not liked, dark photos are not shared, and sad stories are not commented. Thus positive, well-composed photos and stories have to be made to assure an excellent place in the news feed of our acquaintances on social media. Working abroad is a sophisticated experience with many adversities such as language barriers, inability to navigate effectively during conflicts, inability to decode nonverbal communication properly, feeling of loneliness, homesickness, social isolation. Internship in a different culture is an adventure that has always its dark sides, but the enrichment of personality cannot happen without adversity. Culture shock is not just a shocking feeling of something new and unknown, but a phenomenon: a whole journey from the excitement of the new place, through the stressful phase of adaptation to the period of acceptance of the new cultural rules.

The aim of this study to explore the possible connection between the phenomenon of culture shock and social media use and different emotional adversities such as Fear of Missing Out (FoMO), loneliness, social interaction anxiety.

1 Role of social media in generation Y

Millennials or "Generation Me" are the popular name of generation Y, which is represented by individuals who were born between 1980 and 2000 [1][2][3]. Twenge [4] was one of the firsts who connected the generational changes to the development of social media, which became the base of connectedness and a "safe place" for the young generations [5][6]. Twenge [7] named the offsprings of this era iGeneration, Prensky [8] called them digital nomads due to their inborn digital competences, which caused a significant generation gap between the generation Y/Z and the previous ones [9][10][11]. The main characteristics of the Millennials are the quick access to the information, shallow interpersonal relationships, extreme connectedness via social media, but weak attachment in real life, thirst for adventure, challenge, and freedom, need of individualism, self-reflection, and simplicity [12] [13].

The phenomenon of post-adolescence is reflected in the "Peter Pan syndrome" [14] and quarter-life crisis as well [15], which leads to the delay of establishing a family, starting a career, or weakening the attachment to the parents [16]. These psychological effects favor the popularity of student mobility programs such as Erasmus+, and short-term summer works abroad. The more joyful experience one can have during their early twenties, the classic mature duties seem to be less appealing. The students precisely edited photos of an internship abroad at the platforms of Facebook or Instagram give a well-planned impression toward the

others who stayed at home and reflect success [17], thus trigger envy [18]. The circle of friends is a reference group based on shared experiences and similar tastes, which can influence the decision-making process [19]. "Consumption" of summer/Erasmus experiences reflects one's identity [20] and strengthen the link between the individual and their reference group [21]. The Millennials have been bombarded by the reference groups' requirements through social media as well, and they would like to identify with this unreal and highly idealized version of themselves [22]. Facebook and Instagram are the most frequently used social media platforms to present themselves online [23]. Self-presentation is a form of communication that can facilitate the maintenance of relationships [24].

Social media itself, like internet sites, is familiar to everyone. However, its definition means different things to different researchers. Therefore, no single definition exists for it. The difficulty is that social networking sites are more of an online platform that offers a diverse array of services that is evolving at a fast pace to retain, satisfy, and attract new users. According to Danah and colleagues, social media is an Internet-based service where personal profiles can be created and shared with others [25]. In the words of Andreas Kaplan, social media is a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0 and allow users to create and transform user-generated content [26]. A series of social media websites and apps designed to help people share content quickly, efficiently, and in real-time [27]. The central role of social media in our daily lives is no better demonstrated by the latest Eurostat data (2019) [28], which shows 65% of the Hungarian population use social media platforms. The EU average is 56%, while Denmark has ranked first (79%) while Hungary has ranked the tenth. GlobalWebIndex Report (2018) [29] showed that the proportion of people who spend more than 10 hours online has doubled between 2012 and 2018 globally (increased from 2.8% to 5.4%). According to another report from GlobalWebIndex (2019) [30] shows that 47% of Europeans use social media sites to check what their friends are doing, and 41% to spend their free time. It is also proven by the fact that 75% of social media users use Facebook for gathering daily information, and 66% use Twitter [31]. The use of smartphones has become an essential part of everyday life and can trigger maladaptive behavior regarding the individuals' relations to technology [32].

Fear of missing out (FoMO) is described as a "pervasive apprehension that others might be having rewarding experiences from which one is absent" [33]. The anxiety resulted from FoMO is characterized by an urge to stay continually connected with what others are doing [34] and can cause maladaptive smartphone use and addiction [35]. The intrinsic motivation of continuous online presence is the basic need for social interactions, especially if one feels lonely. By browsing social media sites, the life of one's friends can be checked continually, and the comparison triggers more loneliness, boredom, and even depression [36]. The FoMO is a trigger for further social media activity: excessive browsing the social media account of others and oversharing [37]. 80% of Millennials check social

media account twice or more a day [38]. The urge to checking and sharing is the strongest in the evenings and at the end of the week [39] and can lead to maladaptive smartphone use. FoMO negatively affects the overall psychological wellbeing of an individual because it causes a significant amount of anxiety and emotional pressure due to the constant comparison with others [40].

2 Challenges of internships abroad

The behavior of Millennials differs from the previous generations in the field of traveling. They decide destination easier, make decisions more self-conscious, and more mobile [41]. Due to their relative financial freedom (which is based on the postponement of the detachment of the parents financially and emotionally), Millennials behave differently. They spend more financial resources on traveling and exploring the world, organize short trips quicker and more accessible due to their digital competences. They continuously dream about adventure and cross-cultural experiences, and they make idealized photo collection of their experiences and best moments on social media platforms [42]. This young generation is braver and more tolerant for the cultural differences [43], but based on the findings of Twenge [44] the youngest (who belong to the generation Z) spend more time online than any generation before and reach a tremendous amount of information regarding any place of the world. However, their desire to travel is significantly decreased, which reflects the same reduction in the number of Erasmus participants as well [45].

The Erasmus program was created to foster intercultural competences and provide a well-regulated framework for internship (and studying) opportunities abroad for 2-12 months. The program has been designed not to cause "brain drain" in the EU [46]. However, several studies proved that student mobility had a significant effect on career mobility within the European labor market. The study of Guellec [47] confirms the significance of soft factors (such as affection for foreign cultures) in participation. Student mobility has been supported by enterprises as well because it broadens the recruitment pool and can cause labor cost reduction [48]. The primary motivation of participation is experience-seeking, and the most significant influence is the stories and travelogues of the former participants (who became role models or even influencers) and their photos on social media. In a Hungarian study, 74% of 242 students confirmed that they want to have the same experiences and would like to reflect the same image on social media as the influencers. 84.4% of the participants agreed that their internship abroad was one of the best experiences in their life, and that period becomes a determining status symbol for them [49].

2.1 Intercultural communication adversities & culture shock

The culture shock [50] is a complex experience caused by numerous internal and external stressors occurring in contact with another culture [51]. Cultural shock occurs not just for immigrants but students, who study or work abroad for more than three weeks are affected as well [52]. It can be defined as anxiety resulting from contact and mixed feelings of incompetence, loss, social isolation, and lack of accustomed to social rules. Homesickness, perceived loneliness and social isolation, difficulties in self-expression due to language barriers, interpersonal conflicts, boredom, and work-life imbalance lead to further adversities. Pedersen [53] defines culture shock as a communication problem and focuses on the lack of understanding of the nonverbal signs in a foreign culture. One loses the well-known daily routines, the reactions from the environment become unpredictable and sometimes threatening. In this situation, the new culture becomes a permanent stressor and hinders the adaptation of the individual [54].

The root of the intercultural communication adversities are the following: (1) assumption of similarities, (2) language barriers, (3) nonverbal misunderstandings, (4) preconceptions and stereotypes, (5) assessment differences, (6) high level of anxiety due to the disorientation in the host culture [55]. Nonverbal communication can be the root of many difficulties at the workplace due to the cultural differences in touch, body movement, and structure of time [56]. Basic emotions such as happiness, surprise, disgust, anger, and sadness can profoundly influence the meaning a message in a high context culture, while expression of emotions in low context cultures has no practical notability [57]. The success of intercultural communication lies in the extent of cultural distance [58]. The more similarities two cultures have, the more effective the communication between two individuals.

2.2 Phases of adaptation

According to the most basic model [59], acculturation has been described by a U-curve [60]. Figure 1 describes that people will initially have (1) honeymoon/tourist phase, and then there will be (2) a negative phase, that is, cultural shock. However, people will start to (3) adapt (the dotted line depicted some people hated by new cultures instead). Furthermore, (4) refers to some people returning to their places and re-adapting to the old culture, which phase can be characterized by reverse culture shock. Further models [61] have been developed as well.

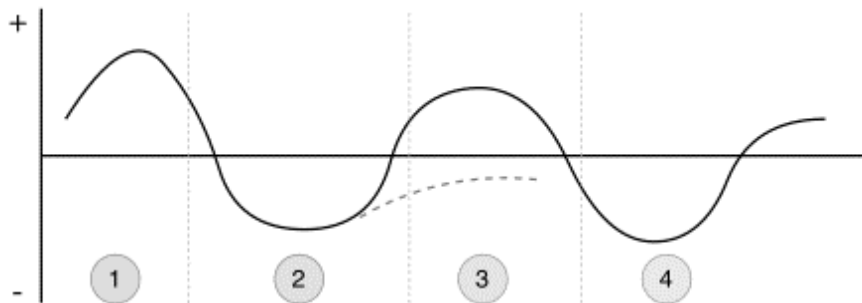


Figure 1
Phases of adaptation

The four phases of cultural adjustment [63] are the following: (1) honeymoon, (2) negotiation, (3) adjustment, (4) adaptation. The culture shock is not preventable [64], and each individual reacts to the new culture differently and uses distinct coping mechanisms [65].

- (1) *Honeymoon period*: everything seems to be fascinating, and the new culture is seen in a romantic light. In this phase, the individual contacts just well-organized and guest-focused establishments such as hotels, airports, restaurants. This period eventually ends [66].
- (2) *Negotiation*: The differences between the old and the new culture creates anxiety. Excitement fades away, and general anxiety level arises due to the difficulties in interpersonal relationships, perceived loneliness, stimuli overwhelming and stress caused by the new cultural values, rules, and conflicts.
- (3) *Adjustment*: One grows accustomed to the new cultural values, and develops routines, understands the nonverbal communication better. Adverse reactions to the new culture are reduced
- (4) *Acceptance*: The new cultural values are accepted, the social rules are adjusted, and the experiences are internalized, the level of stress is decreased.

There are further models (ten steps model by Rhinesmith [67] and the W-curve model by Młynarczyk & Sokołowska [68]) represents the psychological adjustment process, which does not finish after the acceptance phase. When the individual move back home, has to face to re-entry of reverse culture shock, which is emotional and psychological distress. It can result in unexpected difficulty in readjusting to the culture and values of the home country and generally made up of two parts: idealization and expectations. Based on the studies on internship [69]

[70] the individual starts to idealize the period spent abroad after moving back home. This reverse romanticizing is reflected by their social media usage as well: perfectly edited photo collection has been shared on Facebook and Instagram. Most of the satisfied participants became an advocate of student mobility and influence the expectations of the Erasmus applicants.

3 Results and Discussion

3.1 Measure and Method

The data has been collected anonymously by questionnaire, which took approximately 20-25 minutes to fill in. The survey form included general questions collected demographic information such as gender, age, educational level. The rest of the questionnaire contained validated scales and specific questions related to social media use during the internship period based on the previous study of Matook [75]. The total number of questions was 102.

Fear of Missing Out Scale (FOMOS) [71], which is a self-report questionnaire that contains ten questions, aims to measure the level of FoMO of an individual. The final score was between 0-40. Perceived Stress Scale (PSS) [72] measures the individual's perceived psychological stress level, contains ten questions, and the final score was between 0-40. Social Interaction Anxiety Scale (SIAS) [73] contains twenty questions, designed to assess the anxiety individuals during social interactions and can measure the tendency of avoidance or successful adjustment. The final score was between 0-80. The strength of Culture Shock was measured by Culture Shock Scale (CSS) [74], which contains twelve questions and results in a total score between 0-48. The perceived loneliness was measured by the Perceived Loneliness Scale (PLS) [75], which was developed by Matook based on the UCLA Loneliness Scale and contained seven questions. The total score was between 0-28.

All the scales contained Likert scales, which indicates the degree to which one feels the statement is characteristic or true for them. The rating of the scale was from 0 to 4 (where 0 = *Not at all characteristic or true of me*; 1 = *Slightly characteristic or true of me*; 2 = *Moderately characteristic or true of me*; 3 = *Very characteristic or true of me*; 4 = *Extremely characteristic or true of me*). All scales showed good reliability ($\alpha_{\text{FOMOS}} = .0.808$, $\alpha_{\text{PSS}} = 0.895$, $\alpha_{\text{SIAS}} = 0.922$, $\alpha_{\text{CSS}} = 0.722$).

The final questionnaire was available online and has been sent to students directly who partook in student mobility programs such as Erasmus+ or Campus Mundi, and they have been asked to forward the link of the questionnaire to other participants as well. Presented data below is not representative regarding the whole Hungarian student population.

3.2 Survey analyses

The total number of responses was (N = 102) shared between 66 female and 36 male participants. The age of the respondents ranged from 18 to 30 years (m = 22.29, SD = 2.201). According to their educational background, 76.47% of the respondents had studied at Bsc level and 5.88 % at master level, and 17.65 % at another educational level.

Table 1
Correlation coefficients based on Fear of Missing out (FoMO)

	Coefficients	Confidence level
Perceived Loneliness Score (LONS)	0.243	0.172
Perceived Stress Score (PSS)	0.473*	0.005
Social Interaction Anxiety Score (SIAS)	0.420*	0.015
Culture Shock Score (CSS)	0.555**	0.001

As Table 1. describes, there is a modest, positive correlation between the strength of FoMO, perceived stress ($r = 0.473$, $p < 0.01$) It means that the more stressful the work and the everyday duties in the new culture, the more anxiety appears due to the missed opportunities at home. The lack of close friends and feeling of connectedness can strengthen this fear too. The mean of the Perceived Stress score was 16.33 (scale scores between 0-40, SD=7.34), and the Perceived Loneliness score was 14.90 (scale scores between 0-28, SD=2.37). The relatively high level of perceived loneliness was the most outstanding detail. Data shows a modest correlation between FoMO and Social Interaction Anxiety ($r = 0.420$, $p < 0.05$). The avoidance of social interactions created by anxiety deepens the feeling of incompetence, loneliness. It turns the individual to the well-known and safe place of social media where everything seems to stay the same.

A modest, positive correlation between FoMO and Culture Shock ($r = 0.555$, $p < 0.01$) can be explained by the disorientation felt in a new culture. The differences in rules, values and even nonverbal communication trigger the feeling of incompetence, which is coupled with the avoidance of new social interactions that can cause social isolation or loneliness. The need to perform well at the workplace due to the requirements of the sending educational institution pressurizes the intern to stay abroad, even if it causes negative feelings. In this situation (because of the lack of friends), the individual turns to social media to compensate.

Table 2
Correlation coefficients based on Culture Shock

	Coefficients	Confidence level
Fear of Missing Our Score (FOMOS)	0.555**	0.001
Perceived Stress Score (PSS)	0.667**	0.000
Social Interaction Anxiety Score (SIAS)	0.437*	0.011

As Table 2. describes, a significant positive correlation is showed between the strength of Culture Shock and Perceived Stress ($r = 0.667$, $p < 0.01$), which confirms that the feeling of competence to manage the daily life successful connected to the disorientation belongs to culture shock. The connection between Culture Shock and Social Interaction Anxiety is positive and significant ($r = 0.437$, $p < 0.05$). The anxiety which is triggered by foreign language use and the different nonverbal communication strengthens the culture shock. In the adjustment phase of cultural adaptation, social anxiety reduces, and the one start to cope with the daily interactions more effectively, which reduces the degree of culture shock. When the intern is finally adapted to the new culture, the cultural differences can be internalized and enrich the personality.

Concerning social media use during the internship, the study highlighted exciting findings. 88% of the interns used Facebook and 53% used Instagram and 47% used both social media platforms daily. The frequency of posting on social media correlates to the perceived feeling of loneliness ($r = 0.488$, $p < 0.01$) thus the lonelier the intern during the internship, the more posts they make. There is a strong, positive correlation between the need for feedback regarding a new post and the desperation to show an idealized image on social media ($r = 0.777$, $p < 0.01$). The individuals make more preparation (editing, composition) on a photo or a story to get more "likes" - and the Facebook friends react to the well-composed posts better and quicker. There is a weak and positive correlation between the level of stress and the need for social media feedbacks, such as "likes" or comments" ($r = 0.352$, $p < 0.01$) and the stress correlate to the desire of idealized image creation as well ($r = 0.599$, $p < 0.05$). The more stressful is the internship, there higher the need to receive feedback to the posts, and the higher the urge to show the best angle of the experience. This behavior manifests in "experience haunting". The interns try to catch the best moments, find the best location to make a landscape or beach photo, and try to take the best group photos during a gathering. The result is more important than experience. The more social media "material" has been collected, the more frequent the urge was to post ($r = 0.590$, $p < 0.01$), which can lead to oversharing. The urge to share was connected to the feeling of loneliness as well ($r = 0.600$, $p < 0.001$). The most exciting finding lies in the comparison of the Social Interaction Anxiety and social media activity. The higher the SIAS score of the individual, the higher the number of positive posts have been made ($r = 0.439$, $p < 0.05$), which indicates that the students try to mask their problems.

Conclusion and recommendations

The present paper focused on the difficulties of Millennials or younger ones who spend their internships abroad. Research result shows that the interns have to face mild culture shock, which resulted from the close distance of the culture of Hungary and the European host countries. The students experience the feeling of loneliness in the new environment, far from their family and close friends, and their only one communication option is social media. Loneliness comes with the feeling of social isolation and possible avoidance of interactions. As the Culture Shock scale revealed, they have problems with expressing themselves in a foreign language, (especially in conflicted situations), cannot use the social rules of the new culture properly and have to face adversities in the field of nonverbal communication as well (mainly decoding of emotions of others). Fearing of Missing Out (FoMO) resulted from anxiety, which triggered by the feeling of loss and failure and the desire to stay connected with others at home.

The interns use social media applications abroad daily and share their best moments at work in their free time. The study result shows that even if they are feeling depressed and unsatisfied with their internship, they try to mask these feelings on social media and collect exciting moments or places and edit the photos before uploading them to reach the desired outcome and receive more feedback and likes. The more depressed they feel, the more preparation work they do on the photos. The stress, loneliness, and anxiety trigger the need to post more frequently. They might be lonely and disappointed, but their posts show a perfect internship, with great workmates, beautiful landscapes and beaches and diner compositions at restaurants and this idealized. This parallel reality makes the others (who stayed at home) envy and influences and encourages them to apply for an internship program. It is the circle of the connection between the internship programs, social media, and one's need to be connected and seen.

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HTA in CEE Countries: A Bibliometric Analysis of Research

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Abstract: Background: Health Technology Assessment (HTA) is an impartial old medical technology assessment tool used by health policymakers to aid in reimbursement decisions. Although HTA is usually adopted by wealthy countries given the surplus in financial and human capital, yet, nowadays, more and more low and middle income (LMIC) countries are realizing the value of HTA in the long run and are starting to adopt this tool for healthcare reimbursement decisions. Aim: This study aims to provide a summary of the existing academic research related to the field of HTA in nine Central and East European Countries (CEE), namely; Poland, Czech Republic, Hungary, Romania, Bulgaria, Slovenia, Slovakia, Croatia, and Serbia. Materials and methods: A Scoping literature review was done by the authors for the published journal articles in "Scopus" database to date. The search criteria were set for academic articles written in the English language with full text available. The resulting articles were further skimmed to include only those articles from such journals which were indexed in the "Scimago" ranking system. Extracted articles were analyzed quantitatively using Excel 365, SPSS, and R studio software. Results: 94 full-text academic articles were finally extracted for the analysis. 47% of HTA related literature was published in Q1 journals, 38% in Q2 journals, 11% in Q3 journals, and less than 1% in Q4 journals. 67% of the papers were published in the past 4 years (2016-2019). "International Journal of Technology Assessment in Health Care", "Value in Health: Regional Issues" and "Health Policy" were the top three journals with the highest number of publications in the field. Leading articles, countries, and authors in the field were identified based on the number of papers generated and citation scores. Conclusion: The scoping review methodology seems to be an excellent tool to investigate emerging topics such as HTA. To the authors' knowledge, no previous researchers have recorded the entirety of scholarly conversation in this field. Regional research progression in the field has started to gain attraction in the past 4 years indicated by the number of publications. Further directions were suggested to help field researchers in building their research framework.

Keywords: HTA, Health Technology Assessment, CEE, Bibliometric

1 Research Background

In the 1960's the concept of Health Technology Assessment (HTA) was first formulated in the United States, and the first systematic report published was in 1976 by the U.S. Office of Technology Assessment (OTA) [1]. The WHO basically defines HTA as an evaluation of health technologies, where direct, indirect as well as intended and unintended effects of certain health technology are addressed, quantified, and compared. The aim of HTA is mainly to keep health decision-makers well-informed regarding the value/cost-effectiveness of health technologies in order to select the best therapeutic intervention for public reimbursement [2]. Since then, HTA has become an important tool in decision making for healthcare professionals worldwide, given the recent complexity of evolving new therapies and the crucial need to assign a monetary value, especially for expensive interventions. This interest followed and has grown considerably in North and Latin America, Europe, Australia, and Asia following the path of more developed countries [1].

The European Union (EU) played an important role in developing HTA systems, not only in the EU member states but also in some developing countries outside the EU zone [3]. For instance, The European Commission (EC) has funded the EUR-ASSESS project to explore possibilities to improve the coordination of HTA in Europe [4]. This project was followed by the HTA-EUROPE project [5]. The HTA-EUROPE project was not aimed for further improvement of the coordination, but rather to carry out some systematic recommendations, such as the development of country guidelines on HTA in the EU Member States. [6]. Later, the project EUnetHTA was funded by the EC with the aim of continuing the development of HTA activities and methodologies to fit EU member states' interests [7].

These three EC projects have added a huge improvement for HTA coordination efforts, making HTA more effective and accessible across Europe. At present, national and regional public programs for HTA can be noticed in most EU member states to provide guidance and facilitate information exchange between member states. Currently, most high-income EU members have already established separate HTA entities publishing assessments publicly on a regular basis. In the Central and Eastern European (CEE) region, the attention towards HTA broke through noticeably in the past 10 years.

In this work, the academic literature on the HTA topic has been assessed for the selected 9 CEE countries namely, Poland, Czech Republic, Hungary, Romania, Bulgaria, Slovenia, Slovakia, Croatia, and Serbia. A scoping literature review of the published articles in the field is presented. This will provide a deeper understanding of HTA research trends in the region [8]. Furthermore, statistical analysis will be employed to identify bibliometric correlations, means, and keyword co-occurrences. Additionally, this work will help researchers to develop

a conceptual framework for the HTA field and allow them to explore the current research directions in the region.

2 Methods

To achieve the objectives of this study, a combination of systematic, objective, and quantitative literature review methods along with content analysis tools were applied. The starting point was a systematic search for the related literature in the selected database. Scopus database was chosen because of the ease of discovery of peer-reviewed research, the proper development, and the vast range of medical research work.

The extraction of the articles was based on specific searching criteria to ensure the relevance of the selected articles. The following keywords and boolean search criteria were used: TITLE-ABS-KEY ("HTA" OR "Health Technology Assessment" AND "Poland" OR "Czech" OR "Hungary" OR "Romania" OR "Bulgaria" OR "Slovenia" OR "Slovakia" OR "Serbia" OR "Croatia") AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (LANGUAGE , "English")). The search was done on the 1st of October 2019 for all previously published literature. The search was limited to the journal articles published in English language whose full text was available. 94 journal articles were identified and drawn from Scopus database into a tabular format. The extracted articles' search results were downloaded in Comma Separated format (CSV). Next, Microsoft Excel 365 was used to rank each article with its corresponding SJR rank, taking into consideration the publishing year and the journal rank during that specific year. Later, both SPSS statistical analysis software and R studio were used for statistical analysis. The database was imported into the statistical software in CSV format to conduct Pearson, ANOVA, and co-occurrence analysis. Only journal articles that were published in SJR ranked journals were included in the analysis.

Bibliometric variables included in the analysis were - the title of the article corresponding journal name, SJR rank, year of publication, author names, country affiliation, number of citations, and index keywords. Figure 1 shows an overview of the work done in this study.

Overview

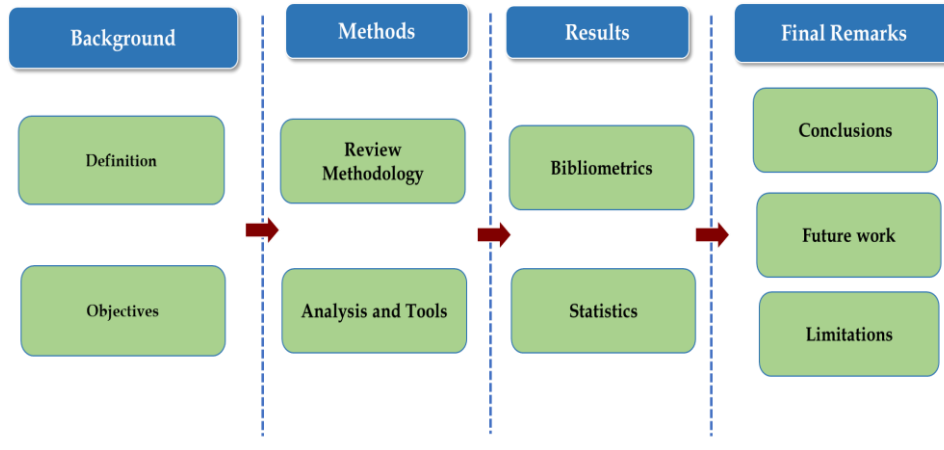


Figure 5. Research workflow

3 Results

The following sections show the bibliometric and statistical analysis results. Using these methods helped in better quantifying the association level and relationship between the different bibliometric variables [9].

All the articles extracted in this work were published in SJR ranked journals. Thus, no articles were excluded, and the final number of articles used in this analysis was 94. Table 1 shows a general overview of the extracted articles. The 94 extracted articles were written by 369 authors between 1995 and 2019, with an average of 3.93 authors per document. The average citations per document were 14.36, while the average citations per year per document were 2.29. It is worth noting that only 6 articles were single-authored papers.

Table 4. Overall characteristics of the included studies.

<i>Description</i>	<i>Results</i>
Timespan	1995 - 2019
Average citations per documents	14.36
Average citations per year per doc	2.297
Authors	369
Authors of single-authored documents	5
Authors of multi-authored documents	364

<i>Description</i>	<i>Results</i>
Single-authored documents	6
Documents per Author	0.255
Authors per Document	3.93
Co-Authors per Documents	5.11

3.1 Bibliometric analysis

3.1.1 Output measures

The yearly number of published articles in the field of HTA in the targeted countries was calculated and further analysis was also done to weigh published articles in each Scimago ranking category (Q1, Q2, Q3, and Q4). Figure 2 shows the total number of articles published each year, categorized as per their corresponding SJR for that specific year. It can be noticed that most publications discussing the HTA topic were published in the recent 10 years. This demonstrates the recent increased attention towards the HTA topic in the CEE region. Another notable thing here is that more than two-thirds of the articles (87%) were published in highly ranked journals (Q1 and Q2), this indicated that it is a hot topic as the most prestigious journals are interested in publishing articles related to the HTA topic. This is also confirmed in figure 3 where it can be seen that most articles in the field were published in the highest-ranked journals. Almost half (47%) of the total number of publications were published in Q1 ranked journals, 40% in Q2, and only 13% were published in Q3 or Q4 SRJs.

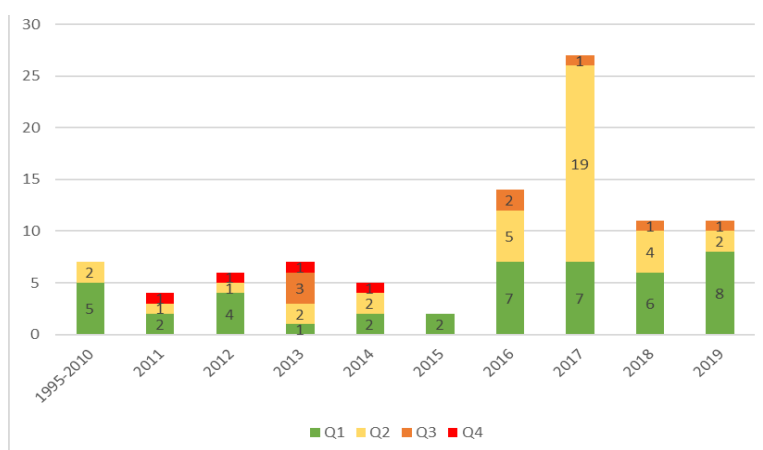


Figure 6. HTA publications per year colour coded as per SJR.

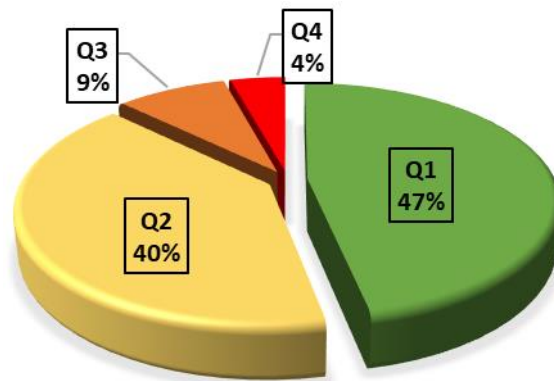


Figure 7. HTA publication share by SJR rank.

3.1.2 Top journals

Journals active in the field were also identified and analyzed. The top 5 journals active in the field identified as per the number of publications shown in their corresponding SJR rank color are in the bar chart in figure 4. The extracted articles were published in 41 journals in total. Almost 30% of the journals active in the field published one article only, while 70% published two or more articles. This can shed light on the journal's specialty and direction. The “International Journal of Technology Assessment in Health Care” has the highest number of publications (i.e. 17 publications), while the journals “Value in Health Regional Issues” and “Health Policy” have 13 and 11 publications, respectively. Almost 50% of the region’s articles were published in these 5 journals shown in figure 4.

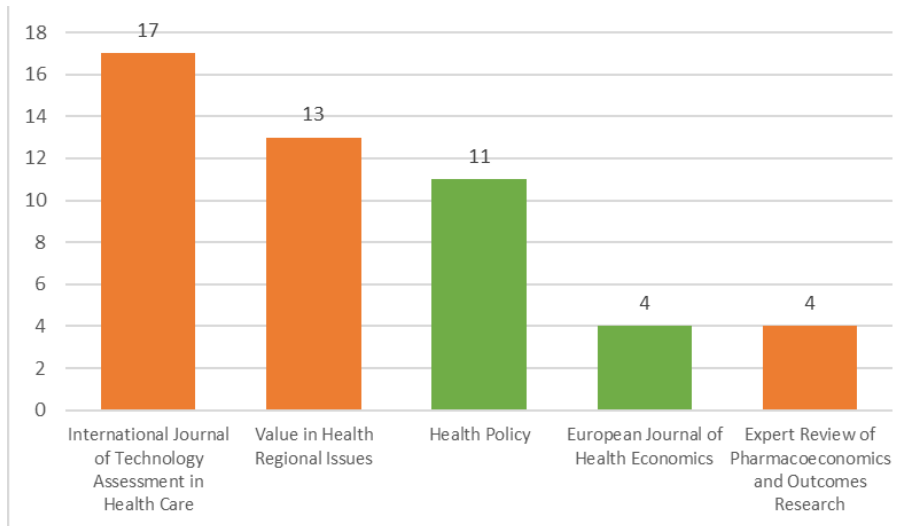


Figure 8. Top journals publishing in the field of HTA in CEE region (~50% of total articles).

3.1.3 Top cited articles

One of the most used factors to determine the importance and popularity of a specific publication is the number of citations. Thus, the most cited articles in the field were flagged and listed in table 2. “Priority setting for health technology assessments: A systematic review of current practical approaches” published in “International Journal of Technology Assessment in Health Care” (Q1 SJR) was the most cited article since it was published in 2007 with 79 citations to date. This article’s popularity was followed by “Health technology assessment in Poland, the Czech Republic, Hungary, Romania and Bulgaria” and “EAES recommendations on the methodology of innovation management in endoscopic surgery” article, with 43 and 35 citations, respectively.

Moreover, it can also be observed that most of the top-cited articles were published in Q1 JSR ranked journals. Only one of the top-articles i.e. “Capacity building for HTA implementation in middle-income countries: The case of Hungary” was -at that time- published in a Q3 ranked journal (i.e. Value in Health Regional Issues journal). It is worth mentioning that this journal is a subdivision of “Value in Health” which concentrates on health research in regions outside of the US. The journal itself is of high quality and it is only a matter of time that the journal will rise to the rank of Q1 as currently, it has already moved to be a Q2 article.

Besides the top-cited articles, the average number of citations per year was also calculated to show the yearly rate of citations in the HTA field. Figure 5 shows that articles published in 2013 are the most cited articles compared to other years

while no citations were made for any of the articles published after the year 2016 yet.

Citations per country were also analyzed to give an indication of the leading countries in this field. Figure 6 shows the top countries ranked by the total number of citations and average citations per article. It is obvious that the United Kingdom is the most cited country, even though the UK is out of the geographical scope of this study. Furthermore, the UK has considerably more citations than the Czech Republic. This indicates the high quality of HTA research in the UK which is highly appreciated and utilized by the scientific society in the CEE.

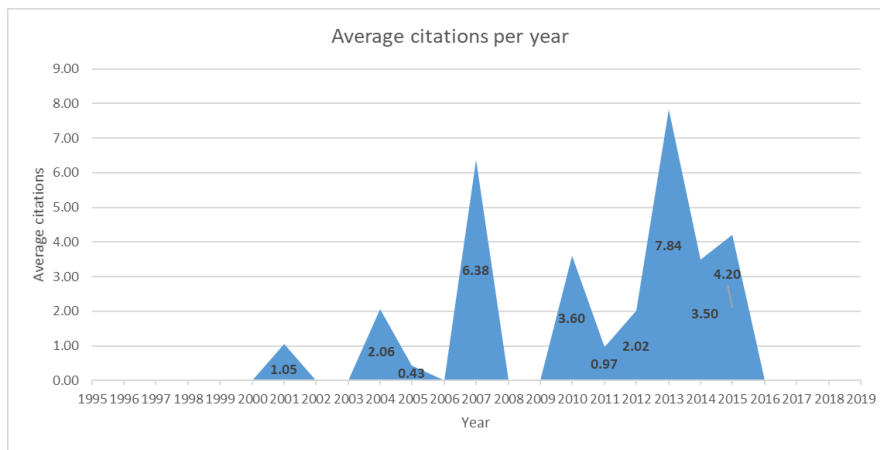


Figure 9. Average citations per year.

Table 5. Most cited articles in the field with their corresponding journal titles publication and publishing year.

Top Cited Articles			
Article Title	Journal Title	Year Published	Number of citations
Health technology assessment in Poland, the Czech Republic, Hungary, Romania and Bulgaria	European Journal of Health Economics	2014	43
Priority setting for health technology assessments: A systematic review of current practical approaches	International Journal of Technology Assessment in Health Care	2007	79
Issues for countries considering introducing the "fourth hurdle": The case of Hungary	International Journal of Technology Assessment in Health Care	2004	33
EAES recommendations on methodology of innovation management in endoscopic surgery	Surgical Endoscopy	2010	35
Capacity building for HTA implementation in middle-income countries: The case of Hungary	Value in Health Regional Issues	2013	34
Multi-criteria decision analysis for supporting the selection of medical devices under uncertainty	European Journal of Operational Research	2015	29

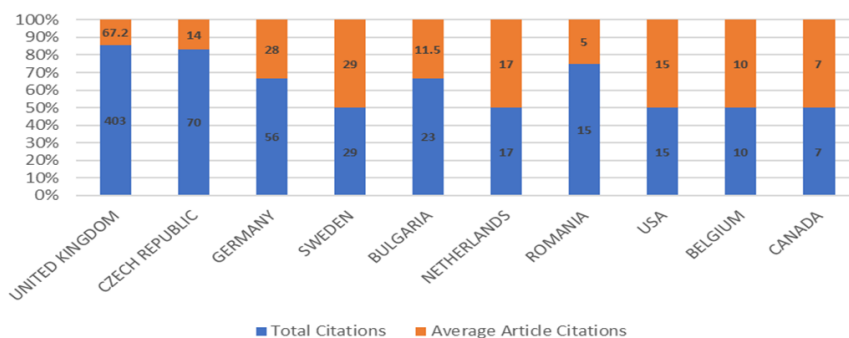


Figure 10. Top cited countries, their corresponding number of citations, and average citations per article.

3.1.4 Affiliation & Authors analysis

The affiliation country of the article’s authors was analyzed as per the total number of publications. This gives an indication on which CEE country was more active in publishing in the HTA field. Figure 7 shows the affiliation country analysis result. Poland came on top as the most active country in HTA with 84 publications, which makes over 17% of the total HTA published articles in the region. Some countries outside the target regional population such as the UK, Netherlands, Germany, USA, Canada, and Spain were also active publishers for the region. Hungary was among the top, by contributing nearly 13% of the total publications. Figure 7 also confirms that HTA research in the targeted CEE countries received help from authors in the field from outside the EU, mostly from the USA and Canada. Figure 8 on the other hand, shows the top 5 authors' productivity and citations per year. “Kalo Z” and “Loblova O” were the most productive and highest cited authors in the past two years in the field of HTA within the CEE region.

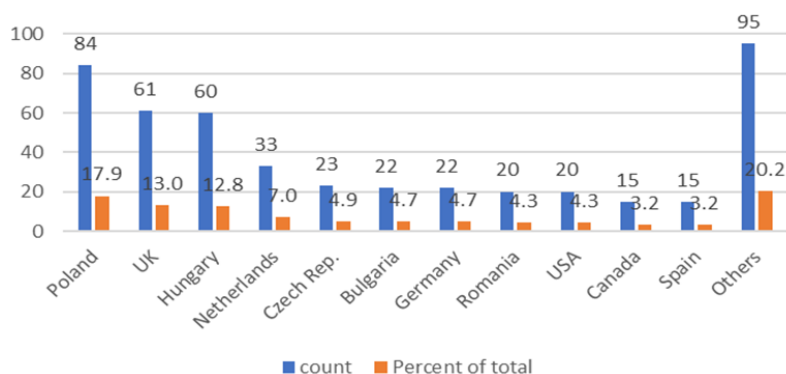


Figure 11. Affiliation country of authors in the field by document count.

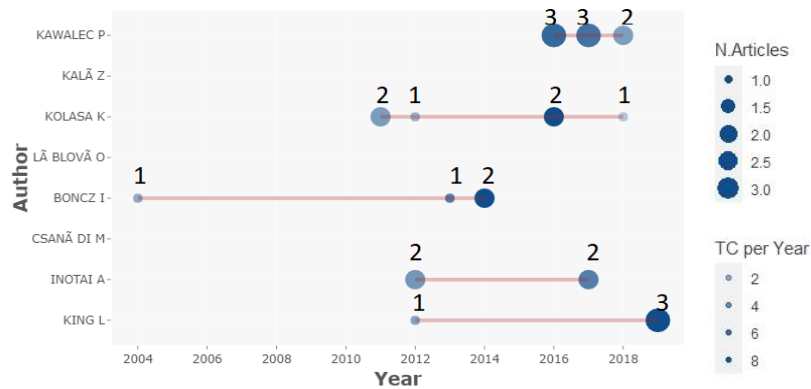


Figure 12. Top 5 Authors based on the number of publications over the time horizon.

Statistical analysis

To explore and discover further underlying patterns and trends in the bibliometric data collected, statistical analysis was employed. Specifically, Pearson's correlation and ANOVA were used to compare means and identify correlations. The results of the analysis can be found in tables 3 and 4. ANOVA results indicate that there is a significant difference in the number of citation means for SJR. This proves that papers published in higher-ranked journals are more likely to get a higher number of citations. Correlation results on the other hand, indicate a clear significant correlation between the publication year and the number of citations which is expected, as the older the article, the more time it had to get more citations, and the higher the snowball reach.

Table 3. ANOVA analysis between SJR rank and number of citations

ANOVA: SJR vs Number of Citations					
SJR Rank	N	Mean	Std. Deviation	95% Confidence Interval for Mean	
				Lower Bound	Upper Bound
Q1	44	12.89	14.735	8.41	17.37
Q2	36	10.08	43.134	-4.51	24.68
Q3	10	9.30	10.822	1.56	17.04
Q4	4	7.50	5.916	-1.91	16.91
Total	94	11.20	28.563	5.35	17.05

Table 4. Pearson's correlations between the number of citations, SJR rank, and publication year.

Pearson's Correlation				
		Number of citations	SJR Rank	Publication year
Number of citations	Pearson Correlation	1.00	-0.06	-.233*
	<i>Sig. (2-tailed)</i>		0.59	0.02
SJR Rank	Pearson Correlation	-0.06	1.00	0.00
	<i>Sig. (2-tailed)</i>	0.59		0.97
Publication year	Pearson Correlation	-.233*	0.00	1.00
	<i>Sig. (2-tailed)</i>	0.02	0.97	
	N	94.00	94.00	94.00

3.1.5 Keywords Co-Occurrences

Further analysis of keywords using a keyword co-occurrence matrix was done to identify keyword connections if any. Figure 9 shows the resulting keywords co-occurrence matrix built by R studio. Using the words co-occurrences, the relation between keywords can be mapped to build a conceptual structure of micro research trends within HTA. The results clearly show that the most frequent keywords have the strongest relation with each other. Moreover, keywords such as “technology assessment”, “biomedical technology assessment”, and “health care policy” are not only amongst the most frequent keywords but also have the strongest relations with each other. Some other less frequent keywords were found to have a strong relationship with the keywords “decision” and “health care” as well. This shows the concomitant relation between HTA and research topics like “decision making” and “health care systems”. Some related but less frequent research topics were also identified like practice guidelines, organization and management, and health care costs.

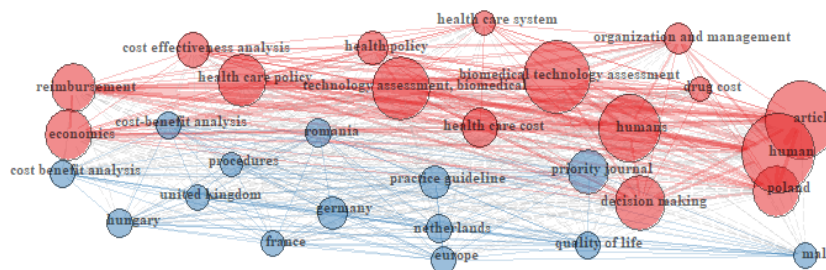


Figure 13. Keywords co-occurrence matrix

Conclusions

The results of this work support the premise that HTA in the CEE countries has been progressing notably in the last 10 years. Leading articles and journals were identified to aid future researchers in the field in establishing their research framework and future HTA research agenda. Statistical analysis showed a clear difference in the citation count means between the SJR ranks and a correlation although identified as significant, yet it was of a low correlation value. The most active authors, top-cited articles, and most active countries were also identified to pinpoint HTA research regional hotspots (i.e. United Kingdom, Germany, and the Czech Republic, respectively). Moreover the relation matrices between keywords were also identified showing the high connectivity of HTA to decision making in health systems.

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How We Play?

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Abstract: Gambling and its restrictions were a very important question in our past and still is nowadays. Betting and playing for winning has its ups and downs and there is no doubt it can cause several types of addictions. In the past few months I explored the past of Gambling and researched that today's Hungary how connects itself to this type of entertainment. I wanted to answer the questions, what Hungarians play and how they are playing.

Introduction

Gambling is a source of entertainment throughout the human history. Even before the birth of Christ in the ancient Mesopotamia, archaeologists found dices and other types of tools that indicated the presence of the games of chance.

My goal was to discover the in depth history of gambling, understand the types of games that people played in the past, and the motivation of the residents to play in different countries. I read today's gaming laws, and understood the past in order to get experience, so I can compare the history with the modern generation's gaming habits. In order to get information, I created a survey with easy to answer questions, which focused on gambling habits, lottery, and online gaming.

This short extract is fully based on my research on gambling; "How we play?" which entirety is readable and available in Hungarian.

1 Gambling history

Gaming for money was a habit of the rich and as well the poor. Gambling was popular in the UK and the USA as well. The rich often visited horse and hound races where betting required experience and knowledge. Without up to date information the bettors most of the time could not guess the winning horses or hounds. That is why these types of events were popular within the rich. They did

not play for money, more likely for entertainment and success, so they can prove their knowledge and skill.

On the other hand, the poor, working class often played for earning money, and for the slightest chance to break out of poverty. The games they played were winnable only by chance. These were games like lottery, color and number picking games. Several states forbid gambling and the poverty had to play on the streets or in secret pubs. Crime syndicates usually controlled the situation paying the police and political members so they can continue their gaming empire. They offered loans with high interest rates. This led to addictions and huge debts, which made the recovery from the games very difficult for many people. The syndicates made sure to threaten the families of the players and collect their money. (American Gaming Association, 2016) (Mike Huggins, 2013) (Munting, Roger, 1993)

In Hungary gambling got huge attention as well, Queen Maria Theresa tried to regulate the common people's habit of gaming but failed most of the time because they always renamed the games or changed minor rules in order to continue playing without insulting the law. Count Széchenyi István while travelling abroad mostly in Britain, discovered the greatness of horse racing and the social activities of casinos. He started to buy and bring horses to Hungary, which led to the first horse race in 1827 on sixth of June. On the first race, mostly foreign horses and riders participated but with time, Hungarian racers appeared as well. The famous horse Kincsem was born in a Hungarian herd too. By this time, Hungary was famous by its horses all over Europe. (Kulcsár Krisztina, 2013) (Dr. Fehér Dezső, 2002)

2 Research on Hungarian gambling habits

In order to get information today's gambling habits, I created a short survey, which contained questions about preferred gambling types, gaming habits, and online gaming.

I had four hypothesis, which are the following. Before the research, I thought young adults will follow the older generation in gaming habits and will play as much lottery as they do. Thanks to the advertising campaign of Szerencsejáték Zrt. people are thinking of Gambling as a form of entertainment nowadays not as a harmful and dangerous type of activity. I assumed people often playing lottery would play numbers that are emotionally connected to them instead of random numbers. Finally, but not least I had a feeling that even though online gambling is safer and easier very few people are using this option in their everyday life.

2.1 Survey details

The survey contained easy to answer questions and took about five minutes to complete. I got 340 answers by the time my research ended. By the answers, I could create groups of similarities. I analyzed the answers by age and sex. About half of the answers were given by young university students under the age of 30 and the other half by people with the age over 50. I assumed the 340 answer that I got are correctly representing our country's and its resident's gaming habits.

The replies could be divided by age, sex, living place and education. I used statistical methods like the coefficient of colligation and Cramer's rule, which helped me to discover the strength of connection between the data about the responder and the exact question. I calculated the connection of sex and the regularity of playing lottery. The result of the calculation showed that the gender does not indicate the gaming habits reliably. The exact number is 0,2124 which shows a pretty weak connection between the two aspects. The association of the living area and gaming habits was untrustworthy as well. People are playing just as much in the suburbs and villages as in the capital. The result was 0,127, which indicates even weaker connection. The detailed calculation is included in the original dissertation.

I mainly focused on the connection between replies and the age of the responders. I assumed the difference between generations would show interesting data. I separated the people who replied into two groups. People under the age of 30, most likely university students, and the responders over the age of 50. I used association on the age and gaming habits as well. As I expected, the results showed that the connection between playing lottery and the age of the responder are much stronger than the aspects that I analyzed earlier.

2.2 Results

The first hypothesis, which assumed that young adults play as much as the older generation failed. By the answers, I found out that university students mostly under the age of 30, are very well informed about gambling and its winning chances. Because of this, they are very pessimist about playing. The received answers showed that this generation rarely or never play, and when they do, they are most likely betting or using „tippmix“. On the other hand, answers showed that most of the older generation are still buying lottery tickets at least monthly. Because of these facts I did not accept my first hypothesis.

The second hypothesis was about the motivation about playing. Is it for entertainment purposes only? Most of the answers said they only see gambling as a form of entertainment and not as a reliable income source. Of course, the chance is always there to win but they cannot depend on it at all. Based on the answers I accepted the second hypothesis.

With my third hypothesis, I thought that people who are often playing lottery would play numbers that are emotionally connected to them. The replies that I got showed that about 50% of women tend to play emotionally important numbers but only the 27% of male repliers do this as well. This meant that half of the woman, and most of the male responders are playing random numbers when they are buying a ticket. These percentages were too low to accept the hypothesis.

My last hypothesis was connected to online gambling. As I expected most of the responders knew about the possibility that they can gamble online and buy lottery tickets on the Szerencsejáték Zrt. website. Even though online gaming is easier, more comfortable and safer even most of the younger responders said that they do not use this feature. About 10% of the young and the older repliers said that they often buy lottery tickets online.

2.3 Online gambling laws in Hungary

Hungarian laws are forcing gambling websites to show the time spent on the page and the lost amount of money, as well as players can use self-limiting features such as banning themselves for a limited time from the game, setting the amount, which they can upload, or the amount they can lose in a period of time. I think these laws are making online gambling safer because players can see all the time the amount they lost, and I think this information can prevent many from further playing. (XXXIV. Rules of gambling in Hungary of 1991)

3 Suggestion

My suggestion is that the Szerencsejáték Zrt. should promote online gambling for their already playing customers because it is comfortable and safer considering the reasons above.

It is understandable that many cannot play online because of the circumstances, and because of the fact that gaming is preceded by a long registration sequence, which can be discouraging. The registration requires lot of personal data as well as a card number, so it is understandable that lot of people do not want to share this information online. The Hungarian residents are still very unfaithful with online data sharing and transactions. That is the reason I am suggesting an optional registration opportunity in the classical lottery stores as well. People could register easily without giving important information and receive a card, which would contain their personal gaming habits such as lost amount, diary of the last bets and other useful data. The gambler could show the card to the assistant who would be able to share this information. With this solution gamers could see how much they are losing or winning in the stores as well.

Conclusion

In conclusion, I found out that gambling was very popular since the early ages of human history. Betting for money was a popular entertainment source for the poor and as well the rich. Aristocrats and the upper class mostly played in order to prove their knowledge and betting skills. On the other hand, in the slums and the ghettos the poverty played for earning small cash and for the chance to break out from their everyday life.

I was wrong about my theory that the younger generation is still into gambling as the older one, and they are following their gambling habits. From the replies, I got the information that young adults are aware of the negative side effects of gambling and their winning chances. They rarely or never play anything, even when they do, they are most likely betting on sport events.

The survey showed that in Hungary very few people are seizing the opportunity to gamble and buy lottery tickets online even though they know about this possibility. Researching the gambling laws of Hungary I found out that these kind of sites are forced to show players crucial information, like the amount of money they lost. Because of this and other useful features I think online gambling should be promoted to already, existing players or an optional registration system could be implemented to lottery stores so players would be able to reach this kind of information there as well. I believe the sheer fact that gamblers could see how much they are losing, would stop many from playing.

My research will continue in the Online gambling territory and my final goal is to raise awareness about its threats for mothers with young children.

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Unethical Behavior and Business Culture: A Case for Business Ethics in Hungary

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Abstract: This is an opinion paper based on a literature review in the field of business ethics. Internationally, business ethics has been a maturing discipline since the 1970's, while in Hungary, with a few prominent exceptions, it has been a largely neglected subject in the business and management discourse. It is argued that these domains cannot be value-free, and issues related to Hungarian business culture could be addressed by placing a greater emphasis on ethical implications in research and education on these fields.

Keywords: business ethics, business culture, social traps, crony capitalism, enactment of moral change

Introduction

Business ethics as a concept was an oxymoron a few decades ago [7] but in the last two to three decades there has been a growing interest in the academic literature about concerns of ethicality in business. The large corporate scandals, such as those of Enron, WorldCom, Volkswagen and many others have seemingly attracted interest from researchers globally, as they are very often referenced in high quality journal articles and books in the now established field of business ethics [9].

In mainstream economic schools, business is often thought of as value-free [26]; this is perhaps best illustrated by the so-called Friedmann doctrine: the business of business is business [12]. However, prominent scholars have argued that business at the very least needs to have ethical considerations, but it should rather be fundamentally based on ethical principles [34]. Having studied in business schools in my graduate and undergraduate studies, I have witnessed how the mainstream approach provides the foundation of business education in Hungary, and how people with such education become fundamentally resistant to propositions that question this foundation. This can be a problem though, especially in a society where the institutions of the market economy are not well established, and the purely self-interested behavior of the supposedly rational economic agents can lead to socially undesirable outcomes for all.

In this essay, I argue that there are some serious problems that can be considered as cultural phenomena in Hungarian business life and increasing activity in business ethics education can be one way to start addressing these issues. I first give an overview about business ethics in an international context, then I turn to the concept of culture in business, focusing on a problem-centered approach in trying to decipher Hungarian business culture, and then I present my arguments for placing more emphasis on business ethics in business schools.

1 Business Ethics

In this section I discuss what business ethics is, using the conceptual framework of De George [7]. De George identifies three separate strands of how this term can be understood. The first is a general “ethics-in-business”, which means thinking about moral issues related to business. This is something that has existed way before business or even economics became accepted disciplines, and its two somewhat separate branches are grounded in philosophy and religion. The second strand is business ethics as an academic discipline, and the novelty in this strand that started to develop in the 1970’s was that it aimed to study ethical issues in business in a systematic way. The first branch of this is the normative approach, based on using philosophical frameworks to understand and address the ethical issues, while the second branch is descriptive, based on social scientific approach. The third strand can be understood as the incorporation of ethics to business, and it refers to regulation of issues with high moral content. This can take the form of government regulation, codes of conduct, ethical boards, ethics officers, ethical training programs, but we can also list the institutionalized corporate social responsibility (CSR) of corporations as part of this strand. This classification of business ethics is illustrated on Figure 1.

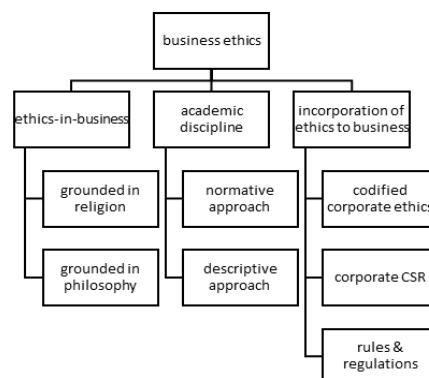


Figure 1

The classification of business ethics, based on De George (2006) [7]

In this essay, I use the concept of business ethics to refer mostly to the second strand described by De George [7], although I believe that these strands are also highly intertwined, and there are overlaps between them. Business ethics thus can be defined as an enterprise that deals systematically with moral issues in business and is different from mainstream business and economic schools in its basic axioms. Within this enterprise there are two generally distinct approaches, a normative/critical and a social-scientific/descriptive approach [10]. The former is usually more theoretical, being close to applied ethics in philosophy while the latter is empirical with strong ties to cognitive and behavioral psychology. In this sense business ethics does not have an established paradigm, as defined by Kuhn [21] and its two distinct approaches can be understood as research programs as defined by Lakatos [22].

The Business Ethics entry in the Stanford Encyclopedia of Philosophy provides a good overview of the normative approach to business ethics [23]. This branch of business ethics deals with the moral agency of corporations, the ends and means of corporate governance, the relationship between firms and their customers, firms and their employees, and firms and their environment. Also, there are different philosophical frameworks that are applied to assess these issues, such as Aristotelian virtue ethics, Kantian deontology, Rawlsian view of justice as fairness and also utilitarianism that is interpreted in a much broader sense than in the mainstream business discourse.

An earlier review by Treviño et al. [29] and a more recent one by Tenbrunsel & Chugh [28] summarize the most important themes in the descriptive branch of business ethics that is also referred to as behavioral ethics. One subject here is the self, and specifically how individuals view themselves in relation to ethics and morality. Key concepts in this line of research include self-threats, moral disengagement, depletion and the slippery slope of unethical behavior. Another topic is the intentional and unintentional nature of unethical behavior, that is built on the dual-process model of human cognition. The question here is not whether unintentional ethical behavior based on automaticity exists, but how this can be mitigated. Ethical and unethical behavior is also influenced by one's environment, be it social relationships, organizations, or economic factors.

Has the proliferation of business ethics, as a scholarly discipline contributed to making business globally more ethical? Brenkert [5] argues that this is not necessarily the case, and that the ever-present ethical problems of business remind us, that the impact of business ethics research on practice has been limited. He points out that there is a large gap between norms formed by the academic business ethic community and the majority of practitioners doing business. It is especially difficult to achieve results on a global scale, since there are no globally accepted moral standards of conducting business. However, corporations that dominate the world of business, can have a negative impact through propagating "unethics" [35], but they can also have a positive impact by disseminating positive norms and values as described by Witzel [33]. Witzel argues that following high

ethical standards is ultimately beneficial for firms and encourages leaders to embed ethics as a fundamental basis of their organizations.

2 Hungarian Business Culture

The role of culture in business as a research topic is also relatively young, with the most cited scholars of the domain having written their groundworks in the 1980's and 1990's. Studies about culture can be divided into two larger categories, the first looking at the micro level, with organizational or corporate culture as their main subject (e.g. [8], [25]), and the second focusing on the impact of national culture on business (e.g. [17], [30]). One way of understanding business culture in Hungary is using the frameworks of the latter group, and I turn to this first.

The Hofstede model [7] describes 6 dimensions that best describe “the collective programming of the mind that distinguishes the members of one group or category of people from others” [17, p. 5]. The dimensions are power distance; individualism versus collectivism; masculinity versus femininity; uncertainty-avoidance; long-term versus short-term orientation; and indulgence versus restraint. If we look at the data that is available about Hungarian culture based on this model [18], we find that scores of individualism, masculinity and uncertainty avoidance are really high, while power distance and long-term orientation scores are average and the indulgence score is rather low. To put this into perspective, other Eastern European EU member countries that went through the transition from a planned economy to a market economy in the 1990's (Czechia, Slovakia, Poland, Romania, Bulgaria, Slovenia, Croatia) score similarly in several dimensions, but they usually have a substantially lower score in the masculinity and individualism dimensions. However, these findings have been challenged from a methodological perspective, and other culture surveys have found remarkably different results in some dimensions [11].

Trompenaars [30] has a similar approach, but uses different dimensions in his culture model: universalism versus particularism; individualism versus communitarianism; neutral versus emotional; specific versus diffuse; achievement versus ascription; sequential time versus synchronous time; and internal direction versus external direction. Here, Hungary is rather universalist, neutral, specific and achievement oriented, but again these results are disputed by other researchers [11].

This descriptive information can be useful if we want to compare certain countries, or if we want to prepare a particular business measure in a certain location, and we want to make sure that they are not completely clashing with some general cultural trait in that location. For example, if the HR department of a multinational company wants to introduce a 360-degree feedback system, it has to do that very

differently in a country with high power distance compared to a country with a low score in this measure. For my purposes in this essay, however, we need a different approach of looking at culture. Definitions of culture often contain an element that concentrates on how a community (whether it is a corporation or a nation) solves its problems (e.g. [25], [30]). Based on this, I will continue with focusing on problems that business in Hungary is facing.

Hankiss [13] discusses in detail the problem of social traps, and how they are present in the Hungarian social, political and business communities. His level of analysis is societal, but I believe that it resonates well with how businesses operate in Hungary and has important implications on this level as well. Social traps are self-perpetuating mechanisms that are out of the control of the community; they are the consequences of the pursuit of narrowly defined self-interest by the members of the community and they result in loss of welfare for the whole community. The tragedy of the commons [14] is a perfect illustration of such a trap, where it is the rational narrowly defined self-interest of each herdsman to keep adding more animals to their herd while it is slowly but surely leading to the degradation of the commons thus resulting in the loss of welfare for each individual.

According to Hankiss [13] Hungary in the present is full of social traps that prohibit welfare and growth for many. Historical heritage of Hungary is one of the starting points, as there have been many decisions, behaviors, trends and traditions that led to the constantly lagging development compared to Western Europe. Then there is the lack of a clear mission or at least some sort of positioning on where we want to be in the future. This has led to a general view in society, and in business that we are playing a zero-sum game. If one wins, the other has to lose. And as we have seen above, if the game is played this way, at the end everyone will be worse off. One of the worst manifestations of this is rampant corruption.

Corruption, if narrowly defined, refers to the misuse of public office, but it can be understood in a wider sense as the misuse of any entrusted authority to achieve private gain. In this sense, the irresponsible behavior of business manager that leads to the bankruptcy of a private firm can also be corruption. As Hankiss [13] describes the greatest danger in corruption is that it leads to the formation of “neurosis”, when people believe that corruption is the norm and this is how the world – especially the world of business – works. This general belief weakens the “immune system” of society, destroys integrity, and makes ethical behavior look naïve, pointless or even stupid.

Another important dimension that describes Hungarian business culture is its relation to the state. It is common knowledge, that Hungary had a socialist economy before, and transformed to a capitalist system in 1990. Kornai [19] posed the question 17 years later, if there really was a transformation, and based on data, his answer is a clear yes, but he also points out that this transformation was very rapid on a historical scale, and therefore people’s adaption to the new capitalist

system was and still is encountering difficulties. In a more recent book [20], Kornai discusses the changes in the economic and political environment that happened since 2010, and he concludes that Hungary's economy is capitalistic, but the political system is what he refers to as an autocracy. In such a state, the relationship between economic actors and the political leadership is different from what can be observed in liberal democracies, such as the United States or most Western European countries. There is a larger division between companies that are favored by the government and those that are not, which creates an unlevel playing field, and inspires behaviors that are different from the predictions of economic and social theories that were developed based on western societies.

The narratives about business in Hungary are also relevant. Szerb and Kocsis-Kisantal [27] provide empirical evidence that entrepreneurs, who in a Schumpeterian sense are the main drivers of the development in a capitalist system, are usually depicted very negatively in Hungarian public discourse. As they describe, risk-taking, innovativeness and self-provision were not considered values in the socialist system for generations, and those who were socialized without these values were suddenly operating in a system, where these values should have been the keys for success. Also, the lack of experience from the part of the regulators made it possible for many individuals to acquire wealth in a way that would certainly have been illegal with a properly functioning regulatory system. This has led to the formation of the stereotypes about entrepreneurs and businesspeople, that create a vicious cycle by decreasing trust in these people, which leads to increasing bureaucracy, which in turn leads to inefficient economic mechanisms, which motivates entrepreneurs and business managers to find loopholes in the system, which in turn strengthens the narrative about them as shifty, immoral individuals that do not respect the law.

3 A Case for Business Ethics in Hungary

The previous sections make it clear that the question for Hungary is not if there should be more emphasis on business ethics but on how this could and should be achieved. If Hungary is ever to catch up with the societal achievements of Western Europe, the business culture needs to be transformed dramatically, and business ethics can lead the way in this.

Let us look at the current situation of business ethics as an academic discipline in Hungary. We can say that, with a few prominent exceptions, business ethics does not have an active considerable representation in Hungary today. On the undergraduate (BA/BSc) and graduate (MA/MSc) level, business ethics courses are usually either missing from, or are only optional parts of curricula in the large business schools (e.g. Corvinus University of Budapest, Budapest Business School, Budapest University of Technology and Economics, University of Pécs).

Courses related sustainability and CSR do occur somewhat more frequently, but they are also not integral part of the programs that are supposed to train future business managers. Regarding academic publications in Hungarian language that relate to business ethics, we can find a similar scarcity. After a search in the database of the Hungarian economic/business journals that are rated A or B by the Economics Section of the Hungarian Academy of Sciences, it has been found that it is almost exclusively the Budapest Management Review that has published business ethics related articles in the last decade (e.g. [2], [6]). Again, if CSR is considered as part of business ethics, then the list of publications is a bit broader, but still far from being in the mainstream.

As mentioned in the previous paragraph, there are some notable exceptions though. The Business Ethics Center of Corvinus University of Budapest, led by professor László Zsolnai has engaged in high quality, internationally relevant research for more than 25 years. Their achievements include acting as an organizer or co-organizer of 17 international conferences, 250 scientific publications, 144 conference and workshop presentations, and several courses developed and taught at Hungarian and other European universities [36]. Another noteworthy development is the activity of the Pallas Athene Books publishing company, that translates up-to-date economic and business books to Hungarian language, and in less than two years they published two books that are directly about business ethic [4, 33].

Initiating more academic activity in business ethics is far from being the solution to the issue of widespread unethical behavior in business, as it is pointed out by Brenkert [5]. There needs to be a plan for the enactment of moral change, that fits into the economic, social and political environment. But this plan has to be constructed somewhere, and it is argued here, that the starting point could, and perhaps should be the academic community. As Hankiss [13] points out, in the years since 1990 there has been a confusion in terms of what political and economic system model Hungary should follow and consequently what social values in business are to be respected and widely enforced by the general public. Right after the fall of the socialist regime, the country seemed to move towards a neoliberal ideology, where the market takes a primary role and close-to-laissez-faire rules apply. But after a few years, when the negative sides of such a system became painstakingly visible through to high level of unemployment and unequal distribution of wealth and income, there was a strong nostalgia for the years when Hungary was the happiest barrack, and populist slogans against the free market became more and more popular [20]. There is no quick fix for this confusion of values and the crony capitalism that exists today in this country, and this is why the focus should be on the long-term goal of establishing clear values in business. Universities can not do this alone, but they can certainly contribute by establishing, representing and cultivating values in future businesspeople.

Business schools can have counterarguments on why they cannot engage in such an enterprise. First there could be the argument that the function of universities is

to spread knowledge, not values. This is surely not possible today however, when a large proportion of teenagers and young adults spend years of their lives at universities, and this inevitably makes it part of their socialization process [15]. Universities will convey values to students, the question is only whether business schools take the responsibility to engage in the deliberation of what these values should be in their case, or they leave it to the students to deduce whatever values they can from the principles of business and economics that they are taught. Second, it can be argued that the students with a business degree need to find their way in today's business environment either on the labor market or as entrepreneurs, and business ethics training does not provide what is demanded by this environment. This may be true, but it is also shortsightedness, if universities just want to produce what the labor market currently demands [1].

There could be several other arguments for and against increasing emphasis on business ethics in Hungarian business education, but the main point here is this: even if there is no strong empirical evidence that business ethics training has immediate impact on unethical behavior in developed western societies [32], those who train the next generation of businesspeople in Hungary have to realize that ethical considerations in business must be addressed in a systematic manner if we ever hope to improve our business culture. And, as discussed in the first section, this is exactly what business ethics as a discipline (the second strand) does. I would argue, that the ethics-in-business approach (the first strand) is not enough, as people make moral judgements about every aspect of their lives, including business, but if their moral compass is not functioning properly, these judgements will not lead to socially beneficial behavior. On the other hand, the incorporation of ethics (the third strand) will also not be effective, if it is not backed by genuine belief in the good of business ethics. For example codes of ethics at corporations may be ineffective or may even be counterproductive in terms of ethical behavior, if they are not suitable for the context in which they are introduced [16].

Conclusions

Business ethics can be understood in different ways, and in this essay I followed the conceptual framework of De George [7] that describes three different strands of business ethics: the general ethics-in-business approach; business ethics as an academic discipline; and the incorporation of ethics into corporate regulation and codes. There is no overarching agreement that the development of business ethics as a discipline had tangible impact on business, especially on a global level [5], but there are several researchers who argue that ethics pays [3, 31] while others argue that having an emphasis on ethics in business provides long term benefits that may or may not be measurable in monetary terms [24, 33].

I have argued, that Hungarian business culture has some glaring issues and that an increasing role of business ethics could foster the needed improvement in this regard. One can describe culture with descriptive data, but I have focused on an approach which looks at the problems that businesses face in Hungary. Business

organizations have to form certain attitudes and behavioral strategies to cope with these problems and this shapes the overall business culture of the country. Based on empirical data [27] and the assessment of renowned experts of different disciplines [13, 20] we can see that unethical behavior is pervasive and entrenched in the practices of economic actors on all levels. Increased emphasis on research and education of business ethics is not going to solve this problem alone, but it can help raise awareness and it might cultivate values and ideas in the future generation of business leaders that are largely neglected today.

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The Role of Entrepreneurship in Innovation and Progress

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Original scholarly paper

Abstract: In the world and in our country, we are increasingly talking and writing about entrepreneurship and innovation, so there is often the impression that it is a new economic and technological phenomenon. However, when we look deeper into this area, we will find that it has its deep roots and that it has made a great contribution to the present level of scientific, technical and technological achievements, including digitization. The aim of this paper is to highlight the role of entrepreneurship through many centuries in many innovations that led to the progress of humanity in order for the human race to live more comfortably and create a better future for itself with less effort. In the last few decades, entrepreneurship has been given space in departments of many universities across the globe, and most countries have been using numerous measures to encourage its development.

Key words: Entrepreneurship, innovations, entrepreneurship theories, examples of successful entrepreneurs, digitization of business.

Introduction

Man is the initiator, the bearer and executor of development and, ultimately, he is the enjoyer of the fruits of development. (Levi-Jakšić, M., Marinković, S., J. Petković, J., 2011) It follows from this statement that man has been an innovator and an entrepreneur throughout history and that he still has this role today. In the new EU strategy, the EU's 2020 development goals are: increased employment, increased R&D spending as a basis for innovation development (3% of EU GDP), increased climate change impact with the use of renewable energy sources to reduce greenhouse gases (by 20%), a greater commitment to education and the fight against poverty and social exclusion in the EU. (European Commission, 2010a). (Source: Eurostat/. Because of the great importance of EU SMEs to the EU, they are said to be the "backbone of economic development" of the EU

(Stefanović, Milošević & Miletić, 2009). This was the reason for this paper to „shed more light on the role of entrepreneurs“ throughout history.

1 Theorists on entrepreneurship

The term "entrepreneur" was, in its present meaning, referred to in the 16th and especially in the 17th century. By the mid-17th century, French economists were beginning to use the word "entrepreneur" for people active in the economic field and who were innovating with risk and uncertainty. (Peterson, R.A. 1984) However, speaking of theory of entrepreneurship, undoubtedly, the first of its creators was Richard Cantillon, which he presented in his section "Essay on the Nature of Trade in General", published in 1755. He distinguished three social classes: farmers, entrepreneurs and wage earners, with entrepreneurs engaged in a variety of occupations, ranging from wholesale and retail to crafts, but what they had in common was that they took the risk themselves for their jobs. Cantillon's follower was also a Frenchman, François Quesnay, who, as a physiocrat, called the farmers agricultural entrepreneurs, believing that only in this activity would a positive business result be achieved. (Paunović, B., 2018) In 1800, Jean-Baptiste Say said that "an entrepreneur is in fact moving economic resources from one area, lower one, to another area which is more productive and of higher income." (P. Drucker, 1991). Among American economists, the first to notice the difference between an entrepreneur and a large capitalist was Frances Walker (1876), calling the entrepreneur an engineer of industrial progress and the most important factor in production. (Paunović, B., *ibid*) At the turn of the 20th century, the so-called. "Austrian school" appeared and it attributed great importance to entrepreneurship. The proponents of this school believed that there was dynamic competition in the market, reflected in the competition with prices and better quality of products and services and that entrepreneurs were catalysts for economic change and drivers of economic development. The founder of this school was Joseph Schumpeter, who, among other things, states in his book "The Theory of Economic Development": "Everyone is an entrepreneur only when he really "realises new combinations" (it refers to the factors of production) and he loses that character as soon as he builds his own business and when he settles down and starts running his business like other people."(Schumpeter, J., 2012.) However, he states, "without development there is no profit, and without profit there is no development. He is well known for his term "creative destruction", according to which he believes that by introducing new products and other innovations to the market, entrepreneurs contribute to the growth of social wealth, in other words, it means a permanent destruction of the existing market order. (Schumpeter, J., *ibid*.)

2 Types of entrepreneurship

There are a number of divisions of entrepreneurship, in different periods of their emergence. **Family entrepreneurship** is very widespread throughout the world. Three quarters of all UK businesses are family owned businesses, which are more stable and longer-lasting. In the US, about 33% of family businesses are on the Fortune 500 list as the most successful. In the EU, family businesses employ more than 50% of the active workforce (Radović-Marković, M. 2009). **Rural entrepreneurship**, today more than ever, is an important segment of the economy of many countries. For example, in Canada and the US, SMEs in rural area, account for between 28 and 30% of the total number of established businesses. (Radović-Marković, M., *ibid.*) **Entrepreneurship based on running a home-based business** has been steadily increasing in recent decades, especially in economically developed countries. According to statistics in the US, the number of home-based businesses has increased from 6 million to 32 million in the last 14 years. It is estimated that about 8493 new businesses are started daily. (Radović-Marković, M., 2007) **Women's entrepreneurship**, although it has existed throughout history, only gained recognition by adopting the Employment Service Convention, adopted by the International Labor Organization (ILO) in 1948. That act emphasized the prohibition of all types of exploitation and discrimination against women, including employment opportunities. (Markovic-Radovic, M., 2009) **Social entrepreneurship** creates around 8% of new jobs in Europe, creating around 3.5 million jobs in the EU. (Smallbone, et.al. 2004) Unlike other types of entrepreneurship, profit is not the only goal for social entrepreneurship. Most often, this is about providing social services: care for the elderly, health care for the sick and infirm, care for the disabled, care for the homeless, assisting the unemployed with access to work by providing additional education and more. International entrepreneurship first appeared in theory in the 1990s. Famous American scientist J.F. Morrow published an article in 1988 stating that international entrepreneurship was being created thanks to new information technologies, creating new markets that had not been used before. (Morrow J.F., 1988.) **Global entrepreneurship**, in addition to large companies, extends to the whole world due to its great flexibility and communicability. Apart from the many benefits of global entrepreneurship, the renowned economist, Nobel Laureate Prof. J. Stiglitz also finds the downside by stating that, from the point of view of nation-states, this will further increase the gap between the rich and the poor. (Stiglitz, J., 2002) **Internet entrepreneurship** is the most modern form of entrepreneurship. As they leave college, the so-called online generation, are already starting to work, using extraordinary digital tools that give an individual the power that used to be reserved for the authorities in the past. They are the first global generation and spread new rules of business conduct around the world, so we have the opportunity to learn from them. (Tapscott, D., 2011)

3 Innovations and entrepreneurship– similarities and differences

We want to emphasize here that there are nevertheless differences in the concept of innovation from the concept of entrepreneurship. It is assumed that the word "innovation" is derived from the Latin word "innovatio", which means - new, novelty, or from the word "innovare", to make something new, and "novus" - new. (Amidon, D., 2003). The most important thing is that the end user (customer, consumer) recognizes and accepts the innovation, because the effect of its commercialisation depends on it. In the modern age, definitions of innovation are increasingly being given. According to the Organization for Economic Co-operation and Development (OECD), innovation is "the application of a new or substantially improved product (i.e. physical goods or service), process, new marketing method or new organizational method in business practices, workplace organization or external relations. (OECD, 2010) Innovation is key as it encourages economic growth and development, increases employment and employee income, and improves the quality of life as well as the competitiveness of nations. (Atkinson, R., Ezell, S. 2014) More significant innovation is, as a rule, accompanied by intellectual property rights, genetic engineering, primarily in the case of patents, copyrights, trademarks / service marks and other forms of intellectual and industrial property, which are largely enjoying international and domestic protection. This is not the case with entrepreneurship, as, in most cases, it does not enjoy such protection.

4 Position of Serbia on Global Innovation Index list

Each year, a Global Innovation Index (GII) list is issued for 129 countries based on 80 different indicators. In the 2019 GII list published by the UN Specialized Agency, the World Intellectual Property Organization (WIPO), in cooperation with New York University Cornell and the Swiss multinational business school INSEAD on June 24, 2019 in Delhi, Serbia ranks 57, which is close to the middle in the ranking of upper-middle income countries, whereas in the group of upper-middle income countries it is in 11th place, as can be seen from the following table.

Table 1 – GII RANKING OF UPPER-MIDDLE INCOME COUNTRIES

Country/economy	Score	World ranking	Ranking in same income group	Region	Ranking in region
China	54,82	14	1	SEAO	4
Malaysia	42,68	35	2	SEAO	8
Bulgaria	40,35	40	3	EUR	27
Thailand	38,63	43	4	SEAO	10
Montenegro	37,70	45	5	EUR	30
Russia	37,62	46	6	EUR	31
Turkey	36,95	49	7	NAWA	5
Romania	36,76	50	8	EUR	33
Costa Rica	36,13	55	9	LAC	2
Mexico	36,06	56	10	LAC	3
Serbia	35,71	57	11	EUR	34
North Macedonia	35,29	59	12	EUR	36
Iran	34,43	61	13	CSA	2
South Africa	34,04	63	14	SSA	1
Armenia	33,98	64	15	NAWA	7

Regions are classified according to the UN classification: EUR- Europe; NA-North America; LAC- Latin America and the Caribbean; CSA-Central and South Asia; SEAO- South East Asia and Oceania; NAWA-North Africa and West Asia; SSA-Sub-Saharan Africa. Source: Cornell University, INSEAD and WIPO (2019)

At the top of the GII list are innovation champions, Switzerland, Sweden and the USA. America has primacy in developing R&D clusters (26), followed by China (18), Germany (19), France (5) United Kingdom (4) Australia, India, South Korea and Switzerland (3 each). As in 2018, Tokyo-Yokohama, Japan topped the list of top ten clusters, with more than 95,000 patents registered between 2011 and 2015, according to the Financial Times, accounting for about 10% of the total registered 950,000 patents worldwide. The largest patent changes registered in Tokyo are used by Mitsubishi Electric, followed by Shenzhen Hong-China (China) with more than 41,000 patents, followed by the Silicon Valley Jose-San Francisco Cluster with more than 34,000 patents.

5 How entrepreneurship and innovations contribute to economic development?

The USA and South Korea examples

Had the United States and South Korea adhered to the liberal theory of Britain's Adam Smith, outlined in the "An Inquiry into the Nature and Causes of the Wealth of Nations" (known as "Wealth of Nations"), published in 1776, they would probably be classified as developing countries nowadays. Instead of the countries among the seven most economically developed in the world. German economist Friedrich List, known for his theory of national economics, criticized Britain in the mid-19th century for preaching free trade, noting that the country "pushed the ladder" when it reached a dominant position in the world economy through customs and abundant subsidies. (Chang, H.J., 2016) From this behaviour of Britain, a conclusion can be drawn - do as we tell you, not as we did. When Alexander Hamilton became the first US Treasury Secretary in 1789, he submitted a Report on the Subject of Manufacturers to the Congress. In that report, he suggested 11 measures that should protect the "developing industry" because the US was a backward country, unprotected from foreign competition. Among these measures, in addition to protective tariffs, the ban on the export of raw materials and subsidies, special subsidies were introduced for technological innovation in key industries and innovation and discovery in the country and their import from other countries in the US was encouraged. (Alexander Hamilton 1789 Report). After a three-year fratricidal war (1950-1953), South Korea was among the most economically undeveloped countries in the world with GDP per capita below \$ 100. Its main export products were tungsten ore, fish and other crude and unprocessed products. Thanks to its own concept of economic development, the country's economy adopted its economic agenda between the 1960s and 1980s. The government, in consultation with private entrepreneurs, introduced customs protection measures, abundant subsidies and other forms of government stimulus with the marketing support of the State Export Support Agency. Today's South Korea is one of the most inventive countries in the world, regularly ranked in the top five countries by the criteria of the largest number of patent applications granted each year by the US Patent Office. (Chang, H.J., *ibid.*)

6 What do start-ups and digitalization bring?

The digital or online generation matured in 2008. Across the world, the generation overwhelms jobs, market and every niche of society. According to Don Tapscott (Tapscott, D. 2011), they bring their demographic strength, media intelligence, purchasing power, new models of collaboration and growing up, entrepreneurship and political power to the world. Robert Atkinson and Stephen Ezell believe that

the economics of innovation not only give priority to the digital era, but also see competitiveness in it that ensures faster economic progress of modern society (Atkinson, R., Ezell, S., 2014). The digital economy is virtual as well, and they lean on each other, as the authors of the book *Digital Economy* V. Lazović and T. Đuričković point out. (Lazović, V., Đuričković, T., 2018). Using the benefits of the digital economy and start-ups, China and India are now among the fastest growing economies in the world. In India, the fourth industrial revolution, or digitalisation, is in a big swing, which is why so much is being invested in high-speed internet. E-government, in this country, has improved government efficiency and linked more than one billion people with biometric cards. If you want to progress you have to be digital, is their life philosophy. India expects the IT industry to account for 7.5% of the country's GDP in 2020. (News Front news agency, retrieved 6/09/2019.) In the US, many trading houses are failing because they were not timely reoriented to sell online. Let us mention, at the end of this part of the presentation, that this year (2019) marks the decade since the latest invention in the field of digital technology, block-chain technology, on the basis of which a platform for crypto currencies (bitcoin and thousands of other crypto currencies) was introduced. Therefore, some countries are already working on using this technology in economic and social life, especially where there is a high risk of fraud and malversation. (Vasić, V., 2019).

7 Case studies – the most successful entrepreneurs

McDonald's - the most successful small business in the world: there is an interesting example of the most successful small business in the world, as McDonald's calls itself - a fast food restaurant, which now operates in over 120 countries in over 35,000 locations and has a daily capacity of over 70 million people. (M. E. Gerber, 2010, p.71) However, Ray Kroc created much more than an incredibly successful business. He created the model by which an entire generation of entrepreneurs created their wealth - a model that represents the genesis of the franchise phenomenon. The real ingenuity of Kroc's McDonald's is in the franchise's business model. The franchise's business model is what brought a revolution to American business. (M. E. Gerber, *ibid.*, p. 72) Namely, the franchisee was not interested in burgers, fries, or milkshakes, he was interested in business. Driven by the desire to buy a business, the franchisee was only interested in one thing: "Does it work?" Herein lies the secret of the success of the franchise business model, it is a stepping stone to the "Turnkey" revolution. (Gerber, M.E., *ibid.*). Peter Drucker points out that McDonald's is an example of entrepreneurship, though he did not find anything because its final product was what any American restaurant had produced for years. It is, in fact, entrepreneurship. (Drucker, P., *ibid.*).

Henry Ford - An example of a successful entrepreneur: The famous industrialist, Henry Ford (1863-1947) is very often taken as an example of a successful entrepreneur. He was the son of a wealthy farmer, born in the US state of Michigan but interested in the technical sciences from an early age. He took a job at Edison Company, where he served as the Chief Engineer servicing steam engines. At the same time, he was engaged in experiments on internal combustion engines in which Edison supported him, where in 1898 he constructed his own car. In 1903, Ford, with a group of innovators, founded the Ford Motor Company, in which he became the director as well, and at the age of 43, as an independent entrepreneur, he became its co-owner, doing well business. Thanks to the conveyor system, Ford (since 1908) had dramatically increased its productivity and produced 19 million cars at very reasonable prices in 19 years, with 14,000 workers receiving decent remuneration. Thus, he built up his financial power and already in 1919 bought all the shares of the Company and with his family, only after 40 years of hard work, achieved his intended goal. As other carmakers went on to diversify cars for buyers with greater purchasing capacity, Ford experienced its first failure. This is why they started diversifying products as well. (Figar, N., 2012) Today, Ford's factories operate in over 50 countries, employing hundreds of thousands of workers and producing over ten million cars a year. (Radovic-Markovic, M. *ibid.*)

John Rockefeller - the first entrepreneur to make over a billion dollars: Entrepreneurship is "part of the American DNA", according to Prof. D. Golijanin in the review of the book "Entrepreneurship", it is not surprising that Rockefeller (1839-1937) became a great industrialist and investor (Avlijaš, R., Avlijaš, G., 2017). At the age of twenty, he founded his Clark & Rockefeller company for \$ 2000 with Englishman M. Clark, selling farm equipment, hay, fertilizer, meat and home supplies. At the end of the first year of business, they had gross capital of \$ 450.00 and a net profit of \$ 4,400, and in the second year the profit was \$ 17,000. In 1868 he founded Standard Oil Company, which covered 10% of the market, whereas in 1879 it reached 90% of US oil refining. Rockefeller was the first entrepreneur in human history to earn more than a billion dollars and at the same time the richest man in recent human history. Rockefeller once said: "If your only goal is to get rich, you will never succeed in it." (Avlijaš, R., Avlijaš, G. *ibid.*)

Conclusion

The introduction of this paper states that man is the engine of development throughout history and that he did it in his own interest, to live more comfortably with less invested labour. At the same time, he is both an innovator and an entrepreneur, because everything he creates serves other people and, ultimately, the whole world. Historically, from an early age, from coming up with an invention to its practical application, many years and decades had passed, whereas today every innovation is very quickly put to use and, thanks to modern information technologies, expanded to the whole the world "overnight". For this reason, it is superfluous to say that entrepreneurship is something that came into

being in the late 20th and early 21st centuries. It would be more correct to say that innovation and entrepreneurship are the "conditio sine qua non" of the progress of humanity. However, the extent to which creators of economic thought were able to perceive the creative power of a certain number of people, in certain realistic circumstances, is a matter of longer observation, monitoring and analysis. Over the centuries, interpretations of entrepreneurship and innovation have changed significantly. The IT sector is sharply increasing the share of the services sector in the GDP of certain countries. For example, India, which we mentioned in the paper, is one of the fastest growing economies in the world (in 2018 its growth was 7.1%), precisely thanks to the digitization of business. In the last year (2018) its GDP was US \$ 2,716 billion, and next year (2020) it is expected that 7.5% will come from the IT sector (which is over US \$ 200 billion). (countryeconomy.com/gdp/india) From the global competitiveness list for 2019, which includes 129 countries based on 80 criteria, where Serbia ranks 57th, a correlation can be observed between the percentage of GDP allocated to science and technology development and the number of patents filed by individual countries. At the top of the Global Innovation List are the most industrialized countries, with the largest percentage of GDP allocated to science and technology, led by the United States, Japan, South Korea and Switzerland, followed by emerging countries, China and India.

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Smart Retirement for the Pension System of the Future

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Abstract: The history of mankind is inseparable from the issues of aging. The importance of the topic is justified by the fact that numerous famous philosophers such as Plato, Aristotle, Cicero, Seneca, Petrarca, Cardano, Simone de Beauvoir dealt with the topic and wrote about aging from different perspectives. Long, disease-free, and productive lives are all desirable for us. For a happy and full life, the above mentioned are enough or there are still opportunities. Compared to our predecessors, we can live today in an unprecedented time. Globally, the world is being shaken by three major explosions in the early 21st century: population explosion, longevity, and information explosion. A social phenomenon called the "demographic time bomb" or "population bomb", which is a problem of an aging (rapidly aging population) society, will affect the whole world in some way (socially, economically, others). According to demographic data from the United Nations (UN), the population of the Earth is growing (developing countries, many of them living in extreme poverty), but the population of industrialized countries is declining. The population of Europe as a continent and Hungary as a nation has been increasing for a long time, but it is decreasing and aging, according to the estimates. The aging of the population calls into question the ability of societies to adapt to the ongoing demographic change. The main topic of the research is one of the most significant social changes endangering the member states of the European Union: the aging of the population and its present and expected future impact on the economies, especially the pension security in Hungary.

Keywords: pension security, financial investments, retirement savings, behavior economics

Introduction

The issue of aging has fascinated people throughout human history. Numerous famous philosophers, such as Plato², Aristotle³, Cicero⁴, Seneca⁵, Petrarca⁶,

² Plato on the first book of the republic: Cephalus talks about old age and money. According to Plato, harmonious old age is possible without material wealth.

Cardano⁷, Simone de Beauvoir⁸ and others have studied and written about aging. We all desire a long and healthy life. We now live far longer than any time before in history (Iván, 2004, Thaler, 2019, Hans - Ole – Rosling, 2018). On 11 July 1987, the world population passed the five billion mark - since then the figure has risen steadily to 7.7 billion in 2018. According to the International Monetary Fund, the largest share of the world population lives in China with 18.7 percent, followed by India with 17.88 percent. With a population of 83 million, Germany also ranks among the top 20 most populous countries in the world. Last year, people in Germany accounted for 1.11 percent of the world's population. The U.S. is actually the world's third most populous nation. 4.39 percent of the global population live here. Since 1989, World Population Day has taken place on 11 July to draw attention to problems caused by the increasing number of people on this Earth. The UN expects the world's population to grow to 10.9 billion by 2100. Asia is by far the most populous continent on Earth. The United Nations estimates that the Asian population will peak at 5.27 billion in 2070. Europe and Latin America will reach their population peaks at 689 million and 765 million inhabitants, respectively, around the year 2060, according to the projection. African populations are expected to keep growing, albeit at a slower pace, beyond the current century, which is when their combined size could surpass that of Asian populations (World Economic Forum, 2019). The EU is threatened by aging and aging has a considerable influence on economies and societies (Eurostat, 2015). Similarly, to other EU member states, Hungary's population is also aging, and as a result, Hungary faces various challenges, including the reform of the health system, the pension system, and the tax system. In the countries of Central and Eastern Europe, including in V4 countries (Hungary, Slovakia, Poland and the Czech Republic) the state pension system works on the Pay-As-You-Go (PAYG) principle. In each country, preliminary calculations are done to ensure the sustainability of the pension system (Mészáros, 2014). The essence of the PAYG

³ Aristotle writes about the relationship between youth and old age, life, and death in the *Soul* philosophical studies. According to Aristotle, there is no harmonious old age without physical and material well-being.

⁴ In Cicero's *Old Age*, he writes that we must fight old age. We must fight against old age as against some disease. The most effective weapon against old age is exercising science and virtues.

⁵ Seneca's writes to Lucilius about beautiful old age and death in part XIV of *Moral Letters*. Seneca says that you shouldn't be afraid of death and old age.

⁶ Petrarca writes in his secret book that all births and deaths are a new start and a possibility of closure to learning and experience. The stage between birth and death is life itself.

⁷ Cardano was a practising doctor. In his book about his life, he deals with the issue of aging and describes the diseases of old age.

⁸ Simone de Beauvoir maintains that almost everyone feels guilty about old people, and therefore the conspiracy of silence surrounds this topic. The purpose of his book is to break this silence.

system is that the pension contribution of active workers is collected and distributed among the pensioners as pension (Csontos, 1997). In this system, the active workers pay for the pension of the pensioners. A great problem is that pension contributions are not capitalized, not invested (Novosz ath, 2014). Also, future pensions are not insured, so all active workers can get is a promise that the state will provide for them when they are old. PAYG systems are in a crisis all over the world. State pension systems have to be reformed (Augusztinovics, 2014). At the macro level, an automatic system should be created between contributions and benefits that ensures the long-term sustainability of the system (Simonovits, 2002). The PAYG system is convenient while the population is growing (Samuelson, 1958).

1 The effect of aging on economies and pension systems

We humans not only die, we grow old. Demographic data show that the population of Central and Eastern Europe (Fig. 1), including Hungary (Fig. 2) has been decreasing for some time and calculations show that it will continue to do so. The aging of the population questions the ability of societies to adapt to demographic changes. They have reacted to these challenges correctly because the traditional methods of aging are misleading and do not take into account the temporal and spatial differences in the characteristics of the people.

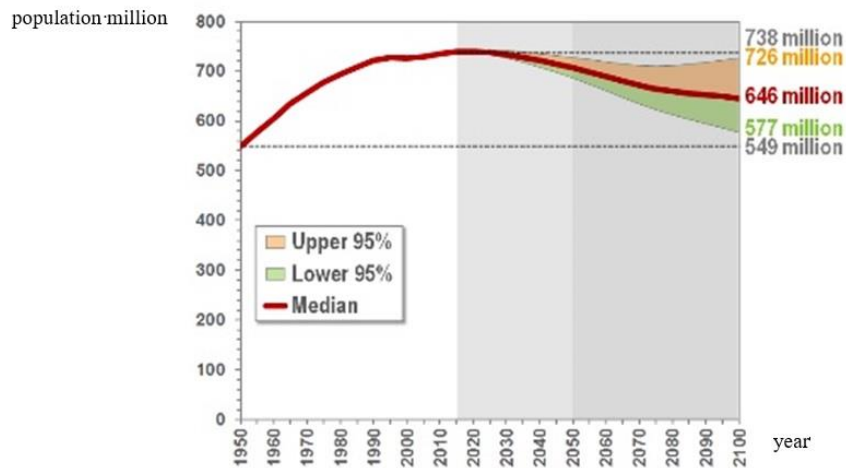


Figure 1

Population trends in Europe between 1950 and 2100 according to the baseline, low and high variation of population estimates (United Nations, 2015)

Today's people of 60 or 65 are very different from people of the same age half a century ago and will be probably very different from people of the same age half a century from now. People live longer and enjoy more knowledge.

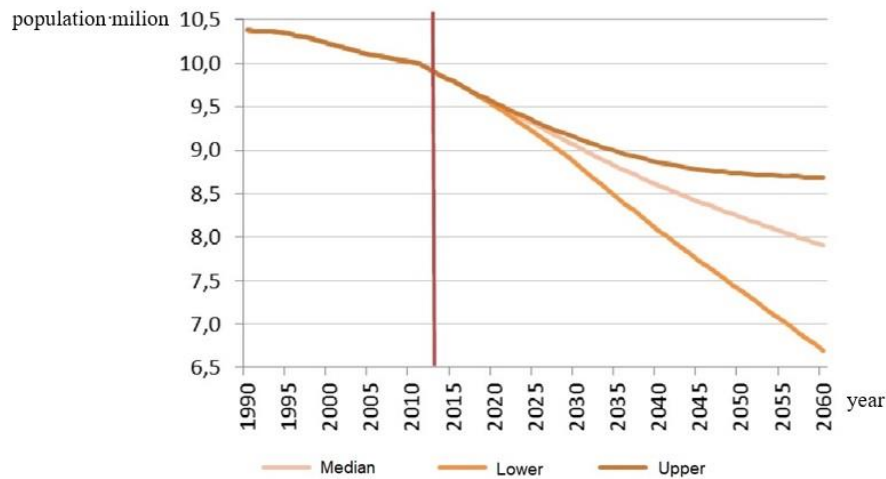


Figure 2

Population trends in Hungary between 1990 and 2060 according to the baseline, low and high variation of population estimates (Hungarian Central Statistical Office, 2015)

Due to unfavorable demographic trends, the current scenario is that Hungary's population will decline to 8.75 million over the next 20 years, said Zsolt Spéder, head of the CSO's Institute for Population Studies, in an interview to the Portfolio. According to the expert, if life expectancy increases, raising the retirement age by 2040 is likely to be inevitable. In addition, it would be a good idea to talk about a fairer Hungarian society in twenty years' time, even though major international trends are pointing towards increasing inequalities (Monostori - Óri - Spéder, 2015). The paper subsequently presents the measures of the aging of the population adapted to changes in life expectancy and compares them to the uncorrected measures. The uncorrected measurements of the aging of the population assume that old age starts at the age of 60 or 65. In this datasheet, the beginning of old age has been defined as the age when life expectancy drops to 15 years. This way a dynamic old-age threshold is obtained, which reflects the effects of demographic changes. The ratio of the population over the old-age threshold and the expected old-age dependency ratio is a measure based on two dynamic thresholds. This paper, further measures aging with the new threshold value and compares it to the uncorrected values. With the help of the dynamic old-age threshold, new things can be seen. For example, here it is evident that the ratio of "old" 65-year-olds or older people is different in different countries and changes over time. According to the traditional approach, everybody over 65 is considered

“old”. It can also be seen that the ratio of adult age spent in old age decreases over time. Without correcting the changes of remaining life expectancy, it seems that people spend an increasing proportion of their adult life in old age. It is predicted that in the EU in 2050 the average life expectancy of women will be 88.2 years and that of men will be 85.7 years (see Table 1).

Table 1

EPC calculations for EU 27 and Hungary (European Commission, 2018 and author’s compilation)

Year	2016	2020	2030	2040	2050
<i>EU 27 – Life expectancy for women {year}</i>	83,7	84,3	85,7	87,0	88,2
<i>HU – Life expectancy for women {year}</i>	79,6	80,4	82,3	84,0	85,7
<i>EU 27 - Life expectancy for men {year}</i>	78,2	78,9	80,6	82,1	83,5
<i>HU - Life expectancy for men {year}</i>	72,8	73,7	76,0	78,2	80,3

On the other hand, births will only slightly increase and the number of people in employment will decrease greatly. As a result, pension expenditures will likely increase in all 27 member states of the EU (Eurostat newsrelease 2015). An important question is whether there will be enough active workers to cover pensions with their pension contributions (see Table 2). Pension experts already recognised around 1990 that the PAYG system could not be maintained in its current form for a long time, as population growth will slow down. They predicted that the number of births would stabilize at a lower level and fewer people would enter working age (Augusztinovics, 2014). The most important task is to examine how the population changes, and thereby make it possible to accurately predict the future , for example what will the population and its composition of Hungary be in 2050. A closely connected issue is whether there will be enough active workers to provide for pensioners. In 2018, employment rates for men and women aged 55 to 64 years were higher, at 65% for men and 52% for women, than the average rates for all adult men and women (60% and 48%) in the European Union (EU). The most striking aspect is the rapid pace at which employment rates for people aged 55 to 64 years increased between 2003 and 2018 (with little or no impact from the global financial and economic crisis). This was particularly notable in relation to the growing proportion of women in work (European Commission, Eurostat, 2019).

Table 2

EPC calculations for EU 27 and Hungary (European Commission, 2018 and author's compilation)

Year	2016	2020	2030	2040	2050
<i>EU 27 – Number of births</i>	1,55	1,61	1,67	1,71	1,74
<i>HU - Number of births</i>	1,48	1,61	1,68	1,72	1,75
<i>EU 27 – Working-age population between 15-64 years {million}</i>	290,697	287,478	275,374	262,255	252,854
<i>HU - Working-age population between 15-64 years {million}</i>	6,588	6,364	6,081	5,711	5,325
<i>EU 27 – Potential growth of GDP</i>	1,3	1,4	1,2	1,2	1,4
<i>HU - Potential growth of GDP</i>	1,9	1,9	2,1	1,2	1,5
<i>EU 27 – pension expenditures {GDP %}</i>	10,4	10,7	10,5	11,4	12,5
<i>HU - pension expenditures {GDP %}</i>	10,6	10,9	10,7	12,8	13,8

2 An analysis of the sustainability of the state pension system

The Hungarian pension system currently has two pillars. Pillar I is the state pension system that works on the PAYG principle and pillar II is the funded system (Novosz ath, 2014). The PAYG system is convenient while the economy is growing (Samuelson, 1958). As it has been seen before, life expectancy in the

world has doubled in 100 years, with fewer and fewer children being born. The population pyramids in Fig. 3 and 4 show that by 2050 in Central and Eastern Europe and in Hungary, the number of young and middle-aged people will be similar and the population pyramid only gets narrower at old age. Demographic pressures are on the rise both in Central Europe and Hungary, and by 2060 demographic dependence may double (NYIKA, 2010, Mészáros, 2014, Banyár, 2016).

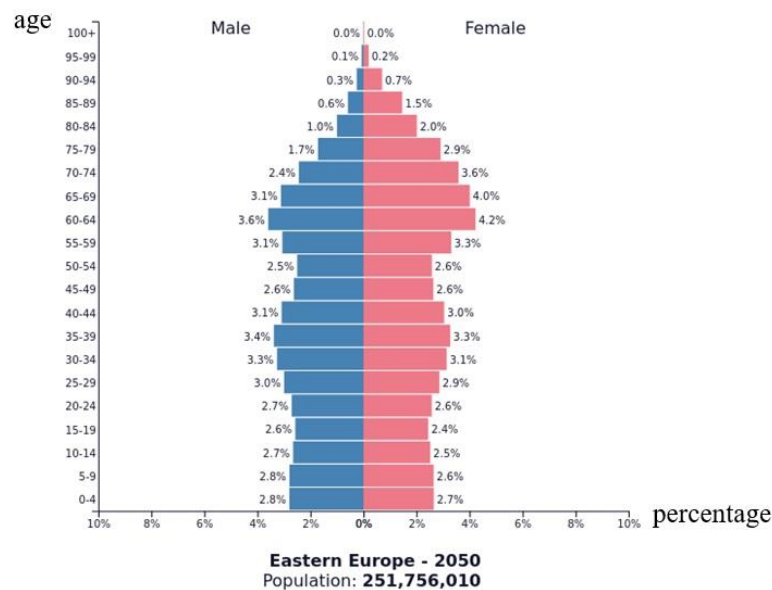


Figure 3

The population pyramid of Central and Eastern Europe and Hungary for 2050 (Population Pyramids, 2020)

The latter may change slightly due to family protection action plans. Among the V4 countries, the financial wealth of Hungarian households stands out, including real estate, which would be 200% of GDP. However, it is less good that the share of life insurance and retirement savings as a percentage of GDP is only 9%, well below the EU average of 46.5%. In retirement savings, reserves and portfolios are increasing, with NYESZ alone declining compared to the end of 2014. When looking at active contributors and active members, the effective pension supplement coverage in Hungary is about 29%. This also means that 70% will not have any pension savings. According to the MNB, welfare funds would provide mass access because they would provide subject membership and actively finance the economy through stock exchanges and government securities. Not to mention that one can reach out to young people with an expanded range of services (first home purchase, childbirth). In practice, this could look like a retirement and health

pocket for an individual welfare account, which could be used in a family-friendly way. It is envisioned that every employee could be a member of the welfare fund resulting from the merger of health funds and pension funds. It would be up to everyone to decide the rate of individual contribution. This would be supplemented by employers' preferential tax subsidies. The current tax credit may be replaced by a state normative grant (Thaler – Sunstein, 2011).

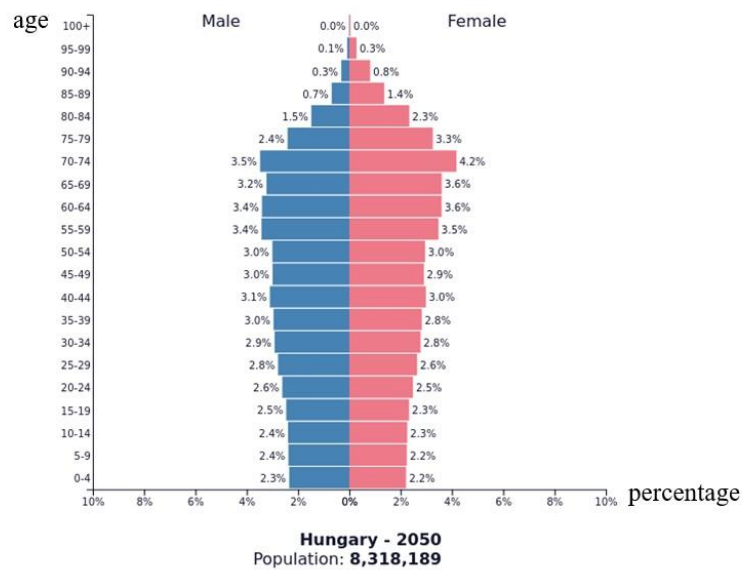


Figure 4

The population pyramid of Central and Eastern Europe and Hungary for 2050 (Population Pyramids, 2020)

Therefore, experts recommend a mixed system. In the current pension system, a supplementary element can be a voluntary pension fund. This can help sustain after retirement the standard of living one got used to in one's active years. Other pension saving systems include pension insurance.

3 Financial saving forms and possibilities

Although the contribution to the pension system is one of the highest in the OECD countries in Hungary, one receives only 60 percent of one's earnings as a pensioner. In terms of the value of pensions, there are several countries where contributions are largely made to mandatory private pension schemes. The mandatory contribution to the state pension fund is the second highest in Hungary

among the OECD countries. An average worker pays roughly 30 percent of his income into the pension system, which is higher only in Italy. Nevertheless, the replacement rate of pensioners (i.e. the proportion of retirees receiving their previous salary as a pension) is only 60 percent in Hungary, thus Hungary is in the middle of the OECD (between Japan and New Zealand - of course, the average income in these two countries is much higher) . In Hungary, the pensions currently paid out entirely come from the mandatory state pension contribution. Currently, the proportion of VRS in the OECD countries is low, especially in the Anglo-Saxon countries (Canada, the United Kingdom, the USA), which make up a significant part of old-age benefits. In other states, such as the Netherlands and Denmark, a large proportion of payments come from mandatory private pension funds. These countries occupy the first two positions in terms of the replacement rate of pensions: in Denmark, pensions are equivalent to more than 85 percent of average salary and in the Netherlands more than 95 percent. However, in general, it cannot be said that the higher the proportion of mandatory private pension, the greater the salary one receives as a pensioner. For example, Italy and Austria are in the third and fourth place, where, like Hungary, only the state pension fund has to pay pension contributions, while in Estonia and Lithuania, for example, there is a compulsory private pension scheme, although the replacement rate is lower than in Hungary. In fact, the value of pensions relative to salaries depends on a number of other factors, from the dependency ratio to the overall performance of the economy. In addition to increasing pension contribution and tax, and retirement age, there is a more effective and sustainable solution: self-care. This means that people create their own private pension fund, which will enable them to live a full life in old age. This relieves the state too because they save money privately, albeit with state help, and they manage their own wealth. There are many forms of savings (e. g. voluntary pension fund, pension savings account and pension insurance). When choosing the right savings product, one must decide how important the term (time period) and liquidity are. Nobel Prize-winning British economist Angus Deaton confirms the findings of his research on consumption, well-being and poverty that money makes people happy from poverty to subsistence and then to security. Above one level, however, more money no longer causes a significant improvement in quality of life (Steptoe - Deaton - Stone, 2015). Mention should also be made of research into the technique of surveying the world's extreme poverty, people living on less than one or two dollars a day, and the reliability of data, especially household surveys conducted by the National Sample Survey (NSS) in India. His research also covers the interrelationship between the social situation, health, income and education, and its effects on the national economy. The Almost Ideal Demand System (AIDS), created by Angus Deaton, is the first globally applicable method for measuring poverty. The concept of the so-called Deaton paradox is also derived from it, i.e. that the level of consumption does not usually change even in times of rapid rise and fall in income (Deaton, 2017). The levels of the Maslow Hierarchy of Needs, if one looks at income at the first two levels, money is needed to buy food,

provide a place to sleep, to live almost exclusively with the contribution of money. Of course, these needs must be met in the long run, too, so it is clear that the second pillar is the money as the key to our long-term sustainability. As one moves up the pyramid, one becomes happy and content with his own life. After this level, money as a value cannot do more for one's happiness, because love and acceptance cannot be bought, of course. The hierarchy envisioned by Maslow does not always hold true, as has been confirmed by numerous studies (Wahba - Bridwell, 1976). According to forecasts, the number of pensioners will increase dramatically, and this cannot be changed in the short term. In the current pension system, one of the complementary elements of securing old age livelihoods may be the choice of a voluntary pension fund. A voluntary pension fund can enable the citizens to maintain their standard of living during their active years when they retire. These institutions supplement other retirement savings such as pension insurance. Pension is, in general terms, "the benefit that senior citizens of a country are entitled to, and therefore not on a means-tested basis. Its amount depends on the length of service, that is, the number of years of work (earning) and previous earnings "(Matits, 2016). This definition is a good reflection of the public perception that the concept of pension relates exclusively to social security benefits. However, any regular old-age income to which one is entitled in one's active age is considered a pension. Thus, our retirement income may or may not be our retirement income. It should be made clear that there is no form of public benefit that can, and cannot, be a good pension for everyone. So if a person wants to be really safe in his old age, then he will really have to do a lot. In addition to raising taxes and contributions and pushing the retirement age, there is a more effective and sustainable solution called self-care. This means that people create for themselves a private pension fund that allows them to live a full life as they grow older. This will also relieve the state of the burden because, with the help of the state, they are putting money aside. They manage their own assets and do not pay more for the community. There are many pension savings options available. Before choosing the right savings product, one needs to decide in advance how much time and liquidity will be involved in choosing the savings form. The state supports three types of retirement savings solutions: the Voluntary Pension Fund (VPF), the Retirement Savings Account (RSA) and Pension Insurance. These are worth thinking about for a minimum of 10-20 years. Accumulated private pension funds can be taken up when one reaches retirement age, with some restrictions being made available earlier.

4 The role of self-care in one's decisions

4.1 Behavioural economics and decision-making typology

Self-care, i.e. savings for retirement (voluntary pension fund, insurance, other savings, etc.). Of these, it is easy to choose which one or more people want to provide for their future expected pension level (Havran, 2011). Decisions in general, such as what type of “financial investment” to choose, cannot be supported by human reasonableness or preference, and this is also supported by economic psychological research because it is overridden by other non-rational considerations (Fodor, 2013). Research has shown that the processing of rational and non-rational information is related to the cerebral hemispheres. The left hemisphere is the conscious, the dominant, the logical, the rational, the analyst, the positive thinker, and the right hemisphere is the equivalent of the unconscious, irrational, emotional, negative thinking. Positive or negative information processing is a solid, though influential personality trait (Hámori, 1998). For most people, left hemispheric function is a hallmark of positive information processing (Fodor, 2013). Its positivity lies in its confidence that it is difficult to bear crisis situations that jeopardize its positive outlook and expectations in the good course of events. The left hemisphere is characterized by a systematic, analytical problem approach, research and listing. The right hemisphere is more capable of processing negative information, that is, it plays with the expected outcomes in a given situation, imagines the outcomes, and is therefore more likely to be activated when a given situation occurs. From an economical point of view, research has shown that the right hemisphere is also decisive in shaping individual preference systems. From the point of view of problem solving, the right hemisphere gathers experience on each outcome. Thus, decision-making is heavily influenced by which cerebral hemisphere the individual relies on. Another decisive factor in decision making is the determination of the decision maker. A determined person makes a decision faster than a less determined partner.

4.2 The role of financial awareness in decision making

This paper also focuses on the present and future status of direct persons. It's important to understand what respondents are directing themselves to the decision about self-care, what habits and processes influenced their decision, and more precisely what motivated them to choose the form of savings under consideration. With the help of questionnaire research, the author examined respondents' behavioral fundamentals and factor analysis methodology to determine what choices one has in relation to the expected pension level in the future. The research examines the importance of self-care as a pillar of retirement supplementation in the public consciousness and one's decisions today. It also

examines the possible future pension systems, the future generations of retirement, how many people will work and how they will work in the future. The research is based on the basic assumption that people think about retirement with fear and uncertainty. Based on the previous chapters it can be seen that the Pay-As-You-Go (PAYG) system is in crisis, so the II pillar, self-care is receiving increasing attention today. In order to gain a deeper understanding of the motivations behind one's decisions, parts of the factor analysis statistical procedure was used, which is nowadays a widespread computerized method of personality mapping (Sajtos - Mitev, 2007). The data of the questionnaire and the statistical calculations were done with the help of the SPSS software. The online survey was conducted in 2020. The total number of respondents was 1410 (n = 1410).

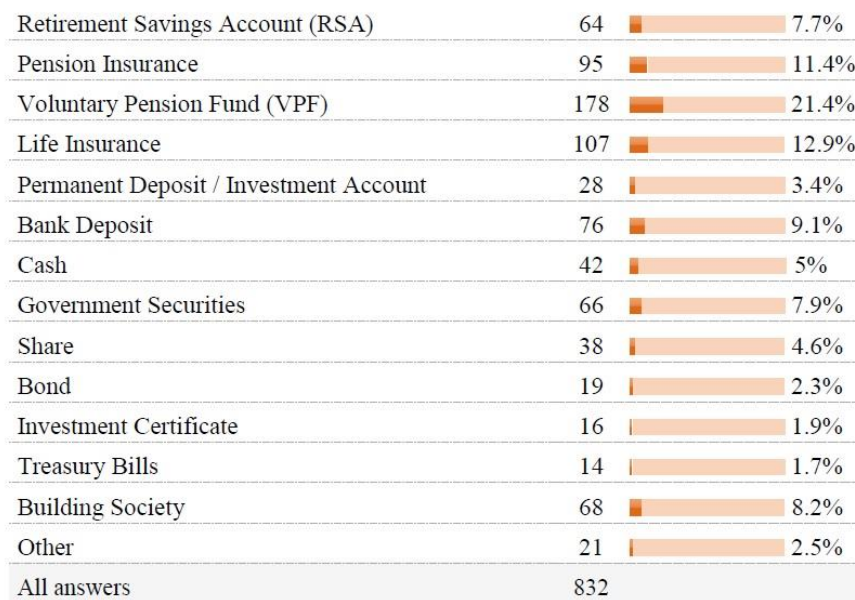


Figure 5

The respondent has financial savings for retirement purposes (author's my own compilation)

The basic questions for which answers were sought were related to the planning of pension systems, retirement savings and self-care, retirement security, as these are the elements that determine the financial background of one's future existence, that is, the extent of one's self-care. Within the research, the answers were divided into 3 groups: 1. Knowledge of pension systems (compulsory, voluntary); 2. Financial planning (different characteristics of savings); 3. Role of self-care (personality mapping). The above three groups were analyzed separately by qualitative research. The three groups were subjected to a number of statistical evaluations, such as means, frequency, cross-tabulation. In this study, only the role

of state pensions and self-care has been looked into. Based on the answers to the questionnaire, respondents are generally well informed about the pension system, but 86.2% of respondents do not consider the current state pension system to be stable. In contrast, they tend to rely on retirement savings, with 52% of respondents saying yes. Only 11.4% of respondents have pension insurance, while 29.1% have some form of retirement savings (Fig. 5). The results also show that financial savings are important for respondents. Based on the average age of those who completed the questionnaire (average age: 30.6 years), savings are important. Further analyzes show additional internal relationships, such as the role of optimism in pension savings. Old-age savings are much more important for optimistic women because yes responses are greater than for men with similar characteristics.

Conclusion

The population of a country changes only slowly from year to year, and the characteristics of demographic processes are drawn up over a longer period. However, the factors influencing population change are well predictable as a result of the laws of each sub-process. According to forecasts, current pension systems are likely to cause severe social and economic problems globally because of the rapid ageing of our societies. Based on forecasts, the current pension regime, and the drastic change in the ratio between active wage earners and pensioners will, with a high degree of probability, cause social, economic and other problems in the future both globally and in Hungary. The Hungarian mandatory pension system is a pure Pay-As-You-Go (PAYG) state pension system. It covers all persons who are engaged in any kind of employment as well as recipients of unemployment and certain child care benefits. This is a defined-benefit PAYG system with an earnings related public pension. The old-age pension is the most important source of income for the elderly. However, in order for the amount of the pension to be of an adequate standard, it is usually not enough to meet the requirements for the minimum period of insurance required by national legislation. The longer the insurance period, the higher the amount of benefit the person can expect. Experts recommend a mixed system but currently there is no universally accepted concept. Despite the small number of answers, there are many possibilities. The respondents consider many possibilities to ensure their future living. State pension is mandatory so there is no choice about it. Concerning supplementary possibilities, like voluntary pension funds and private investments, income and emotional decisions determine which form or forms are chosen. Of course, research can not solve all the problems of the pension system but researchers can clearly define and examine possibilities and effective methods for prediction and problem-solving.

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What's Next? What about the Famous Hungarian Apple?

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Abstract: Agriculture is a special industry with a lot of external influences that sometimes occur unexpectedly, so full rationalization is almost impossible. The machines are expensive and require great economies of scale to use them. The year of 2018 has more and more highlighted the serious problems which are faced by apple farmers in Szabolcs. In the modern market economy, the focus of the production process is on the farmer who manages his own or rented land, relying heavily on the family's workforce. The paper introduces the past transformation of the sector, the possible directions for farmers' organization and development, which are absolutely necessary to lay the foundations for the way out.

Keywords: agriculture, apple in Szabolcs, network, bio-farming, competitive agriculture, technology development, competitive agriculture, machinery park, over-mechanized agriculture, hungarian agriculture, agricultural production

1 Situation of Hungarian agriculture

According to the government public information, generational change in agriculture is seen as a national affair, supporting young people with a significant amount to choose rural life, which has been promoted through a multi-stakeholder policy program. They want to help farmers to implement economically and environmentally sustainable irrigation management, preparing an act for undivided land ownership management, and continue to support the capacity expansion and efficiency enhancement [MTI (2019)].

The agriculture of those countries is more efficient and competitive which products are on the international markets, where the mechanization and the level of mechanization are higher. The productivity and the mechanization are affected by the land structure and the production structure. On smaller, more fragmented estates, machines are less able to produce efficiently and with good capacity utilization than larger lands and farm sizes. In the latter, the results of farming are

also higher, which makes it possible to raise the level of mechanization more quickly [Hajdú (2018)].

The parallel phenomenon in Hungarian agriculture is a significant excess capacity and inefficacy at the economic level. Particularly the small producers' use of assets is wasteful, although the low utilization of resources can be seen in all sizes of manufacturers. At the same time, farms with a lack of capacity acquire the necessary resources in the form of wage services rather than in some other way of cooperative solution [Baranyai - Tóth N. - Vinogradov - Kovács - Vásáry (2014)].

The outcome and profitability of agricultural production are greatly influenced by the form and effectiveness of cooperation between producers [Takácsné – Takács, (2003); Takács, (2017)]. Trust in transition economies is particularly important, as in these countries, the legal system is often not effective enough, for example the costs of enforcing the contracts are very high [Baranyai - Szabó (2017)].

2 Material and method

My research is based on a primary database, but at the same time I called for the available secondary data. A questionnaire survey was carried out regarding to the farm mechanization. The questions of the questionnaire compiled in the course of empirical research - among others - covered the following topics: education, family background, level of mechanization, farming profile, irrigation, organic farming, cooperation with other farmers, group membership, expectations of a farmer organization. During my secondary research, I used statistics from machine sales.

3 Quantitative research

As a quantitative research, I prepared an online questionnaire, which helps to confirm and refute my hypotheses based on the opinion of the respondents. During the sampling period, the majority were those farmers who were interested in agricultural production, either as their full time job or just a few hours a day. The target of the sample was 150-200 respondents, which was not initiated by random sampling techniques. The questionnaire used to compile the data was compiled with the help of Google Questionnaire Maker, which was used by social media to get quick and more responses. The questionnaire was filled by 201 farmers, which did not change after the data cleaning. During the sampling, I was interested in the opinion of those working in Hungarian agriculture, so the sample is not representative.

4 Hypotheses

H1: Hungarian agriculture is over-mechanized considering the size of farming

H2: Hungarian farms cannot compete due to their size and revenue

4.1 Examining the hypotheses

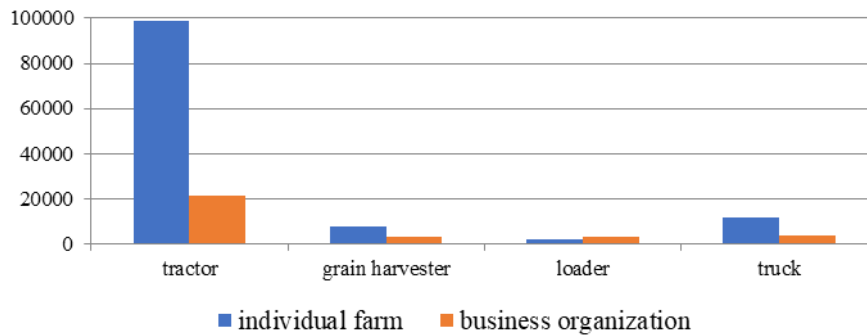
Nowadays, Hungarian agriculture is served by 159,000 self-propelled engines, of which 120,160 are tractors and 10,770 are grain harvesters.

82.4% of the tractor park used for production is operated on individual farms, and 17.6% are located in business organizations. In Hungary, an average of 3,200 new tractors are used, with more than 40% of tractors in individual farms and nearly 22% in business organizations are over 20 years old. Regarding the technical upgrading of the tractor park, it is also unfavourable that about 50% of the new tractors are purchased each year are of low-cost, but less modern models.

The second most important key machine in Hungarian agriculture is grain harvesters. Nearly 69% of these operate in private farms and 31% in business organizations. The new harvesters that are purchased annually represent the most up-to-date European standards. In individual farms, 30% of combine harvesters and in business organizations only 11% of them are older than 20 years.

According to the KSH survey, 5,000 self-propelled loaders work in agriculture, 40% of which in private farms and 60% of them in economic organizations. The smaller versions with a lifting capacity of less than 3 tons are in the majority, but at the same time it is favourable that their annual renewal rate is 8-10% on average and in 73% more versatile telescopic variants and more exploitable are being .

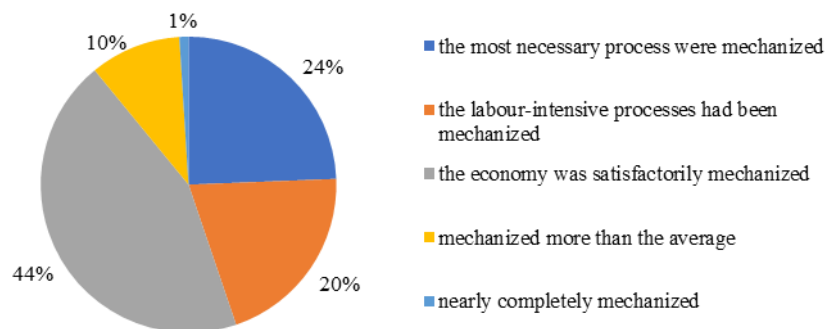
The truck park has been halved since the change of regime and approximately one third of these operate in business organizations, two thirds in individual farms. The smaller (supplier, service) trucks are the majority of them. This may also be due to the fact that the price of heavy duty off-road trucks is very high, which is why farms prefer tractor-trailer deliveries.



14. Figure: Distribution of the main agricultural machinery between individual farms and business organizations (source: KSH, own editing)

The basis of my hypothesis is that no matter how much the Hungarian farmers have access to various EU or domestic subsidies, the fragmented land and the machinery of different levels of development alone make it harder to prosper than to be cohesive, think as a group and operate accordingly.

Regarding the mechanization of their farming (Figure 2), almost a quarter of those who completed the questionnaire replied that only the most necessary processes were mechanized, and in the case of one fifth of them the labour-intensive processes had been mechanized. 44% of the respondents said that their economy was satisfactorily mechanized, 10% said they were mechanized more than the average, and 1% said they nearly completely mechanized.



15. Figure: The level of mechanization according to the respondents participating in the research (own resource, own editing)

Examining the impact of the support system on technical development, several authors stressed that direct aids have no or only indirect impact on agricultural

investments, so their role is not decisive in agricultural innovation processes [Varga (2006, 2008) Vásáry (2008) Mohamed et al. (2010)].

Cost-income relationships are fundamentally influenced by different support and financial regulatory systems. However, in this case, as with most technology changes, the producer is interested in the expected direct profit or indirect profit benefits. In this case, it can be stated that there are two major categories of costs; the variable costs depend on the growth of the farming, while the fixed costs do not change due to the growth of the farming. Precision technology changes in both cost categories [Tamás (2001)].

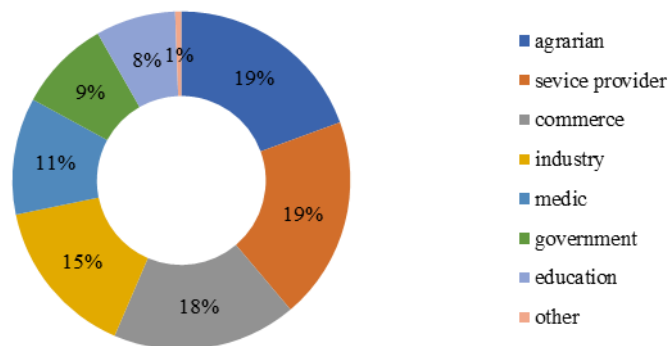
In economic terms, the slow spread of technology is not only explained by the need for extra investment. Partially targeted support could be used to promote its spread, partly through further support for environmentally conscious farming, but the indirect agricultural innovation preference through the tax system could also help [(Vásáry (2008); Béres (2008)].

According to Zahalka (2010), the widespread use of precision technology in the United States has accelerated, as a significant proportion of producers have come to realize that the adaptation of as many elements of production technology as possible to factors affecting competitiveness is crucial. On the one hand, cost efficiency appears, on the other hand producers are excluded from certain markets due to the lack of complete traceability of the production process. The study of the economic relationships of precision crop production should receive a prominent role in the future, examining the issue primarily at the operational economy level. The exploration of macro- and business-economic relationships can lead to clarification of the tasks of the participants in the related industries. In addition, the financing anomalies of the innovation process can be identified [T. György K. (2011)].

Regarding the examination of the prevalence of precision crop production in Hungary - although we have no knowledge of a representative survey on this subject - based on the experience so far, the proportion of people using multiple elements of precision technology in Hungary should not exceed 5% of farms. The process is still somewhere in the early stages of adopters / introductions. The reasons for the slow spread include the lack of education and expertise [Pecze (2008), Kalmár (2009)].

Precision technology will become more widespread if producers accept that they do not always have to strive for an "independent economy". The use of a service based on consultancy or the development of common forms of machine use assumes that there is a sufficient degree of trust among the participants [(Popp et al. (2002) Takács (2008) Pecze (2009)].

Data from my research shows that the majority of respondents consider agricultural activity as a supplement to earnings. 37.8% of the respondents were women and 62.2% were men. Approximately 85% of those completing the questionnaire have a main job, 80% of whom do not work in agriculture (3.Figure).

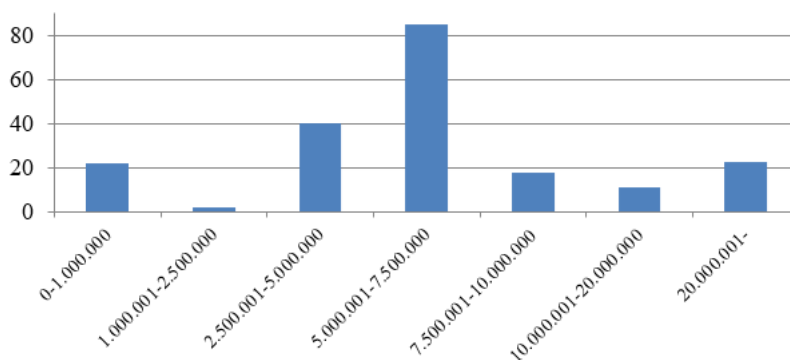


16. Figure: Distribution of main job sectors indicated by respondents

(own resources, own editing)

Earlier research estimates suggest that revenues of 20 million forints will generate annual revenue that can create the conditions for individual farming. More than three-quarters of the farms (77%) do not cross this sales threshold, and only 15% of them meet this “criterion” [Zs. Baranyai - G. G. Szabó (2017)].

Data from the responses to my questionnaire support the above statement, as nearly 89% of the respondents stated that their sales were below HUF 20 million (4. Figure), and even 83% didn't even achieve HUF 10 million revenue. This means that if two people in a family are engaged in agricultural activity, then the two farmers do not reach the HUF 20 million revenue, is according to the previous estimation researches they are not able to create an economically operating individual farming system.



4. Figure: Distribution of the annual sales revenue of the farmers participating in the questionnaire

(own resources, own editing)

Summary

My research has supported my hypothesis, both the sales statistics and the respondents who filled out the questionnaire; confirm that the Hungarian agricultural industry has been over-mechanized. The agriculture of those countries can produce more efficiently and competitively, where these funds are available at a higher level and their utilization is at a higher level [Hajdú (2019)]. Professionals and the government are constantly working on developing the necessary conditions for precision technology: educating and engaging the young generation in the sector, supporting the purchase of agricultural machinery and moving to organic farming, or mentioning the promotion of irrigated areas. But one thing is still missing. The fragmented estate system and the small farms do not allow the possibilities provided by precision farming to be exploited by Hungarian farmers. There is a discrepancy in purchasing machinery. Grants are available for the development of the machine park, but in order to be able to use the technology offered on the tray, there is no need for a machine park of this size; so to say the Hungarian agriculture is over-mechanized but not efficient enough.

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The Brand New Idea of Disposable Bioreactor Production in the Hungarian Laboratory Market (A Case Study for Exponential Marketing Strategy)

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Abstract: The current study is presenting a strategically new idea of investigating in manufacturing locally a single-use disposable laboratory device with scalable and suitable technology on the research and development (R&D) laboratory market field in Hungary, where non-profit (universities, academic) – and for-profit (private research and contract labs, pharmaceutical laboratories) laboratories are equipped with well-known, international laboratory instruments and devices, except for consumables, which can be purchased directly from local producers, savings retail-chain transaction fee. Thus, those Hungarian manufacturers for small plastic and glass lab consumables have found the niches on the laboratory market to cover the general needs of local laboratories on a reasonable price. The paper mainly focus on the production plan of the implementation of manufacturing locally a microbiological and enzymatic as well as wastewater management for sustainable energy consumption, membrane bioreactor (MBR) lab equipment as the tool of biotechnology for the market. As technology innovation is the main driver on this closed, narrow scientific market, the best feasible plan must be connected to new innovative scientific approach, creating yet uncovered niche market, where brand new opportunities and possibilities are warmly welcomed to set unknown research directions. The implementation of the investment contains detailed production calculation as well as applies for funding supports partly. Besides presenting a brief overview of the most important aspects based on the efficiency of the use of EU development resources towards sustainable economic growth in research in the EU Member States, highlighting Hungary.

Keywords: sustainable, bioreactor, EU development resource, laboratory market, feasible plan

Introduction

The laboratory market is a small, narrow segment with high price-sensitivity. Purchases are made through mainly public procurements, even for small consumables, where price and references are the most relevant factors to be taken into consideration. There are around less than a hundred distributors representing the well-known international manufacturers, mainly on an exclusive-base right, as sole agents in Hungary, but no local manufacturers for laboratory equipments exist up till now. R&D development and cost reduction for laboratories through innovative, cost-efficient single use lab device can be a solution for many operational difficulties laboratories are facing continuously. EU funded project for technically developed price sensitive, disposable lab equipments' such as single-use bioreactors (SUBs) versus robust stainless steel bioreactors production can cover the growing needs of laboratory researches. Junne and Neubauer pointed out in 2018 that although the scalability of stainless steel bioreactors has been investigated for more than 50 years, and many methods for the characterization of these bioreactors have been evolved, the investigation of scalability of single-use bioreactors (SUBs) contains several new challenges.

The disposable bioreactor is a state-of-art quality single-use system mainly used for pharmaceutical field in cancer research or new drug application production in medicine. Disposable bioreactor is used for modern cancer research to produce agent against cancerous cells by gaining antibody from a cured host body and transposes into the mammalian cells (Lopes et al., 2015) Membrane bioreactor (MBR) is also a well-established, mature technology with many full-scale plants around the world treating municipal and industrial wastewater (Meng et al., 2011). The recent R&D advances in MBR technology with regard to energy demand reduction is being the technology key challenge and important aspect of MBR functioning (Naessens et al., 2012). These R&D efforts and continuous interest in MBR technology has led to an increased number of academic publications and MBR-related reviews in the recent years (Krzeminski et al., 2017). Key challenges facing the developers and end-users of single-use bioprocessing technologies include their limited scale, the restricted diversity of options, the lack of standardization, and some remaining performance issues that can be addressed by further research and development (Gottschalk, 2010), which must be overcome during the planning of implementation.

The current case study introduces a local trading company, who intends to implement the production of single-use, disposable bioreactor, is on the laboratory market representing several international companies on an exclusive-base trading

right for almost 30 years, but has not had its own production on lab equipments such like any other similar Hungarian distributor companies. The company has realised and come to the idea, using its long years experiences and deep market knowledge that there is a good opportunity arising on the market to manufacture an outstanding laboratory device, but market research has to be done by gathering relevant information prior to the preparation of the project, mining only relevant data and insights concerning and supporting a successful execution.

The scrutiny provides detailed destination plan with financial background for the implementation of a biotechnological tool used frequently in microbiological laboratories. The growth of single-use manufacturing technologies is anticipated to reduce biopharmaceutical manufacturing costs and several recent innovations have facilitated the implementation of integrated manufacturing facilities based entirely on single-use technologies. Schukla and Gottschalk (2013) anticipated that all these areas will expand significantly in the years to come, bringing disposable technologies to the forefront of biopharmaceutical manufacturing in both clinical and commercial manufacturing settings.

EU funds support

The European Union's latest growth strategy, Europe 2020, called 'An European strategy for smart, sustainable and inclusive growth' contains targets for public and private R&D investment in order to provide a stimulus EU competitiveness, as the main objective of country's development, with the key indicator of efficiency set to ensure the strategic goal of 3% of GDP. According to the publication of Gorzelak (2016) the 2014-2020 period could be the final phase of substantial Cohesion Policy (CP) transfers to the CEE, and this programming period has an increased focus on innovation and R&D support. Petrariu et al. (2013) reveals in their study that development level of a country is the engine of innovation, allocating funds to research and development is the main source of support offered in this respect. The CEE countries had a rapid economic growth, but a growth not based on the innovation process. Innovation is in a catch-up process, related to the growth rate (Petrariu et al., 2013). In Hungary, grants paid from EU Structural Funds related to the 'Science and Innovation Program' of the New Széchenyi Plan, co-financing innovation activities was EUR 680 million over the period of 2010 to 2013. One of the most important components of innovation-specific EU-funds supports higher education institutions' research and research infrastructure development expenditures. (Eurostat statistics, 2018 March) With these funding's supportiveness can be a background for the implementation of the R&D tool.

1 Methodology

The authors attempt to use the concept of Exponential Marketing Process for planning the new direction by producing disposable – single-use bioprocess mixing system - bioreactor locally on the Hungarian laboratory in the aim of a long-term success, instead of the usual standard, 'old fashioned', 'unproductive' marketing process for a non-sustainable business result.

Methods will include the following

- Destination planning
- Value Diagnostic
- Brand architecture
- Fully integrated communication

The planning starts with a current evaluation of the laboratory segment. The market evaluation is carried out by multiple research methodology, where the process of discovering customer needs is done by specific scientific directions. Unfortunately, advertising agencies cannot come into terms, while creativity is not functioning on this market in the common sense, only scientific knowledge.

Currently there are no local manufacturers in Hungary for high-tech laboratory devices, only for small lab consumables. All general laboratory devices or specific analytical instruments are being produced by international manufacturers leading back to some thirty, forty to sixty years of history with great scientific and technical experience. Taken the present market situation into consideration, there is an outstanding opportunity for Hungary, situated in the centre of middle-east Europe, to find a niche segment in the laboratory market, where there is an intensively growing need for specific laboratory equipment, for setting up a small production facility, manufacturing a certain kind of laboratory device.

It is not easy to identify the right niche, which needs are not yet served and fully covered by international supplier and still gives enough potential possibilities for long-term strategy. As high-tech analytical instruments or complex specific devices cannot be competitive besides the experienced international suppliers, the right decision had to be made by 360 degree of market valuation from all known suppliers as well as customers. The market research has to be carried out concerning not only American and West-European laboratory equipment's manufacturers, but also the emerging market; especially China has to be considered from this aspect. The aim was to find a niche market for specific research area where local laboratory products can be launched into the market, beating the currently available laboratory devices with a brand new idea on an international level and skim price-wise the market segment.

First step of destination planning was to find an idea to break through the presently available scientific equipment after carefully examining the whole laboratory market from research and development aspects. To be able to brainstorm new ideas on this special market, one needs many years of market knowledge and experience both on demand and supply. Western countries suppliers are way ahead in innovation technology, which is the most relevant key factor in this market. Besides in the last decade, the market is restructured by Chinese manufacturers' price- and also quality-wise. At the beginning of 2000, Chinese manufacturers mainly copied technical specification of western-made products, but nowadays they put more and more investment into R&D, which might mean presumably a threat to the Western World on long-term.

The process program has to be a strategic guide towards business growth in its meaning by achieving sales volume as well as the set profit goals for the company and its targeted customers. Also it must deliver clear communication and sales strategy in alignment with the set objectives. And lastly it is important to be defendable that the strategically idea and methods of success should not be acquired or copied by competitors. The production has to be protected by technology patent.

The three processes have to comply with the following tasks:

Meaningful: finding the gap for special needs of the customers by examining the scientific research fields, where new applications and validation methods can be discovered by a supporting new design with compelling value proposition.

Deliverable: messages as well as set strategic objectives have to be delivered by the right types of communication channels to reach out for the right target group. It has to be a long-term concept with integrated multiple campaign and consumer touch points that can be easily understood to the target group. Investments have to be well-balanced by the expected and calculated sales goals as part of the future growth plan.

Defendable: as it is a scientific special product, with a secret know-how production technology supported by a protected market or even patent, the gained success cannot be acquired by competitors on the segment. Material to be used for the laboratory device is under strict FDA and EU regulation control, same compliance as for medical devices; therefore production is highly protected and not easily copied by manufacturers.

The main aim of effectuate a successful business through investments is by putting great focus on development of a customer-focused products by constant, up-to-date technical service, instead of functional benefits only.

The ideal objectives must contain a top-down reflection of the company's mission and strategy, addressing current future success, as the whole planning is rather forward-looking. The targeted market is one of the main profitable and highly

driven by the latest research results, the pharmaceutical industry field is a promisingly developing research background for the future. The planning also includes and integrates external and internal measures to examine trade-offs between performance measures in the past and future success prospect.

Value Diagnostic

As the product was already introduced in the planning section, it is a brand new idea of a disposable, single-use system, proactive and very useful in the laboratory pharmaceutical, microbiological and wastewater management market. Therefore lots of data has to be gathered as well as collected for value diagnostic customer value driven concept. The customers' scientific knowledge and research experience is essential for setting up the production technology to be able to give the professional end-users the solution they require for their application methods. While it is proved to be a technology-specialized, innovative and product-focused scientific market, where international, well-known companies are competing with each other. Determining requirements of the laboratory market the continuous technological improvement which often targeting to satisfy customers' latent demands. It could be useful to consider implementing well assembled Quality Function Deployment (QFD) functional system based on customers' needs and share its measures and results with the manufacturers continuously during the product development process. In the centre of development quality assurance shall be essential. QFD system complies with both the declared and latent demands of the customers and its main target to produce a quality product focusing on the satisfactory of the clientele.

In this project the authors attempt a diagnostic approach on the laboratory equipment market and execute the whole process to enable to break through with a new idea which is unknown to the local laboratory market. Taken the international market into consideration disposable, single-use system for a laboratory device is not a common solution yet, but the needs for single-use system starts to accelerate in the laboratory market.

a. Value Diagnostic Results – Identify Key Growth Opportunities

- Target Consumer Assessment:
- Target Buyer Assessment:

These two can be considered as the same target group in this case, as conventional consumption in this sense is not a relevant term. Buyers are end-users here, working in laboratories and carrying out professional scientific researches, which can affect human lives and common future towards sustainability. So business success simply lies on scientific decision.

- Brand and Product Portfolio Assessment

Brand positioning is always easier if the manufacturer's background is leading back to several decades of experience and having significant reference lists world-

wide in its sales history. In the present project the company has to face difficulties concerning production knowledge, which has to be overcome by professional customer value driven approaches, such as demo-unit availability and application consultancy. The product portfolio will be considered as an outstanding product possibility. Advantages cited for single-use system, such as increases in batch success rate, eliminating potential cross contamination, more rapid changeover between campaigns, reductions in water and waste water requirements, and eliminating clean-in-place (CIP) and stream-in-place (SIP) validation (Barnoon et al., 2008).

- Related Product Assessment

Related product from the customer's aspect is assumedly professional scientific education on this research field, while from the product's point of view is disposable plastic, single-use products are becoming more and more popular in everyday life, and so as in the laboratory segment concerning consumables. They are easy to use, practical products, but it has to be emphasized that the lifecycle approach does not always have positive effect on sustainability, especially environmentally.

- Current Performance Assessment

The company is well running business enterprise, already with a good reputation in the laboratory market. It has promising opportunity in production area as the first mover in this field. Detailed calculation for investment will be presented shortly. Also the net present value (NPV) saving will be introduced for single-used system versus conventional device implementing a scientific article for such purposes.

- Competitive Assessment

There are several international bioreactor manufacturers worldwide, but most of them are not specialised for disposable bioreactor, while its operational field is narrower, than stainless-steel conventional bioreactors, but extremely useful and can be profitable from the producer's point of view. Local competitors are not existing yet and only a couple of international ones (Sartorius Inc., Solida Biotech, Eppendorf) can be found worldwide. No Chinese manufacturers so far, which is very positive fact for the execution of the local production. Western competitors will be easier to be skimmed price-wise.

b. Some Key Value Diagnostic Questions

What are the current customer attitudes towards the brand? Are there any limitations?

The only limitation on the laboratory segment is the specified niche market to be targeted concerning the research field, where the product can be successfully used. For pharma field single-use system supports the best practise with high value in this field. The advantages are much more significant and incomparable to the

conventional bioreactor. The success on the market lies on the efficient marketing communication towards end-users by highlighting the main factors. Single-use systems have large positive impact on the layout of a facility and also may affect automation strategies, clean utility requirements, floor-to-floor heights, project timelines, procurement schedules and even area classifications like heating, ventilation, and air-conditioning (HVAC) design. Facilities that use only single-use processing sometimes realize substantial advantages over conventional designs, but tend to be limited in scale. Space is a commodity in laboratories. Some steps have to be taken to reduce the amount of space needed.

What are the different usage purposes for specific brands? How does that differ from the rest of the portfolio? What are the main differences?

Conventional stainless steel bioreactors are designed for more extend usage for several other industrial fields, such as food and beverage, pharmaceutical, cosmetics, etc. Those manufacturers, who produce single-use systems, all have the same technical specifications (specs). Laboratory devices cannot stand out or to be differentiated by application methods or in this case designs. They could vary in control units in software and automation technologies.

What are the possible competitive reactions?

Once single-use system achieve the expected reaction and proved to be economically sufficient, other international manufacturers will be awoken and taken by the opportunity that the business idea is excellent. The targeted niche is small and specific, but the scientific background, cancer research is so up-to-date and increasingly important for the future, so the market is expanding continuously. Pharma as a for-profit company, is financially a strong player on the laboratory market.

What is relevant to communicate?

Professional research applications must be clearly communicated at conferences and exhibitions. Also professional application consultancies can be made through personal visits. Providing demo-units for trying out for a few weeks can be also advantageous. Not only visibility is important, but physical usage in laboratorial circumstances. It has to be emphasized that the product is innovative bioprocess equipment, providing outstanding bioprocess solution on the market.

Brand architecture

Brand positioning is highlighting the benefits and product differentiation in customer value on the laboratory segment, targeting pharmaceutical field. The distinctive advantage, so called competitive advantage, is the perceived difference in the customer value. Awareness is irrelevant concerning the product on the market. The aim of brand architecture and brand positioning at the company, is achieving customers to understand brand's value, delivering customer value.

During the process of brand positioning more efficient and effective brand communication tools have to be implemented.

Marketing is a science from this aspect, so using the right kind of tools combination is essential for the business success. Positioning is not some miracles done with the product, is how to position into the customers' heads. As bioreactor is a research product, it has to be approached by scientific knowledge and professional application consultancy.

The single-use system has several advantages versus the conventional stainless steel bioreactors. Single-use systems reduce capital cost, but the right targeting is the most important as in many cases life cycle costs can be increased. A scientific article proved in BioPharm International by Barnoon et al. in 2008 that in many applications, capital savings are offset by increased operating costs. Another scientific article states by Gottschalk in 2012 that the environmental benefits of the reduced energy demand can be said to outweigh the increase in solid waste generated by the disposal of single-use devices.

Functional benefit is very important in this case. Actually is even more important than service, as repair and maintenance do not come into picture for the disposable unit. For other laboratory devices, equipment service is a highly value added product.

Brands are containers for the total crucial experience of customers (zip of values). The brand new brand is very promising and provide special experience, furthermore develops relationship between the sales team and the customers for longer-term.

What makes a great band? It has to be creditable, delivering promises and well-educated towards researchers on this market. Creditability is one of the main concerns in research field. All factors and circumstances must meet the FDA, EU regulations requirements and has to be ISO standard proven.

Once the brand architecture is successfully built on the laboratory market and the device launched in an appropriate way. The company's aim is to consistently enhance the reputation and integrity of its clients in the segment. As laboratory market is a very closed, small and specific field 'word of mouth' will spread rapidly. The more references the product achieve, the easier it will be to strengthen its position. It would provide a free way to public procurement, which is the most common purchase source, especially for low-budget non-profit sector.

Fully integrated communication

Fully integrated marketing communication is needed with immense capacity to provide bespoke and premium 360 degree communication and marketing solutions to the customers. The company is passionately and irrevocably committed to satisfactorily delivering high-impact results to all its clients. As the product is

serving a scientific research field, traditional tools do not always bring success. Messages have to clearly forward to customers.

Creating marketing content to the related market segment:

- Brochure
- Application Notes
- Battle Cards (Internal documents)
- Video on educational purpose
- Customer testimonial.

Best practise is personal visits in this market. Direct marketing can be used to be informative, such as:

- Company's own database,
- Webinar,
- LinkedIn,
- Application Notes,
- Leaflets
- e-Blasts.

Marketing communication can be made through EDM, E-Alerts and Application Notes. Printed advertisements can be published in the following papers:

- Technology Networks
- Eurolab
- Analytical Scientist
- Separation Science
- LCGC Europe

Multiple research methodology can be implemented to find out customers' needs for the product. Content is more important than anything else in this scientific market. The aim is to build up long-term loyalty, which lies on creditability and trust in the product. Highlighting Functional benefits is the main concern in this matter; however the product's launch has to include also some emotional aspects, even though it is a purely scientific product for research and development purposes. The emotional part could cover certain empathically feeling for cancerous diseases and other kind of sicknesses. Researchers are deeply committed to the subject with high-level of emotional intelligence. Through emotional approach great value can be delivered to the customers.

In this field 'above the line' (ATL) and 'below the line' (BTL) marketing communication are rare approach to be successful on a scientific market. Concerning ATL tools only scientific publications can be mentioned and their effect are being measured as results. Media spots and internet banners have no relevant roles in this market as the target group is relatively small. For BTL only e-Blast and flyers can be counted as possible marketing communication tools, but sales goals cannot be accounted to these kinds of promotions on a bigger scale. However, Integrated Multiple Consumer Touch points have to be implemented during the marketing process through conferences attendances, demonstration instruments, scientific workshop, trading shows as well as technical application consultancy, as an exponential-based concept. Giving out demo-devices for testing is essential for the end-users to have the opportunity to try the product out in their own laboratories for research purpose. Personal experience can built loyalty. Once the product has some positive feedback from end-users' own research experience, it can be communicated as references on the market, which is the main step of the so called 'Persuasion Hierarchy of the Motivation Architecture'. Thus scientific collaboration with key-account customers is suggested to develop methods.

2 Performance Alignment

The very first milestone is the idea to be born to be a market product at a later stage, as Value Proposition of setting plans. During the planning and construction phase controlling panels and milestone goals are set.

For the financial implementation credit has to be borrowed. After careful consideration and market research, Széchenyi Loan of 25 million HUF, will be the solution. It has an extra handling cost and transfer fee of 500,000.00 HUF, which is already built in the Investment cost calculation. Another possibility is to apply for EU funds supporting R&D innovation technology for a more efficient research.

As profit margins for membranes are lowered but as the overall MBR market itself grows, it is expected that many more mergers, acquisitions, and divestitures will take place. (Krzeminski et al., 2017). The economic benefits of disposable technologies are becoming more important because biopharmaceutical manufacturers are facing increasing pressure to reduce product costs while maintaining product quality (Walsh, 2010).

Table 1. describes the cost savings based on a scientific article by Barnoon et al. published in BioPhram International in 2008, for a conventional, stainless steel bioreactor versus a single-use system. It can be detected that the savings are significantly huge, more than 8,000 Euros, which can convince costumers for certain, taken all the positive factors into consideration as extra advantages.

Equipment deleted				
QTY	Description	Price (USD)	Lange factor	Total (USD)
4	100L buffer hold tank, portable	70.000	1,5	420.000
4	300L buffer hold tank, portable	105.000	1,5	630.000
2	400L buffer hold tank, fixed	100.000	4,0	800.000
4	600L buffer hold tank, fixed	120.000	4,0	1.920.000
2	2000L buffer hold tank, fixed	150.000	4,0	1.200.000
1	500L buffer prep vessel, agitator, vent filter	90.000	4,0	360.000
1	1000L buffer prep vessel, agitator, vent filter	105.000	4,0	420.000
1	4000L buffer prep vessel, agitator, vent filter	125.000	4,0	500.000
2	CIP skid	350.000	3,0	2.100.000
Subtotal deletions				8.350.000
Equipment added				
QTY	Description	Price (USD)	Lange factor	Total (USD)
8	2000 L fixed bag holders w/load cells	20.000	1,3	200.000
20	500 L portable bag holders	3.000	1,3	75.000
35	100 L drums w/ dolleys	300	1,0	10.500
Subtotal additions				285.500
Total equipment savings (USD)				8.064.500

Table 1.: Capital savings for single-use buffer bags based on the scientific publication by Barnoon et al., 2008

In Table 2., operation costs can be observed for disposable bioreactors. Same effects can be observed for every day working costs, as in Table 1. demonstrating equipment expenditure for buffer bags and hold tanks. It is clearly depicted, that single-use system proved to be economically more favourable. Not to mention the advantage concerning laboratory space, as it is always one of the main issue in laboratories shorten in space.

Item	Cost
Validation labor rate (USD/h)	50
Maintenance cost, % of direct costs (QA)	3,0%
Water used per buffer CIP (L)	2000
Buffer preps per batch, base case	7
Buffer preps per batch, single use	3
100 L bags used per batch	5
500 L bags used per batch	3
1.000 L bags used per batch	1
1.500 L bags used per batch	2
3.000 L bags used per batch	1
Labor hours per CIP	1
Labor hours per SIP	1
Labor hours per bag set up	1
Labor hours per buffer prep	8
Commission hours saved	3.652
Qualification hours saved	3.712

Table 2. Rates and quantities used to estimate operating cost savings for single-use systems: Items which are assumed to be constant or which only affect the first year based on the scientific publication by Barnoon et al., 2008

3 Results

Once the Value Proposition is done and ready to be accomplished, Delivery Promise of how to reach the target has to be implemented. Goal realization has a strong financial implication to be calculated.

Profit Calculation for a Single-Use System:

Revenue:

The market price of a pair of single-use system:

Euro /1,000.00

Investments:

The production price for 2 pieces is around:

Euro /450.00

Technical development engineering of the system:

Euro /15,000

(min. 60% of total prototype investment)

150 pcs of Prototypes for launching, testing:

Euro33,750.00

Labor cost, bank credit cost:

Euro 25,000.00

Marketing costs:

Conference attendance (local) as exhibitor:

min. Euro 500-1,000

Conference attendance (international) as exhibitor:

min. Euro 1,500-3,000

(Depending on the rented square meters)

Brochures (500 pcs)

Euro 500

Total expenditure (for launching, start-up period)

min. Euro 78,000

(Minimum investment is calculated for only one international and local conference attendance, excluded personal visits and labour force costs)

Target group:

- 5-6 big pharmaceutical companies (Teva, Richter, Egis, Sanofi, Mylan)
- several (around 40-50) small private pharma laboratories

Calculation for Return-on-Investment equation

$$78,000/1,000 = 78$$

Minimum 78 orders have to be received for returning the starting investment in to the project. The goal is to reach at least 10-20 orders for the first year and 30 more for the year after. Investment has to be returned by the 5th year to be successful, concerning normal profit with positive NPV calculation.

Within the near future (in 5 years) increasing or stable growth of EBIT margin allow for further investments. Expanding sales activity towards the Central East European countries (CEE region) followed by some successful trial period in Hungary. Export activity based on a single-distributor channel, where there will be solely one representative appointed to be responsible for a certain region by achieving yearly sales goals to be set.

Conclusion

Product efficiency has to be evaluated, by questionnaires and deep interviews with the end-users prior to the production. During market research Outdoor communication can be opened with gather all relevant information for customers' needs to be integrated into the technical specification of the product. Producing laboratory instruments for demonstration goals can lead to loyalty by Indoor communication for setting up a supportive reference background. Feedbacks must be gathered and followed-up by customer's opinions to be successful in the laboratory market. End-users' personal research experience and knowledge have to be spread and shared in this scientific niche market segment.

Single-use technologies began as an innovative alternative to fixed equipment. In Schluka and Gottschalk conclusion remarks in 2013 the increasing pressure on capital and operating costs, the risk of product cross-contamination, and the cost of cleaning validation all conspire to push manufacturers away from fixed equipment and to embrace the significant advantages of disposable processes. The growth of single-use manufacturing technologies is anticipated to reduce biopharmaceutical manufacturing costs. Several recent innovations have facilitated the implementation of integrated manufacturing facilities based entirely on single-use technologies. The authors anticipate that all these areas will expand significantly in the years to come, bringing disposable technologies to the forefront of biopharmaceutical manufacturing in both clinical and commercial manufacturing settings.

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An Analysis of Leadership Competency Models

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Abstract: The role of leaders is exceptional within an organisation; success in our accelerated world depends on their leadership skills, suitability and aptitude. Therefore, organisations need competent leaders that are able to operate the organization in an efficient and effective way in a changing environment. Competency models endeavour to collect the most important criteria of outstanding leadership: those personal characteristics that define their success. In our study we present three general leadership competency models in detail. We analysed the corporate applicability of these models based on their measurability, context dependence and their planning aspect.

Keywords: leadership competences, competency models

1 Introduction

According to Boyatzis (1982), the effective and efficient use of the majority of resources in an organisation depends on the managers' decisions, activities and thoughts; therefore they have become essential organisational resources. The importance of leadership performance is in fact becoming more and more evident; however it is less and less clear what this performance should consist of. Today's leaders have to re-evaluate their tasks during their work (Salamon-Batsleer, 1996). Market competition forces companies to develop new, flexible strategies and structures. (Hámori-Szabó, 2017) This is confirmed by a yearly survey of an international consulting company among CEOs. According to their analysis on domestic and international markets (PWC, 2017) they call the attention of leaders to the fact that in a changing environment, successful leaders need to be able to operate successfully in controversial situations. At the same time, there is a lack of examples and guidance as regards the expectations pertaining to the changing role of leaders (Karcsecs, 2012). The organisational hierarchy begins to dissolve in the confusion of situations where „everything is connected to everything”; in the world of „disruptive innovation” (PWC, 2014) leaders may experience a recession of the conventional forms of power and the limitations of the customary motivational tools. A writing of McClelland in 1973 was the first to suggest that for the definition of outstanding leadership skills, the methods conventional at that time should be abandoned. The research of Ghiselly and Michel (1968) showed that the correlation between testable personality traits and work performance may

reach a maximum of 0.33 % (based on Károlyiné et al, 2004). Instead, McClelland (1973) analysed outstandingly successful leaders and compared them to those who only achieved average performance. Based on the comparison, he called the differentiating characteristics competences.

2 Presentation of leadership competency models

The first projects in competency research sought exactly the answers to the questions about leadership excellence (LeDeist-Winterton, 2005, Simon, 2006). Leadership competency models endeavour to identify the criteria of successful leadership. The general leadership competency model that will be presented here was based on the extensive analysis of performing leaders' actual behaviour.

The Management Charter Initiative (MCI) leadership competency model was developed applying a method based on a functional („outcome“) analysis (Salamon-Batsleer, 1996). The goal of the MCI with the competency model was to establish a national framework in the vocational training system of the United Kingdom. This approach takes the jobs and tasks as a basis and tries to define competency areas which are required for the competent performance of the given job. The competency model also contains the detailed description of satisfactory performance, as well as the method how to measure and confirm performance. In addition to the detailed descriptions, the MCI identified the background knowledge and abilities that, in the MCI's expectations, a leader shall acquire or develop in order to perform adequately in all areas according to the requirements. Despite this, in the functional analysis the essence of competence is what an experienced leader can perform in a given role and function. The MCI approach is a general model usable in all sectors of the economy, and thus it defines a generally expectable level of performance and transferable competences. Exactly for this reason the original model received heavy criticism, and as a result, the MCI developed a personal competency model as well (Annex 1).

Boyatzis (1982) approaches his definition of competency from a different starting point; his system is much more „centred on the individual“. This approach based on personal qualities („income“) is frequently applied in the USA. The process of analysis and definition of competences flows from the definition of personal „skill groups“ towards leadership tasks and functions, and not the other way around. Consequently, this approach takes the individual as a starting point and aims to define those personal characteristics; competences that the individual needs to possess in order to efficiently and/or successfully perform in a given job. As it focuses on leadership excellence, it differentiates „threshold competencies“ (that can be required from all employees) and „distinguishing competencies“ (that distinguish an outstanding leader from an average one). Boyatzis (1982) based his research on the large number of competency analyses performed as the head of the

McBer consulting company. In his model, he orders the individual competencies into groups and defines their relation to each other. The competence groups „goal and action” „leadership” and „HR management” are in the centre of these relations. The fourth group is the „control of employees” (Annex 2). In the model of Boyatzis, managers can be the most effective if they have all competencies defined in the model. In other words, a missing distinguishing competence may have an effect on effectiveness, even if efficiency is not endangered. However, Boyatzis (1982) emphasizes that in certain managerial jobs (i.e. at certain leadership levels) certain competencies or competence groups may not be relevant. As a result, the manager may perform effectively in absence of a competence within a competence group.

With the development of the third competency model presented here, T. Cockerill (1989) set out the goal to construct a model that better represents the new expectations towards management deriving from changes in the business environment. Increasing global competition, technological developments, customers having newer and newer needs – these are just some of the factors that forced companies to adapt to the new, changing conditions. In this environment, the change of leadership tasks means that leaders constantly have to collect and analyse new information about the events in the business environment and have to develop some alternative answers to the possible changes as future changes can not exactly be foretold. Leaders have to create a network and a team that enables them to cross organisational boundaries and need employees that are able to take more responsibility. Leaders have to take and reason decisions in an environment where there are no „good” decisions. Then they have to present these decisions clearly in order to gain the approval of others as it is their task to perform the changes aimed at the increase of company performance as well. Cockerill developed a model during the competency analysis at NatWest that defines leadership competences serving outstanding performance at these leadership tasks. (Annex 3).

3 Analysis of competency models

For the analysis of general competency models we used the criteria of Klein (2001) according to which competency models should have the following characteristics:

1. Behaviour-bound, where „how” is more important than „what”
2. Observable: forms of behaviour may be evaluated, while hidden traits may not
3. User-friendly; the language used by the description of competences should be clear, it should use generally accepted phrasing, reflecting the culture of

the given company enabling identification with the company and the feeling of ownership

4. Planning, as the competency model has future implications, it should take into consideration changes in the needs of the organisation, otherwise it would become obsolete
5. Separating: using the same behavioural pattern under several competence names may cause insecurity in the interested parties, therefore it is important to avoid overlaps and to properly separate classes

Given that the presented competency models were all developed by expert groups who principally take the nature of competences and the professional criteria of model development into consideration, all comply with the first and the last of the above criteria at a high level. The necessity of compliance with these criteria is the actual reason why organisations develop their own competency models with the aid of experts, or they use „ready-made” models in their system. However, as regards the compliance with the other three criteria, the models developed by external experts raise several dilemmas. In our study we will analyse the practical applicability of the presented models alongside these three criteria.

a. The issue of observability and measurability

During the practical application of the models, observability raises issues with the measurability of the individual model elements (Sanchez-Levine, 2009). If, in order to increase applicability, models contain those characteristics that are well-measurable, factors that are less observable but still definitive may be left out of the models. This may lead to the omission of exactly those „soft” competences that are fundamentally important in leadership. Based on the iceberg model of Spencer et al (Szelestey, 2008) it can be claimed that during the development of the models, the questioned leaders primarily focus on drawing up visible competences, and therefore, important hidden competences may be left out of the model. Furthermore, when competences are drawn up, one should aim to define characteristics as actual conducts or forms of behaviour, and it becomes harder and harder to establish to what extent a competence depends on hidden dimensions. Based on this, the question arises whether a general model could exist at all which could be applied to reliably predict leadership performance.

Several articles in the literature bear witness to the definitive importance of „soft”, emotion-based competences, not only in the area of leadership. (Manpower, 2016, PWC, 2014) Boyatzis, Goleman and McKee analyse in their common study the criteria of successful leadership and consider leadership to be primarily an emotional enterprise. In their book „Primal leadership” they reveal that – even though many ignore this – emotional intelligence is the „prime aspect” of leadership that defines the effectiveness of the leader’s work. The book doesn’t deny that the suitable leader should have both soft and hard competences, meaning that thinking and emotions are both important. In the authors’ view, although

intellectual abilities are indispensable preconditions of becoming a leader, intellect in itself is not enough, it is necessary for the leader to be able to motivate, direct, inspire, observe and convince. The emotionally intelligent leader is able to create a resonance in his or her surroundings that is directly connected to performance. The authors define four closely connected areas of emotional intelligence: self-awareness, self-management, social awareness and relationship management that altogether include 18 competences (Annex 4). In their analyses they point out that actually each leader shows excellence in different competences and not even the best have all the competences. There are many ways to the top and equally successful leaders often represent radically different styles. However, the research shows that the really effective leaders were outstandingly strong in at least one competence in each competence group. According to the research of McClelland (1973) leaders with at least six emotional intelligence competences are much more successful than their counterparts with more narrow tools. He also showed that different star managers became successful with entirely different management skills. One leader is helped by self-confidence, flexibility, initiative, success-oriented nature, empathy and affinity to develop hidden skills in others, while the key to another's success is self-awareness, straightforward manner, self-control, organisational skills, convincing power and cooperativeness. Altogether, it can be said that a richer repertoire makes one more effective, because the leader can respond more flexibly to the demands that arise in management (Boyatzis-Goleman-McKee 2003). In their view, each leadership style demands a different aspect of emotional intelligence. The most outstanding leaders use the tools most suitable in the given situation. Therefore they recommend that for a given leadership position that person should be appointed who possesses competences required for at least four leadership styles. Looking at the presented models we can find that all of them contain these emotion-based competences. This, on the one hand, inhibits measurement when the models are applied, on the other hand, however, enables focus on important aspects of management activity.

b. User-friendliness of the models

The user-friendliness of competency models is on one hand a matter of form, demanding that the definition of competences should be clear and should reflect the company culture, aiding the identification with the expectations formulated in the competences, strengthening organisational values at the same time. A very generally formulated competency model naturally does not comply with this criterion, therefore many organisations decide to develop an own competency model „tailored to the company” instead of using the general models. The MCI model, for example, should prepare the leaders for the challenges of a changing world, but in fact the model has classic bureaucratic and hierarchical hypotheses about the nature of the organisations and the stability of leadership roles. The MCI model was based on huge, stable organisations with straightforward communication channels and line of command. Thus, smaller or more dynamic organisations would find it cumbersome to apply these generally formulated

competencies consequently. This rises the question how far success in leadership is personality-dependent and to what extent is it situation-dependent (Sandberg, 2000).

Management consultants Ulrich and Smallwood (2007) have the view that really successful companies involve a focus on external factors in their competency models and tailor the management models to their own needs. In their opinion, instead of strengthening the abilities of the individual leaders, a general management skill should be developed that they call management brand. A management brand means stating that in a given situation leaders intend to comply with the expectations of clients and investors. In the experience of the consultants, companies with such a management brand educate exceptional leaders whose unique abilities enable them to comply with external expectations. Developing brands starts with securing the foundations of management and the defining characteristics will be built on this. This means that they consider general management abilities to be of importance as a founding basis. However, they criticise generic management competency models as these would overemphasise the importance of these basic characteristics. They mention four basic areas where leaders should act competently:

- strategy-building (vision, positioning, client relations)
- execution (functional organisation, results, management of changes)
- talent management (motivation of employees, involvement, communication, talent search, development of employees, educating the next generation)
- Personal suitability (has the ability to learn, to behave honestly, to decide bravely, and to invoke trust and possesses the necessary social and emotional intelligence).

From the viewpoint of the advisors the analysed competency models are fundamentally unable to distinguish outstanding leaders as they are too generic and they do not contain that plus that is specific to each organisation, and therefore maybe the key to market success. According to the authors (Ulrich-Smallwood, 2007) although a leader with outstanding abilities or one involved in a special development project may be outstanding in his or her own position, however this may not bring long-term success for the company. Companies may be trapped if an influential and charismatic leader develops a personal brand that proves to be stronger than the company's own brand. The organisation may face significant problems when the leader leaves. In the opposite – so the authors say – if a management brand is used, success goes beyond the individual; the values in the management brand ensure success by themselves. This means that a well-composed competency model (put together in a given situation) may live its own life independently of the person in position or changes in the person in position and ensure outstanding performance for the company. All this proves the situation-dependent interpretation of competences.

Several theoretical researchers confirm the institutionally embedded nature of competences (Bandura 1996, Wilkens 2004, Srivastva 2005, Cardy-Selvarajan, 2006). As regards the basic leadership competences defined by the consultants we can find that those in large correspond to the contents of the generally expected competences in the presented three management competency models.

c. Predictive nature of the models

The most significant criticism towards the presented competency models is their focus on the present. According to Klein's (2001) fourth criterion, the competency model should be predictive. The model becomes an effective supporting tool of organisational procedures if it has future implications, and takes actual changes into consideration. Given that the above competency models are based on the description and analysis of the current leaders, it is in fact questionable whether they provide sufficient guidance on the competence needs of the future. Placing the problem in the competency life-cycle model of Sparrow and Bognanno (1995) that analyses the relevance of competences in time, the issue of relevance becomes evident. The question arises whether the competency models researched competences that will stand the test of time or whether they define competences that were in fact important in the past but will be less significant in the future. This suspicion is strengthened by the bias effect unavoidable during the research which derives from the subjective nature of the evaluation performed by the leaders of their own work. The model of Cockerill set out the aim to comply with fast changes, but one asks whether he made the mistake that the defined competences are actually of temporary importance.

In his study, Nadler (2007) sought the answer to the question why, according to recent surveys, fluctuation is increasing more and more intensively in CEO positions. As opposed to the fundamental question of competence-based approaches that seek the reasons of success, the question here was reversed. It looks at the possible origin of failure. Nadler (2007) points out the problem that fast changes in market demands forces companies to constant transformation which puts CEOs to newer and newer challenges. When the board of directors seeks a new CEO, they consider those experiences to be important that are similar to the problems that the company faces. Consequently, the new leader performs well in the initial period, in the first stage, because the necessary competences are directly built on his or her professional past and former experience. Applying the term used in the literature, the leader uses transferrable competences in the new position. However, in stage two, the familiar problems are unavoidably followed by unfamiliar problems for which the well-selected CEO not as prepared. According to the findings of Nadler (2007), leaders that were successful in stage one are in the majority of cases cannot perform as successfully in stage two. Putting the concept in Sparrow and Bognanno's life cycle model (1995) the leaders performed well in carrying out a change, but their temporary competences that lead to a success proved not to be relevant anymore when they faced new challenges. Based on this, Nadler (2007) recommends to the board of directors

looking for a CEO to search for a leader who developed several leadership styles or who would be capable of doing so. This finding exactly coincides with the selection criterion stemming from the management model of Boyatzis, Golemann and McKee (2003). As in this approach success depends on the adaptability of the leader, the personality-dependent nature of success in leadership comes into the foreground. Based on the experience of observations, that leader will be able to succeed in his or her position on the long term that can flexibly adapt to new expectations, has a broader set of competences and is willing to change. However, according to Nadler's (2007) findings, there are actually few CEOs who can renew themselves several times. In such a case, the possibility of a two-step succession should be considered in the CEO selection procedure. Analysing the general competency models based on Nadler's (2007) criteria, it can be said that they are rather static. In a situation that changes so rapidly a competency model should be developed that is able to handle these changes dynamically.

Conclusions

The leaders' role is outstanding in an organisation, and their successful adaptation is a key to success in our accelerating world. The goal of defining leadership competences is to identify the criteria of success. General leadership competency models seek to find those characteristics that enable leaders to comply with these new challenges. In our study, we analysed three competency models based on measurability, context dependence and predicting ability. Based on the analyses, the following conclusions can be drawn:

- The result of theoretical and practical analysis agrees that a broader repertoire makes one more effective, as the leader can comply more effectively with the demands arising in leadership
- Success in leadership is greatly defined by personality-related factors; these are mostly emotion-based, so-called soft competences that are found in general competency models. However, success is also based on situational factors, as a leader can only be successful if he takes the environment into consideration at his or her job
- the definition of outstanding performance in general competency models is unable to give proper answers to the demands related to organisations changing at an accelerated pace due to the contradictions in the development of those models

Based on the analysis it can be found that general competency models have a limited ability to define the criteria of leadership excellence in a changing environment and a different corporate context. However, at the same time it can be said that it still defines several competences that fundamentally define success in leadership, are context-independent and stand the test of time.

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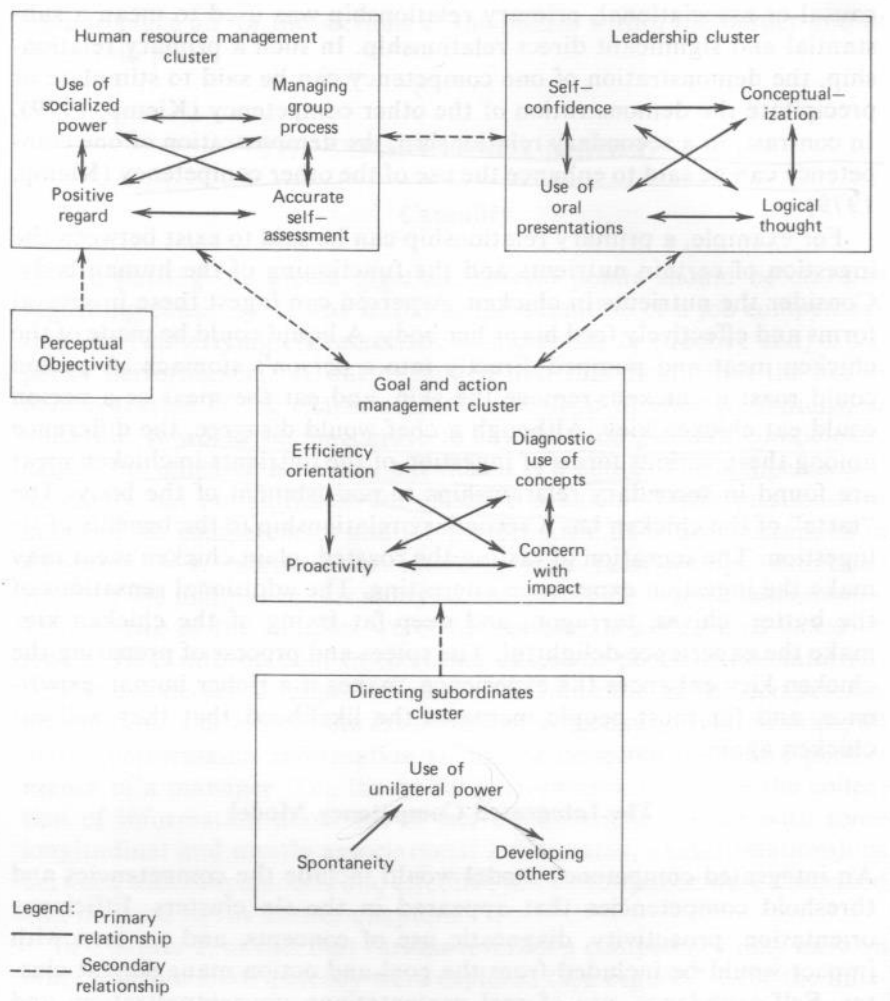
Annex 1: MCI leadership competency model

(based on Salamon, G., Batsleer, J. 1996)

1. Planning in order to achieve goals
 - 1.1. Seeking excellence
 - 1.2. Setting aims and defining their order of importance
 - 1.3. Checking actual activities and reacting to them considering the planned activities
2. Managing others in order to optimise results
 - 2.1. Sensitivity towards the needs of others
 - 2.2. Personal relationships
 - 2.3. Gaining the dedication of others
 - 2.4. Positive attitude towards the issues of others
3. Self-management in order to optimise results
 - 3.1. Self-esteem and personal motivation
 - 3.2. Managing emotions and stress
 - 3.3. Control of personal learning and development
4. Intellectual effort in order to optimise results
 - 4.1. Information collection and organisation
 - 4.2. Defining and applying concepts
 - 4.3. Decision-making

Annex 2: Boyatzis leadership competency model

(Boyatzis, R. E. 1982)



Annex 3: Cockerill: the competences of a leader with an outstanding performance

(Cockerill, T. 1989)

Information gathering:

Gathers variable types of information, using a broad spectrum of resources, establishes an information-rich environment for the proper preparation of organisational decisions

Concept making:

Creates frameworks, models, develops concepts, hypotheses based on the information; recognizes patterns, tendencies, reasons and consequences by connecting various types of information

Flexible thinking:

Defines alternatives or variable solutions in planning and decision-making; constantly weighs and evaluates the different options, their advantages and disadvantages.

Information from others:

Alternately uses open and checking questions, summarises, describes with other words etc. to understand other people's thoughts, concepts and feelings; able to understand events, questions, problems, opportunities from the viewpoint of another person

Directing interaction:

Involves others in his or her work and is able to create a cooperative group where group members feel respected, they have proper powers and common goals

Dedication to development:

Creates a supportive environment where the individuals feel their own strengths and limitations more exactly. Provides training, education and the necessary resources for development to increase performance.

Influencing:

Applies a variety of methods to gain support for his or her concepts, strategies and values (i.e. the use of convincing arguments and forms of behaviour, establishment of symbols, creation of alliances, inclusion of the interests of others)

Self-esteem:

Expresses his or her own viewpoint or opinion; makes a firm decision if necessary and behaves dedicated to the decision and mobilizes others similarly, expresses positive views about the possible outcome of the decision

Presentation skills:

Presents the ideas formulated in a clear, easy and interesting manner so that the other person (or the audience) can understand the message; uses technical and other tools effectively, builds upon non-verbal and visual communication

Proactive attitude:

Fits the task to the group, fulfils plans and ideas, takes responsibility for all aspects of the situation

Result-oriented attitude:

Possesses high internal work ethics and sets out ambitious, but at the same time achievable goals; wants to makes things better, wants to perfect them, wants to be more efficient and effective, measures progress based on the goals achieved

Annex 4: The areas and competences of emotional intelligence

(Boyatzis, R. – Goleman, D. – McKee, A., 2003)

Individual competences: these define how we control ourselves

SELF-AWARENESS

- Emotional awareness: recognising our emotions, knowledge of their effects and using them rationally in our decisions;
- Exact self-evaluation: knowing our strengths and weaknesses objectively;
- Self-confidence: knowing our values and abilities.

SELF-REGULATION

- Emotional control: keeping our destructive anger and emotions at bay;
- Congruence: honesty, reliability, openness, unambiguousness;
- Flexibility: adaptation to changing situations, ability to overcome obstacles;
- Desire for success: internal strive for better performance, based in internal needs;
- Initiative: ability to recognise and seize opportunities;
- Optimism: keeping the positive side of things at sight.

Social competences: these play role in the control of our social relationships

SOCIAL ABILITY

- Empathy: compassion, understanding and respect towards the feelings and viewpoints of others, sensitivity towards these;
- Political awareness: ability to interpret events, decisions and strategies at an organisational level;
- Client focus: understanding and fulfilling the needs of clients and buyers.

ABILITY TO CONTROL SOCIAL RELATIONSHIPS

- Motivation: a way of leadership that motivates others, carries others and sets attractive goals to them;
- Convincing power: ability to achieve acceptance of our viewpoints and goals with others, a great degree of persuasiveness;
- Abilities supporting the development of others: advancing the abilities of others through feedback and control;
- Catalisation: setting new directions, initiating, introducing or carrying through change;
- Conflict management: tolerating, resolving, smoothing conflicts and controversial situations;
- Relationship building: establishing, upkeep and caring for a broad range of relationships;
- Teamwork and cooperation: creating a team, upholding cooperation.

Analysis of the Construct of Competence from a Management Perspective

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Abstract: Competence-based approaches have become widespread and effective tools in HR management. Their main aim is to identify those personal employee characteristics which differentiate high-performing employees from the less effective ones. Despite the widespread nature of the methodology, the literature shows that as regards the application of competences, several questions still lack unequivocal answers. Competence is a complex term, which can be broadly interpreted as operative intelligence covering not only „whats”, but „hows” as well. However, when defining the term, some consider competence as a deep and persistent part of the personality, while other interpretations claim that it is a result of workplace socialisation. There is agreement that competence is linked to outstanding performance but it is debatable how outstanding performance should be defined. Thus, the various interpretations differ in these issues: whether competence depends on personality or on the situation, whether it can be developed, and whether it is linked to the individual, the position or the organization.

Keywords: competence, performance, competence-based HR management

Introduction

The advance of service and knowledge based industry, fast technological changes and the shortening of product lifecycles put the utilization of internal resources into foreground. It became more and more important for the organisations to mobilize their human resources in order to perform their tasks. Armstrong (2014) has the view that the task of human resource management is to ensure the success of the organisation through the people involved. In order to achieve a competitive advantage, effective development programmes are needed, and the starting point of these is the exact definition of excellence (Sandberg, 2000). Companies need a tool that makes those characteristics that enable effective performance understandable to leaders as well leading to successful operation of the organisation. Competence-based approaches endeavour to achieve this. Both the sensibly increasing demand towards the organisations and the results of theoretical research strengthen the process of competences becoming management tools,

therefore by today competence-based approaches became widespread, effective instruments (Winterton-Delamara, 2005).

Despite the widespread nature of the methodology, several questions remain unanswered as regards the nature and use of competences. Given that competence is an abstract term, there is no common agreement even on defining this term, and finding the origin of competences presents further issues. In our study we analysed the construct of competence as interpreted in human resource management along three questions that fundamentally define its usability in corporate practice and how far it can become a useful management tool in the hands of experts in the HR area and corporate leaders:

- How are competences connected to workplace performance?
- How can competences be managed in a corporate environment?
- How can human resource management be built on competences?

1 Competences and workplace performance

Competency research is an achievement of the HR management of the 80s that should define in a workplace environment those factors that differentiate high-performing, effective employees from the less effective ones.

There are several definitions for the term 'competence' (Mohácsi, 2003; Szelestey, 2008):

- „The personality trait of those with an outstanding performance, more exactly the quality of the person that is indispensable for an effective performance in a given job or role” (D. C. McClelland and G.O. Klemm)
- „Competencies are fundamental, defining traits of an individual, that are in causal relationship with efficient and / or outstanding performance according to the level of criteria” (R. E. Boyatzis)
- „The personality trait of the individual that is in causal relationship with efficient and / or outstanding performance in a job or situation as required by previously defined criteria” (L.M. Spencer and S. M. Spencer)
- „A set of behaviour patterns that the employee has to apply in order to perform tasks and functions in a job competently” (C. Woodruffe)
- „Knowledge or skill necessary to perform a given task or role” (R. E. Quinn)

The most important common element of the definitions is that competence **is linked to effective and/or outstanding performance** (Sanches-Levine, 2009. A

personality trait is a competence only if it has relevance from the viewpoint of performance. This follows from the basic goal to emphasise in competence research the identification of characteristics that differentiate those with an average performance from those with an outstanding performance. As opposed to the previously used requirement profiles that tried to enumerate exclusively or almost exclusively basic criteria required for the job, competence-based approaches focus on identifying the important factors. In fact, if we look at the most pressing need of organisations, which is to keep their competitiveness in a rapidly changing environment, looking for excellence becomes the most important factor. They need employees and leaders who can stand out; who can give a certain plus compared to the employees of the competitors and therefore provide a competitive advantage. Schipman and his colleagues (2000) point out that the competency models can influence the everyday behaviour of the employees in order to they connect this behaviour with the broader goals of the organisation.

The starting point of defining competences is defining effective and/or outstanding performance. Seeking excellence starts with separating outstanding and less effective employees. After this, the characteristics that are the reason for the differences can be found by the comparison of the two groups. (McClelland, 1973). **Defining the performance** may, however, be problematic according to the literature and may present several problems in practice, primarily due to the issue of measurability. Due to the intensive development of information technology and the fundamental changes in the service industry performance could be best defined via a **multidimensional approach** rather than along a single dimension (Neely et al., 2004). Consequently, good, effective performance derives from a combination of task-oriented (hard) and emotional (soft) competences. Hard (technical) competences shown at the workplace are more easily recognised and identified, and therefore measured. On the other hand, soft or social competences are far more subjective, and there are therefore harder to grasp, measure and define. We consider these to be very subjective as not all people are able to interpret these in social interactions and often being unaware of even their own social skills (Juhász, 2008).

In the approach of Boyatzis (1982) effective performance in a job is a special result (output) of the job that may be achieved through special actions and is in harmony with the organisational environment (it strengthens organisations procedures, frameworks and concepts). This means that in Boyatzis' complex model (Figure 1) effective performance manifests in various actions and behaviours that are created in the reaction of the job requirements (what the individual should do), the organisational environment (how the task should be done) and personal competences (why the individual acts a certain way). If there is harmony among these factors, effective performance can be presumed. (Boyatzis, 1982) So this definition formulates a close relation, a harmony between individual traits, the job and the organisation that can be well observed in praxis. Also other authors emphasise *the importance of the organisational environment in the*

relationship of competences and performance. (Cardy-Selvarajan, 2006) and (Wilkens (2004)) display the organisational interactions of competencies and how they are built upon each other. Prahalad, Hamel (1990) and Srivastava (2005) emphasize **the strategic nature of competences.**

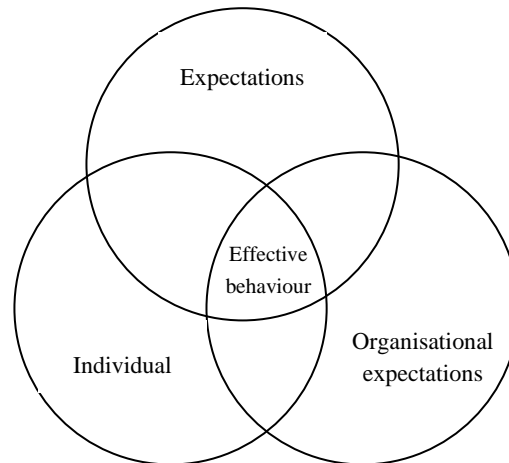


Figure 1: the model of effective performance (Boyatzis, 1982)

Another aspect that is worth taking into consideration about the expected performance is that the opinion of the organisations on effective performance is also changing dynamically. Consequently, **the validity of a competence changes alongside the changes in the business environment.** Therefore organisations need a flexible framework that enables in the present and in the future a change in the expectations defined by a competence. Sparrow and Bognanno (1995) reflected to this problem when they defined future, mature, transitional and stabile competences. Future competences, although not relevant in the present, may have a significant role if a given strategy is followed in the future. Mature competences are those which had an important role in the life of the organisation in the past, but, due to a change in strategy, are less important in the future. Transitional competences are important in the period of performing a change and serve the smooth performance of the change, but lose their meaning afterwards. Such „change competence” is, for example, the ability to live with insecurity, to manage stress, pressure and conflicts. The fourth is the group of stabile, permanent competences that are as important today as they will be tomorrow. These are in the centre of effective performance, they are not affected by the change or direction of a strategic plan, but they are linked to continuity and execution. Adding a time dimension to competence may further refine process of competences becoming effective management tools.

2 Competences as management tools

The essence of competences can be summarised well with this definition that properly reflects why competences can become effective management tools: **„competence is a more broadly interpreted operative intelligence that knows not only „what“, but „how“ as well.** Competence transforms knowledge into action, building a know-how bridge between knowing and realising something. Knowing means in this sense the ability to use what was learned, the ability to solve a problem or to clarify a situation (Szelestey, 2008, p8).

Summarising the characteristics of competences the approach of Parry points out four criteria (Szelestey, 2008) that define how far competencies can be managed:

- it has an effect on a main aspect of the job
- it correlates with work performance
- it is measureable
- it can be developed.

Some authors consider these statements about competences to be debatable. Therefore, many consider the competence based approach a „fuzzy concept“. (Winterton-Delamare, 2005) Actually, Parry's points are important criteria for the practical applicability of competences and made competences into useful tools of HR management practice.

An important common feature of the definitions *is linking competences to performing a specific job, task or role*. Competence-based approaches can be used very well in the everyday life of organisations because they focus on the connection between the person in the job and his or her tasks. (Sanchez-Levine, 2009) This must be emphasised because as compared to the previously used aptitude tests the matter of job suitability is removed from the level of general personal evaluation. IQ tests and the various personality tests often put the whole personality in the focus of evaluation. Competence-based selection moves forward and focuses exclusively on the aspects that are of importance for the employer (McClelland, 1973). Linking the competences to jobs or tasks is also very important because the competences of the individual actually become useful when performing a specific task. In fact, individual competences and the tasks performed are in close interrelation (Bandura, 1996). That is because the individual's competences can be developed by practice, i.e. by performing tasks. Consequently, the individual may extend his or her competences while performing the job, becoming more competent for other tasks or solving new situations. The individual who performs the job with a given competence set also has an effect on the job itself, as, depending on how he or she performs the given tasks, the job and the individual's role in the organisation is being formed.

A further common feature of the definitions is that they use *competences as collective terms*. In this sense, competence is an inventory, where personality traits, motivations, affinities, abilities, special skills, knowledge etc. may go. According to the definition of Leplat, the term of competence combines its elements in a structural and dynamic manner (Szelestey, 2008). Winterton and Delamare (2005) put these elements in a multidimensional model (Figure 2). Based on the Spencer and Spencer iceberg model, abilities and knowledge are more visible, superficial characteristics of one's personality while the concept of self, traits and motivations are far more hidden, forming the core of personality (Szelestey, 2008). This also means a significant step ahead compared to the job aptitude tests applied before. By not excluding any characteristics as a possibly distinguishing mark of excellence in a job it makes possible to emphasise the relevant factors in selection, increasing the rate of successful selections. However, this level of flexibility in the concept divides the experts as concerns the evaluation of the roots of competence and the possibilities of development.

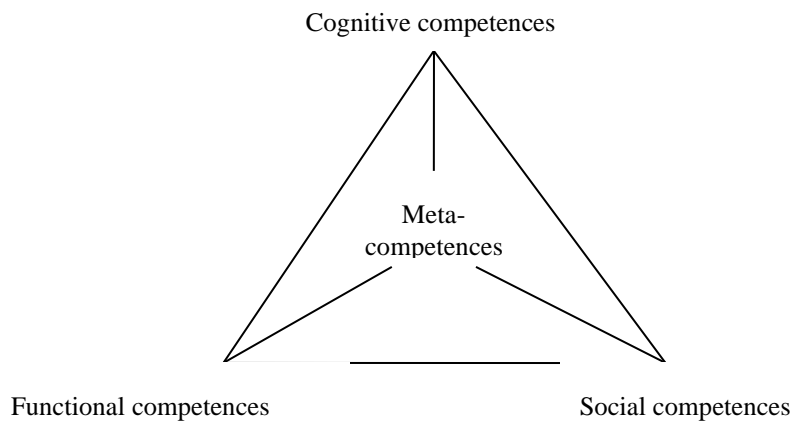


Figure 2: Competences in a multidimensional approach
(Winterton-Delamare 2005)

The greatest difference in the definitions is in the *interpretation of the nature of competences* (Szelestey, 2008). One interpretation considers competences to be a fundamental part of the person, a deep and permanent part of personality, which makes behaviour predictable independently from the situation. In a workplace context this means that we may expect generally outstanding performance from an employee with a competent personality trait. (Juhász, 2008.) This viewpoint is confirmed by researches that explain the outstanding performance of competent persons with their high level of interpersonal skills. Those who manage their interpersonal relationships efficiently and have a positive self-view, whose behaviour is controlled, regulated, who are dutiful are useful members of the organisation. On the other hand it is hard to work with people who are cumbersome, narrow, inflexible, whose level of interpersonal skills is lower. In

other interpretations, competence develops during workplace socialisation. In the definition of Béla Buda 'socialisation marks a process during which humans – due to their peculiar biological and psychological traits and tendencies becomes socially competent. In this procedure those attributes are developed that enable him for effective action in his environment and society and to dynamically uphold his established status in life.' (Szelestey, 2008, p5) The important part of this complex definition is that competency is partly an inherited attribute and partly formed by the environment. Thus, during workplace socialisation (Bandura, 1996) we are continually developing our skills and abilities, extending our set of competences by expanding our knowledge, predicting effective, successful future performance.

These two extreme approaches bear fundamentally different messages for leaders and HR experts. Traditional researcher approaches used for identifying competences relevant in a workplace environment also distinguish person- and job-focused approaches. (Sanchez-Levine, 2009). In the first interpretation selection should find the most gifted persons, those with the best talents. In the second interpretation, the selection of the most experienced persons, those with decades of employment will bring a higher result for the organisation. However, it would be hard to support the exclusive truth of either conclusions. While the first leaves out of consideration the role of experience, learning and self-development, the other underestimates the competences of young employees starting in a job. Altogether it would be an extreme approach to put competences in the category of fundamental traits or abilities that can be learned during workplace socialisation. Depending on how an interpretation explains the system of relationships behind the elements of behaviour, competence gains different meanings. All this shows that the nature of competences is rather complex.

From the viewpoint of corporate practice *the development of competences (and to what extent they can be developed)* is of key importance. The greatest difficulties can be found during the development of soft, emotional competences. In their common work, Boyatzis, Golemann and McKee claim that „emotional intelligence has genetic components as well, but learning plays a significant role. People may differ in their talents, but anyone can develop, from whenever he starts (Boyatzis et al., 2003). Summing up their research results, the most effective form of training is a training programme that starts at the youngest possible age with ample practice opportunities possibly in a corporate environment ensuring a high level of motivation of the participants. Leplat points out (Szelestey, 2018) that nobody becomes naturally and spontaneously competent, people become an expert through personal and social procedures (which combine theoretical and practical learning). Based on this it can be said that personal traits that are relevant in a workplace environment can be developed (to a different degree and extent) and exactly because it can be gradually developed, it may be subject to management.

According to the basic goal of competence based approaches the aim was to define characteristics that are easily understandable and visible for leaders. Measurement helps leaders and HR experts during the selection procedure in the evaluation of selection criteria, and at the same time it may become an important part of continuous evaluation and is an important starting point and control criteria of development programmes. Consequently, ***measurability is a fundamental requirement towards competences***. Competences give criteria that manifest in behaviour or actions and this makes possible the measurement of characteristics that are hard to grasp or observe – this plays a fundamental role in the spread of the use of competences. Measurement may be therefore performed with scales qualifying by behaviour forms or scales observing behaviour (Karolinyné et al., 2004). Despite this, measurement remains a fundamental issue in competencies becoming management tools. One important basic idea of the approach is to also consider soft factors which significantly influence work performance, these can be, however, measured difficultly or only to a limited extent due to their subjective nature. If competence requirements are defined unequivocally for the members of the organisation, the measurement of competences described by behaviour qualities or forms may iron out these issues.

3 Competency based HR management

The use of competences in praxis can be divided into two sections. In the first step, the competences required for a given job are defined. The basic question of ***competence based workforce planning*** is „what size of workforce with what competences will be required for performing the tasks of the organisation at a good/outstanding level.” (Koncz, 2004, p234) Competencies that are important for the organisation can be organised in competency profiles, competency models (Sandberg, 2000). If the competence model was developed involving employees from various levels in the organisation, it can transmit effectively the expectations of the organisation segmented to the individual level thanks to the common language and interpretation of leaders and employers (Tóthné Téglás, 2016). The fundamental goal of competency models is to make performance predictable based on it. Such models may be developed for organisational groups, entire organisations, organisational levels (e.g. leaders, mid-level management, employees or job groups (for a job of key importance, e.g. salespersons) (Mohácsi, 2004). However, whether a competency model applied in a given organisation actually becomes „live”, useful, will be decided by its professional development and introduction. (Klein, 2001)

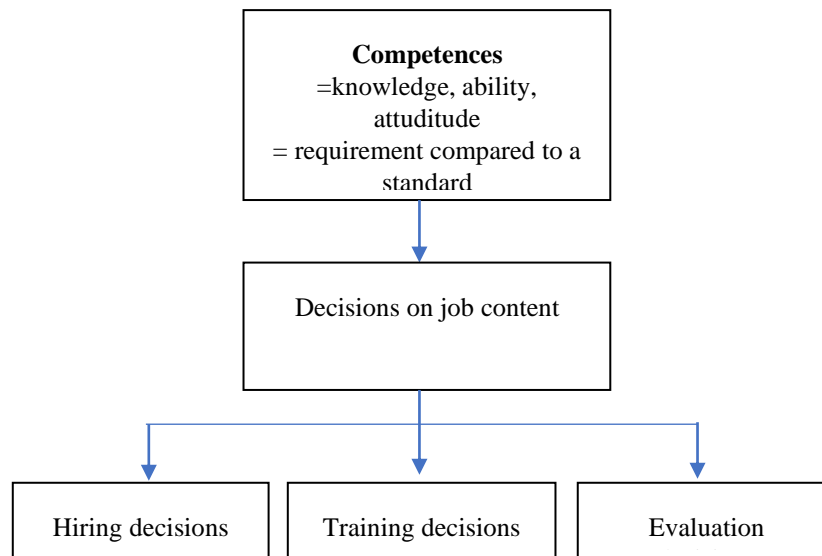


Figure 3: The use of competences in HR management (Simon, 2006)

As shown by Figure 3, **competency models applied by the organisation may be used in several areas of HR management and may be the starting point of HR measures and planning** (Armstrong, 2014; Shippman et al., 2000; Koncz, 2004; Simon, 2006; Henczi-Zöllei, 2007; Mohácsi, 2004) In selection, career planning and succession-related development the comparison of personal and job requirement profiles gives an important guidance to decide suitability questions and to assemble development programmes. Competency models may be made into important parts of employee and leader evaluations as this is shown by the use of competency-based performance evaluation systems and systems combining various performance dimensions (results and competences) getting widespread in practice. In some places they are even used to create competency based remuneration systems. Often it serves as a very effective instrument for organisations before transformation. (Mohácsi, 2004) The development of a new competency model corresponding to the changes forces the leadership to reconsider new expectations and those could be transmitted and 'translated' for the employees by the model in a clear manner.

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An instructive case study about Good Work

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Abstract: Today, there is a shift in attitudes that are affecting everyday life at work. This change will have an impact on the workplace, with the consequence that sooner or later employees will reevaluate long hours spent at work and create a need for personal and professional development. Through a case study, we demonstrate how motivation can be inhibited by the lack of autonomy and creativity. We look at ways to create Good Work and make suggestions for successful collaboration within an organization.

Keywords: experience, Motivation 3.0, self-knowledge

1 A different aspect of motivation

Daniel H. Pink presents a new approach in terms of motivation in his book. This is called Motivation 3.0, which is based on traditional theories. In the first chapter of his book, he argues the use of punishment and reward as motivational tools. He provides his claims through examples and experiments. The most illustrative tool is the market growth of Microsoft and Wikipedia. Microsoft has started with a huge competitive edge, qualified experts were participating in the project and were paid very well. In contrast, Wikipedia had volunteers on team, they were not paid for their work and they didn't go to the office every day. They had outgivings again and again. After a couple of years, Microsoft couldn't follow Wikipedia and it became the market leader. At this point might fail the assumption, that external incentives and effects lead a company to success. Pink (2010) draws a parallel between the well-established work methodologies and the operating system from IT. He claims, that we live our lives regarding rules, frameworks, and behavior patterns. Motivation 2.0 is about this statement, how mechanical can be the working process in our life if we do it for maximizing the profit. If the activity depends on other conditions, self-dependence, and eagerness will be reduced and

we will lose the motivation to create something good. Kindergarteners were involved in the experiment, how they accomplish if there are promised a reward and how it influences their performance if they do it just for the experience. The result has shown that the children who had drawn for the experience were more successful than the other ones. Another experiment showed that offer a reward blocks the creativity and individuuum solves the problem slower than they would participate in brainstorming (Pink, 2010).

Pink shows “The candle problem,” a psychological experiment created by Karl Duncker in 1935. A person is brought into a room and given a candle, a box of thumbtacks and matches and asked to attach the candle to the wall so that the wax doesn’t drip on to the table. Two groups of people are offered the problem — the first group is simply timed and the second group is offered rewards. It takes the second group three minutes longer than the first group to solve the problem.

The person who can solve the candle problem is one who, rather than seeing the box as a receptacle for the tacks, sees it as something that can be used in the solution. The box is tacked to the wall and the candle placed on it. This experiment has shown that incentives actually block creativity. The experiment was repeated over and over again and had the same results (Pink, 2009).



Figure 1: “The candle problem”

Source: Pink, 2009

1.1 Three elements of Motivation 3.0

Daniel Pink (2010) distinguishes between autonomy, mastery, and purpose as the major components of motivation.

- Autonomy

Autonomy is the need to direct our own life and work. Our life should not depend on the circumstances we need to have control over it. To be fully motivated, we might be able to control what we do, when we do it, and who we do it with.

According to Pink, autonomy motivates us to think creatively without needing to conform to workplace rules. This engagement can not be established by external incentives. Autonomy refers to the fact that money doesn't motivate anybody, because people are paid for their work. It is a fundamental factor and not a motivator.

The IT Australian company, named Atlassian has tested the effect of autonomy of their employees. They had 24 hours to deviate from the daily working routines and use this time out for unusual projects. At the end of the day, they demonstrated their ideas to the leadership. Several ideas came into their mind to optimize their processes and they have solved problems which they can not imagine before. After the experiment, Atlassian gave the right them to work independently in 20% of work time. The same methodology appears on Google. The best applications are born in this 20%.

- **Mastery**

Mastery is the desire to improve and be better. We are sometimes impressed by what others do to give their best. In order to improve their skills, they practice on the piano, learn languages or do sports day and night. If you are motivated by mastery, you'll likely see your potential as being unlimited, and you'll constantly seek to improve your skills through learning and practice. The desire to do these things comes from inside, we don't do it for earning money or it is not inspired by external incentives, we just do it for the experience. Volunteer work is a common phenomenon, we spend our free time with activities which make us satisfied.

- **Purpose**

People may become disengaged and demotivated at work if they don't understand, or can't be the part of the "bigger picture." In order to encourage them, it might be useful to help to find some purpose in their work. But those who believe that they are working toward something larger and more important than themselves are often the most hard-working, productive and engaged. Inner incentives are independent of the grounded of external frameworks as money and environment (Pink, 2010).

1.2 Punishment encourages to find a loophole

According to observation, motivation has a key role in making moral decisions. In fact, we do something to feel happy, we don't think about it to be not on the straight. We are looking for loopholes if our decisions are driven by external factors. It is happening when we discuss punishment. It seeks us to find loopholes, mind creates the fear and actions will become mechanical. Daniel Pink illustrates in his TED talk when he can be used the reward system "If when" (Pink, 2009). It is useful if we do our daily routine tasks, which are based on logical theories. The right cerebral hemisphere can take a rest, the left one is responsible for logical

thinking. The benefits, that we get for this tasks lead us to reach better and faster results. This was the main idea of the above mentioned “Candle Problem”, but here were used incentives for logical thinking, not for the creative one. As a leader, we might ensure our colleagues that we realized the monotony of the given task but it is also an important part of the whole process. It motivates them to accomplish it if they receive positive or negative feedback or financial goods.

Pink (2010) distinguishes between two types of behavior. The difference between intrinsic and extrinsic motivation lies in the reason for doing something. Extrinsic (X) motivation refers to doing something not for its inherent enjoyment, but for a separable outcome, such as receiving rewards or avoiding punishment. Intrinsic (I) motivation is something that comes from within and can be as simple as the joy one feels after accomplishing a challenging task.

The author conducts thorough research about what are the factors that have the biggest impact on the individual in the organization. Firstly, autonomy might be underlined. The growth of productivity, eagerness, and understanding can be measured, even social competencies if we have enough space to do our job. People usually have the desire to be a part of constructive activity. Autonomy has an important role in this case because we will have the need to create something excellent. It inspires us for continually learning and developing and we won't feel that we are always under control. Mastery and professional development required to take efforts.

2 An instructive case study

Sára was a member of the team of the logistical center. She was hired after her graduation. Since her first workday, she has worked on to be better. Her main tasks were to ensure the delivery of orders to the suppliers and coordinate most of the supply chain processes and plan the allocation of goods. She was satisfied with her projects even she could use German and English languages. To have a better look at this organization it is crucial to emphasize that the hierarchy was very dominant and there was no opportunity for creativity.

One day she and her boss were invited for a meeting at the Headquarter office of the company. She was very excited all day, she was interested in all the details of the current projects. After this attendance, she decided that she will more dive into the work and wants to get a position in the Headquarter.

She was working a lot, taking all of the new projects to prove her leader that she is suitable for the higher position. She even neglects her family and friends, lived for the work. After a half-year, she had her fill of this situation and applied her leader that she thinks she is ready for the new challenges. Her leader rejected it, his thoughts were reflected in his behavior. His attitude was negative didn't give her the opportunity to prove. She lost her motivation, didn't find anything interesting or challenging in her daily work, neither in the new projects.

There are two questions that should be answered. Did she handle this situation in the right way or there were other ways to communicate her purposes?

László Bock (2015) mentioned in his book, that we spend most of our lives at the workplace. We might seek to find the most suitable work for us, as it won't be not only a tool to achieve our aims, but it will become the aim where we can serve others. Sára lost her motivation because she didn't start to work more hard-working for the experience as before. She wanted to be better in order to get a higher position. György Csepeli (2001) called this phenomenon "instrumental learning". If we go out from this fact, Sára should have said her purpose to her boss earlier and not just refer to it (Schulz von Thun, 2012). Clear communication could have helped her to avoid the misunderstandings and her boss might have supported her.

The second question is related to her boss. How should he have reacted in the right way? He might have faced her changed behavior after the meeting at the Headquarter. "Complementary relationship" can be observed between leader and employee (Schulz von Thun, 2012). It means that there is a hierarchy between them and what is allowed for the leader it is forbidden for the employee. Her boss was not interested to seek the reason for her misbehaving. He might have had the tools which could have influenced his workers' behavior. To demonstrate his professional approach the adequate style of communication and professional terminology are essential. He blocked all of the communication tunnels and didn't pay any attention to gather information about the positions at the Headquarter in order to make the first steps to support his employee.

According to Sára, the lack of self-dependent and creativity are the main blocker of motivation. In Delphi was already shared the message: "Know yourself!" Different disciplines attend to self-knowing as a strength of the individual. They claim that if we learn our skills and competencies it can help to drive our lives consciously and we can handle the different situations easily.

In essence, leaders should support their employees at the beginnings in order to build the bridge between them which can help avoid unpleasant consequences. Conscious behavior can be a basis for growing performance and collaboration.

3 First steps to a successful collaboration

The organization has always determined mission as the different departments should have one. According to Bock (2015), it should not be based on the economic benefits or on the market leader position, but on a more sensitive personal mission. It might come from the function of the department in order the employees feel to be a team player. It can help if the employees meet personally with who they work. If they have personal contact, work is bounded with emotions and performance will be increased. All of the participants can get to

know each other, either the processes. Indeed, better decisions will be made if they can identify each other at a personal meeting. If our work will be useful for others we try to give our best to make the customers and our colleagues satisfy.

As another pillar can be mentioned the communication in order to strengthen the inner cohesion of the team. It based on the theory that every information should be shared even if it is irrelevant. To writing “Memoirs “ serve this aim during the meetings. Bock warns us, that we need to take our time for these “Memoirs” because it helps usually if someone couldn’t attend the meeting.

The third pillar of successful collaboration is to giving feedback back and forth. Feedback helps us to recognize others’ opinions. It is important to underline, that this can happen in the environment which is capable of it (Bock, 2015).

If a process is not applicable it can be changed. Humans can adapt to the environment unless they do not reach their limitations. However, if someone should accept a not suitable situation, it will be appeared in self-confidence and can not verbalize self (Schulz von Thun, 2012).

Teamwork could be an excellent opportunity to make the team stronger. Their performance will be materialized and they feel useful. If these successes will be followed by honor, it could be observed that people won’t be work under pressure, they will seek the “flow” experience (Csíkszentmihályi, 1997). It is good to know where our strengths lay because we can focus on it in a better way.

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An outlook on crisis indicators than and now

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Abstract: The longest ever bull market in recent history is finally coming to an end as global recession fears have been steeply rising with the global outbreak of the CoVid-19 pandemic. Needless to say, the stage for another global economic downturn has been in the process of setting, the Russian-Saudi-Arabian oil price war, market uncertainty, high volatility and by far most importantly a global pandemic have created a perfect storm triggering a worldwide economic downturn. Could we have predicted the outcomes of the events that led up to the current liquidity crisis? Could economic indicators potentially forecast recessions? If yes, then what are those indicators, and how exactly should average people interpret them?

The research paper is going to focus on gathering a database of all of the possible banking and currency crisis indicators, evaluating their feasibility and, if possible, model their behavior. The contribution of a currency or banking crisis prediction model would be that of an independent forecasting system that would give an estimate of the likelihood of a recession. The research paper analyzes in great detail the timeline of the 2008 financial crisis and the patterns that lead to it, altogether comparing the current financial market's condition to its condition before the last crisis, highlighting similarities and core differences.. The aim of the research paper is to introduce a few key market indicators capable of forecasting major shifts in macroeconomic business cycles introducing the importance of a close attention to the national treasury bond maturity yield curve

Keywords: credit cycle, crisis, yield curve

1. The long and short-term credit cycle

The analysis of big debt cycles begins with its main cause- credit. Since it is regarded as a mean of providing an individual or legal entity with buying power, it is concluded that its direct result is the accumulation of assets and collateral-means of servicing debt. Crediting- getting a loan from a bank, essentially means that whilst the borrower has more money to spend than they make when the loan

is provided, inevitably there will be a time when as a result of servicing the debt the borrower is going to have to spend less than they make. This, in turn, creates what is known as the “short term debt cycle”- a set of logical events reoccurring in predictable patterns in a market-based economy. The “long term” cyclicity is expressed in the relationship of upward and downward swings of all of the individuals and entities in the economy -debt investors- in a specific point along the curve where a strong growth upswing driven by debt financed investment supporting incomes and asset prices peaks at the instant of maximum public confidence in eternal economic growth just a moment before the downswing occurs driven by accelerating costs of debt service payment, resulting in high accumulation of debt slowing down lending and increasing pressure on debtors, virtually stopping investment, halting income growth and decreasing asset prices. If the swing is too large, the economy might enter a depression. These swings are inevitable and most likely reoccur every decade or so. However if the cycle is paid attention to and nobody is deceived by “easy credit”, if the best arrangements are made from both the sides of businesses, banks and the government, the downfall can be substantially softened by a so called “beautiful deleveraging”- a term coined by Ray Dalio that describes the use of four factors to ease the effects of a recession on the individual and the society as a whole.

It is undeniably to a persons’ and, on a larger scale, to an economies advantage to be able to make large scale purchases and together with that grow in wealth and prosperity. However, as economists and policy makers have learned from experience, providing too much or too little credit really depends on the financial state of the people in the economy. In case credit is easily accessible, meaning interest and financial requirements for its servicing are low, it may result in the formation of bubbles on local and national levels fueled by reckless bank behavior. On the contrary when crediting is restricted, savings go up and people must look for alternative investment opportunities. Consequently, it can be stated that low crediting in the economy is indeed just as, if not more harmful as its abundance.

Much of the responsibility of national credit provision lies on the shoulders of policy makers. They are indeed the ones to boost the economy during slowdowns and pull the breaks on uncontrollable lending. Their importance in handling the situation can’t be overstated. They possess the key to handling debt crisis by implementing the proper policies involving controlling the spread of burdens on financial sectors. Unfortunately, the human factor, prejudice and the ‘end justifying mean’ principle give a tremendous influence on them, most of the policy makers tend to be in favor of “easy credit”, as it is advantageous for their popularity among the people.

“A beautiful deleveraging” provides an alternative to recently used methods like quantitative easing, having questionable influence on the yield curve, for stabilizing the economy with using the levers of austerity (spending less), debt

default (restructuring), monetary policy and transfer of money and credit from the “haves” to the “have nots” in a favorable way.

All in all, it is crucial to understand the credit cycle, as it governs the societies prosperity.

2. An overlook on the 2008 financial crisis

The 2008 financial crisis was undeniably a global economic disaster that resulted in record-high worldwide unemployment, fear, panic, what's outcome was the “Great Recession” and cost millions of people their savings, jobs, their homes and way of life [1]. The crisis was far from being an accident, it was caused by an out of control industry that was fueled by greed and craving for “easy money”.

In order to see what exactly lead to this disaster, it is crucial to understand the structure of the United States banking system after one of the largest economic crashes in history- the “Great Depression”. After this event of a never before seen scale that devastated the American society as a whole, the government, in order to prevent such crises from ever happening again, put tight regulations on financial institutions and kept them under strict control. This, in turn, lead to forty years of economic expansion without any severe downturns. During this expansion commercial banks were local businesses that were tightly regulated and were prohibited from doing any kind of speculative activity, and investment banks, that usually dealt with stocks and bonds, were private partnerships comprised of a few investors.

The last two decades of the past century, however, saw the brink of a long process of government deregulations that essentially became the building blocks for the upcoming crises. It all began in 1980, with Jimmy Carter's Depository institution's deregulation act that broadened the banks' lending powers and introduced new ways for savings and loan associations to provide credit. His successor, Ronald Reagan, famous for his stance in a pro-business market economy liberated from government control and his deep respect towards entrepreneurs, continued and strengthened the deregulation process by an act that provided for adjustable-rate mortgage loans. This was followed by the Gramm-Leach-Bliley act, -a law adopted under the presidency of Bill Clinton, which was a major contributor to the near-crash of the system. It was a turning point in the deregulation process as it repealed the Glass-Steagall Act of the thirties that was imposed solely for the purpose of restricting banks from owning other financial companies. By this act, depository financial institutions, in particular, commercial banks, could directly compete with Wall Street investment banks. This effectively removed the barriers between Wall Street and average banks. Even from that point, the deregulatory activities were far from over yet, as a matter of fact, they became more

progressive, in terms of liberation of business from government control, and simultaneously they became more effective and generally were liked by the society.

The next key step in the process was the ban of regulation of the derivative market- a newly emerged market for complex financial tools enabling speculators to engage in activities with contracts valued according to the performance of the underlying asset or index. This was indeed another crucial element that contributed to the crash. The Commodity Futures legalization act of 2000 finally liberated the speculators from ever owning the underlying entity. Engaging in activities involving derivatives [4] meant that investors could effectively bet on any outcome of any event as long as it was feasible and viable, for instance, day-traders could bet on oil prices, the bankruptcy of companies and even the weather. As we will see later on, the emergence of this market played a paramount role in the formation and expansion of the housing bubble and how it got out of hand so quickly.

With the presidency of G.W Bush came several acts facilitating the deregulation of the financial sector. One of the most influential laws concerned the ease of net capital rule requirements by the Securities and Exchange Commission, which basically meant that banks were allowed to increase the percentage of outstanding debt.

The whole procedure of deregulation resulted in the fact that practically all of the banks became highly leveraged⁹ on debt. Whereas it was quite uncommon to see leverage ratios of 1:4 before the deregulation process, ratios ranging from 1:20 – 1:33 were incredibly common during the expansion before the crash. Indebtedness became a major factor in the economy from that point. That meant that if the banks' assets were to reduce in value by only 3 percent- than that would be the end of it!

In 2001 two major events struck the economy. The nine-eleven terrorist attacks and the collapse of the internet bubble. The dot com bubble burst to expose the country to a short period of recession. As a natural move from the side of the government, interest rates had to be lowered to encourage people to take credit and by this boost the economy once again. In December 2001, Alan Greenspan, one of the architects of the crisis, former federal reserve chairman under three presidents, lowered the fed funds rate to 1.75 percent, from a staggering 6.5, which was followed by another lowering to 1.24 percent. By 2003 the interest rate was 1 percent. The government also lowered interest rates on adjustable-rate mortgages. Many people who couldn't afford to buy homes were extremely pleased about that. Subprime lending became the so-called "bread and butter" of the banks.

⁹ The ratio between the banks borrowed and the banks owned capital

The financial crisis was preceded by a never before witnessed boom in the housing market. It created one of the biggest asset bubbles in history. According to some resources, the prices of average American homes rose by a staggering 124 percent in a mere decade from 1998 to 2006. However, in order to perceive the true size of the bubble, it is essential to understand how securitization works.

In 1977 Lewis Ranieri, a former bond trader and banker introduced a new innovative way of spreading risk in the lending sector. Before securitization banks were incredibly careful in picking the people to lend their money to, this, in turn, resulted in the banks disability to hold too many mortgages at once, due to regulations from the government on the amount of obligatory net capital that had to remain and the urge to writing off already existing loans was impossible to fulfil, as these loans had maturities ranging from a couple to over thirty years. A new product had to be invented in order to sustain fast economic growth altogether with supporting innovative activities in the financial sector. This product was the Mortgage-Backed Security- a type of asset-backed security that heavily relied on the underlying mortgage payments and used the asset as collateral. The idea behind it was relatively simple. It basically took the load and the risk off from mortgage issuing financial entities and distributed it along with other depository and non-depository financial institutions. When an individual (consumer) wanted to buy a house, they usually took a mortgage, that was granted only after the bank was sure enough that the specific requirements concerning financial stability were met. Such requirements included the review of FICO scores (credit scores), income verification, number of people living in the household, risk of default, assessment of collateral, etc. Risk assessment was crucial. However, instead of these mortgages laying on the books of the loan issuing entity, waiting for decades to be written off, they were instead bundled together and sold as a whole to an investment bank, where investors essentially purchased them and received periodic payments, just like bond coupon payments. It was quite obvious that any mortgage-backed security was only as good as the mortgage that backed it up! The innovation lied in the fact that since these mortgages were bundled together, the risk was relatively low, the argument for the matter was that there were very few people who weren't financially stable enough to pay their mortgages, due to the regulations still being strict on lending activities.

During the boom, the bundling of mortgages was generally dealt with by hedge funds¹⁰[6] and investment banks. These mortgages were often combined with student loans, car loans and similar types of credit. The financial entities would then use sophisticated computer models to price the bundles accordingly. The criteria upon which the bundles worth was determined included monthly payment amounts, future prices, the likelihood of future payment. The bundles were

¹⁰ An investment fund that pools capital from accredited investors and protects it from market uncertainty

evaluated by rating agencies according to their default risks. Triple A rated bundles meant that they were essentially risk-free since they were getting paid first and consequently their yield was low. Double B's and B's were considered mid to low-tier investments. As their payments were questionable, it meant that they were taking on defaults first. The risk was high, and so was the yield.

The investors, however, didn't worry about risk too much as their financial products were insured by insurance companies like the American International Group, a company that was deemed too big to fail in September of 2008 and had to be rescued by taxpayer money

Since the banks already retrieved the values of mortgages, they were able to issue new loans to new clients essentially initiating the period of reckless lending activities that would later produce devastation to the American society.

The system was a ticking time bomb, soon, lenders didn't consider if the borrower was able to repay the loan, and they started making more and riskier loans, knowing that they could balance their books virtually instantly as the investment bank bought the mortgages. Investment banks, having borrowed billions of dollars for purchasing these assets, didn't care either, since their primary source of profit was bundling up and selling these risky assets to investors. The more assets they sold, the more money they made. Investors, on the other side, paid monthly premiums for insurance companies in exchange for credit default swaps [10]. These complex financial instruments were, in fact, derivatives, as, by definition, their value was determined by the performance of the underlying asset. The asset, in this case, was the mortgage bond [9] and its performance depended on the simple act of its monthly payment. In other words, credit default swaps were practically insurances on the bond, meaning if the bonds failed, the value of the asset would be repaid altogether with the collateral the underlying asset held, therefore the investors felt confident in their investment. And finally, insurance companies didn't care either because they were getting extremely wealthy from the monthly payments. It was a self-reinforcing system. The securitization chain was now complete and from that point on a credit crunch was practically imminent. Between 2000 and 2003 the number of mortgages issued on an annual basis grew from a value of 1 billion to 4 billion dollars. What exactly was backed by the MBS bond was now irrelevant. All of the institutions focused on the volume and fees they were getting from operation costs. Needless to say, many bankers became extremely wealthy during the years of the boom. Annual cash bonuses spiked. By 2006 40 percent of all profits of S&P500 firms were comprised of financial institutions.

Bankers were getting huge bonuses on a monthly basis for selling credit default swaps. People were essentially getting paid for taking on unnecessary risks. It was a completely distorted system of compensation.

The peak of the financial system's fraudulence, however, wasn't even in sight.

As previously mentioned, low-tier mortgage-backed securities, labeled as B's and double B's were considered to be high yielding risky assets that were purchased generally for speculative activity primarily by hedge funds. This, naturally, created a problem for market coverage, as not everyone was interested in buying such assets. Investors favored the highest triple-A bonds, whereas hedge funds weren't minding additional risk in exchange for high yields buying tranches of double B's and B's. As a consequence, investment banks wanted to cover both the high yield-high risk and low yield-low risk markets such as pension funds and retirement savings, so they have created a brilliant system of capital flow. This introduced the root cause of the financial crisis: Collateralized Debt Obligations, which are financial instruments that are used to package different types of loans according to their risk factor. Before the brink of the millennium, these financial products have earned the reputation of being safe and sound, primarily due to their diversification in terms of underlying assets which included home loans, car loans, and credit card loans. CDO managers would select the securities that go into the portfolio and monitor the assets. As mortgage-backed securities, they are sold in tranches varying from the riskiest to the safest. However, with the housing bubble pursuing financial institutions to give out riskier and riskier loans, soon enough Collateralized Debt Obligations were primarily comprised of one asset- houses. During the bubble, Collateralized Debt Obligations usually operated with B and double B level assets.

The novelty of CDO's lies in the fact that instead of bonds, deemed too risky to buy (represented by the double B and B level tranches), being warehoused on the books due to low demand on financial markets, they are instead repackaged with a number of similar low-tier high-risk assets including mortgage-backed securities and other loans, which, by the way, are customizable, and put into a tranche similar to that of an MBS*, and being given ratings as if they were solid as treasury bonds, receiving triple-A and Double-A ratings. Some of the CDO's were packaged in a way so that they were on top of each other, CDO of a CDO- hence CDO squared.

According to rating agencies, such ratings were justified due to the inherent diversity of the underlying assets. Many people today speculate that the rating agencies themselves were asked to rate these toxic CDO's and were threatened with competition, meaning that if one credit rating agency didn't provide the financial entity with the credit rating it wanted, then this entity would head over to the competitors.

It must also be noted that there was more to Credit Default Swaps than it would first seem. Essentially, since they were a derivative driven market, they added a certain amount of risk in the initial MBS* and actually exposed its value to market fluctuations and relatively high uncertainty. Using the simplified argument that these products were insurances on the bond, it can be stated in an example, that a house, for instance, can be insured only once by a person who owns the entity itself, however, now that we take into consideration the function of derivatives,

practically anyone can ensure the house. This, of course, as a result of the deregulation process in the late nineties. This effectively meant that in case anything was to happen to the underlying asset, the number of losses in the system would become proportionately larger. The credit default swaps weren't regulated, since they were derivatives, and insurance companies weren't bothering to put aside any capital to cover the losses in case they defaulted. This key factor indeed determined the tragic outcome of the crisis. According to some research, the estimated value of outstanding credit default swaps was 42.6 trillion dollars! An Unimaginable number compared to the 18,5 trillion-dollar evaluation of the whole U.S stock market and Treasuries market valued at around 4 and a half-trillion dollars.

Put in perspective, when considering not only a single house, but hundreds of thousands of households and hundreds of thousands of mortgages, packaged into mortgage-backed securities and collateralized debt obligations, credit default swaps meant that the insurance companies were essentially giving instruments for betting on whether people would be able to make the payments on a regular basis or not. What the insurance companies did not know, or at least, did not want to know at the time, were the actual contents of the mortgages and the incredible high risks involved. Investors, on the contrary, didn't know who they were betting against? But it turns out that they never had to, since credit rating agencies like Standard and Poor's and Moody's and Fitch gave supreme ratings to basically all of the tranches, for an appropriate fee.

But if that wasn't enough, speculators on the side of Wall Street, also wanted in on the game, so they made so-called "side bets" on whether the mortgage-backed securities and CDOcredit 's would be making payments on time. These side bets were also made in reference to whether an MBS or CDO would default or not. These side bets were called a Synthetic Collateralized debt obligation [11]. An example to that would be a pool of 10 million dollars, which is chosen because it is meant to represent a single mortgage bond comprised of thousands and thousands of mortgages. The initial investor, who would be receiving monthly payments could, however as he took these assets public, they suddenly became accessible to speculate upon.

As the bubble expanded, CDO's became an essential part of any investors' portfolio. However, investors, altogether with speculators realized that creating and further customizing these CDO's is not as easy as simply using credit default swaps and other derivatives to obtain investment goals- the precise description of SDO's*. Hence Synthetic CDO's became a major player in the near fall of the system. The true danger of derivative markets was in their inherent instability, complexity, unpredictability, and impossibility to assess their value. It is said that the market size for derivatives such as credit default swaps, used to insure mortgages with, was at least twenty times the size of the market for actual mortgages. It was a phenomenal number. It practically meant that if default rates go up to at least 8 percent, the whole financial system would imminently collapse.

By the time synthetic CDO's became a large player in the markets, default rates were as high as four percent and rising. Synthetic insurance jumped from a market estimate of about 15 billion dollars in 2005 to a mind-blowing 61-billion-dollar market in 2006.

At the time, it was quite obvious for many economists that the three main aspects of a bubble were present: there was a new paradigm (new innovative financial instruments to deal with assets, with advantages in terms of deregulation), high engagement (everyone from the side of homeowners and investors wanted to get in on the craze) and asset prices became disproportionately high and highly volatile in the short run. Some of them predicted a mere, correction some predicted an economic slowdown, however, there were very few who actually saw the upcoming crisis [5].

Subprime and Predatory lending became a major issue during those times. Commercial banks and mortgage brokers were targeting practically everyone, and they rarely declined potential borrowers. There were generally two available options for mortgage provision: fixed-rate mortgages and adjustable-rate mortgages. The difference between the two was that while fixed-rate mortgages didn't change in interest, were more expensive and required a larger down payment, adjustable-rate mortgages differed in price, as the down payment had to be significantly less, and were subdue interest rate changes, meaning that if interest went up, the amount of payment also had to go up. Investment banks preferred subprime adjustable mortgages as they brought the most interest.

There were some consumers, however, who managed to bring out a profit out of the housing boom. Since house prices were skyrocketing during the boom, borrowers accumulated more and more equity in their assets. The equity could be liquidated, and it became capital. This capital could be manipulated so that it could be borrowed against fuelling the lending activities of the bank. In most of the cases, the built-up equity was used as a second mortgage on another home due to the fact that people were sure that home prices would never fall down.

The more and more people started defaulting on their mortgages, the more toxic and worthless the CDO's had become. Once the borrowers defaulted on their mortgages, the house, which was now owned by the investment bank had to be foreclosed. The asset turned into collateral, which on a large scale didn't seem to pose any kind of problem. However, as more and more of the monthly payments turned from assets into collateral, the number of houses for sale on the market created a bigger supply than demand, which meant that home prices started to fall! This created a complicated situation for homeowners who were still paying their mortgages. As the houses in their neighbourhood were foreclosed due to the owners' inability to service the debt, their prices fell drastically, and so did the prices of the houses of the people who were still paying their mortgages. Having realized that they were paying disproportionately high amounts relative to the actual price of the house, which was in a dramatic decline, the owners decided to

simply forsake the house. Prices across the nation plummeted and at that point, the investment banker was holding piles of worthless credit as they would never be repaid. The tragedy of the matter is that collateral won't save the investment bank, as it is too, is worthless. Investors now are trying to get rid of these toxic assets themselves, so investment banks can't sell to them. Insurance companies are now on the hook because of the money they owe due to their credit default swaps issued to investors. The chain of the disaster was now complete. The bubble burst! Panic and fear of a global recession spread over Wall Street. Naturally, the whole process was far from being instantaneous. It was a long and devastating year until the first investment bank, at the time the biggest in America, Lehman Brothers, having failed to negotiate a merger or a compromise with any other financial entity, filed for bankruptcy in the month of September 2008. That day Dow Jones industrial average experienced the biggest drop of over 500 points. The failure of an investment bank with an over 150-year history once deemed Too Big To Fail, having earned the respect and trust of generations of investors, sent a major warning to other banks that if they don't act now, they will face the fate of Lehman Brothers. The day after Lehman filed for bankruptcy, AIG was bailed out for 85 billion dollars by the Federal reserve, effectively taking ownership of the insurance bank giant. On the 17th of September 2008, the economy almost collapsed, when investors withdrew 144.5 billion dollars from their money market accounts. Investors were moving funds into U.S treasuries under negative rates essentially not caring if they made a loss, their primary objective was to save as much capital as they could. Banks didn't have enough capital to continue their day to day operations. If this were to continue, shippers wouldn't have the cash to deliver food to grocery stores. On the 21st of September Morgan Stanley and Goldman Sachs agreed to become commercial banks under the Fed's protection. The darkest day of the crash was the 29th of September when a bill was voted down for the bailout bill, due to fears that it was a bailing of Wall Street out of taxpayer's pockets. What the house of representatives didn't realize, however, that the whole global economy was at stake. That day Dow fell 777.68 points. In one day the MSCI* world index fell by 6 percent. It was described by many as a market massacre!

The crash continued on for a month. It all ended with the government stepping in with a troubled asset relief program, where at the expense of taxpayer money, toxic assets such as CDO's and MBS's were purchased, effectively injecting cash into banks [2].

It was undeniably a massive crash. The estimated cost to the U.S economy was 22 trillion dollars, to an average person-70 000 dollar of their lifetime savings.

A natural question arises from all of these events. Have we actually learned something from experience? Will the next expansion last at least as long as the previous one, and can we actually postpone a crisis from happening?

3. Indicators of crises

To answer the questions asked in the previous chapter, it is necessary to examine some vital macroeconomic indicators, in particular, charts just before the crash. The first thing to look at would be the simple supply-demand relationship of the so called “hottest asset” of the decade- houses. It is quite an important thing to understand what exactly drove supply and demand, since even having done no research at all about mortgage backed [8] securities, CDO’s, CDS’s or any other derivatives or obligations, at it late stages, particularly in 2005-2006, it was quite obvious that, unlike what government officials have said, the housing market was indeed in a bubble. And since the burst of bubbles tend to be the main triggers of recessions...However it’s not easy to blame the consumers and their lack of understanding of the market at that time. After all, as mentioned previously, the period from 2005 and 2006 was indeed the zenith of the larger “debt cycle” defined by Ray Dalio as the moment of maximum public confidence in eternal and unstoppable economic growth and reckless debt financed investment. Behavioral economics, a newly discovered field in those times, revealed that even though some people subconsciously really did expect a crash to happen, practically everyone underestimated its severity and timing. In short, 2whenever there is a sudden and significantly disproportionate change of the ratio of supply and demand of a debt financed overvalued asset, typically within days or weeks (depending on the asset), it is generally said that at that particular moment the bubble that has formed has begun bursting. Now whether this burst would end up in a recession or not, is a question that is answered by the exposure of depository and non-depository financial institutions to the extent of the asset bubble. In the case of the 2008 crash, there were two very simple questions, one of which could be answered practically immediately: “is there a housing bubble?” and “how exposed are the banks”. And by “banks” I generally mean financial institutions that have financed the acquisition of the assets, or have generally interacted with it in any way, such interactions include creating financial tools to trade with derivatives of the underlying asset, engaging in fraudulent activity involving bribes, reckless lending and so on. Drastic declines in the value of the asset that has undergone a burst, are usually preceded with so called “market ripples”, which can to some extent be interpreted as “aftershocks” depending on the level of exposure of other companies [7].

However, as seen on the graph below, an interesting pattern occurs between the supply of a particular asset and periods of recessions. It turns out that whenever there is a significant oversupply of houses on the market, a recession occurs. The same can be said of vehicle sales to the non-business private sector.

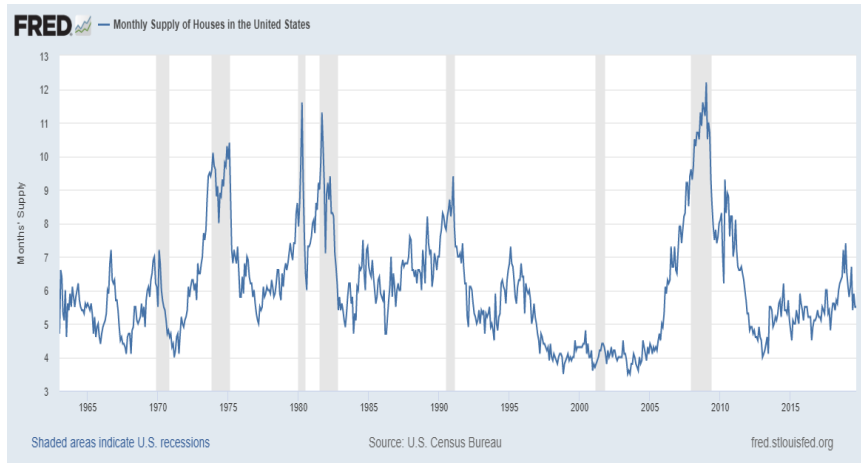


Figure 17: Monthly supply of houses in the United States

Source: U.S. Census Bureau and U.S. Department of Housing and Urban Development, Monthly Supply of Houses in the United States [MSACSR], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/MSACSR>, November 16, 2019.

First of all, there is a very good reason why these particular products tend to predict, or, at least, state that the economy is in a recession better than others. These are exclusively debt financed products, meaning that they are very closely connected to the supply and demand for credit and interest rates, consequently taking on defaults first. To understand the connection between recessions and homes, it must be noted that in the case of the graph, the supply ratio, which is the ratio of the houses for sale vs the houses sold is expressed. It is generally argued that the reason for the oversupply of such particular debt-financed assets is, naturally, the larger credit cycle. However, the story is a bit different in case the asset is overvalued to a level of when it itself becomes a bubble. As the consumers, who were lured by banks into buying homes with low down payments, absence of income verification, people living in the household and similar crucial information, have started to default on their monthly mortgage payments, due to the sudden spike in interest rates (since most of the people had adjustable rate mortgages), they were evicted from their houses, essentially becoming homeless, or in need of shelter. The house got under the possession of the investor. It wasn't such a big deal when only a couple of households defaulted. However, such defaults became more and more frequent, more and more people became evicted from their homes and it created a large supply of houses that drove their price down, since at the time, no one was willing to buy. The situation was similar with the automotive industry. The prices for other goods weren't affected up until the government announced that there was a chance of a recession in 2009, when the housing bubble had already burst and there was already a gigantic oversupply.

This example shows once more that debt financed products are the ones taking on defaults first, establishing the first cue that a recession is just around the corner.

Today it is clear that while housing in European capital cities continues to become more expensive and unaffordable, many are choosing an alternative to buying homes. Renting real estate has become ever so popular in the past years, this, naturally moves the demand for new house down. That is precisely the case Budapest. Most of the housing demand in Budapest is expressed as demand for second hand homes. With price increases of up to 20% annually, demand for new homes is driven down. While the demand around the country continues to increase, more and more new homes are built each year, effectively increasing its prices. As a matter of fact, house prices have begun growing since the provision of the government subsidiary program for young families in 2013. In 2018 the annual change in house prices compared to 2017 was 18,26%, according to FHB bank. So far, supply seems to meet demand, meaning in Hungary the housing market shows no signs of a recession, however it is yet unclear if the trend will remain unaffected by the global economic slowdown developed countries are facing nowadays. It can be stated that nowadays the average Hungarian consumer is generally well off. The Hungarian consumer price index is at its highest, people are encouraged to spend more and save less, foreign investors look at the Hungarian economy as a source of income with one of the highest interest rates in Europe, therefore they are encouraged to lend money in the form of buying government bonds- one of the most popular passive investment tools on the market that is heavily promoted not only to rich investors, but also to everyday people. People are essentially building confidence in the Hungarian economy, which is frankly, not an easy thing to do as the fears of the ongoing manufacturing recession spreading out to the global economy, which, in many economists' opinion, is imminent.

However, initially proposed by Warren Buffet, the market capitalization and GDP ratio can indeed serve as a better, more transparent reliable and easily accessible source for a base of large-scale macroeconomic predictions [3]. It basically estimates the over or undervaluation of a certain market. As of today, the market is significantly overvalued. Basically, there is a market index called Wilshire 5000 that is a market capitalization-weighted index of 6700 publicly traded companies who's headquartered in the United States, traded on the American stock exchange, and what's pricing information is available to the public. To estimate whether the market is overvalued or not we simply divide the index, which is now 30 trillion dollars over the total GDP of the United States, at the moment of writing this article is 20 trillion dollars and we get a number of 146%. This means that the total market index is 146 percent of the last reported GDP. However, another interesting pattern emerges when looked at the historical data of such ratios. Whenever the market cap and GDP ratios were over 100%, a recession would follow.

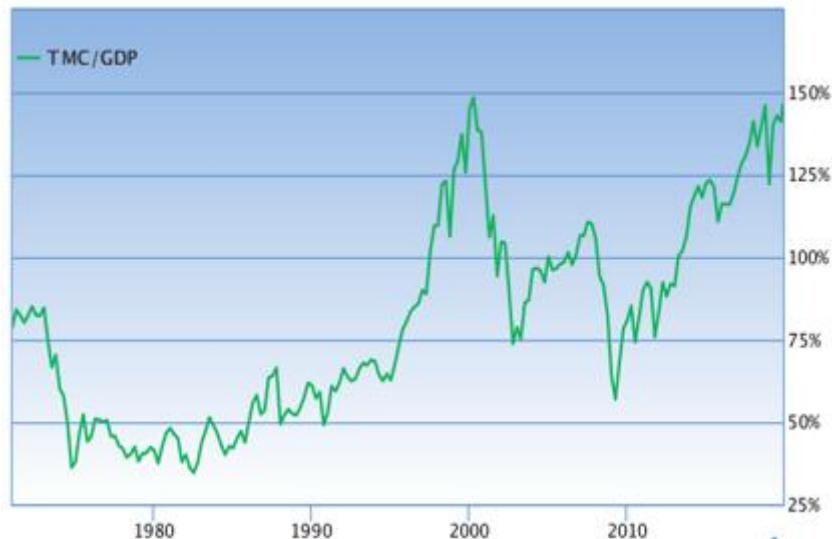


Figure 18: The Ratio of Total Market Cap to US GDP

Source: GuruFocus, interactive chart, 2019.11.16

It is clearly observed on the graph above that the most recognizable 2001 dot com bubble and the 2008 crashes happened when the market capitalization to GDP ratios were over 100 percent. It is also important to note that interest rates play the leading role in determining the total market cap and GDP ratios. Having reviewed both of the charts, it becomes evident that interest rates are indeed inversely related to the spikes in the total market capitalization to GDP ratio. It may be quite confusing at first, however it is based on a simple fact. Investors are generally interested in the returns they would get on an investment. When spending huge amounts of money, investors have generally two choices: to spend their money on risk free low yielding assets such as government treasury bonds, or similar securities insured by the US government, or they can invest in riskier assets such as stocks or engage in business activities. However, the outcome of their decision will be based on the interest rates. Whenever interest rates are low, the investor is more likely to abstain from buying government bonds as their rate of return isn't as high as that of stocks, so the investor buys stocks, thus increasing market capitalization of the given company and simultaneously increasing the ratio of the total market capitalization to GDP. Conversely, when interest rates are high, the investor will more likely invest in bonds, as it is unprofitable for him to take out loans or buy stocks, as he views it as a certainty that bonds will simply bring him more profit. As in the previous example, the role of interest rates provides a short cut to credit- the main culprit of recession, thus any activity done by the investor will undoubtedly contribute to the long-term debt cycle, thus directly affecting the ability to predict recessions. That is the key element.



Figure 19: Federal Funds rate

Source: GuruFocus, interactive chart, 2019.11.16

In the modern-day economy, thanks to the more liberalized economic system, practically anybody can picture themselves in the place of the investor. For the first time in history interest rates around Europe have surpassed the 0 percent going deep into negative territories. It is now ineffective to lend your money to the government, as you would effectively get back less. Negative interest rates practically mean that investors would have to pay to the bond issuing entity for lending their own money, for instance. At first it seems counterintuitive and confusing but many regards this as an incredibly strong stimulus for consumers to engage in buying marketable debt, or in other words, get credit. After all, if we examine the situation from the side of the banks, it is obvious that... Some call interest rates a weapon of mass destruction, whereas some call it a necessary action to boost the economy. The only visible outcome of negative, or incredibly low interest rates is that they undeniably affect the market capitalization of companies, as investors are drawn to getting more and more credit and invest in the stock market. The federal reserve has kept a steady interest rate of 0% for nearly a decade before it started increasing them as global oil prices fell in 2015. This, in turn created an “opportunity window” for many investors to buy stocks and increase the leverage ratios of the economy. It can be stated that the economy is highly leveraged, which gives off warnings for the society that a recession is indeed on the corner.

The major disadvantage of both of the previously mentioned methods of recession indication is that they don't set a specific timeframe within which a recession is imminent. In other words, using the example of the so called "warren buffet index", even though we know that the economy is highly leveraged, we don't know when will the United States enter into a recession and how big the overvaluation must be for it to give irreparable effects. We also don't know whether there is some correlation between the percentage of overvaluation and the severity of the proceeding recession. As far as we can tell we now know that the proper question to ask is not "if there is going to be a recession" but "when is there going to be a recession".

Among the most popular indicators that have proven to be credible due to careful analysis, one can point out confidence indexes, which are based on subjective thought on how well the country is doing both politically and economically. The index basically tells how people feel concerning their own wellbeing, how confident are they in the future geopolitical relationships. An example of some of the things that the modern economy must be aware of nowadays is the so called "trade war" between the two leading global economies the USA and China. The federal reserve recession probability model is also thought to be a credible source of a recession indicator chart, where based on the spread of the 10-year and three month U.S Treasury yields.

At this point I would like to introduce perhaps one of the most important and most credible sources of crisis indication.

3. Conclusion

It took the global economy roughly half a decade to return to pre-crisis growth rates. It was, however in some ways, a very different world financiers found themselves back in 2008. In a world of a technological revolution, lightning fast trading algorithms and ever complicated financial products, always changing financial deregulatory policies and most importantly, greed, history is the only thing that stays constant. Many of the hallmarks of crises have been spotted well before the current coronavirus crisis, like yield curve inversions, high market to gdp valuations, high debt levels. But in reality, just like 10 years ago, very few people actually saw that the only thing standing between them and a crisis was a mere push.

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