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PROPOSAL FOR BRAND'S COMMUNICATION STRATEGY DEVELOPED ON CUSTOMER SEGMENTATION BASED ON PSYCHOLOGICAL FACTORS AND DECISION-MAKING SPEED IN PURCHASING: CASE OF THE AUTOMOTIVE INDUSTRY

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Abstract. Customers are key in the brand-building process. Many times, this term is applied very broadly, especially in segmentation and planning. Knowing the customer buying behaviour and customer decision-making process is important for brands, especially today, when customers are informed much better and get information over the Internet faster. In this paper, we present theory that deals with the purchasing behaviour of customers and emphasize the analysis of the sales cycle of the individual phases in the current conditions, when segmentation based on socio-demographic data is not enough. It is much better to define the psychological factors, which influence the customer and motivate him to buy in combination with the buyer's decision-making speed. Thus, the article discusses the basic four types of customers according to the major research work carried out by Eisenberg brothers. Based on this analysis, we can determine the percentage of individual customers. The article offers a survey that was conducted to find the most important factors in the decision-making process when buying a car. In addition to the criteria, we also asked our respondents about the importance of these factors. We have used the multiple criteria decision analysis as it is one of the methods of complex evaluation and it minimizes the degree of subjectivity in choosing a suitable variant. Based on our survey, we have used analysis to estimate trends that brands operate in automotive sector could use to communicate in order to address the type of customer that belongs to their target audience. The primary aim of the paper is to prove that there is a growing trend of humanistic customers through study about their preferences and criteria during the decision-making process that leads them to buy a new car. Moreover, we determinate communication strategies for all four types of customers based on theory provided by Eisenbergs.

Introduction

There are a number of theories that deal with consumer-buying behaviour. We know that a loyal customer purchases the same products as a certain group of people around him. Sociology examines the way how the buying behaviour of a single consumer can affect the behaviour of other customers. From the psychological point of view, we can define the factors that are in play. These factors affect the customers and motivate them to buy a specific product. The article focuses in depth on customers and discusses the customer typology mostly based on decision-making speed and logical and emotional factors (Križanová, Nadanyiova, Gajanová, Kramárová, 2016).

In this paper, we focus on four types of customers, their values and how to communicate and attract them. The second part of the paper presents results of our research. Therefore, the primary aim of the paper is to prove that there is a *growing trend of humanistic customers* through a study of their

preferences and criteria during the decision-making process. We implemented this study to the decision-making process that leads them to buy a new car. Moreover, we determinate communication strategies for all four types of customers. There are partial objectives. The survey that primarily was conducted to find the most important factors in the decision-making process when buying a car. A survey that was conducted to ascertain the most important factors in the decision-making process when buying a car. In addition to the criteria, we also asked our respondents about the importance of these factors. We have used the multiple criteria analysis as it is one of the methods of complex evaluation. This method minimizes the degree of subjectivity. To assume from the view of the importance of individual criteria and the determination of the overall benefits of each variant, we can say that Slovak consumers are open to accepting alternative vehicles. According to the average driven distance and the fact that the Slovak market is highly price oriented, we can recommend alternative types of cars.

Literature Review

Based on recent surveys, marketers define four types of customers. These customers could be fundamentally distinguished by the decision-making speed and the factors that influence them during the buying process. These groups of customers have been described in detail by Bryan and Jeffrey Eisenberg in their book, *Waiting for Your Cat to Bark*. According to the Eisenbergs, 5–10% of the population falls within the competitive modality, 45% within the methodical modality, 10–15% within the humanistic modality, and 25–35% within the spontaneous modality (B. Eisenberg, J. Eisenberg, 2006).

Competitive Buyers

The main question is what's the bottom line?

Competitive buyers are mostly well-informed, and they can create a big picture of the product or service in a very short time based on the available information. If this type of customer decides for product that is offered, it must definitely reflect his values he professes, corresponding to his personality and character (Rypáková, Moravčíková, Štefániková, 2015). He wants to reflect his position in society with exclusive goods, which emphasizes his superiority. This type of customer desires the best in the market at the lowest price. His great ego plays a very important role during the decision-making process.

During the decision-making process, he is finding information on the discussion forums that provide him enough information as it is shared with existing customers. Competitive buyers are strictly guided by rational decisions based on a logic. He is willing to spend money, but only where the best price or value added ratio is. He is not influenced by discounts. He reacts only to true information that tells him what the product or service is best about. He can make a quick decision. He wants to know that the product is the best and he makes the best purchase. He wants a specific proof that the product is the best. His behaviour can be clarified as decisive action.

How to communicate and reach a customer who likes to compare and analyse?

- Use words as the highest, best and premium quality.
- Name and highlight the clear benefit of the product.
- Confirm your claim with real facts.
- Make customer sure that buying your product is a smart decision.

Spontaneous Buyers

The main question is, "Why should I choose you now?"

A spontaneous customer decides very quickly, but it is not easy to interest him. There is necessary to be creative and find a way to show him the offer to hit his feelings. If you do that, you will get a large proportion of customers on your side (Suszynska, 2017). It is done impulsively. He likes creative

modern design and stylish products. Even spontaneous buyers do not have to buy a product on the web as soon as they get involved, so it is good to get him back through remarketing channels.

This type of customer responds very well to discounts and limited offers. A spontaneous customer lets the emotions go. He wants to see what he gets, he achieves, what he can do with the product and if the product has an added value. He does not compare and does not analyse competition. He wants product fast, and especially easy to buy (Esty, 2017). A spontaneous customer does not think rationally or economically. He wants product he is interested in simply without further evaluation and consideration.

How to communicate and reach a customer who decides spontaneously?

- Show him how fun the product is.
- Make customer sure the product is used by people similar to him.
- Get closer to the feelings the product will bring.
- Make customer feel that he needs the product immediately.
- Give him a time-limited offer.
- Style your offer as new, untraditional, trendy, and exclusive.

Methodical Buyers

The main question is, "How does your product work?"

The methodical buyer does not make a decision immediately unlike the spontaneous buyer. This type of customer takes his time to think about the offer. The main driver is quality. He does not take emotions into account. The methodical buyer verifies every claim, searches for details and context and compares the offer with the competition. Price is not the only one important factor, and his purchase is based on logical arguments. Honesty and rational arguments are important. The methodical buyer looks for experiences of people who have already purchased the product. He requires parameters that can be compared, he is focused on facts and specifications and makes an uncompromising analysis and comparison. It is essential to be as honest as possible (Majerová, 2014).

How to communicate and reach a methodical customer?

- Focus on presenting features and benefits.
- Make a proof and confirm all benefits and parameters with facts, certificates and real recommendations.
- Educate your customers through e-mail marketing.
- Pay attention to the small letters that the buyers particularly read. (Nadanyiová, 2016).

Humanistic Buyers

The main question is, "Who has already used your solution to solve my problem?"

The humanist customer behaviour is based on the personal values he professes. He cares about the environment. He wants to see real evidence of advertising and claims. It is necessary to show the emotions of real customers with good experience (Majerová, 2015). He wants products that he will consciously use. His decision-making is a long-term process. It is empathic with the environment and support communities. The humanistic buyer does not have a need to follow trends.

He does not want to compromise on his code of ethics. The humanistic buyer strives to achieve goals and fulfils the needs in a human way (Machan, 2017). His socially responsible behaviour is often associated with sympathy for organizations that advocate human values and rights, but also the environment. At present, such a group of customers is about 10–15%, but it is possible to see a growing trend due to social networks that people like to claim social responsibility (Kicová, Nadayiová, Rypáková, 2015).

How to communicate and reach a humanistic buyer?

- Use real stories of people who are happy with the product.
- Refer to the use of renewable energy sources, support for children in developing countries and other factors that identify the customer values.
- Be inspiring, careful and sentimental, but also entertaining and adventurous.
- Engage real people to campaign with the real issues you solve (Latka, Moravčíková, Lendel, 2017).

Fig. 1 presents decision-making persona types based on decision-making speed and the logical or emotional factors that influence them during the buying process.

Fig. 1. Decision-making persona types (*Source*: Bryan and Jeffrey Eisenberg, 2006).

Customers can be generally ranked based on their buying behaviour into four groups. This does not mean that they are universal and apply to everyone. It is not easy to categorize the behaviour that is influenced by the situation in which people find themselves, their mood and their individuality. Depending on the situation, the buyer can immediately meet several factors from different categories. The product itself plays a big role in the decision-making process (Križanová, Majerová, Zvaríková, 2014). Otherwise, a person decides to buy a car where a methodical approach prevails, or when buying a shoe that he is attracted to in the interpretation, the analytical customer suddenly becomes spontaneous.

These modalities are, of course, based on the four temperaments. We chose modern definition provided by consulting group Keirsey that trying to understand people behaviour and get to know customers better (Bartošová, Kráľ, 2016).

Rational (Competitive): "Speak mostly of what new problems intrigue them and what new solutions they envision, and always pragmatic, they act as efficiently as possible to achieve their objectives, ignoring arbitrary rules and conventions if need be."

Artisans (Spontaneous): "Speak mostly about what they see right in front of them, about what they can get their hands on, and they will do whatever works, whatever gives them a quick, effective payoff, even if they have to bend the rules."

Guardians (Methodical): "Speak mostly of their duties and responsibilities, of what they can keep an eye on and take good care of, and they're careful to obey the laws, follow the rules, and respect the rights of others."

Idealists (Humanistic): "Speak mostly of what they hope for and imagine might be possible for people, and they want to act in good conscience, always trying to reach their goals without compromising their personal code of ethics."

By understanding your customers' thinking and the way they access and evaluate the products and services you offer, you will achieve far better results. Your new customers will be happy to come back. The worst thing you can do is to target all the customers. This way, you will not be able to reach out to one of the mentioned groups and motivate them to buy (Vagner, Bartošová, 2016). Through the Internet, almost every protentional unwieldy customer becomes to a certain extent a methodical customer who has easy access to information, and therefore he examines, compares and evaluates about the products that are offered.

Methodology

The automotive industry is very important for the economic development of Europe, and Slovakia has set a record in recent years in terms of the number of cars produced per capita. On the other hand, it is important to see that cars are one of the biggest polluters of the environment. They are the source of greenhouse emissions. However, the success of the stimulus must be in line with the needs and requirements of the customer. This is also reason we asked questions about the importance of individual criteria. Our survey was attended by 394 respondents.

The required sample of respondents is 384. It is determined from the Slovak Republic's population of 4,360,169, which represents people who are 18 years and older at the significance level (α) of 0.05, which corresponds to 95% of the confidence interval within the admissible error range of 5%.

The questionnaire was sent by mail, distributed personally as well as by social networks. Therefore, we cannot estimate the percentage of return, but we received 394 responses till 20.1.2018. The sample size is sufficient.

Table 1. Characteristics of respondents (Source: author's compilation)

	Characteristics	Number of respondents	% - frequency
Sex	Woman	222	
	Man	172	
		394	100 %
Age	18–24	190	48,2 %
	25–34	162	41,1 %
	35–44	14	3,6 %
	45–54	12	3,0 %
	55–64	6	1,5 %
	Over 65	8	2,0 %
		394	100 %
Economic level	University student	42	10,7 %
	University student with income	128	32,5 %
	Employee of Slovak company	46	11,7 %
	Employee of company with foreign equity	86	21,8 %
	Government employee	16	4,1 %

	Entrepreneur	24	6,1 %
	Maternity leave	12	3,0 %
	Retired	14	3,6 %
	Unemployed	12	3,0 %
		394	100 %
Net monthly income	€300		45,80 %
	€300€–599	180	23,41 %
	€600–999 €	92	21,63 %
	€1000–1499	85	5,09 %
	€1500–2099€	20	2,54 %
	Over €2100	10	1,53 %
		394	100 %

For the basic identification features of respondents, we investigated gender, age, social status and net monthly income as part of survey representativeness. The survey was completed by 172 men (43.65%) and 222 women (56.35%). The most numerous group within the economic status category was made up of 128 full-time university students with regular monthly income. The second biggest group (86) was made up of employees, followed by a group of university students without own income. The representativeness of the selection was examined by the nonparametric Chi-quadrate test (p-value: sex = 0.01177, p-value = 0.0000, p-value economic status = 0.000, α = 0.05). From the results of the p-values of each test, we assume that the sample is not representative.

We asked respondents about the importance of price, fuel type, consumption, ecological characteristics, driving characteristics, social brand perception, driving time and infrastructure and driving pleasure. Then they were sorted according to their importance (1 the most important, 8 least important). We continued with the weighing of the individual criteria and the selection of the most suitable variant of a passenger car for the Slovak market. The chosen vehicles had variants such as classic combustion engines, hybrid and alternative drives and clean electric vehicles.

We have used the multicriteria evaluation method because it is one of the methods of complex evaluation and it minimizes the degree of subjectivity in choosing a suitable variant.

We have used the Multi-Criteria Assessment (Podhorská, Siekelová, 2017):

- − We have defined the criteria.
- − Determine weights for individual variants.
- − Calculate total usefulness and
- − Choose the optimal solution.

To determine weights, we chose the indirect method, which is the pair comparison method. We chose the relevance of the criteria according to the calculated mean score determined by the respondents for each criterion. A matrix of criteria is defined in the table in the results part. Subsequently, a comparison of the importance of each criterion is recorded in the fields of the upper triangle matrix. The k_i column defines the total number of occurrences, and subsequent weights are calculated.

The weights were calculated according to the formula:

$$\alpha_i = \frac{k_i}{\sum_{i=1}^{n} k_i} \tag{1}$$

where

αi = criterion weight

k_i = number of occurrences in a triangle matrix.

Subsequently, by pairwise comparison, we calculated the utility of individual variants (V1 – combustion engines, V2 – hybrid and alternative motors, V3 – clean electric vehicles). The utility of the variants was calculated according to the formula:

$$U_i = \sum_{i=1}^{n} \alpha_i * u_{ij} \tag{2}$$

where

α_i = the standard weight of the i-th criterion,

V_j = evaluated variant

u_{ij} = the utility of this variant ij and i-th criteria

U_j = total utility of the variant

Results

The results are presented here of the counting based on methodology we described in previous part.

Table 2. The matrix of criteria that is important when choosing a car (Source: author's compilation)

	Mean score		K1	K2	K3	K4	K5	K6	K7	K8	k_i	rank	k_i (norm.)	α_i
Price	2.45	K1		1	1	1	1	1	1	1	7	1.	8	0,22222
Type of fuel	4.18	K2			3	2	5	2	2	2	4	4.	5	0,13889
Consumption	2.94	K3				3	3	3	3	3	6	2.	7	0,19444
Ecological characteristics	4.99	K4					5	4	4	4	3	5.	4	0,11111
Driving characteristics	3.27	K5						5	5	5	4	3.	6	0,16667
Social perception of the brand	6.25	K6							7	8	0	8.	1	0,02778
The length of the lap	5.02	K7								7	2	6.	3	0,08333
Driving pleasure	5.82	K8									1	7.	2	0,05556
Total													36	1

Table 3. Calculation of total utility of individual criteria (Source: author's compilation)

K1	V1	V2	V3	Number of occurrences of variants	Utility uij	K5	V1	V2	V3	Number of occurrences of variants	Utility uij
V1		V1	V1	2	0,66667	V1		V2	V1	1	0,33333
V2			V2	1	0,33333	V2			V2	2	0,66667
V3				0	0	V3				0	0
Total				3	1	Total				3	1
K2	V1	V2	V3			K6	V1	V2	V3		
V1		V2	V3	0	0	V1		V1	V1	2	0,66667
V2			V3	1	0,33333	V2			V2	1	0,33333
V3				2	0,66667	V3				0	0
Total				3	1	Total				3	1
K3	V1	V2	V3			K7	V1	V2	V3		
V1		V2	V3	0	0	V1		V2	V1	1	0,33333
V2			V3	1	0,33333	V2			V2	2	0,66667
V3				2	0,66667	V3				0	0
Total				3	1	Total				3	1
K4	V1	V2	V3			K8	V1	V2	V3		
V1		V2	V3	0	0	V1		V1	V1	2	0,66667
V2			V3	1	0,33333	V2			V2	1	0,33333
V3				2	0,66667	V3				0	0
Total				3	1	Total				3	1

The individual utility of the criteria pertaining to the individual variants and the preferences between them were chosen on the basis of an expert panel discussion, and we also took into account the respondents' answers in the questionnaire connected the infrastructure of electro mobiles, examining how many kilometres per day they drive, and whether they would buy a car with an alternative propulsion or a pure electric car if they were not limited by their current income and there would be a sufficiently built infrastructure. Table 3 shows us the final total utilities of each variant.

Table 4. Calculation of final total utility of each variant (Source: author's compilation)

		V1	UV1	V2	UV2	V3	UV3
K1	0.22222	0.66667	0.148148	0.33333	0.074074	0	0
K2	0.13889	0	0	0.33333	0.046296	0.66667	0.09259
K3	0.19444	0	0	0.33333	0.064815	0.66667	0.12963
K4	0.11111	0	0	0.33333	0.037037	0.66667	0.07407
K5	0.16667	0.33333	0.055556	0.66667	0.111111	0	0
K6	0.02778	0.66667	0.018519	0.33333	0.009259	0	0
K7	0.08333	0.33333	0.027778	0.66667	0.055556	0	0
K8	0.05556	0.66667	0.037037	0.33333	0.018519	0	0
			0.287037		0.416667		0.2963

The most appropriate variant is the most useful variant, as we have dealt with the task as a maximization, and the best is variant 2, which represented alternative motors (where are included hybrid vehicles, plug in hybrid cars).

In our survey, we asked how many kilometres the respondents drive daily. Of the 394 participants, 147 own a car, and 122 out of them reported that they drive less than 25 km. We can assume from this point of view that the car is predominantly used for commuting to work or school but around the place of residence. Only 14 respondents answered that they drive daily more than 80 km and 11 respondents between 25 and 80 km.

One of the other questions that is related to total utility of the variant was whether respondents would buy hybrid cars, especially plug-in hybrid vehicles and electric vehicles, if would infrastructure be sufficiently built, despite a higher initial investment. Of the respondents, 102 who currently own a car answered that they are willing to buy this type of car. If the respondents did not answer, we asked for the reason. The most frequent answer was the price of such vehicles, no tax breaks, the length of the lap or the fact that they did not have experience with this type of car. Among the responses were also those who identified hybrid vehicles or electric cars as non-ecological. Of course, with such a response, we can agree in case if the only "green" phase is phase the car is used and the manufacturer does not care about the whole life cycle of production.

However, considering the importance of the individual criteria and the determination of the overall weights of each variant, we can say that Slovak consumers are open to accepting alternative vehicles. Even on average daily distance and given that the Slovak market is highly priced, we can only recommend these types of cars to claim and advertise by automotive brands and other automotive companies.

Conclusions

To sum up, we can assess that brands should take environmental factors into account and communicate with them. Our survey has confirmed the hypothesis of growing humanistic buyers. These potential customers are environmentally and community-based customers, with responsible purchasing and socially responsible behaviour. This conclusion is also supported by the answers to the open question asked by us, and by what kind of vehicle they would buy if they did not restrict their current income. In response, 393 respondents answered 183 questions and their answers were more or less specific: 66 respondents said they would buy a Tesla car because of the combination of ecological and gentle driving and the luxury of this electric car, 31 respondents said in general an electric car, again for the complete elimination of noise emissions, low-fuel economy, and the associated green driving, and 24 respondents introduced a plug-in or other hybrid drive. The other 62 responses were split between the German BMW, Audi and Mercedes cars, where the respondents linked these cars in particular with the declared quality of German carmakers and Volvo for safety reasons. Lower rankings had the Škoda Superb, Jaguar and Range Rover brands mainly due to the spaciousness of these vehicles.

Acknowledgements

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THE ANALYSIS OF THE IMPLEMENTATION OF MUNICIPAL COOPERATION AND MERGER STRATEGIES: CASE STUDY FOR SLOVENIA

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Abstract. Slovenia has only one tier of sub-national government, that is, municipalities. Currently, there are 212 municipalities, and they exhibit the same responsibilities they need to provide to their residents, regardless of their size, and these differences in size are even in the range 1:100. The new national strategy for the development of local self-government has, therefore, stressed the necessity to promote cooperation among municipalities and even potential mergers, not just to ensure cost-effectiveness but also to increase the capacity of municipalities to perform various developmental tasks. Consequently, the aim of the article is to analyse the evolution and factors driving inter-municipal cooperation and municipal mergers, where Slovenia is taken as an example, and case study approach is used in this manner. The results of the analysis indicate that territorial fragmentation at the local level has been accompanied by the increase in the inter-municipal cooperation, although some time lag can be observed. Moreover, the increase in the cooperation can be observed in particular with the onset of economic slowdown and fiscal stress emergence. The results also portray that substantial territorial rescaling cannot be expected in the near future, as suggested by the analysis of driving factors that should contribute to this process, as well as by rather weak ability of central government to promote the process. Consequently, from the practical perspective, we might expect larger role of more in-depth trans-scaling strategies as a mechanism to overcome the problem of sub-optimal size of municipalities in Slovenia.

Keywords: sub-national government; territorial fragmentation; inter-municipal cooperation; municipal mergers; Slovenia.

JEL Classification: H73, D24

Introduction

Slovenia has only one tier of subnational government, that is, municipalities. Currently, there are 212 municipalities, and their number has increased from 63 since 1994, when the last (and so far the only) local self-government reform was implemented. Interestingly, this reform mandated that all municipalities exhibit the same responsibilities they need to provide to their residents, regardless of their size, and administrative capacities and capabilities. Furthermore, if municipalities are treated with the so-called city or urban status (11 municipalities have such status), they even have some additional responsibilities, predominantly related to zoning and city development, but these are, as already noted, treated as additional responsibilities.

The problem is that differences in size amongst municipalities are even in the range 1:100, as the smallest municipality has just more than 300 residents, and the largest one has approximately 300,000 residents. The process of territorial fragmentation of local self-government in Slovenia has been accompanied with the lack of any strategic plans on the warranted future development of local self-government. Namely, the governmental development strategy on the local self-government in Slovenia has only been adopted in late 2016, and this strategy has, amongst others, stressed the necessity to promote cooperation amongst municipalities with functional strengthening of inter-municipal cooperation, and setting up a system to promote the integration of municipalities and even their potential mergers. In essence, these intentions are targeted not just at ensuring cost-effectiveness of municipalities but also to increase the capacity of municipalities to promote local development and so on, as the right balance between democracy and efficiency at the local level should also be achieved (see Lavtar, Čokert 2017).

Namely, the existing studies have pointed out that the major problem of Slovenian local self-government relates to dispersed and cost-ineffective implementation of tasks, which largely depends on the size of municipalities, represented by the number of residents (OECD 2011; The Court of Audit of the Republic of Slovenia 2012). Subsequently, these studies imply that there is a necessity for municipalities to combine resources in order to increase the efficiency and effectiveness of tasks implementation and service delivery for its residents, which can be done primarily through municipal cooperation and/or mergers. Therefore, the purpose of this article is to analyse the status of cooperation amongst municipalities and to portray factors that drive the cooperation and might lead to future municipal mergers in Slovenia. Specifically, the evolution of territorial fragmentation and the development of inter-municipal cooperation in Slovenia are also presented, and potential inhibitors of municipal mergers are extrapolated.

Literature Review

Municipal cooperation and mergers have been widely discussed in both theoretical and empirical literature, and they tend to be portrayed as territorial and functional rescaling in the context of local government reform processes (Schwab *et al.* 2017). In essence, the core of the discussions relates to the possibilities of achieving scale economies, where consolidation strategies (i.e. mergers) are put forward as a tool, and cooperation strategies only serve as an option, where mergers are either not able to be performed or the preferred institutional choice. Municipal mergers target the number, size and type of municipalities under the question (Garcea, LeSage 2005), and advocates of mergers hold that bigger should be better, cheaper, more efficient and financially viable (Dollery, Grant 2013).

Municipal amalgamations are not a new process, as they were implemented in most old industrialised countries and also recently in some post-socialist countries of Central and Eastern Europe. Actually, the first wave of municipal amalgamations was predominantly inspired with the notion that municipalities should not be too small in order to benefit from the economies of scale (De Ceuninck *et al.* 2010). It is worth noting that evaluations of different municipal merger processes have put forward some different reasons for the implementation of reforms, such as possible improvement of administrative and technical capacities of municipalities, rounding up of 'natural' boundaries of municipalities, alleviation of the problem of depopulation trends (see Dollery *et al.* 2007; Hanes, Wikström 2010). Amalgamations were particularly intensive immediately after the World War II and during the 1990s (Vojnovic 2000), and not to exclude, again during the last decade, when economic slowdown was experienced, often accompanied with increased fiscal constraints.

Similar to the mergers, the cooperation amongst municipalities, often referred to as inter-municipal cooperation, is also not a new phenomenon. A process is not just driven by the wish to achieve scale and scope economies where mergers of municipalities are not either politically or institutionally plausible but because the functioning of municipalities and their residents has become increasingly interdependent in modern globalised world (Municipal Cooperation 2014). Moreover, Bel and Warner (2016) have empirically validated the effect of additional factors, besides to scale economies, that contribute to the increase in inter-municipal cooperation, such as the existence of fiscal constraints, which should be particularly important factor for smaller municipalities; community wealth, where particularly less privileged communities should be more inclined towards cooperation; and spatial factors, where suburban localities in metropolitan areas are more inclined towards cooperation.

Similar to the history of mergers, the countries of Central and Eastern Europe are also involved into these processes, and the processes are currently driven by the growing (or at least not relaxing) fiscal constraints, increasing local public service quality requirements, and also as a way to bypass the privatisation of service provision (see, e.g. Bel *et al.* 2018 on the last issue). This holds predominantly for small municipalities, where limited possible competition puts limitations to the efficient privatisation, and there is also limited possibility to benefit from the reduced transaction costs associated with privatisation.

Methodology

Municipal mergers and cooperation initiatives seem to appearing more or less sporadically on political agenda in the majority of countries, which means that they are often a continuous issue, although the magnitude of the processes and their outcomes are not the same. Subsequently, the real issue is as follows: what factors contribute to these processes? Recently, Askim et al. (2016) have proposed several factors that should contribute to municipal mergers, and these factors include fiscal stress, which forces spending cuts, and, subsequently, mergers within governmental units that enable cost reductions; urbanisation, which corresponds to the population loss in often smaller municipalities, they become unable to use scale economies in service provision; decentralisation that gives more responsibilities to local governments, which can be efficiently implemented only if appropriate size of those units is achieved; recent history of mergers that per se contributes to the new mergers as the steady-state status of the process is searched for, whereas their absence might ensure the status-quo; protection of local self-government, in particular through ratified charters, such as the European Charter of Local Self-Government (ECLSG), which strongly preserve local government independence; and the existence of consensual democracies, which prevent extensive implementation of radical reforms such as municipal mergers.

Nevertheless, the driving factors that promote inter-municipal cooperation are more economic in their nature, and they can be grouped into two major groups. The first group of factors include pressures for more efficient provision and better quality of local services, lower costs and greater administrative efficiency of municipalities, as this cooperation can be used in both urbanised and rural municipalities. The second group of factors include opportunities for municipalities to participate in a wide variety of activities and tasks, and this horizontal cooperation is heavily promoted by the European integration processes (Bolgherini 2011). Finally, if we follow the perceived reform trajectories, an increasing inter-municipal cooperation might be an indicator for the sub-optimal size of municipalities, as they tend to act as a tool to overcome predominantly economic shortcomings related to excessive territorial fragmentation (Soguel 2006), and might, under right political and institutional conditions, lead to mergers. However, the question that needs to be answered is as follows: which are those conditions?

The methodology of the article is based mainly on the qualitative approach, where the case study analysis serves as the main approach, as the existence of particular phenomenon would like to be explained, that is, given the evidence, development of inter-municipal cooperation in Slovenia. Simultaneously, the existing longitudinal data on the inter-municipal cooperation in Slovenia are presented and used, accompanied by the descriptions on the types of involvement of municipalities. This serves as one of the inputs to identify and portray factors that contribute to the inter-municipal cooperation and even their potential either positive or negative role for increased integration of municipalities.

Results

The reform of local self-government that was initiated in 1994 leads to increasing territorial fragmentation at the local level in Slovenia, as the number of municipalities has since then increased from 63 to 212. This transformation was implemented predominantly on the voluntary basis, as the reform was inspired by the possible improvements in local democracy (see, e.g. Čokert 2005). The end result of the reform was that many new rather small municipalities, in terms of population size, have emerged, as now more than one half of municipalities have less than 5,000 residents (Statistical Office of the Republic of Slovenia 2016), which is actually legally prescribed minimum size of the municipality. This indicates that exceptions have become the rule.

Interestingly, the dynamics of the process indicates that there was an initial boom, as immediately after the law on the reform was installed, the number of municipalities has risen to 147, as the only basic criterion for the establishment was the expressed will of the residents of certain locality. Furthermore, from the number in 1998, additional 45 municipalities were established, their total number increased to 192. Only then, the central government started to put additional criteria on the establishment of additional municipalities, and this has somehow slowed down the process. Namely, since then only

one new additional municipality was established in 2002, and because of the slightly relaxed criteria in 2005, additional 17 new municipalities were established in 2006, when the total number increased to 210 (see Bačlija 2007). After 2006, only 2 new municipalities were established, 1 in 2011 and 1 in 2014, which indicates that the process of additional territorial fragmentation of the country at the local level has terminated, at least for now.

Interestingly, the increased territorial fragmentation of the country and the establishment of new municipalities have somehow contributed to the increased magnitude of inter-municipal cooperation, although it might be argued that a substantial time lag can be observed (see Table 1). Namely, if we scrutinise the existing data, before 1997, there was no inter-municipal cooperation observed in Slovenia. In 1997, legal prescriptions mandated that municipalities cannot outsource the delivery of their tasks to other municipalities, which was one of the common practices till then, but this did not substantially foster the inter-municipal cooperation, as till 2004 only two joint municipal administration bodies were established, which represents a common and an excepted statutory arrangement for inter-municipal cooperation in Slovenia.

Nevertheless, after 2004, the trend of increasing inter-municipal cooperation can be observed; since 2006, 10 additional joint municipal administrative bodies were established, encompassing 39 municipalities (Napast 2009). However, the expansion of joint activities and cooperation amongst municipalities was observed after 2007, and the final outcome of this process is that in 2017, 52 such bodies exist, and 202 municipalities participate in at least one of such body (see Ministry of Public Administration 2018). This increase in the amount of cooperation practically overlaps with the onset of economic downturn, which was in the case of Slovenia accompanied with substantial fiscal stress.

Interestingly, these 202 municipalities participating in the inter-municipal cooperation activities encompass approximately 60% of the residents of the country, which supports the evidence that predominantly smaller municipalities are involved in these activities, whereas larger municipalities do not perceive the need to be involved into these activities. Furthermore, the practical evidence suggests that the major factors driving these cooperation initiatives relate to possible achievement of financial economies, ability to implement certain additional tasks, scarcity of human resources and demand for increased labour efficiency. The existing evidence portrays that the majority of these joint municipal administrative bodies are performing tasks related to municipal constabulary and inspection activities, Information and communication technologies and accounting services, public procurement and legal affairs (Ministry of Public Administration, 2018), whereas there is a limited focus on the cooperation for the provision of economic and social local public services or ensuring local economic development activities.

Table 1. The dynamics of territorial fragmentation and inter-municipal cooperation in Slovenia, 1994–2017(Sources: Ministry of Public Administration 2018; Bačlija 2007; author's compilation)

Years	Number of municipalities	Number of joint municipal administration bodies
1994	63	-
1995	147	-
1998	192	-
2003	193	2
2006	210	12
2008	210	37
2011	211	45
2017	212	52

As the above presented evidence portrays, during the past 2.5 decades, Slovenian local self-government experienced increased territorial fragmentation that was a direct result of 1994 local self-government reform, which stressed predominantly local democracy issues. However, the search for cost-effectiveness in municipal functioning, combined with increased fiscal stressed, have contributed, although with certain time lag, to the rise in inter-municipal cooperation, although this cooperation has

rather limited magnitude. Nevertheless, the vast evidence on territorial rescaling occurring in other European countries and limited inter-municipal cooperation have contributed to the necessity to implement structural reforms of local self-government, and this idea has also started to be politically promoted by government through the aforementioned developmental strategy.

The major problem is a very diverse size of Slovenian municipalities and the fact that legal provisions currently allow only voluntary municipal mergers. Subsequently, the way to ensure scale economies, cost-effectiveness and operating capacities of predominantly small municipalities is by pursuing trans-scaling strategies in the form of inter-municipal cooperation, which represents the alternative to both rescaling strategies as well as to the privatisation of service delivery and task implementation. Subsequently, inter-municipal cooperation represents the so-called soft mechanism to overcome the issue of the too small size of municipalities because it allows functional optimisation without interfering in the territorial and political status of municipalities, which is often more politically plausible and even possible (Steen *et al.* 2017).

The following question remains: what are the future prospects for implementing hard mechanisms to overcome the issue of the sub-optimal size of municipalities? The statement is put differently as follows: are there any actual prospects to implement major, that is, radical and structural reforms of local self-government in Slovenia, involving hard mechanisms such as municipal mergers? The starting point to this question is the governmental developmental strategy on local self-government in Slovenia (Lavtar, Čokert 2017), which perceives only voluntary mergers of municipalities, even if they admit in the strategy that there is excessive fragmentation of territory and irrational organisation of municipalities. Consequently, if no top-down approach in fostering municipal mergers is expected to occur, the analysis should at least portray possibilities of voluntary mergers, and the most suitable option is to inspect the drivers for the reform, following the above-described outline (methodology) developed by Askim et al. (2016).

Specifically, the current status of factors that should drive municipal mergers in Slovenia reflects that the existence of fiscal stress might be the only major driver for the reforms and also this factor is losing ground because of the recent economic recovery. Other factors, such as urbanisation, decentralisation and the recent history of municipal mergers, do not seem to be in favour of mergers in this particular context, as country is still highly fiscally centralised, urbanisation change rate is rather low, and, practically, there is no recent history of mergers. Furthermore, ECLSG has been fully ratified in Slovenia, and any non-voluntary status change in municipalities is not allowed even by constitutional arrangements. Besides, the existing political system is strongly based on the consensual decision making, as proportional voting system prevails at both central and local level.

Therefore, if we follow Soguel's (2006) framework, political grouping of municipalities in the form of mergers, or at least municipal agglomerations, cannot be expected. These might also be concluded by elaboration of Franzke et al. (2016), who stated that the problem of sub-optimal municipal size and excessive territorial fragmentation that demands municipal mergers can be solved only if the central government has the ability to provide effective administrative structures at the local level. In the case of Slovenia, this ability is rather limited not just by the insufficient effect of drivers but also by existing legal and constitutional arrangements.

In contrast, government can also effectively promote inter-municipal cooperation by promoting institutional development of these initiatives, for example, in the form of municipal associations, which are able to efficiently manage developmental projects and complex technical tasks as well as local public services. As the evidence portrays, municipalities in Slovenia have so far used inter-municipal cooperation with the purpose to jointly deliver mainly tasks related to inspection and constabulary activities, which suggests that they have focused only on those activities that were due to the reform process transferred to them afterwards.

This might imply some reluctance to use inter-municipal cooperation more extensively; the evidence is further promoted by the lack of involvement of larger municipalities. The reason might predominantly be due to the fact that during the socialist socio-economic regime, municipalities tended to be often forcefully merged, and the arrival of democratisation boosted the realisation of the basic principles of local self-government. The evidence portrays, at least in the case of Slovenia, that this has led to the

formation of many very small municipalities, and the cooperation initiatives have only gained ground when fiscal constraints emerged.

Nevertheless, we can clearly identify factors driving inter-municipal cooperation in Slovenia. As already noted, predominantly smaller and less-privileged municipalities tend to be involved into such activities, meaning that not just fiscal stress and scale economies are driving the process but also wealth and spatial factors – the trend that we can observe is that cities are not so inclined towards that process yet smaller municipalities surrounding municipalities are much more inclined, needless to say that they are also economically less privileged. To finalise, we could classify the factors contributing to the cooperation in Slovenia in this manner, that the process is mainly driven by fiscal stress persistence but necessarily accompanied by considerations of scale economies assurance as well as by specific wealth and spatial factors of municipalities.

Conclusions

This article analyses the evolution of territorial fragmentation and inter-municipal cooperation in Slovenia. The results of the analysis indicate that territorial fragmentation at the local level has been accompanied by the increase in the inter-municipal cooperation, although some time lag can be observed, and the increase in the cooperation can be observed in particular with the onset of economic slowdown and fiscal stress emergence. The results also portray that substantial territorial rescaling cannot be expected in the near future, as suggested by the analysis of driving factors that should contribute to this process, as well as by rather weak ability of central government to promote the process.

Consequently, from the practical perspective, we might expect larger role of more in-depth trans-scaling strategies as a mechanism to overcome the problem of sub-optimal size of municipalities in Slovenia. Namely, if we scrutinise specific context and potential for municipal mergers in Slovenia, it can be observed that the current status of driving factors mainly acts as an inhibitor to the mergers, which can explain the practical lack of such initiatives. The policy proposal, therefore, is to scrutinise more thoroughly these factors, in order to ensure and enable mergers in the future, that would enable overcoming the problem of sub-optimal size of municipalities also with the so-called hard mechanisms.

Acknowledgement

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EVALUATION OF THE EFFECTIVENESS OF SELECTED SLOVAK BRANDS ON THE PRINCIPLE OF DEA MODELS WITH THE POSSIBILITY TO OPTIMISE THEM

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Abstract. Nowadays, when marketing and branding change, companies are trying to find new ways to evaluate the effectiveness of their marketing activities as they impact on current and future business results. The main objective of the contribution is to evaluate the effectiveness of decision making unit (DMU) production units in the form of selected Slovak brands through the non-parametric data envelopment analysis (DEA) method. The sample size consists of 10 Slovak brands (Slovenská sporiteľňa, VÚB banka, Tatra banka, ESET, Slovnaft, Matador, Rajec, Sygic, Sedita and Zlatý bažant). Through DEA, we have gained a portfolio of effective and portfolio of ineffective brands operating in Slovakia. Depending on the choice of the DEA model, effective brands included Slovenská sporiteľňa, Sygic, Zlatý Bažant, Rajec and Sedita. Other brands were classified as ineffective. The result for ineffective brands is the creation of archetypal characters that we propose in Results section. The part of Results section is the focus of the businesses of the brands in question on the use of social media, to a larger extent, create a social media voice so that the personality of the brand is reflected in contributions in social media communicating on Facebook, Instagram or Twitter. In contribution, deduction, induction, analysis and marketing research methods were used.

Keywords: brand; brand equity; decision making unit; data envelopment analysis; marketing research.

JEL Classification: C02, C52, C61, M30.

Introduction

The pressure on the company's competitive ability and the additional problems caused by the slow pace of economic growth insist on greater efficiency and better business efficiency. Branding marketing activities thus become an integral part of the business context as they impact on current and future business results. In today's world, the brand has the status of a separate international marketing mix tool, which is a valuable competitive advantage for the enterprise not only in guaranteeing the quality of the production offered but also in aggravation of customer cohesiveness with a specific group for which the ban is given.

The concept of branding and brand value is based on the belief that a successful brand has a positive impact on business revenue and customer satisfaction, ultimately resulting in higher promotional efficiency and higher market share.

During the 20th century, many authors of various scientific and professional backgrounds have contributed to the development of branding (Aaker 1991, Kapferer 1992, Kotler and Keller 1993, 2012). It follows from this that there is no generally uniform definition of brand value, but despite all the concepts of brand value, it agrees with the fact that brand value is an added value that enables a particular brand to influence customer decisions and motivate them to buy. In line with the statements made by various authors, it seems reasonable to focus on measuring the effectiveness of brand value.

In the case of evaluating brand value efficiency, existing methodologies can be subdivided from the direct measurement aspect in which the brand value is focused on outputs and the aspect of indirect measurement focused on brand components. However, both aspects are subjective and do not provide information on sources of inefficiency, that is, sources to which an enterprise should focus in order to increase the effectiveness of selected branding variables.

The main objective of the contribution is to measure the effectiveness of selected Slovak brands through data envelopment analysis (DEA) based on the data collected from the published financial statements and through a survey conducted in the form of a questionnaire. The first part of the contribution explains process branding, including brand value and description of selected packaging data analysis models that were used to measure the effectiveness of Slovak brands. The second part characterises the methodology of DEA, in particular the CCR DEA model based on constant range income (CRS) and the BCC DEA Model based on variable profit (variable returns to scal, VRS). Subsequently, the contribution focuses on a description of acquired data and empirical findings. The conclusion of the contribution concerns the limitations of the methodology used and the knowledge for future research on the subject.

Literature Review

The primary objective of business entities in today's globalising world is to improve efficiency. In this case, we focused on evaluating the effectiveness of marketing activities related to the value of selected Slovak brands, that is, we will evaluate the level of efficiency based on the DEA models.

The beginnings of branding and operation are given up to 2,000 years B.C. The term 'brand' originated from the Norwegian word 'brands', which means burning. In this sense, branding has been associated with the determination of ownership or origin (domestic animals or slaves) (Kapferer 1992).

The beginnings of modern branding are associated with the advent of the 19th century Industrial Revolution, which was characterised by the emergence of shopping centres and the change in consumer buying behaviour because of the large number of products available on the market (Keller 1993). The 1950s of the 20th century is the period of the unique sales offer, which is characterised by the fact that the product itself is the main distinguishing feature. In the 1960s of the 20th century, this concept has changed and an emotional sales offer is coming to the fore, which also brings about changes in brand perception, that is, consumers build relationships and loyalty for brands. The 1980s is the period of the fireman sales offer that characterises the brand as a company image. In the 1990s, a brand-name sales concept emerged, making the mark the most important attribute of the seller. Technological innovation has created a new concept, 'Me selling proposition', in which consumers themselves promote the product (Kotler, Keller 2012).

The mark is considered to be the permanent asset of an enterprise that the owner will use more than the physical assets of the company. For many businesses, the brand has a higher value than all the assets in the total (Jourdan 2002). Virtually, every marketer has created his or her own 'inner' definition of brand value in accordance with his or her own subjective view of the matter. The brand value can be based on innovation, customer care or even brand durability (Fetscherin, Toncar 2009). Brand value can be measured by the customer's willingness to buy or not buy a particular brand. According to other opinions, it is the added value that the brand leverages the product or the financial value that is measurable in the transactions that belong to the branded product because of the success of the marketing programmes and activities (Majerova, Kliestik 2015). Aaker defines brand value as a 'set of assets and liabilities associated with the brand name and symbol that increases (or decreases) the value the product brings to the business or the customer'. The most important classes of this value are brand knowledge, brand loyalty, perceived quality and association with a tag (Aaker 1991). High brand value is a source of competitive advantage for its owner, such as lowering marketing costs and favouring the position of a producer when negotiating with distributors and sellers as customers want to get their favourite brands as easy as possible (Tasci *et al.* 2018). Brand owner can increase margins because the customer is willing to pay for the brand (Seo, Park 2018). An established and valuable brand raises confidence, simplifying the brand owner's branding activities to other markets, and the

brand also represents an enterprise's protection against the threat of illegal price competition (Tasci 2018).

In the following section, we focus on efficiency defined as the ratio of output and input, as measuring efficiency is an important element of performance management because it provides feedback for identifying inefficiency sources. We used the DEA method that is described in the Methodology section.

Methodology

The aim of the contribution is to quantify the degree of effectiveness of selected Slovak brands. The data set consists of 10 Slovak brands, such as Slovenská sporiteľňa, VÚB banka, Tatra banka, ESET, Slovnaft, Matador, Zlatý bažant, Rajec, Sygic a Sedita.

As DEA models require input and output variables, we have selected the communication costs in the area of support for the given brand as the input variable. Businesses do not report marketing costs directly in their financial statements. For this reason, we have chosen to approximate the value of the business to marketing from the value that is recorded in the accounting. On the basis of the theory and the consultancy with the accountants, we have chosen to approximate their value to the total value of 'Services' in the profit and loss statement. The item 'Services in the Profit and Loss Account' captures the expenses of the accounting group 51, which they usually become accustomed to the costs of advertising and representation, while meeting the requirements set out in Act no. 431/2002 Z.z. on accounting as amended, Act No. 222/2004 Coll. on value-added tax as amended, Act no. 595/2003 Z.z. on income tax as amended and the accounting procedures itself. For the purpose of our work, we decided to determine the cost of marketing costs of 15% of the cost of the service statement. The percentage of 15% of the cost of the service item was established based on the two studies for which this approximation occurred. They were the studies by Cheng (2005) and Jansky (2011). This means that the cost of marketing is determined according to the following equation (1):

$$\text{Marketing costs} = \frac{1}{2} * (0.15 * V14_{\text{column of the profit and loss statement database}}) \tag{1}$$

Brand awareness and brand loyalty are the output variables. Output variables were selected because the tags in question require an increase in these variables relative to the given input variable.

Data on the cost of communication activity in the area of branding was collected based on the financial statements from 2017, which are published on the official website of the financial statements. The data regarding the awareness and fidelity to the brands in question were obtained from a marketing survey conducted through a questionnaire. The questionnaire was distributed electronically via e-mail between 15 November 2017 and 31 January 2018. The subject of the survey was customers of the Slovak Republic. The questionnaire consisted of two parts. The first part concerned the general profile of Slovak customers. The second part deals with brand awareness or brand loyalty.

In our survey, the respondent was defined customer living in the territory of the Slovak Republic and was older than 15 years. We chose a random selection, with the respondents randomly selected from the base file as a database. When determining the sample size of respondents, we used the sample size calculator from Creative Research Systems, which is available on the Internet. A stratified randomised selection was chosen in the survey, in which respondents were divided into sub-sets based on age. The size of the base file in the case of customer surveys was determined based on the demographic statistics of the Statistical Office of the Slovak Republic on the number of inhabitants older than 15 years (4,592,689) as of 31 December 2015. The materiality level was set at 0.05, corresponding to 95% of the confidence interval and the permissible error of estimation was set at 5%. As 391 respondents surveyed the survey, the minimum sample condition was met, and the respondents' answers to the questions asked during the survey can be considered relevant and qualified based on the confidence coefficients and the maximum permissible error.

Subsequently, we applied DEA models based on constant and variable yields on a scale to classify the Slovak brands in question effectively and inefficiently. Finally, we propose measures that can help businesses increase the effectiveness of these brands.

DEA is a method of linear programming that was originally developed to assess the effectiveness of management and planning of non-profit institutions (e.g. schools and hospitals). Later, its use has been extended to other areas; using DEA models, we can compare not only capabilities amongst themselves based on the effectiveness of their work but also the effectiveness of heterogeneous activities within a single enterprise (Kliestik 2009).

By the decision making unit (DMU), we understand that the unit produces some effects and consumes some resources for its production (Nadanyiova 2015). By evaluating the efficiency of a given production unit, we evaluate essentially the efficiency of transformation of inputs to outputs. The outputs typically have a maximising character, that is, their higher value leads to higher efficiency while maintaining the same level of outputs. Inputs, on the other hand, have a minimal character, that is, their lower value leads to lower efficiency while maintaining the same level of inputs (Coelli *et al.* 2015). When analysing the efficiency, it is possible to assume that for a given task, there is a theoretical set of production possibilities, which consists of all possible combinations of inputs and outputs and determined by the theoretical effective boundary. Once production units are located at an effective border, they are effective (Jablonsky, Dlouhy 2015).

The aim of DEA models is to eliminate, or exclude, subjectivity by measuring outputs in relation to inputs. Using a linear mathematical model, inputs and outputs of individual production units are assigned scales that express the efficiency of the unit (Salaga *et al*. 2015). On the basis of these weights, the brands will be compared and ranked.

The early stages of the DEA models can be found in Debreu and Koopmans (1951) as well as by Farrell (author of the 1957 Model of Efficiency Rating). Farrell's findings were subsequently reworded by Charnes, Cooper and Rhodes (DEA CCR) and Banker, Charnes and Cooper (DEA BCC). The aim of both models is to divide the objects under investigation into efficient and inefficient in terms of consumed resources, produced production or other types of outputs (Charnes *et al.* 1978). This asserts the advantage of determining the source of inefficiency and determining how the production unit can become effective by reducing/increasing inputs and outputs. CCR model calculates the input and output weights by optimisation calculation to maximise efficiency level. Efficiency level is less than or equal 1 (Banker *et al.* 1984, Cooper *et al.* 1996).

$$\text{Minimise e (DMU}_j) = \frac{\sum_{k=1}^{r} u_k y_{kq}}{\sum_{i=1}^{m} v_i x_{IQ}} \rightarrow \text{max,} \tag{2}$$

$$\frac{\sum_{k=1}^{r} u_k y_{kj}}{\sum_{i=1}^{m} v_i x_{ij}} \leq 1, j = 1, 2, \ldots, n, \tag{3}$$

$$u_k \geq \varepsilon, k = 1, 2, \ldots, r, \tag{4}$$

$$v_i \geq \varepsilon, i = 1, 2, \ldots, m. \tag{5}$$

where

    e is the efficiency rating of DMU being evaluated by DEA,

    ε is the infinitesimal constant, according to it, input weights and output weights have positive number,

    u_k is the coefficient of weight assigned by DEA to output k,

    v_i is the coefficient of weight assigned by DEA to input i,

    x_{ij} is the amount of input i used by DMU_j,

    y_{kj} is the amount of output k used by DMU_j,

    i is the number of input used by the DMUs,

    k is the number of outputs used by the DMUs.

We can modify previous model on linear model via Charnes–Cooper transformation in two ways. The first approach maximises the numerator of objective function if the denominator is equal to 1. It is the input-oriented CCR DEA model. The second approach minimises the denominator if the numerator is equal to 1. It is the output-oriented CCR DEA model (Podhorska, Siekelova 2016).

$$\text{Maximise} \quad e\,(DMU_j) = \sum_{k=1}^{r} u_k\, y_{kq} \rightarrow \max, \tag{6}$$

$$\sum_{i=1}^{m} v_i\, x_{iq} = 1, \tag{7}$$

$$-\sum_{i=1}^{m} v_i\, x_{ij} + \sum_{k=1}^{r} u_k\, y_{kj} \leq 0,\ j =1, 2, \ldots, n, \tag{8}$$

$$u_k \geq \varepsilon,\ i =1, 2, \ldots, r, \tag{9}$$

$$v_i \geq \varepsilon,\ j =1, 2, \ldots, m, \tag{10}$$

or

$$\text{Minimise} \quad e\,(DMU_j) = \sum_{i=1}^{m} v_i\, x_{jq} \rightarrow \min, \tag{11}$$

$$\sum_{k=1}^{r} u_k\, y_{kq} = 1, \tag{12}$$

$$\sum_{k=1}^{r} u_k\, y_{kq} - \sum_{i=1}^{m} u_i\, x_{ij} \leq 0,\ j =1, 2, \ldots, n, \tag{13}$$

$$u_k \geq 0,\ i = 1, 2, \ldots, r, \tag{14}$$

$$v_i \geq 0,\ j =1, 2, \ldots, m. \tag{15}$$

In case of the input-oriented CCR DEA model, the efficiency rating is equal to 1. It means that DMU is located on efficient frontier. On the other hand, the efficiency rating is not equal to 1, so DMU is inefficient unit. In case of the output-oriented CCR DEA model, the efficiency level is greater than 1, so DMU is inefficient unit. If DMU is not efficient, then it is necessary to find virtual unit on efficient frontier (Fiala 2008).

The input-oriented and output-oriented CCR DEA models are mentioned as multiplier models. To evaluate the efficiency level, it is necessary to solve these models for each DMUs separately. In case of multiple set, use dual models for previous models. These models are mentioned as envelopment model (Fiala 2008). The input-oriented dual CCR DEA model has the following form:

$$\text{Minimise} \quad \theta_q - \varepsilon\,\left(\sum_{i=1}^{m} s_i^- + \sum_{k=1}^{r} s_k^+\right), \tag{16}$$

$$\sum_{j=1}^{n} \lambda_j x_{ij} + s_i^- = \theta_q x_{iq},\ i = 1, 2, \ldots, m, \tag{17}$$

$$\sum_{j=1}^{n} \lambda_j y_{kj} - s_k^+ = y_{kq},\ k = 1, 2, \ldots, r, \tag{18}$$

$$\lambda_j \geq 0,\ s_i^- \geq 0,\ s_k^+ \geq 0. \tag{19}$$

Individual 'λ' means weights of the input and output variables. The purpose of the model is to find the linear combination of input and output quantity of all the analysed samples.

For efficient DMU, optimal value of $\theta q = 1$; optimal value of all additional variables s_k^+, $k = 1, 2, \ldots, r$, a s_i^-, $i = 1, 2, \ldots, m$, are equal to 0.

Radial DEA models provide information on efficiency level and answer to the question how to achieve efficient frontier. It means to change inefficient unit to efficient unit (or virtual unit) by radial DEA model. Input and output variables about virtual units are referred to as target variable for input and output variables (Jablonsky, Dlouhy 2015).

Then, Banker, Charnes and Cooper created the BCC DEA model based on variable returns to scale (VRS), that is, rising, falling as well as constant returns. In this case, a cone shape of efficient frontier is changed to convex shape. It follows that number of efficient units is greater when compared with CCR DEA model (Charnes *et al.* 1978). In analysing the efficiency based on VRS, it is necessary to complete dual model about convexity condition:

$$\sum_{j=1}^{n} \lambda_j = 1 \qquad (20)$$

The method of quantification of BCC DEA models is almost analogous to the calculation of the CCR DEA models.

Results

On the basis of the use of the CCR DEA models of entry and exit oriented, we have concluded that effective Slovak brands include Slovenská sporiteľňa and Sygic, that is, the rate of their effectiveness is 1. Other Slovak brands are used by the entrepreneurial subjects as ineffective, that is, they do not achieve efficiency of 1 or 100%. Table 1 shows the input data to identify efficient and inefficient brands through selected DEA models.

Table 1. Entry values for CCR and BCC DEA models (Source: author's compilation)

DMU	Communication costs in support of the brand (€)	Brand awareness (number of customers)	Brand loyalty (number of customers)
Tatra banka	27,860	1,563,785	437,800
VÚB banka	15,452	276,898	389,630
Slovenská sporiteľňa	19,856	1,239,685	986,500
ESET	29,741	1,142,360	412,800
Slovnaft	35,652	986,520	896,352
Matador	14,962	127,411	389,630
Zlatý bažant	28,740	2,296,854	968,521
Rajec	17,654	2,304,586	289,652
Sedita	9,852,	312,590	458,963
Sygic	11,632	1,962,030	396,825

Table 2 shows the results of the effectiveness of the relevant Slovak brands based on the use of an input- and output-oriented CCR DEA model. It is obvious that only Slovenská sporiteľňa and Sygic brands are effective, because their effectiveness is equal to 1. Other brands do not achieve such a measure, they exceed it. In order to become effective, it is necessary to adjust their input (Table 3) and output characteristics (Table 4).

From the efficiency point of view, the least effective mark is ESET, because it achieves an efficiency score of 0.3316 (more than 33%), with a power efficiency of 3.0157. On the basis of the quantification of the given variables through the CCR DEA model, the company owning the mark should take certain steps, on the downside, to reduce the communication costs from € 29,741 to € 9,862 in support of the brand by focusing on the use of new forms of marketing communications in an online environment that are less costly and their engagement and interactivity is much greater. On the other hand, the ESET tag can achieve the desired output efficiency through the use of new forms of marketing communication to increase brand awareness from 1,142,360 to 3,445,044 customers. Another opportunity is to immediately make changes in both the input and the output by combining them.

The second least effective brand is the Tatra banka, with an output efficiency level of less than 41%. In spite of its innovative capability, Tatra banka should take action on both the entry and exit sides in order to achieve an efficiency level of 1 or 100%.

The third least effective mark in the CCR DEA models is for the Slovnaft brand, which achieves an efficiency score of less than 51% and a 1.9761 output side. Slovnaft is a refinery-petrochemical company also focused on the concept of joint corporate responsibility. Even despite these activities, the brand works ineffective. A way to increase the effectiveness of the brand is to increase brand awareness, for example, through a more creative form of communication, or by supporting this tool online through integrated marketing communication forms.

Table 2. Results of the efficiency assessment for the input- and output-oriented CCR DEA models (Source: author's compilation)

DMU	Efficiency score of the input-oriented DEA model	Efficiency score of the output-oriented DEA model
Tatra banka	0.4069	2.4575
VÚB banka	0.5075	1.9703
Slovenská sporiteľňa	**1.0000**	**1.0000**
ESET	0.3316	3.0157
Slovnaft	0.5060	1.9761
Matador	0.5242	1.9078
Zlatý bažant	0.7719	1.2956
Rajec	0.7739	1.2921
Sedita	0.9377	1.0665
Sygic	**1.0000**	**1.0000**

Table 3. Results of the input-oriented CCR DEA model in the form of effective input and output targets (Source: author's compilation)

DMU	Communication costs in support of the brand (€)	Brand awareness (number of customers)	Brand loyalty (number of customers)
Tatra banka	11,337	1,563,785	437,800
VÚB banka	7,842	489,628	389,630
Slovenská sporiteľňa	19,856	1,239,685	986,500
ESET	9,862	1,142,360	412,800
Slovnaft	18,042	1,126,401	896,352
Matador	7,842	489,628	389,630
Zlatý bažant	22,184	2,296,854	968,521
Rajec	13,633	2,304,486	466,108
Sedita	9,238	576,756	458,963
Sygic	11,632	1,962,030	396,825

Table 4. Results of the output-oriented CCR DEA model in the form of effective input and output targets (Source: author's compilation)

DMU	Communication costs in support of the brand (€)	Brand awareness (number of customers)	Brand loyalty (number of customers)
Tatra banka	27,860	3,843,055	1,075,908
VÚB banka	15,452	964,727	767,697
Slovenská sporiteľňa	19,856	1,239,685	986,500
ESET	29,741	3,445,044	1,244,891
Slovnaft	35,652	2,225,889	1,771,288
Matador	14,962	934,134	743,353
Zlatý bažant	28,740	2,975,706	1,254,774
Rajec	17,654	2,977,792	602,265
Sedita	9,852,	615,098	489,474
Sygic	11,632	1,962,030	396,825

Table 5 shows the results of the effectiveness of the relevant Slovak brands based on the use of an input- and output-oriented BCC DEA model. It is clear that the portfolio of effective brands (Slovenská sporiteľňa, Zlatý Bažant, Rajec, Sedita and Sygic) has expanded, as the BCC DEA models assume variable yields on the scale and their rate of effectiveness is equal to 1. Other brands do not reach such a rate, they exceed it. In order to become effective, it is necessary to adjust their input (Table 6) and output characteristics (Table 7). Effective brands include Slovenská sporiteľňa, Zlatý bažant, Rajec, Sedita and Sygic. Amongst the least efficient brands are ESET brands, Tatra banka, because they achieve an efficiency score of less than 50%. These ineffective brands should take appropriate action on both the entry and exit sides, which serve to increase their efficiency, that is, optimise the communication portfolio by using online marketing communication platforms.

Table 5. Efficiency score results for the input- and output-oriented BCC DEA models (Source: author's compilation)

DMU	Efficiency score of an input-oriented DEA model	Efficiency score of the output-oriented DEA model
Tatra banka	0.4170	1.4715
VÚB banka	0.6376	1.9359
Slovenská sporiteľňa	**1.0000**	**1.0000**
ESET	0.3614	2.0122
Slovnaft	0.5090	1.1006
Matador	0.6585	1.8695
Zlatý bažant	**1.0000**	**1.0000**
Rajec	**1.0000**	**1.0000**
Sedita	**1.0000**	**1.0000**
Sygic	**1.0000**	**1.0000**

Table 6. Results of the input-oriented BCC DEA model in the form of effective input and output targets (Source: author's compilation)

DMU	Communication costs in support of the brand (€)	Brand awareness (number of customers)	Brand loyalty (number of customers)
Tatra banka	11,618	1,563,785	437,800
VÚB banka	9,852	312,590	458,963
Slovenská sporiteľňa	19,856	1,239,685	986,500
ESET	10,747	1,142,360	427,704
Slovnaft	18,146	1,081,259	896,352
Matador	9,852	312,590	458,963
Zlatý bažant	28,740	2,296,854	968,521
Rajec	17,654	2,304,586	389,652
Sedita	9,852	312,590	458,963
Sygic	11,632	1962,030	396,825

Table 7. Results of the output-oriented BCC DEA model in the form of effective input and output targets (Source: author's compilation)

DMU	Communication costs in support of the brand (€)	Brand awareness (number of customers)	Brand loyalty (number of customers)
Tatra banka	22,530	2,301,185	644,244
VÚB banka	15,452	831,556	7,542,266
Slovenská sporiteľňa	19,856	1,239,685	986,500
ESET	26,100	2,298,696	830,650
Slovnaft	19,856	1,239,685	986,500
Matador	14,962	786,146	728,427
Zlatý bažant	28,740	2,296,854	968,521
Rajec	17,654	2,304,586	389,652
Sedita	9,852	312,590	458,963
Sygic	11,632	1,962,030	396,825

On the basis of the foregoing, we believe that most of the verbal tags in question should aim to optimise their communication portfolio resulting from the advancement of telecommunications and information technology. Changing the communication portfolio because of the use of new communication tools can thus have a positive impact on the profitability ratio and on the level of effectiveness, and the goal is to create a community of customers or social network users participating in brand value and to pull the product, service from tramlines and introduce it in a new light. In our opinion, Slovak brands should, in the future, try to find a new context for communication policy, including its progressive instruments, so that consumers do not surprise.

It follows from the above that the Slovak brands that do not fulfil the condition of effectiveness (ESET, Tatra banka, VUB banka, Slovnaft, Zlatý Bažnat, Sedita, Matador, Rajec) must reduce their inputs or increase their outputs through the following ways and possibilities:

- status test – currently, the consumer chooses products or services to complete his or her social status. This can be used by brands in their strategy and offer the product only to customers who have a real interest in them,

- the search for an original context with guerrilla communication activities – another trend is to search for an original communication context using a guerrilla communication activities in which brands can surprise the customer at the right moment and in the right place,

- start from yourself – to get and subsequently maintain customer confidence is not easy at the moment. One of the steps the brand can gain in credibility is to look inside the business and evaluate the internal corporate culture,

- artificial intelligence – Increasing consumer demands can also respond to brands through artificial intelligence,

- social networks using progressive communication tools – the social networking style of the communication brands chooses according to their audience. For example, the Snapchat social network allows you to share content that is lost in a minute and is one of the most effective tools for engaging audiences. According to research eMarketer to Snapchat, 22% of the US advertisers, including Pepsi, Amazon, GE, 200th Century Film Studios, Milk, and even Magnesia and Mattoni, have begun investing. The reason for using Snapchat is simple – while Facebook uploads 35% of the total number of users, Snapchat up to 65%, that is, Snapchat bets on brands that want to connect an emotional relationship with the customer (Trendy 2016).

In addition, we propose that the brands of Slovak companies in question begin to build themselves into the position of a certain archetypal figure, because each of the individual archetypes predestines the behaviour of the company, its visual presentation and communication.

The archetypal-communicating brand story acquires the potential to build a puto and relationship with others and to connect us in our humanity without sacrificing us to a homogeneous mass because it also appeals to us as an individual. The archetypal story presented and imprinted with the brand will enable the enthusiasts to identify and feel the connection at personal and individual level from the Slovak brand in question. The consumer has a sense of how the brand would speak directly to him or her, personally, because the brand speaks to a wide audience and aims to reach out to a broad target audience. If we focus on branding according to the archetypal sense, we touch the 'soul of the brand'. The brand that binds to the archetype thus increases its chances to reach out to the innermost layers of the human psyche – the customer. Brand, a story of a brand in which the customer clearly recognises an archetypal figure and its symbolism, enhances its authenticity and credibility (Wooside, Sood 2016). Also, the brand that communicates in a given archetype not only is readily recognisable by a target group but also ensures consistent communication across channels and consistent communication over time. Archetypes are based on four basics: desires and needs, independence, stability and freedom (Bechter *et al.* 2016).

As the tag represents the personification of individual archetypal figures and impersonates the story to which the customer can join, we propose to assign ineffective Slovak brands to one of the following archetypes:

- creator – opens up new spaces, brings innovations and new ideas that it performs or helps them to do. Here we propose to include the brands of ESET and Tatra banka,

- caregiver – the main aim of the caregiver is to protect people, help others, take care of others. Here we propose to include the brand of VUB Bank,

- ruler – its purpose is to determine the rules, the direction indicator, and to determine what is important, what matters. Here we propose to include Slovnaft,

- clown – clown strategy is play, humour, joke, provocation, irony and fun behaviour. Here we suggest to include the brand Zlatý bažant,

- one of us – develops common behaviour, a common look and likes to blend with the crowd. He or she lives an ordinary, but a good life without pretense. Here we propose to include Sedita,

- magician – wants to realise his or her dreams, creates a vision, transforms or helps. Here we propose to include the brand Matador,

- innocent child – has faith, optimism and ideals. Here we propose to include the brand Rajec.

To increase the efficiency, we are also pushing for the personality to be reflected in contributions to social media, that is, to create a voice of social media similar to the way the tag in question communicates with Tweets, Facebook, Snaps and Instagram.

Conclusions

Comparison and analysis of DMU efficiency scores based on DEA models are widely used in various areas of the economy. Their goal is to identify the source of inefficiency, because the effectiveness of individual business areas has an impact on the competitive advantage of business entities.

This contribution provides information on the level of effectiveness of selected Slovak brands with the possibility of optimising the communication protocols in this area. The main objective of the contribution was to measure the effectiveness of selected Slovak brands based on DEA based on the collected data from the financial statements published in the register of financial statements and through a survey conducted in the form of a questionnaire.

On the basis of the results of the CCR models, DEA notes that only Slovenská sporiteľna and Sygic are working effectively. On the other hand, the BCC DEA models show that there are more Slovak brands (Slovenská sporiteľňa, Zlatý Bažant, Rajec, Sygic and Sedita). The larger number of effective Slovak brands is related to the BCC DEA model, which assumes variable yields from the range. According to the quantification of these models, other brands do not reach the efficiency of 50% either. Each tag was analysed based on the input data (communication costs related to brand support) and output data (brand awareness and brand loyalty).

This research study has a specific character because there is no similar research in this bolas with links to evaluation of the effectiveness of Slovak brands with the possibility to optimise them, although many authors are concerned with assessing the level of efficiency of global brands, especially from North America, Europe and Asia.

A future scope of the present study could be to integrate the management's perspective into the study of brand equity and benchmark the brands against the brand equity as perceived by the management. In addition, we can add some new variables and models based on the DEA principle. Charles and Zavala measure the customer-based brand equity efficiency to identify efficient brands versus inefficient brands in terms of customer perception. The authors also represent a novel attempt to develop a satisfying DEA model to measure the customer-based brand equity efficiency under a stochastic environment that is, furthermore, free from any theoretical distributional assumptions. The proposed model is then applied to measure the efficiency of nine major cell phone brands (Charles, Zavala 2015).

Further research may be aimed at evaluating the effectiveness of the marks in question over time, that is, in addition to the CCR and BCC DEA models, we could use the Malmquist index. It is a quantitative tool that accepts a time factor. The index evaluates multiple inputs and outputs without pricing data. When evaluating effective changes over time, the index generates decomposition on two components – a relative change in the efficiency of the unit being analysed in the sector and the change in boundaries of production options caused by technology. The basic DEA models can be considered static, that is, they do not take into account the development or change in the efficiency of business activities over time. We will remove this deficiency by using the so-called Malmquist index. The Malmquist index can be formulated in various variants: input-oriented or output-oriented, with constant, variable, non-mining or non-declining yields.

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THE CONCEPT OF GAMIFICATION AND ITS USE IN SOFTWARE COMPANIES IN THE REPUBLIC OF MACEDONIA

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Abstract. Gamification represents a relatively new term that has become massively popular in recent years. The aim of this paper is to evaluate the various definitions regarding gamification, to present a unified process of designing a gamified system and to research the use of gamification on the territory of the Republic of Macedonia. Gamification focuses on the internal motivators of employees, which are much more powerful and longer-lasting than the external motivators traditionally used in human resource management. Since this concept relies on video games, data demonstrated makes it clear that they are prevalent in each age group and there is no inclination of one sex over the other. The research done through a questionnaire on SMEs in the IT industry on the territory of the Republic of Macedonia was focused on researching the gamification trends in the country and generally gave positive results regarding the level of use and the readiness of the Macedonian managers for gamification. A high percentage of the companies surveyed are using or are in the process of implementing gamified systems and consider that they could bring a number of benefits. The main disadvantages are the lack of understanding by employees and insufficient technical knowledge. The paper contributes in clarifying the gamification concept and distinguishing it from other similar concepts. From a practical standpoint, the presented process for designing a gamified process can be utilized by companies in the IT industry in the future, regardless of the country of origin.

Keywords: gamification; human resources; employee motivation; management, reward system

JEL Classification: O15

Introduction

The term 'gamification' is commonly used in the modern business world as an attempt to improve the productivity of employees and their motivation, improving the company's marketing activities, improving the activities in the field of finance and all other activities that are carried out in a particular company. Some authors define gamification in a broader sense, that is, to improve health, transportation, government, education, ecology and so on (Hamari et al., 2014). In addition, a great focus is put on the so-called Human Computer Interaction (HCI) methods (Detering et al., 2014) that propose that 'gamified' applications and methods can be directed to potential consumers and existing customers. However, so far, little academic attention has been devoted to the definition of the concept of gamification, while the origin of the term is interpreted differently.

There is no doubt that the popularity of games (more specifically video games) among young people is high and is constantly increasing. A survey conducted in February 2017 in the United States shows that 65% of households own at least one video game console. Today's gamers, if this term can be used, have spent an average of 13 years playing video games, which means that most of them started at a very young age, probably before being 10 years old. The data suggests that gamers are brought up with video games and the concepts that apply in video games themselves could be more easily

accepted and applied at the workplace. The games, however, are not reserved for the male sex only, which is represented by 59% – the female gender representation is also high, with 41% in 2017 ("Big Fish Games", 2017). The US statistics also point to the fact that video games are not reserved for children and young people, that is, a large percentage of gamers are aged 18–35 years old (27%) and aged 36 to 49 (19%) (Statista, 2017).

These percentages may appear to be relatively high at first glance, but one must take into account the fact that gaming has expanded as a term since 2010, with the emergence of the first tablet devices and smartphones. Through these devices, games were no longer reserved for consumption through a television or a board game set, because each individual with a smartphone or tablet can be involved. This has increased the age limits, as well as the inclusion of the female gender in something previously considered a dominant male activity. Statistics of 2017 for the territory of the European Union show us that in the third quarter of 2012, 36% of the age group of 35–44 years played video games, while in the third quarter of 2016 this figure rose to 46%. Respondents of the age group of 45–64 years spend 7.5 hours per week playing on a tablet or smartphone, even higher than the age group 25–34 years, which passes 6.2 hours per week playing on a tablet or smartphone (ISFE, 2017). Unlike the past, the data demonstrates that video games are spread across all age groups and that they also no longer predominate male activity, because now the two genders are represented almost equally.

Literature Review

Gaming refers to games in general (such as board games, sport games, video games, mobile games, etc.). As noted in the introductory part in the paper, with the rise of mobile devices, video games (and the subset of mobile games) motivate millions of people in the world to spend a huge part of their time playing them. Often, activities that they perform in these types of games themselves may seem trivial, even boring, but there is obviously a certain kind of motivation to complete them. A number of researchers were intrigued whether this kind of motivation and other aspects of gaming could be used in other context, besides board games, mobile games and video games. The earliest attempt to define the concept of gamification and its elements can be seen by Thomas Malone (1980), as early as the 1980s, when the first massively distributed video games such as 'Pac-Man' and 'Galaga' appear. It can be noticed that the first video games of educational character appear in a similar period, that is, it is believed that the first video game of this kind is 'Lemonade Stand', which appears in 1979 (PC World, 2017). The purpose of this game is to successfully set up and manage a stand for selling lemonade, something popular with schoolchildren in the US culture. Perhaps one of the most famous games in the 1980s is the 'The Oregon Trail', a game that simulates travelling with a fictitious family across the US in the 19th century. In doing so, players should be careful about the level of food, the various dangers of animals and diseases and choosing the most optimal route. In this way, young players gained knowledge about basic hygiene, geographical concepts and states and different types of diseases. In the 1990s, there was a real boom in the market for educational games, and large corporations like Nintendo started creating their own games, something that previously did not happen with other mediums for delivering/playing games, meaning that video games potentially hold the highest potential to incite intrinsic motivation.

Regarding the first official appearance of the concept of gamification, authors are divided. Nelson (2012) argues that the beginnings of gamification are at the beginning of the mid-20th century in the Soviet Union as 'a way to motivate workers without relying on monetary incentives in capitalist style.' Factory workers could compete with each other to increase production, using points and other elements similar to the game. Later, in American management, during the transition from the 20th to the 21st century, the strategy of turning the workplace into a cheerful environment is reappearing. In 1984, Coonradt published the first edition of his book 'The Game of Work'. Coonradt applies principles of playing in a business context that deal with employees' motivation. His principles for motivating people include frequent feedback, clear goals and personal choices, that is, features that can be found in games of different types. These American and Russian approaches, as precursors of gamification, have led to a sub-genre of the concept, 'gamification of the workplace'. The term 'gamification' reportedly was first used in 2002 by Nick Pelling, a British video game developer (Marczewski, 2012). Research and development efforts to frame gamification approaches have

expanded dramatically in the past decade. If we make a more detailed analysis of the literature, even before Coonradt's work, loyalty programs, such as frequent flyer programs (Kumar and Herger, 2013), where passengers get miles (i.e., points) that can be exchanged for some profit, and other marketing campaigns already incorporate some features of gamification. According to Detering et al., (2011), the term first appears in its present and modern deficiencies in 2008, but its popularization begins in 2010. This is the same year the first Gamification.co conference was held, with which the gamification began with its massive implementation by the companies and authors in its research in the last decade.

The main problem that arises in the clear perception of the history of gamification is that the authors see it in a different way, making it difficult to distinguish which of the methods used in the past or the previous century are part of the gamification, and therefore, part of its history. Thus, it is necessary to clearly define the gamification and the activities it covers. In order to understand and define the concept of gamification, it is necessary to make a distinction in several different aspects. Figure 1 shows the differences between them.
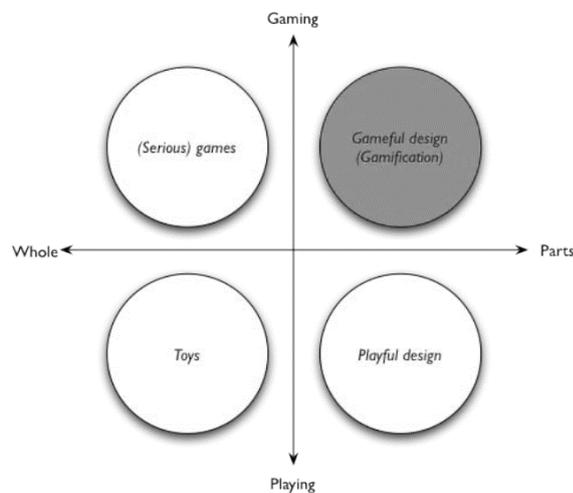

Fig. 1. Defining Gamification (Source: Detering et al., 2011)

The graphic shows us a spectrum that moves from video games to the concept of gamification. Video games represent the starting point, that is, they are part of gaming and completely implement all its aspects. Certain video games can be used for other purposes, for example, training pilots in a simulator or Formula 1 drivers, but this does not represent gamification. On the left side of the spectrum, we also see toys, which also have entertaining character, but are more related to playing than gaming, or more precisely video games. Toys may also include an educational character, such as the LEGO blocks that are popular with children. However, it should be noted that this is not part of the gamification. On the right side of the spectrum, we have a term called 'playful design'. This concept is more related to playing than gaming and can be most easily understood through an example. In 2009, Volkswagen created a campaign for people to use ordinary stairs instead of an escalator to be physically more active. In order to motivate them, the company used an unconventional approach through the so-called 'Piano stairs', that is, stairs that play a note if you step on them (Design of the World, 2012). The Volkswagen campaign proved to be successful, as many passers-by were motivated to climb these ladders, rather than the escalator. Although this mostly resembles gamification, it is ultimately not part of it, because elements of games are not used, but the focus is on playing and toys. In the upper right corner of the spectrum is gamification, which, as the graph itself suggests, takes part of the elements of games and gaming. Although there is often confusion between gamification and fun design, there is a clear distinction – gamification takes elements from different types of games and sets clearly defined rules and objectives, while the fun design does not contain these elements and rules.

The most commonly accepted definition is that gamification is the use of game design elements in non-game contexts (Deterding, 2011; Van Der Boer, 2011). Gamification can be differentiated from simple contests because gamification seeks to use elements from designed games to enhance the fun or effectiveness of a game in a work environment. A game is designed when it is purposefully created with reinforcing contexts, interactions, and mechanisms that create a more immersive feeling of play (Mollick & Rothbard, 2014). These definitions emphasize several elements that are key to the concept of gamification:

- elements of games, but do not include games in full

- reflecting the way gamers think while playing

- an environment that is not related to games, such as a workplace

- includes motivation to achieve goals other than standard reward systems

While traditional methods of motivating employees (which are often financial) function in short term, the company cannot often or repeatedly use them, primarily due to lack of resources. Gamification offers alternative methods that do not exhaust financial resources, and in theory, could lead to equal or greater motivation of employees.

According to Bunchball (2016), employees become focused and motivated when:

- there is a clearly defined goal

- there is a system that measures the progress towards achieving the goal

- there is a reward for achieving the goal

Motivation can be internal (activities done by the individual because he is interested in them or they bring pleasure) or external (under the influence of external force) (Ryan and Deci, 2000). Most studies demonstrate that internal motivation is more powerful and longer than the external one, which gives preference to gamification. There are five specific internal motivators:

- **Autonomy** – 'I have control'. There is autonomy in the workplace, that is, employees have tasks that they can fulfil in the way they want, until the work is completed in a timely manner.

- **Skills** – 'I'm improving'. Improvement gives satisfaction to employees, because it makes their work easier and they get the opportunity to do something that they were not able to accomplish before.

- **Purpose** - '"I make a difference'. Every employee wants to feel part of the team and the company, making their work contribute to success.

- **Progress** - 'I Exercise'. The employees are satisfied when they see that they are making progress and moving towards the goal.

- **Social interaction** - 'I'm connecting with others'. Ultimately, people want to get in touch and interact with other people.

In order to understand the potential of the concept of gamification, one should look at video games as the frontrunner in popularity among young people and adults. The first video games in the 1980s were based on statistics and ranking lists to motivate players to continue to play, for example, a list of best players. As video games mature and become more complex, the methods for motivation also evolve. A new type of video game, called MMORPG (Massive Multiplayer Online Role Playing Game), emerged towards the end of the 20th century and the beginning of the 21st century. In this type of video games, players took on the role of a certain character and fully connected with him and his survival in the digital world. This is interesting and important in terms of gamification because the average time spent by players on these video games is much greater than before. Players perform trivial activities that would be considered repetitive and annoying, but there is a certain motivation, a sense of achievement and a non-material reward (they do not receive real money) that influences their drive. By the beginning of the last decade, smartphones and tablets have been popularized, making

gaming available for everyone by reducing skill level and knowledge required to participate. New kinds of video games that appeared on the market, such as Farmville, Angry Birds, Temple Run, Candy Crush and others, have introduced new ways to motivate players to perform seemingly trivial and repetitive tasks. For a longer period of time, companies designing and producing video games utilize motivational techniques to create interaction and engagement among users. Gamification tries to use the same principles and motivational techniques in another context, in order to create a powerful tool for business. The end result is not a game and there is no clear winner, but a motivation strategy that is based on the competitive nature of each employee in order to perform the activities in the best possible way and thereby increase productivity.

Employee motivation is a topic of research and experimentation for an extensive period of time in business literature. On the other hand, video game designers have unknowingly contributed to the rapid development in this area. When an individual receives some sort of reward, the brain creates a substance called dopamine (Linden, 2011). This substance creates a sense of satisfaction and happiness. The level of dopamine is greater if the challenge to get that reward is greater, and therefore, the sense of fulfilment increases. Today's employees are already accustomed to this type of motivation to perform certain tasks in video games, that is, they know this system of hard work and received prize, which is not material or financial at all.

Designing a Gamification System

In 2014, Gartner made an estimate that 80% of companies that have implemented methods and systems of gamification have not received the desired results (Gartner, 2012). This means that only 20% of the companies have been successful in their efforts and it is a clear indication that gaming is a complicated implementation process in the company itself and depends on a number of factors. The high failure rate, according to Gartner, is primarily due to the poor design of gamification systems, which is still a relatively new term and concept.

Although the general definition of gamification mentioned in this paper is generally accepted, the other elements and structure are discussed by different authors and companies, and it is often uncertain how to properly implement them. As already mentioned, the paper puts a focus on the implementation of a system of gamification to motivate employees in companies, although gamification can have a wider nature. The process of effective gamification has been researched by Kappen and Nacke (2013), whereby a sense of satisfaction with the employees should be created, using the principles of video games, that is, the design of the games themselves. The goal of the gamification process is to identify the activity and its mechanisms, and then to incorporate the elements and design of the gamification in the very nature of the same.

Aparicio (2012) describes four steps that should be followed to implement the gamification and further monitor its results:

1. Identification of the main task - the activity or process that needs to be gamified

2. Identification of transversal objectives - other objectives besides the main objective that would be interesting and attractive for employees to perform the activity

3. Selection of gamification mechanisms - depending on the main goal, related to the elements of internal motivation

4. Analysis and control - through tests with specific metrics, questionnaires, or evaluation of experts on gamified processes and mechanisms applied, in order to compare the results before and after implementing gamification in activities
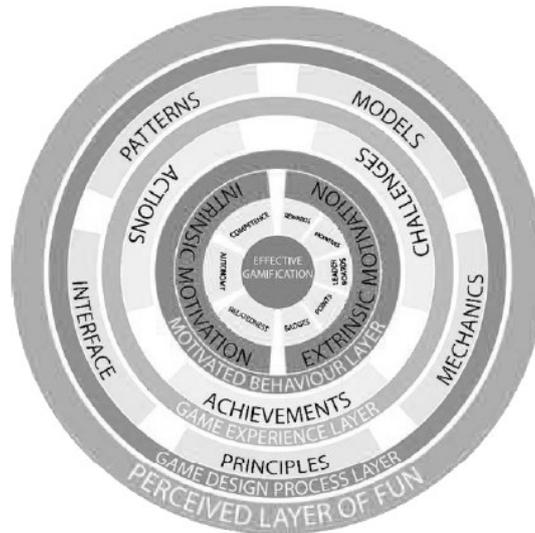
Fig. 2. Kaleidoscope of effective gamification (Source: Kappen, D.L. & Nacke, L.E., 2013)

Figure 2 represents the layers that form the basis of the gamification:

- Motivated behaviour layer - the basis for effective gamification, where external elements are identified that encourage the internal motivation of employees

- Game experience layer - refers to integrating actions, challenges and rewards to stimulate employees

- Game design layer - connecting the subsystems with gamified elements to create a fun user experience

- Perceived layer of fun - from an employee's perspective; this is the most important layer since it is in direct contact with it. The layer contains all the touch elements (audio and visual, design, visible interactions and experiences) in order to integrate the employees in the process. According to the authors, this layer is crucial for successful implementation of the gamification.

When designing the gamification system, one must keep an eye on the key element for success in the process of gamification – creating and maintaining an interest in employee participation. Interest and interaction are the main benefits of a successfully implemented system of gamification, but it is difficult to achieve and maintain them at a high level on the long term. According to Van De Boer (2011), there are two aspects that need to be addressed when designing a system of gamification:

A.   Feedback loop

B.   Progression loop

Creating an interest in trying out a particular gamified system for employees is an easy step, while the harder step is to keep the interest for a long period of time. To achieve this, the gamified system needs to contain feedback loops that will reward the employee for a particular type of behaviour and encourage him to continue this type of behaviour in the future. The feedback loops contain three components that repeat continuously, as show in figure 3.
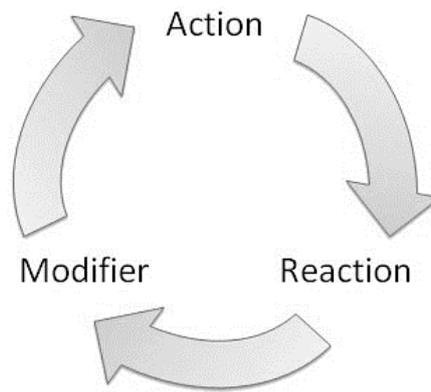
Fig. 3. Feedback loops (Source: Marczewski, A. 2013)

Initially, some kind of motivation to participate in a gamified system is required, which will direct the employee towards a particular action. This is followed by the employee's reaction to the system's inner working and rewards system, while the last step is the feedback, which should be instantly received and specific. With this, the loop repeats itself and results in improved behaviour by the employee. Marczewski (2013) distinguishes two types of loops – positive and negative. A positive feedback loop amplifies certain type of behaviour, whereas a negative feedback loop will aim to reduce it.

Activities that are part of the gamified system are sometimes complex, requiring the investing of a great deal of time and effort. Therefore, the gamified system needs to contain progression cycles, since most employees will not know how a particular game/activity works before they try it at least once. Initially, it is important for employees to try out the game and to understand how the system works, and this is best achieved by gradually involving employees through smaller and simpler tasks. In this way, the company will ensure that employees will not get the desire to give up before they start using the gamified system. Subsequently, it is necessary for employees to receive progressively more difficult tasks as they improve in the 'game', that is, in the gamified system. Additionally, as described in Figure 4, there are three types of 'players' in the gamified system and each task has to be adapted according to their level of skill and progression.
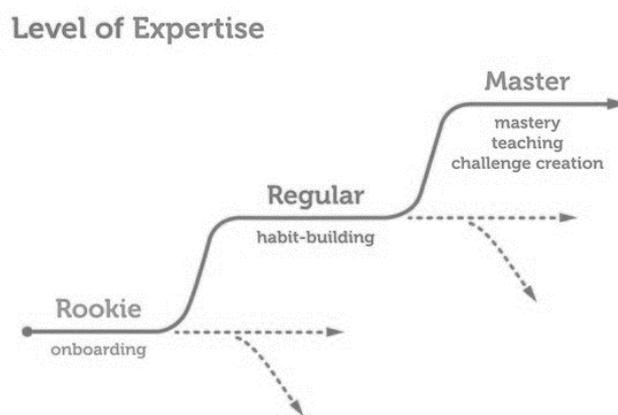

Fig. 4. Progression cycle (Source: Kumar J. & Herger M., 2014)

The final stage of the process of designing a gamification system can be presented as a pyramid composed of three elements, as seen in Figure 5. The pyramid begins with dynamic, continues with

the mechanisms and finishes with the selection of the components that will constitute the system of gamification.
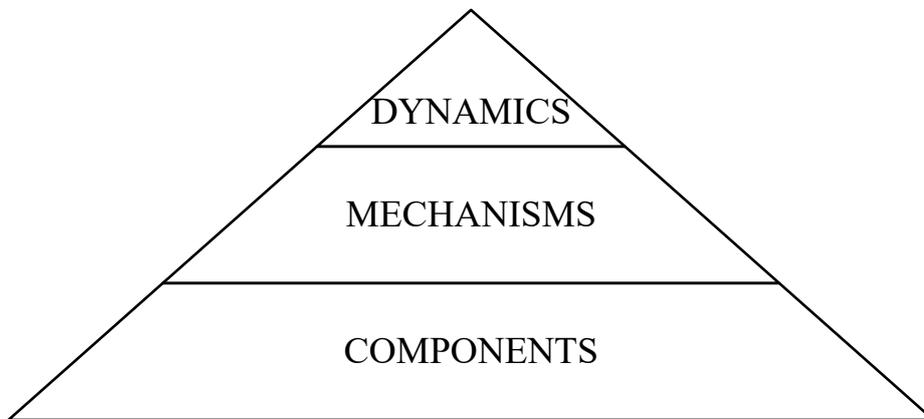
Fig. 5. Pyramid of gamification (Source: Van Der Boer, P. 2015)

Dynamics is the overall strategy of the gamification system, in particular the goals that it needs to achieve. It is necessary to make a decision regarding:

- restrictions

- motivation (external and internal)

- narrative and graphic elements

- progression

- connections

The mechanisms represent the second level in the pyramid, which are set after the dynamics of the gamification system are formed. These may include challenges, transactions, competition, collaboration, feedback, winning conditions and so on. For each element of dynamics, one or more mechanisms can be selected. The last part of the pyramid are the components at the most specific level and in direct interaction with employees. These may include achievement, leaderboards, progression levels, cosmetic items, badges, points, mission, clans, virtual gifts and so on.

While traditional reward systems focus mostly on material and financial resources, there are several limitations to them:

- They may be unattractive to employees.

- Overpriced - that is, cost too much, and thus not given often.

- Too cheap - employees have limited interest in small prizes.

- Offer a small chance of winning - when gambling, the small chance is justified by possible huge winnings, but that is not the case in the company.

Methodology and Results

Concerning the Republic of Macedonia, there is no data on the level of implementation and usage of gamification by organizations. Extensive inquiries did not return any secondary and publicly made available results, so to better understand the state of gamification usage in the Republic of Macedonia, a questionnaire (structured from a total of 12 questions, out of which 3 of open type and 9 of closed type) was conducted on representatives of SMEs (small and medium enterprises) in the IT industry. SMEs were selected because they comprise 99.7% of all active business entities in the Republic of

Macedonia in 2016; therefore, they are the most important for analysis in terms of gamification. The IT industry was selected as one with more companies working with virtual teams and having online collaboration between employees, where gamification could yield greater benefits. Even though gamification should function regardless of the industry, the scope of the research would have been too broad if we included companies from every industry in the country. The questionnaire was sent electronically (via email) to the managers of the selected SMEs, and 30 questionnaires were received in the period from 20.12.2017 to 15.01.2018. The questionnaire in its original form is contained in the annexure of the paper. The focus of the research was whether the concept of gamification is used by SMEs in the respected industry, to what extent and what are the potential benefits and drawbacks experienced. Through extensive inquiry on the motivational systems and techniques used, we can evaluate the potential for implementing gamification in this industry in the Republic of Macedonia.

Of the companies surveyed, the largest percentage (84%) were small companies, that is, up to 50 employees. The remaining 16% were medium-sized companies that have between 50 and 250 employees. For the verification of the sample, the option 'over 250 employees', or rather large companies according to the classification of enterprises in the Republic of Macedonia, which was selected by 0% of the respondents was left. As shown in Figure 6, respondents believe that employees are mostly motivated by financial rewards (80%), but acknowledge motivators like respect, status and power (54%), as well as the intangible rewards that are part of the basis of the internal motivation utilized by gamification. The survey demonstrates that a high 96% of surveyed companies use a reward based system based on financial rewards. This was one of the key indicators used in evaluating the potential for gamification, as it relies on non-financial and non-material reward structure, which is something that is used extensively in the traditional reward systems.
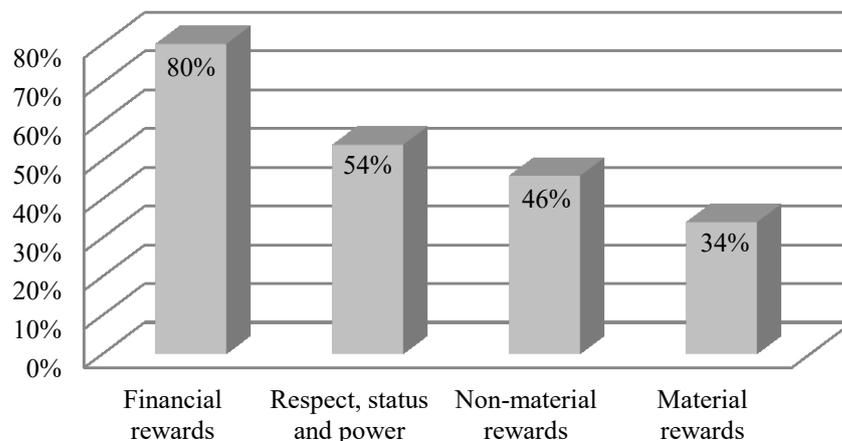
Fig. 6. Motivators for employees (Source: Own research, 2018)

When it comes to the concept of gamification, 73% of the respondents say they are familiar with this concept, while 27% are not familiar with this concept. Of the companies surveyed, 66% use gamification from the aspect of employees or clients, and 7% are in the process of its implementation. The other respondents who are not familiar with this concept and do not implement it, when selecting a negative answer were redirected towards the end of the survey. This step was needed because other issues are directly related to gamification and its implementation, with a basic knowledge of this concept emerging as a prerequisite.

Figure 7 shows the timeframe for implementation of gamification systems in the surveyed companies. The largest percentage of them (59%) apply gamification less than 24 months, 23% apply less than 12 months and 18% apply less than 6 months.
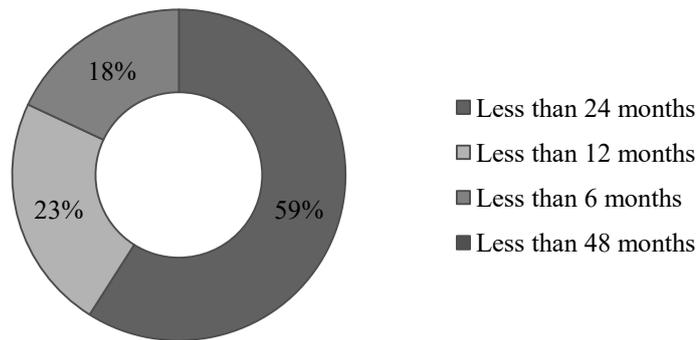
Fig. 7. Timeframe for implementing gamification (Source: Own research, 2018)

The next two questions of the survey were open and referred to the descriptive explanation of gamification and the way it is used in the surveyed companies. These questions were needed because empirical research gave a clear indication that the term gamification is not fully understood by researchers and companies and may lead to the delusion that gamification is being used, although it is a completely different method. All respondents presented valid responses and explanations for the gamification and its implementation in representative companies, so the sample remains valid for analysis of further questions from the survey. Although not the focus of this research, it is useful to note that most managers utilized simple gamification techniques such as achievements, badges, challenges and leaderboards.
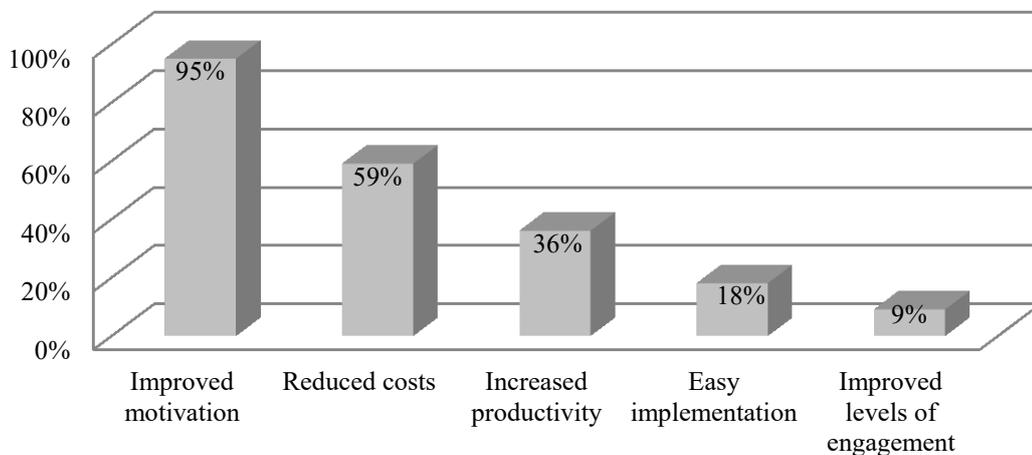
Fig. 8. Gamification benefits (Source: Own research, 2018)

Figure 8 demonstrates that the biggest advantage of the implementation of gamification is the improved employee motivation (95%); second, there are reduced costs in the reward system (59%) and employee productivity improvements (36%). On the other hand, the biggest barriers for implementation in SMEs are the misunderstanding by employees (77%), followed by insufficient technical knowledge and skills for implementation (45%) and problems with the company's culture (36%).

The last two questions from the survey refer to the opinions of SME managers in the Republic of Macedonia about various aspects of gamification. 45% of the respondents believe that gamification

requires extensive knowledge of psychology to be successfully implemented, while 36% think that gamification is meant exclusively for young people.

Conclusions

Gamification as a relatively new term has become massively popular in recent years and is a topic of research and implementation by various authors and companies. Through empirical research, the paper demonstrates the differences between several similar concepts of gamification and presents the distinctive differences between them. Gamification focuses on internal motivators for employees, who, according to various authors, are much more powerful and longer-lasting than external motivators, which are more traditionally used in the process of human resource management. Since this concept relies on video games, the paper presents statistics that make it clear that they are prevalent in each age group and there is no greater inclination for one sex versus the other. The basis of gamification is employees who are more susceptible to video games and could more easily accept the rules and mechanisms of this concept.

The paper defines the process of designing a gamified system (that is, the process of gamification of a particular activity) by introducing cycle of interests and progressive cycles, as well as the elaboration of the so-called gamified pyramid. Tracking these steps is necessary because gamification focuses directly on the internal motivators for employees, who, although powerful, are also extremely difficult to activate. An improperly designed gamified system could damage the implementation itself, so it is important that managers pay enough time and attention to it since the initial phase.

The research done on SMEs on the territory of the Republic of Macedonia generally gave positive answers about the level of use and the readiness of the Macedonian managers for the implementation and usage of gamification. A high percentage of the companies surveyed use or are in the process of implementing gamified systems and consider that they could bring a number of advantages. This is an indication of a positive climate and openness for gamification, which could only improve in the future and it contradicts previous findings that there is confusion between gamification and other similar system, noted in the literature review. However, this must be taken with careful consideration, since the general inclination is that companies in the IT industry are utilizing gamification more than companies in other industries. Managers are testing new motivational techniques and are feeling fatigue from the traditional financial reward systems, meaning that they would be open to test the potential use of gamification systems and processes. The research shows that although there are extensive gamification systems and procedures, most managers opt in to use the simplest ones, probably due to the ease of implementation and employees' acceptance. To be successful, both managers and employees must understand the potential benefits of implementing gamification, so that more effort can be put during the difficult process of implementation. Expanding the knowledge of managers in the fields of psychology is not a prerequisite for implementing gamification, although some respondents have mentioned this aspect as a potential limitation. The benefits listed by managers confirm the previous research on the topic, as gamification is known to increase and (in most cases) create longer lasting motivation, as well as reduce cost due to not relying on financial or material reward systems. The main disadvantages listed by respondents are the lack of understanding by the employees and insufficient technical knowledge, and as a potential barrier, the implementation and maintenance costs are most often mentioned. The research focuses primarily on companies from the IT industry, so these statistics cannot be expanded for companies of all industries in this country but can be viewed as a specific indicator. This research can be continued by gathering primary data for the implementation of gamification in other industries in the Republic of Macedonia, as well as serve as the basis for further comparisons between gamification in the IT industry in other Balkan countries.

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ENGAGED HUMANITIES. NEW PERSPECTIVES OF EXPERIENCE-ORIENTED HUMANITIES

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Abstract. The term engagement was used in critical cultural studies as a term that name an attitude of scholars, and a feature of cultural and scientific texts, that are based on the experience of an individual or a group of people. In the recent two decades, many of Polish academic narrations on the field of cultural production focused on the issue of engagement. In the article, a phenomenon of engagement in the context of disability studies is considered. The main objective of the article is the analysis of disability studies as a new model of experience-oriented discipline. What is particularly interesting is a possibility to relabel experiences of the disabled as a significant report on the status of modern narrations, which should include different minority bodies. The main aim of disability studies is to present a project of engaged attitudes towards social sustainability that is not based on exclusions of any social groups of people. Studies on disability are also introduced as an experience-oriented discipline in the field of engaged humanities. This article aims at presenting critical narrations on the issue of engagement in other to connect disability studies to the engaged humanities. Promoting engagement in many areas of culture and social life seems to be a way of introducing more open politics towards difference, and social sphere of life that is equally accessible for everyone.

Keywords: disability studies; engagement; experience-oriented humanities; difference; new humanities

Introduction

The question of engagement in the theory of culture became a vital issue whilst considering an intersection among culture, politics and the experience of an individual in the 20th and 21st centuries. Through engaged activities, we discover, unveil and describe mechanisms of dominant narrations, recognize cultural locations of artists and their audience and plan how particular socio-political situation might be changed. Engagement is a type of acting in political and social sphere – and thus this sphere is a subject of every engaged act.

Nowadays, the issue of engagement was directly linked with criticism of present state of the field of culture, division of spheres of influence, institutional surveillance and forms of discrimination. From time to time, this issue is being once more brought to light by scholars whose scientific background is cultural studies. Engagement is a feature of their scientific activity and – what is particularly important – a challenge for the humanities. In this article, I will analyse engaged humanities as a significant contemporary perspective of human sciences. Then, I take into consideration some elements of the history of disability studies as a new model of experience-oriented discipline. I believe that experiences of people with disabilities are significant report on the situation of modern narrations that should include different minority bodies. Inclusion is one of the most essential aims of engaged humanities.

Literature review

The theoretical background for this article is cultural studies – an intellectual and a cultural movement that promotes attitudes of engagement through various ways of acting in social spheres, for example, by using people-based research practices. In the context of disability studies, these practices are claimed to be insufficient, thus we face 'exhaustion of people-based research practices' (Snyder, Mitchell 2006). In other words, experiences of individuals and groups of people were treated as an object of survey that did not bring owners of experiences a significant improvement in their particular

status or some measurable benefits. What also needs to be highlighted here is the fact that cultural studies, engaged humanities and disability studies – that are presented here as an example of engaged and experience-oriented discipline – are still developing, have new theoretical and practical versions and are new performers. I use a noun 'performer' in order to signify an active and a creative aspect of intellectual work (work of performing knowledge in a public sphere) of researchers in cultural studies. I consciously combine art and science, acting and delivering knowledge in order to present boundaries and relationships of discourses that we established in the 20th and 21st centuries in the context of engagement.

During its development, cultural studies were frequently a subject of criticism. Some of the most common arguments against cultural studies were presented by Ien Ang. I would like to point out some of these arguments in order to debate the context of development of engaged discipline. First, cultural studies are believed not to have consistent identity, definite subject of research, established methodology and real influence on social sphere (Ang 2006). Second, the claim that cultural studies are political and can apply in political context was questioned by opponents of cultural studies' eclecticism, syncretism and undefined status among disciplines at modern university. The opponents represented common belief that human sciences, among others, cultural studies were presented earlier from the view of their opponents, do not have enough persuasive forces to intervene in and change public sphere or politics of a government (Ang 2006; Nycz 2017). The criticism of cultural studies did not withdraw the aspiration of engagement in these fields of studies. On the contrary, it elicited debates on the future of the discipline and its inclusive character. By inclusive character, I mean an ability to include different voices that are present in shared spheres of lives of people. As Ang put it, 'it is the opening up to such questions from the outside – and taking them seriously – that enables innovation and renewal in cultural studies, preventing it from closing in within its own consolidated boundaries' (Ang 2006).

Narration on the engagement of cultural studies raised a great number of questions to discuss. Recent Polish debates on the engagement have shown that it is a crucial issue for contemporary cultural analysis, which prompts researchers to occupy clear political position and adopt an 'opening-up-attitude'. These changes of perspectives were caused by the so-called 'political turn' in the humanities in Poland after democratic transition of the year 1989. Many of the political and cultural changes occurred at that time. Democratic transition that put an end to the People's Republic of Poland led to the foundation of a democratic government. That transitional moment determined 'political turn' in many spheres of public and private life of the Poles.

From that time, politics of culture was related, to some extent, to the question of engagement. This new discursive relation was based on the social longing for a change in the political and cultural landscape. However, in Poland, after democratic transition, an attitude of engagement was treated as a product of the ideology, which serves as a tool for constructing social models of behaviour that could be controlled by the People's Republic of Poland's power apparatus. It took around 10 years to discursively modify the meaning of engagement and implications of using the term in social and cultural context. Democratic transition led not only to political change but also a change in languages that describes and compares two realities (pre-1989 and post-1989 realities) and built new normality diametrically opposed to communist regime that started to become a past (Czapliński 2009).

Cultural narrations in Poland – that is, narration in the field of cultural criticism and literary, film, art studies and so on – again adopted a term 'engagement' after around two decades of democracy. The term was distributed in public sphere as an ideal to reach, as an attitude of people thinking critically and constantly examining the *status quo* around them. The term 'engagement' was also linked to the (new) leftist political movement and was treated (and appropriated to some point) as a leading slogan of that transmuted political force. Thus engagement is both political and cultural idea placed in the context of political and cultural freedom and emancipation.

In most of debates concerning engagement, in Poland, attention of participants was concentrated on political aspects of cultural practices, such as creating a literature, literary texts that – as was believed – have a real power to modify post-transformational reality and to project future shape of this reality. The basic assumption that dominated narrations on culture in that time was politics cannot be

separated from literature (or in general: from cultural production or texts of culture). As Przemysław Czapliński put it,

> 'The previous practice of omitting political referenceswas followed by the forceful ideologization of everything and everyone. This tendency gained its power with lightning speed, so a few year later, at the turn of 20th and 21st century, translating culture into political terms became a norm.' (Czapliński 2009)

In consequence, such ideologisation brings to literary criticism new ways of describing represented world in relation to (politicized) reality. Sometimes ideologisation is perceived as a simplification of complexity of experiences of reality and complexity of interpretations of this reality. That is why political interpretation of culture was criticised (especially, for interpretations that comes down only to proving someone's political view). However, political and cultural engagement in the contemporaneity should be inseparable from ethics that is inclined to differentiate rather than simplify. Ethics protects us from an abuse of ideology and is a necessary context and necessary horizon for engaged cultural practices. When we add up ethics to engagement, we built a political sphere that is sensitive to the needs and problems of minority groups, such as the people with disabilities. In the article, I analyse possibilities of establishing new, engaged perspective of human science that includes excluded minority bodies.

Methodology

In this preliminary research on new perspectives of experience-oriented humanities, I apply methods of cultural analysis. Initially, I examine disability studies as a current of contemporary cultural studies in the context of the issue of engagement. I summarise some discussions on the status of disability studies as a discipline that combine theory with performance of knowledge in the public sphere. What is crucial in this context is a problem or a challenge of engagement. It is worth to take into consideration contemporary analysis of engagement not only as a sort of political attitude but also as one of the objectives of modern scientific disciplines, especially of disciplines such as disability studies or – in general – minority studies.

In the article, disability studies are perceived from global perspective as a scientific practice that is still developing and applying new theoretical approaches to disability as social, cultural and political phenomenon. I present few important aspects of the identity of this discipline of cultural studies in order to introduce the narration on new, engaged and experience-oriented perspective of cultural studies. This perspective includes disability studies as an example of engaged discipline that creates critical narration on contemporary representations of disability based on the analysis of the experience of people with disabilities and disability communities.

Results

I would like to start with adding an overview of the issue of engagement in the context of disability studies in general because of the fact that it is yet almost impossible to distinguish Polish current studies of disability in order to analyse the question of engagement in my country in the context of disability. What I have in mind is academic, systematic reflection on disability and, of course, not cultural practices on behalf of the people with disabilities. What needs to be done in Poland in the near future is basically to present history of Western disability studies (by, e.g. translations of the most important publications on disability studies) and recognise country's own level of presence of disability representations for centuries.

On the ground of disability studies, the question of engagement seems to be an obvious matter, methodologically assumed and proven through every act in favour of the people with disabilities, because offering help is an activity that performs something new that is motivated by a belief that some situation can be improved or even completely changed. However, something that is obvious is not necessarily perceived from the outside as significant for the discipline, because it was labelled as 'obvious' and – as a result – is well known to everyone and, to some point, well established. That notion leads us to creating some presumptions on general issues that influence the way we as

researchers perform our work. So we must again and again repeat a question: what does it mean for the discipline of disability studies to be engaged, to be an engaged way of performing research and distributing knowledge about the biggest minority in the world, that is, about people with disabilities and their experience presented in many different forms of contemporary culture? And in addition, what does it mean to be at a position of engaged researcher? And what sort of relationship do we have with the sphere of politics as a sphere of legal action (action that creates and changes the public laws and practices)?

These questions raise some of the most basic ('obvious') matters regarding disability studies as a discipline. But the discipline differs from some of contemporary currents of cultural studies. It cannot be criticised for not having a well-defined subject of research. It is also one of the youngest disciplines in the field of cultural studies that may have, as I believe, a crucial meaning for other currents and its development.

According to Sharon Snyder and David Mitchell, disability studies will keep their consistency and identity on the condition that the discipline will remain 'wild' or 'feral' (and, we may add, 'engaged'). The future of research on disability is determined by the openness of the discipline for experiences and collaboration of disability communities (Snyder, Mitchell 2006). Mitchell and Snyder indicated three main areas where disability studies can 'continually reinvigorate its radical potential':

> '(1) through its continuing proximity to, and critique of, the adjustment-based and pathologizing professions; (2) through the active inclusion of activist and art-based communities to the relevance of its own disciplinary insights; and (3) through its commitment to play self-reflexive host to a growing international disability movement that will inevitably challenge the Western bias of the field.' (Snyder, Mitchell 2006).

What seems to be particularly interesting for analysis of new perspectives of human sciences, such as cultural studies, especially studies on disability, is a perspective of future change in the humanities as – when putting Mitchell's and Snyder's words into more general overview – discipline 'playing self-reflexive host' to international movements that challenge some commonly shared assumptions. Engaged perspective of human sciences involves issuing challenges to common beliefs and hosting different attitudes towards various human experiences.

Furthermore, I would like to focus on four ideas and objects of research: experience, resistance, emancipation and challenge. I will place these ideas in the context of disability studies and, in general, in the broader context of cultural studies. Then, in the next part, I would link ideas that I mentioned with narration on new perspectives of engaged humanities.

One of the most widespread argument against establishing cultural studies as academic discipline was based on the conviction that this discipline do not have defined subject of research and established methodology (Ang 2006). Nowadays, every current of cultural studies has its own specific object of research, and some are specific and appropriate for the subdiscipline of methods of research. Subdiscipline is a discipline that is included in the field called 'cultural studies' and its critical variants (e.g. critical disability studies). It is hard to create a coherent interpretation of the theory of cultural studies, because of their diversification. This state of disciplinary pluralism is – in my opinion – a sign of contemporaneity that seeks to find the most adequate interpretation of every problem that humanity (may) face. A future aspect of 'may' is also a significant aspect of cultural studies as a sort of human sciences. Cultural studies aim performatively to create future concepts of today's issues in order to stimulate resistance and allow emancipation.

Taking into consideration a question of object of research, we may say that every current of cultural studies examine experience. It is not only human experience (cf. animal studies) but also an experience described from human perspective and interpreted and presented by people as a new knowledge. The object of description includes not only one particular experience but also social, cultural, political and environmental contexts of the experience as well as forms of sharing this experience with other creatures that have an ability to react and interpret the experience.

Experience is a fragile subject of research, because it always belongs to her or him or is connected to someone or something. Every researcher who analyse experiences and their conditions should keep

cultural sensitivity in mind and adapt, to some extent, to that experiences and particular conditions. That is why experience cannot be treated as objective phenomenon, as it is something that can be examined outside the context in which it appeared. Experience might also be described in another way – as an ephemeral, intangible reality (Jay 2005). But in cultural studies, every experience is bound to a person or a group of people (community), her/his/theirs autobiographical narration, life, social status or affective state. What is particularly important is the fact that every experience is to some extent mediated by oral narration, written narration, a piece of art, a movie and so on. So experience is placed in the mediatory sphere between reality and available forms of expression.

For the researcher, somebody's experience as an object of research is a challenge. Experience is sometimes unspoken, or hidden, but is important for someone and for other people, who search for answers for similar problems. In this situation, narration is helpful, because it offers a form for the experience to be unveiled and shared. Then, experience sometimes has its own language in which it appears in visible form. Some people find their mother tongue insufficient to describe their formative experience and they decide to create an original language of their own experience based on the language(s) they know. Following this, we may use a term 'text of experience' to name a visible form of 'bare' experience. Furthermore, we may distinguish a 'bare experience' from an 'experience as narration'. The first one is an experience because it touches a person in a particular moment. 'Experience as a narration' appears later, after some time and some consideration; it has its own form (e.g. a form of a picture).

In Polish contemporary art, there is the artist – Karolina Wiktor – who created a new, autonomous world called Aphasia, in which she allowed herself to use new vocabulary of Aphasia citizen. Her experience, described in the book *By Volga Through Aphasia* (2014), resulted from brain damage caused by a stroke; aphasia is a consequence of the stroke. Writing and creating graphics related to experience of losing life balance and ability to speak (amongst others) were a kind of her own therapy that is still being performed. Wiktor's activities include creating works of art (she usually uses new media), exhibitions and conferences. She is constantly developing her own project of coming back to reality from the world of aphasia. This 'written' and 'performed' therapy allowed her to recover from brain trauma, to regain some of her lost memories and abilities and once again to learn how to use language and in what way use a grammar structures that order a stream of everyday experiences. Wiktor's case prove how powerful art is and also how plastic our brain can be.

Wiktor's history is one of the many examples of survivors' stories about experience – an event that might be sudden and its consequences are unpredictable. What needs to be highlighted here is that experience can also be challenging and confrontational, because it is an encounter with unfamiliar reality, which is experienced and created by someone else. This confrontation prepares us for future experiences that may change the way we perceive and interpret elements of life.

Finally, experience is a challenge for a researcher who examines a described form of someone else's experience (other people's property, we may add). As was said previously, a researcher should remain sensitive for such property. But what exactly does it mean that researcher should be sensitive? Is it a necessary feature of his or her professional attitude? I will begin with answering the second question: no, it is not a necessary, essential feature of professionals, but when considering experience, what a researcher will definitely learn or achieve through the process of analysis is sensitivity for other people's experience. In practice, it means a change in attitude towards the object of survey, a growth of responsibility for the interpretation of somebody's experience, and a raise of performative activity on behalf of those whose text of experience we are interpreting. The expression 'performative activity' needs an explanation: it is an activity that creates some new value or even a new state (e.g. a state of not knowing something is substituted by a state of illumination). From my point of view, written scientific analysis can have a performative, illuminating power; writing can be treated as a performative act. In other words, scientific activity gains new aspect and new perspective: performative aspect, with all its implications, and a perspective of sensitive researcher who makes an effort to perform a significant change in some *status quo*.

When we adapt arguments and ideas discussed in the above paragraphs in this section of the article to disability studies, we may describe experience-oriented discipline using an adequate example. The

descriptive term 'experience oriented' suggests that experience is the most important element of a particular discipline; some discipline can be just labelled as experience oriented. Furthermore, in this context, performative activity of the researcher is oriented to experience and forms of its expression. In the field of disability studies, relationship amongst (1) a researcher, (2) an experience of disability that is taken into consideration, (3) an owner of the experience and (4) a socio-political context of revealing and distributing narration on experience needs to be defined in every scientific practice. The object of research is fragile – it is an experience of disability, sometimes located in the culture that exclude people perceived as 'deviant', 'abnormal', 'creeps', 'imbeciles' and 'freaks' of the public sphere. Before approaching a particular experience of disability, a sensitive researcher must consider a complex background of dominant culture and dominant representations of disability that are often copied or imitated without thinking about their implications. In addition, a performative activity includes a deep recognition of conditions and narrations that influence a general perception of disability in a particular country or community and forms of its expressions. Such activity is a serious, time-consuming, but rewarding, scientific activity that needs an inter-disciplinary or a transdisciplinary approach.

Disability presented and analysed as an experience – not as a trauma, stigma, abnormality, medical problem or a state of lack of something – reveals its potential of radical resistance towards dominant representations of disability, superstitions, stereotypes and procedures of normalisation (medical, social, political and cultural). It is not only the idea of disability as experience that might be perceived as a cultural practice of resistance but also a presence of the disabled body that can trigger radical change.

Elizabeth Barnes used a term 'minority body' to describe a mode of presence of the disabled body in a public space. According to Barnes, '(…) to be physically disabled is not to have a defective body, but simply to have a minority body' (Barnes 2016). Disabled body is an object that is 'wrapped' in a different discourse of normal body and compared and criticised according to them. But Barnes argued that physical defect is not a feature that constitutes a person or a person with disabilities. It is only a trait or an element that differentiates a person from other individuals. Difference is not a negative experience; it is something that prompts a change and modifies social uniformity. In another of her works, Barnes stated that disability is simply another way of being different (Barnes 2009). She also compares two main approaches to disability: (1) disability as a difference marker and (2) disability as a negative difference marker (Barnes 2009). First approach has been already described: it is an approach that defines disability as a state of being different from the majority of a community. Second approach, however, puts emphasis on the assumption that disability is 'a way of being different which makes one worse off because of that very difference' (Barnes 2009). Second approach is more traditional, according to Barnes. She is explicitly in favour of the first approach: disability as a difference marker, but – what needs to be explained here – she never denies that disability to some point can be a harm. She herself has an experience of disability and is a sensitive researcher who speaks from the inside of a community of people with disabilities.

Adding up Barnes' point of view seems to be crucial for the recognition of a set of ideas that needs to be taken into consideration in the process of analysing the issue of experience, ideas related to disability (difference, disabled body, minority body, resistance), positions of researchers and some of the most important aspects of cultural studies as experience-oriented discipline. Disability studies served in this part of the article as an example of the current of cultural studies that is oriented to experience of both disability body and disability as an element of somebody's identity. Studies on disability approach, one of the most complex experiences of individuals, analyse its representations, performative potential and possibilities of resistance and of promoting a positive difference (i.e. a difference that is affirmed, not used as a justification for exclusion). In this aspect, this experience-oriented discipline can also be described as an engaged discipline of the humanities.

Engaged and experience oriented are the two adjectives that can be used to describe not only disability studies but also another disciplines of science. Engagement might be accomplished by practicing different attitudes that concentrate on well-being of an individual and sustainable development of social sensitivity. Disability studies as an example of engaged human science focus on one particular phenomena – an experience of disability. In order to diversify social and political discourses, we are

almost obliged to present minority bodies in culture to finalise a process of emancipation of the people with disabilities, which begun around 1980s and 1990s in the United States (Barnes, Mercer 2004).

Disability studies evolved from social movement that brought to light the rights of the people with disabilities. Roots of disability studies determined their engaged status; they will always be tightly bound to some practices of resistance that were performed by the people with disability. One of the examples of such practice was presented above – it was writing therapy that helped Karolina Wiktor to recover from brain trauma. Activity of the people with disabilities was named as a practice of resistance, because, nowadays, it is constantly in opposition to common belief that a person with disability is disabled, which means unable to do something without the help of able-bodied people. New artistic practices proved that disability in not a state of 'unableness'.

I would like to place disability studies not only in the context of cultural studies, engagement and experience-oriented disciplines but also make a strong reference between disability studies and new projects of engaged humanities. I will extend a map of engagement issue and include a new methodological perspective of the New Humanities as a movement invigorated by the development of cultural studies in Europe, especially in Poland.

Project of engaged humanities is one of the elements of general paradigm of the New Humanities that can be recognised as an attempt to revise some scientific attitudes, methods and functions of narration on contemporary culture (Nycz 2017). This paradigm was introduced by Polish researchers from the Faculty of Polish Studies at the Jagiellonian University and their scientific partners. Now the New Humanities function as a handy concept that is used in order to describe possible changes in the field of human science and is used as a response to crisis that various contemporary disciplines within the humanities are going through.

The New Humanities offers are different (heterodoxic, 'heretical' (Bourdieu 1996)) from the current (orthodoxic) approach towards phenomena from the field of aesthetics, existence and politics – with emphasis on research on relationship and common grounds of these phenomena. The New Humanities differ from 'classically modern humanities', because, first, it becomes an advocate of inter-disciplinary and transdisciplinary researches; secondly, it becomes an opponent of dualistic notional schemes that organised narration on cultural process, forcing an existence to accept usually inadequate epistemological constructions; third, it becomes more favourable to aporia, to lack of final interpretations, and have more positive attitude towards innovations.

These are some elementary characteristics of the New Humanities. It indicates a trend of modernisation of humanistic research, adjusting it to constantly changing social, political and cultural reality. Engagement in this context can be interpreted in many different ways and have many different discursive 'incarnations'. It is a name for an epistemological activity that includes activity in the field of aesthetics, existence, ethics and politics and asks questions about emancipatory power of ideas and representations within the sphere of culture. One of the examples of such activity is creating works of art, a performance, an exhibition, a novel or a drama as well as creating a scientific book, public performance, new invention or thematic course at university. Products of this activities (both material and immaterial) are objects of research of engaged humanities, which should focus on alliances between discourses and their creators, on creating or re-creating environments of life that allows coexistence of living creatures, building relationships and promoting exchange. This project of engagement, supported by vigorous social practices of resistance and emancipation, can stop increase of particularisms, exclusions, orthodoxies and radicalisms.

Engagement is an existential project with political background and consequences. Sometimes it can be even aestheticised in order to promote itself and promote the attitude of obeying ethical rules. Every dimension of engagement, existential, aesthetical, political and ethical, needs to be discussed and constructively criticised (constructive criticism suggest modifications according to classical, critical imperative of improvement, and the New Humanities does not leave behind this tradition of self-development). First dimension of engagement – existential – is crucial for achieving a sensitive attitude towards somebody's experience. It is necessary to compare experiences of life in order to, for example, create a supportive narration for those who share the same experience (e.g. disease). Second dimension of engagement – aesthetical – is not only related to the arts (artistic representations of

experiences) but also to the practice of storytelling. Experience exists through representations. Researchers have an access only to the experience that is mediated by texts of culture. Following this, mediation is, to some extent, a creation, and creation is a matter of aesthetics. This simple connection amongst representation, mediation and aesthetics reveals that experience is submitted to aesthetics, to a form expression that allows presenting the experience.

Another two dimensions of engagement – political and ethical – might be considered in mutual relation. As I suggested before, engagement is a type of activity that is performed in some specific public sphere, in front of some specific audience and in the specific context. The sphere, the audience and the context are defined, so it is necessary to take them into consideration when examining conditions of engagement. This refers to the most general meaning of the term 'politics', which means something that is performed in public and related to the whole community. What is significant, whilst approaching to the community, an ethical dimension starts to play a dominant role. It organises a structure of freedom of those who belong to the community and creates a social situation in which engagement is oriented to the experience of one of the members of the community. Here, a communication based on experience leads to the extension of the public store of representations of a particular experience (e.g. disability).

Four dimensions of engagement indicate four main directions of analysis and interpretation of experience. They are also four main dimensions in which we perform everyday actions. Moreover, within these four dimensions, we may place the experience of disability that has been discussed here as an example of existential belonging that became a basis for disability studies as an academic discipline. Engagement is manifested by different performative activities that has consequences (the consequence is like a trace of engagement). Many of the supporters of project of changes in the humanities pay close attention to the way in which disciplines modify its methods in reference to renewed concepts, such as experience and engagement (Snyder, Mitchell 2006). These concepts also modify their meaning, so it is crucial to constantly verify their significance.

Conclusions

In the field of cultural studies, a question or an extent of engagement serves as an indicator of identity of the discipline. Theoretical analysis of the terms and general assumptions that constitute a particular discipline may be beneficial for developing narrations on contemporary culture and experiences as well as analysing future consequences of practices performed today.

Traces of engagement can be found in many cultural and scientific practices that take into account relationship amongst an individual, a community, an environment, discourses and experiences of past and present. What needs to be highlighted is the fact that in order to chase an engagement, a historical background should be taken into consideration. In the article, democratic transition in Poland proved how many changes can one concept perform. It now became a sort of universal category that is used by scholars from various cultural and scientific fields.

Another vital aspect in this context is an intellectual movement of cultural studies and its role in modifying an attitude towards disciplinary issues. By briefly analysing a disability studies movement, I tried to present a dynamics of spreading ideas related to the experience of disability. Studies on disability are not only a revelatory cultural and scientific practice but also, as I believe, a model of performative discipline that triggers a revision of some of the most common presumptions regarding corporality, mutual relations, minority bodies and dominant narrations. This intellectual ferment caused by cultural studies, and amongst them disability studies, will probably last for some time and cause various different modifications of the humanities.

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COMMUNICATIVE FUNCTIONS OF HASHTAGS

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Abstract. Despite the initial function of hashtags as tools for sorting and aggregating information according to topics, the social media currently witness a diversity of uses diverging from the initial purpose. The aim of this article is to investigate the communicative functions of hashtags through a combined approach of literature review, field study and case study. Different uses of hashtags were subjected to semantic analysis in order to disclose generalizable trends. As a result, ten communicative functions were identified: topic-marking, aggregation, socializing, excuse, irony, providing metadata, expressing attitudes, initiating movements, propaganda and brand marketing. These findings would help to better understand modern online discourse and to prove that hashtags are to be considered as a meaningful part of the message. A limitation of this study is its restricted volume.

Keywords: hashtags; social networks; pragmatics; communicative functions

Introduction

In the last decades, the use of social media platforms has been constantly growing, and so has been the need to categorize huge amounts of information and to develop tools for finding what users are searching for. Hashtags became an everyday reality of the frequenters of social networks: Twitter, Facebook and Instagram, and even messengers like WhatsApp now offer the feature. But a brief glance into the web environment reveals that hashtags have become much more than just topic markers – people use hashtags for anything, from proselytizing to informing the readers, what smartphone model the author possesses.

The trigger of the current research was an Instagram phenomenon, whereby pictures were frequently matched with seemingly irrelevant tag words. If hashtags were only identifying the topic(s) of the photo according to the definition, a selfie of a woman on a seashore would presumably feature #seashore #ocean #woman #nature #landscape #walk, maybe #sunset or #sunrise, possibly some toponym like #jurmala or #miami, and similar words. Instead, it is not infrequent to see such pictures marked with all sorts of words and phrases ranging from philosophical (#love, #daydreaming) and technical (#iphonephotography, #vscocam) to anything up to #whatamidoinghere and personal branding (#luxurylife, #wildandfree). Apparently, users try to communicate additional information through the crosshatch – hence, the interest that provides the impetus for the current article and defines the research question: *what are the communicative functions of hashtags*?

To answer the research question, in this article, we conduct a literature review with the purpose of aggregating the knowledge already existing in the domain. Some features that could not be derived from the literature review will be taken from a case study, to supplement the theoretical findings. All mentions of different functions are supported by numerous examples sampled directly from the relevant web environments. The examples are subjected to qualitative semantic analysis, content analysis and discourse analysis.

The results section features findings that include: topic-marking, aggregation, socializing, excuse, irony, providing metadata, expressing attitudes, initiating movements, propaganda and brand marketing.

Literature Review

The use of hashtags in general has been a popular research topic recently, as academic interest is driven by the ever-increasing use of the tool in modern human communication. The cross-hatch communicative functions in particular were studied from different perspectives by Peter Wikstrom and Michele Zappavigna, among others.

Peter Wikstrom (2014) approached the hashtags on Twitter from the point of view of linguistic pragmatics after having noticed that a traditional speech acts framework is applicable in social media studies. He demonstrated that hashtags are not solely categorizing labels, but they are also used for structuring, playing and providing meta-comments (Wikstrom 2014).

Zappavigna, approaching the same topic from the point of view of social semiotics, conducted discourse analysis in a 100-million-word Twitter corpus, and investigated three functions: 'marking experiential topics, enacting interpersonal relationships, and organizing text' (Zappavigna 2015:1).

Many authors (Boellstorff [2012], Burns [2017], Lupton [2015], Meikle [2016], Rasmussen Neal [2012] to name just a few) have noticed that hashtags are being adopted for different purposes, from irony to marketing, and nobody argues that the cross-hatch sign is still used as it was initially intended to. A more detailed analysis of these and other scholars' findings is imbedded into the current article, accompanied by examples and evidence collected by the author from social media platforms like Twitter, Instagram and Facebook.

'In sum, the findings reveal that users of Twitter have, to a significant extent, appropriated the hashtag organizing and categorizing device for other purposes, sometimes completely removed from the expected functionality' (Wikstrom 2014:24).

Methodology

To answer the question: '*what are the communicative functions of hashtags?*', we will conduct a literature review, supported by verification through a field study (or rather *web study*) to effectuate the current trend analysis. The research question pertaining to the domain of pragmatics and cultural studies mainly requires qualitative semantic analysis, content analysis and discourse analysis. If not supported by evidence in the original texts, the observations of the cited authors will be supplemented by examples from the web found by the author of the current article. A case study with content analysis will be presented in order to demonstrate some particular uses of hashtags that are not retrievable from the quantitative analysis. Examples are retrieved from one of the three social platforms under question: Twitter, Instagram and Facebook, and obtained from discoverable posts marked for public use by hashtags. The search is conducted via the relevant tools provided by the platforms themselves.

Although all the tweets and posts that are used for analytic and demonstrational purposes here are public, it is considered a good practice to protect informants from unnecessary exposure. Whereas people are sometimes highly anonymous on Twitter, hiding their identities under nicknames, some other users reveal their real names and faces online, which is frequently the case in Instagram. Tom Boellstorff and colleagues recommend to 'Avoid the inappropriate revelation of the identities of informants – or any sort of confidential details or otherwise – that might lead to their identification' (Boellstorff *et al.* 2012, cited in: Lindgren 2017: 241). The so-called 'private' hashtags are highly valuable as such for our research purposes, but due to social media research ethics and respect for users' privacy, it was deemed reasonable to conceal them under tokens to dissociate from real people. They will be further accounted for in the codified form that reveals the essence of the message but hides the identity.

By definition, a *hashtag* is 'a word or phrase preceded by a hash sign (#), used on social media websites and applications, especially Twitter, to identify messages on a specific topic' (ODE). A good example of this are hashtags like #vegan, #FIFAcup2014 and #LinkinPark that provide a plethora of shared experiences and opinions on the relevant topics. A post published in one's own timeline is

effectively invisible to the broader public beyond the user's *friends* and maybe *friends' friends* unless it's tagged.

In terms of grammar and syntax, the keywords are not restricted to their role as outstanding labels, but can also be smoothly integrated into the discourse, forming grammatical sentences:

> *#SocialCare who are #useless I'm #disgusted! #threegirls*

> *Whilst the #police made mistakes, they have to listen to supposed 'professionals'* (both examples from Twitter)

The above examples look like a smooth text, and the keywords are used to mark topics, to present the authors' opinions on the matters and to share them with other users.

When an internaut clicks on a hashtag, he or she is instantly offered an assortment of tweets, posts or photos (depending on the platform) marked with the keyword in question. Besides topic-marking that goes by definition, 'the hashtag also serves the function of linking content into a larger conversation about a specific topic on Twitter' (van den Berg 2014:5). Sometimes producers of TV shows (#BezTabu) or organizers of conferences (#LTC_conf) provide their audience with hashtags to share their opinions in real time and comment what's happening on the stage, to ask questions to the speakers and to communicate with other viewers/participants. Meikle summarizes this purpose as: 'to aggregate voices, information and commentary around a common theme' (Meikle 2016:76), so we can use the word *aggregation*. However, it is effectuated imperfectly, because people often use different hashtags to mark the same topics (e.g., #WorldCup2014 and #Brazil2014), as well as keywords in different languages (Sloan, Quan-Haase 2017:112). For example, #prayforparis was used to express condolences to all those who suffered in the terrorist attacks in the capital of France, and generally the mould #prayforCITY is used as a standard marker for the locations of tragedies (#PrayForManchester, #PrayForLondon, #PrayForNice, #PrayForBerlin, etc.). On the other hand, highly touching events produce an array of newly-coined hashtags (#PrayingForParis, #ParisAttentats, #jenaipaspeur, #jesuismuslim and many others) that becomes a vocabulary in its own right. Every user can then pick an appropriate tag to highlight what is the most important for them, to attenuate their stance and still be a part of the global conversation.

If everybody agreed that topic-marking and aggregation were the only functions of hashtags, it would be easy to find the targeted information, because people would then only indicate the appropriate keywords. Unfortunately, if you try to find photos of #Malta or #GrandCanyon on Instagram, about half of the results are selfies with a fraction or no landscape in the frame. This leads one to think that the authors of the pictures have a communicative function in mind rather than them trying to offer a nice photograph of the natural wonder to whoever seeks it. People do not just go to places, they socialize by sharing their experiences. This opinion finds support with other authors: 'while popularly thought of as topic-markers, hashtags are able to construe a range of complex meanings in social media texts' (Zappavigna 2015). In the field, internauts describe their feelings by the Grand Canyon as #spectacular, #unforgettable and #amazing, whereas New York and San Francisco disappoint them by #toomuchtraffic. Some users are being as explicit as #ontopoftheworld, #theworldmustknowwhatieat and #hegavemeflowers. Interestingly, the last two would also appear to be used as an ironical and self-mocking excuse for displaying one's flowers and food. Speaking about irony, it is made pretty obvious when a hashtag contradicts the message, as in:

> *So I heard that trump was ending child support in 2018. #VOTEFORTRUMP* (example from Twitter)

Let us proceed with a brief case study of an Instagram post that epitomizes the outlined tendency. It features a woman in some natural setting, and the picture is accompanied by a string of hashtags:

> *'Evening and morning #SOMESPORTcamp* #ADVENTUROUS_NATIONAL* #daydreaming #iphonephotography #nature #portugal #sagres #sunset #work #love #EAT_PRAY_LOVE*'.*

The asterisks mark three hashtags, that could not be presented here in their original form due to social media research ethics and respect for user privacy, as it will be further demonstrated that

these are rather private tags. Referring to the privacy protection recommendation mentioned in the Methods section (Boellstorff *et al.* 2012, cited in: Lindgren 2017: 241), we will henceforth conceal the 'private' hashtags under tokens. As these tag words are valuable for demonstration and analytical purposes, therefore they will be further accounted for in the codified form that reveals the essence of their message. #SOMESPORTcamp identifies a sports camp devoted to certain disciplines, #ADVENTUROUS_NATIONAL defines the user as her country's national of an adventurous spirit, #EAT_PRAY_LOVE denotes a life philosophy, formulated as a string of verb infinitives and structured in the same way as the title of a famous book 'Eat, pray, love'.

In the Instagram post described above, almost no hashtag could be linked with something depicted on the photo (except, maybe, #portugal, because a Portuguese seascape is indeed there). Instead, hash-marked words are used to provide additional information, both of a personal character and the so-called metadata. 'Metadata is information appended to some primary form of content to assist in retrieving and understanding that content when it is stored or published (e.g., information about when and where a social media post was produced)' (Zappavigna 2015). To illustrate the point, we could mention Instagram food recipes marked with #glutenfree and #vegan (information on ingredients), items tagged #luxury, #almostforfree, #costsafortune and some brand like #prada (to indicate price range), #earlymorningphoto (the time when the picture was taken) and #iphonexcamera (the tool).

Thus, in the post #portugal indicates the country where the photo is taken; #sagres indicates a more precise location within the country; #SOMESPORTcamp denotes what the woman was doing during her stay there; #daydreaming suggests what the woman was presumably doing at the exact moment when the photo was taken (although there are reasons to think she was posing for the photographer); #ADVENTUROUS_NATIONAL must be the personality the woman associates herself with; #iphonephotography should be the method; #nature is the general setting; #sunset is not present in the photo but maybe it is happening outside of the frame, on the line of sight of the woman; #work must be related to the sports camp mentioned before (and the followers of the lady know it is); #love must indicate either the mood of the general philosophy of the woman and #EAT_PRAY_LOVE clearly represents the lifestyle and philosophy the lady preaches. So, we can say that five of these hashtags provide metadata and allow to find specific information (#SOMESPORTcamp #iphonephotography #portugal #sagres #nature), the other six are employed to create mood and showcase a certain lifestyle (#ADVENTUROUS_NATIONAL #daydreaming #sunset #work #love #EAT_PRAY_LOVE). Here are the data on the frequency of the hashtags in question.

Table 1. The frequency of selected hashtags on Instagram (Source: author's compilation as of 4 June 2017)

#love	1,078,950,520
#nature	232,102,907
#sunset	133,399,896
#work	87,317,433
#portugal	14,994,877
#iphonephotography	6,096,467
#daydreaming	860,993
#sagres	162,553
#ADVENTUROUS_NATIONAL	99
#SOMESPORTcamp	3
#EAT_PRAY_LOVE	1

As can be seen from Table 1, general words are used as hashtags much more often than specific ones. Taking the point further, three of the lifestyle hashtags prove to be very specific:

#ADVENTUROUS_NATIONAL is only employed by this particular user, totalling 99 posts; #SOMESPORTcamp has 3 photos, two of which are from the same user; #EAT_PRAY_LOVE is unique. Obviously, these hashtags cannot be used to join a conversation on the relevant topic, because there is none. Also, they are scarcely browsed for because otherwise they would be in a greater demand. These are hardly metadata, because they don't describe anything pertaining to the picture. Instead, these words perform a communicative function, allowing the user to describe herself and project the vision – a form of personal branding.

In addition to referring to certain topics, 'microbloggers […] construe attitudes toward those topics and enact relationships with the ambient audience' (Zappavigna, 2015). A sociologist Deborah Lupton shares her first-hand online experience and says that the keywords 'can sometimes be sarcastic or critical as part of efforts to entertain others or denote one's emotional responses to content. One common example is the use of hashtag symbol (#) on Twitter, which not only serves to classify content [..], but is also often used as a way of expressing opinion or evaluation (#excited, #disgusted).' (Lupton 2015: 10-11). Different attitudes and emotions are frequently expressed by verbs or adjectives that describe people's moods, attitudes, opinions or emotions:

> *Tattoo no.5 booked. :) #excited*

> *When you find out things you really wish you didn't #upset #seriously* (Both examples from HERMES2013 Twitter corpus, mentioned in: Zappavigna, 2015)

Putting hashtags like these allows authors to clearly denote their attitude and avoid ambiguity.

Mohammad and Kiritchenko conducted an experiment to see if emotion-related hashtags in Twitter correlate well with the moods of the posts. They collected a corpus of tagged posts from several thousand people and asked trained judges to provide their annotations on what they perceive from the posts. It turned out that hashtags describe emotions very well, and that this labelling is used consistently by thousands of users (Mohammad, Kiritchenko 2013:22).

Speaking of hashtags as tools to aggregate different opinions, some authors suggest broader persuasive opportunities here: 'the hashtag's function of adding the opinion of an individual to the confluence of opinions contributed by others, confirms the possibility of not only grouping information thematically, but also of opening up movements in this regard, with exponential dynamics' (van den Berg 2014). Demonstrating these options are, among others, the #metoo wave that spread in October 2017, bringing to light issues of sexual harassment and causing serious repercussions including the Me Too Bill in the US Congress (NPR.org, 2017). #icebucketchallenge went viral in 2014, allowing the ALS (Amyotrophic lateral sclerosis) Association to raise $115 million in donations during an 8-week period, in addition to $77 million dedicated to research, 3 new genes discovered, 15,000 patients helped per year, 150+ active research projects funded and other important social developments (ALSA). 'Hashtag activism, as is it also called, embraces Twitter as a tool for instant propagation of social causes, and Twitter is a powerful weapon in the hands of grassroots groups and NGOs like Greenpeace to harness consumer awareness or organize boycotts' (Van Dijck 2013: 87). Clearly, the tool is also used by political activists (#VoteForTrump, #gāztNilu). If exploited wisely, hashtags due to their democratizing nature may help one to obtain unbiased opinions, comprehensive and objective information; for example, Kaczmirek et al. describe how they used thematic hashtags on Twitter in order for their data to not be 'restricted to communication around specific Bundestag candidates or journalists' (Kazcmirek *et al*. 2014:11, cited in: Sloan, Quan-Haase 2017:116-117).

The persuasive and promulgating functions of hashtags are of interest not only to the politicians but also to the representatives of the church. Van den Berg, for example, wrote a whole article about the benefits of hashtags for 'practical theology' and the opportunities presented by social media. He also mentions that 'The popular theologian, Leonard Sweet has for example already encapsulated some of the aspects of this challenge in his article, "*Twitter theology: 5 Ways Twitter has changed my life and helped me be a better disciple of Jesus*", indicating that "Twitter makes me a better Jesus disciple, partly because Twitter is my laboratory for future ministry"' (Sweet 2009, cited in van den Berg 2014:5). Needless to say, #jesuslovesyou counts millions in social media. Be their applications religious or philosophical, hashtags like #jesuismuslim and #notafraid are frequently used in posts

about terrorist attacks. This demonstrates that online users employ tags to defend and promulgate their faith or philosophy.

Writing on social media for academics, Rasmussen Neal states that 'hashtags are used to give your followers an easy way of categorizing your tweets' (Rasmussen Neal 2012:108) with an added benefit of collecting related materials. She also mentions a good *tweetiquette*: 'to do a Twitter search before inventing your own hashtags, in case someone else has already begun categorizing tweets with the same hashtags' (ibid). This approach is not only useful for academics; for example, the lady from our case study used the #ADVENTUROUS_NATIONAL 99 times at the time, thus creating a separate category for all her adventurous posts.

The last three examples – politics, church and academics – may be viewed as promotional and reputational, which brings us to the hashtag use that could be described as marketing or branding. It is not infrequent for brand managers to use their corporate hashtag, but also to create additional ones for certain events (#lattelecomrigamarathon), products (#nikeprobra) or collections (#maxmaragram); in addition, they 'encourage the use of certain hashtags for users to share a photo to enter a contest or participate in another type or promotion' (Burns 2017: 35) – #vefgrozs vai #EsGribuSavusPalladium. People might also promote themselves as personal brands through hashtags with their names, surnames or nicknames, by marking some domain (#NAMEfit, #NAMEmodel) and also by continuously using a word or phrase that no one else uses.

Results

The results of this investigation suggest that hashtags are not only topic-markers and aggregators, which was their initial purpose, but that they apparently have numerous other applications. This study has identified the following functions:

- marking the topic(s) of a post (#vegan, #elections)
- aggregation of information on a certain topic (#prayforparis, #Brazil2014)
- socializing and sharing experience (#amazing, #toomuchtraffic, #ontopoftheworld)
- excuse (#hegavemeflowers and #theworldmustknowwhatieat)
- irony (when a hashtag contradicts the message)
- providing additional information and/or metadata: geographic location, price, brand, ingredients and so on (#glutenfree, #costsafortune, #iphonexcamera)
- marketing and (personal) branding (#ADVENTUROUS_NATIONAL, #maxmaragram)
- expressing attitudes like opinions, emotions and evaluations (#disappointed, #excited, #seriously)
- initiating movements (#icebucketclhallenge; #metoo)
- promulgation of certain views and philosophies (#EAT_PRAY_LOVE, #jesuslovesyou, #voteforX, #notafraid)

This shows that internauts have not merely accepted the classificatory tool that was offered to them, but also succeeded in expanding its range of uses. Hashtags have become a legitimate way to write any metacomments that users do not want to state directly. Many of these mentions are face-protecting and allow users to brag in a less arrogant manner (like #hegavemeflowers, #iphonephoto or #luxurylife). Isolation, different colouring and the special sign make these additional words look like system markup, rather than something that user has written herself, about herself.

Hashtags' power to make any post visible to an immense audience is also exploited to the fullest: for political and religious propaganda, for brand and personal marketing, even for initiating huge flashmobs that change lives.

Conclusions

The purpose of the current study was to determine the communicative functions of hashtags. Through a combined approach of literature review, field study and case study, ten communicative functions

were identified: topic-marking, aggregation, socializing, excuse, irony, providing metadata, expressing attitudes, initiating movements, propaganda and brand marketing.

The principal theoretical implication of this study is that the pragmatic applications of hashtags have expanded to a broader range than it was initially conceived. We have identified ten different communicative functions, but the list cannot be presented as definitive since neither the literature review nor the field study were by no means exhaustive. This is due to the fact that the scope of this study was limited in terms of volume. The findings would help to better understand the modern online discourse and to prove that hashtags are to be considered as a meaningful part of the message. Further studies would be worthwhile to fully understand the diversity of implications of hashtags in the social media.

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THE WORK CONTENTS OF THE PERSONNEL SPECIALIST IN LATVIA

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Abstract. The contents in the work of personnel specialist differ in organizations from one field to another. It continues to evolve with an emergence of new technologies and business methods, as well as with structural changes in the economy, both at a global and national level. However, the existing professional regulations of particular professions in Latvia has not been changed for almost 10 years, while the economy as well as the workforce appears to have changed. The aim of the paper is to illustrate what currently forms the contents of work of personnel specialist in Latvia. To achieve this, a study on trends in the work of personnel specialists has been conducted with an informative support of Latvian Association for People Management. The topics of daily activities and tasks, as well as individual features of personnel in various fields, including building, banking, manufacturing, IT, retail company, and public service companies have been included in the study. Overall, 18 personnel specialists from public and private sectors were interviewed. The results show that the classical model of human resource management is still popular, although some of the industries have adapted many or most of the cutting-edge approaches in the field, including flexible jobs and continuous employee support. Therefore, it is advised to update the existing documentation, including the professional regulation and university curricula, to meet the needs of the contemporary companies employing personnel specialists.

Keywords: personnel specialist; contents of work

JEL Classification: J80

Introduction

The approaches to organizational management are constantly improving and becoming more effective. As to other professions, this also applies to the job of personnel specialist. However, organizational development is not a homogenous process, the new trends may be explicitly visible in some, but go virtually unnoticed in other organizations. The global tendencies are most evident in the industries with the fastest development rates and growth opportunities. At the same time, a considerable proportion of organizations has slower development rates, reacting to the latest human resource management tendencies with a delay or only in selected areas. This is especially true for territories with high unemployment rates, as well as small or loosely integrated organizations, with low levels of labour division, sometimes integrating human resource management within a broader scope of organizational management.

Although there is a functioning professional standard for personnel specialists in Latvia, it might have become outdated, as it has been developed within the previous economic cycle before the economic crisis of 2009 (Personāla speciālista profesijas standarts, 2009). This can have a number of consequences, starting from slower recognition of new approaches within the profession, and up to universities not updating their programs as fast as would be necessary. Without a recent research, it is also unclear to what extent the current global trends in personnel specialist profession are applicable to the organizations in Latvia.

This leads to a research question – what is the current contents of work of personnel specialists in the organizations in Latvia?

The research was based on interviews of personnel specialists in the spectrum of organizations of various fields of industry. Overall, 18 personnel specialists from 8 various organizations were interviewed.

The results show that the classical model of human resource management is still popular, although some of the industries have adapted many or most of the cutting-edge approaches in the field, including flexible jobs and continuous employee support. When teaching the profession of personnel specialists, it is advised to supplement the existing programs with the newest approaches, as well as borderline human resource tasks, including organization of events and public communication.

Literature Review

Since the beginning of the period of industrialization, constant change, adaptation to new reality of business and integration of new business management findings has been a part of organizational management. The process is still ongoing. One of the most important carriers of organizational change has undoubtedly been the function of human resource management.

In the classical sense, the typical functions of human resource management are well known and studied (Armstrong, 2009; Kalniņš & Čerpinska, 2014), however, the classification principles differ among the authors. In some, they are relatively detailed (Armstrong, 2009; Beardwell, Holden, & Claydon, 2004), while others offer various higher-order classifications (Daley, 2012; Ešenvalde, 2008; Voročuka, 2009). However, the generally more widespread processes named by all the authors are recruitment and selection, motivation, training and evaluation. A growing attention is being paid to other issues of human resource management: career management (succession planning), stress management, employee consultations and so on (Kaifeng, Lepak, Hu, & Baer, 2012; Kalniņš & Čerpinska, 2014).

One of the most recent issues of human resource management at the second decade of the 21st century is introduction of new technologies and the related restructuring of organizational processes. It includes both use of information technologies for storing and more efficient use of personnel data, and organization of the required preparatory work for implementing new tools of organizational automatization (Stone & Deadrick, 2015).

Another issue of no lesser importance is talent management or systematic approach to recruitment and selection processes, training and career management, to ensure effective meeting of the organizational objectives (Tomčíková, 2016; Dzene, 2012). Although talent management is a broad concept, currently, its most highlighted aspects are provision of the needs of a multicultural staff, integration of different generations into the labour market and attraction of talents from discriminated social groups (e.g., persons with disabilities).

However, organizational development on par with the development of human resource functions is not a homogenous process. The previously highlighted are the global tendencies that are most evident in the industries with the fastest development rates and growth opportunities. At the same time, a considerable proportion of organizations has slower development rates, reacting to the latest human resource management tendencies with a delay or only in selected areas. This is especially true for territories with high unemployment rates, as well as small or loosely integrated organizations (e.g., retail chains with scattered networks of shops), with low levels of labour division, sometimes integrating human resource management within a broader scope of organizational management.

The industry of the organization and type of activity are also of high importance, affecting both the issues of human resource management and the specifics of daily activities of personnel specialists (Datta, Guthrie, & Wright, 2005). Depending on whether the organization is focused on attracting highly skilled professionals or less qualified employees or recruiting specialists in professions with the lack specialists in the field, the methods used by the personnel specialist during the process of recruitment and selection differ significantly. The organizations are also classified by the main focus of human resource management systems – commitment-based or productivity-based organizations (Lepak & Snell, 2002).

The qualifications required for a personnel specialist can be obtained at higher education institutions. In Latvia, the required qualifications are defined in a professional standard approved by the Cabinet of Ministers (MK Noteikumi Nr. 461, 2010). However, the concept of any profession is inevitably rooted in the situation of the past. It should also be noted that the tasks set out by the professional standard

are formulated using a profoundly general phrasing, like 'ability to manage recruitment process' or 'able to solve problems'. Although this meets the requirement of the document of being reasonably general and applicable, this also hampers from drawing clear conclusions. To ensure the knowledge and skills correspond to the tasks personnel specialist will face, the information should be obtained on both current requirements in the organizations, and also future tendencies. Also, a probability that within a globalized economy and labour market conditions, the person could move to work in another country.

The economy of Latvia as a small country is characterized by companies of relatively modest size. There are only three private companies employing more than 1000 persons, and the number of employees exceed 500 in 101 organizations (Valsts ieņēmumu dienests, 2016). However, the level of unemployment has substantially decreased, thus reaching one of the lowest levels since such data are available (Fig. 1).
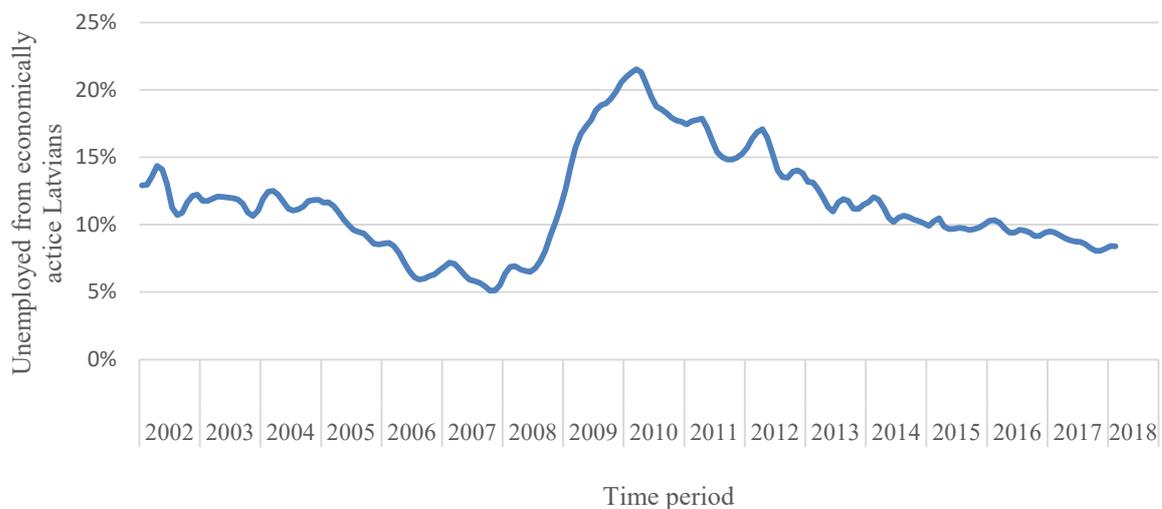

Fig. 1. Unemployment in Latvia at the age 15-74 (Source: Centrālā statistikas pārvalde, 2018)

The mean monthly salary also has a steady growth trend, reaching 676 euros net and 758 euros net in Riga, the region with the highest economic activity. Compared to the year 2012, this is a growth of 38 per cent (Centrālā statistikas pārvalde, 2018). This leads to a question – what is the current contents of work of personnel specialists in the organizations in Latvia?

The most typical approach of analysing the jobs is to analyse a number of jobs at the same organization (Morgeson & Dierdorff, 2011). In this case, the objective is different – to assess the extent to which it is possible to summarize the tasks and requirements under the same label of personnel specialist. As mentioned by one of the interviewed representatives: 'We are not interested in the typical graduates of the higher education institutions. We have our own agenda which does not correspond to the requirements in other organizations.'

What is important when summarizing the requirements for representatives of a particular job? Certainly, the main tasks form the core of a job description. However, there are also other traditional sections included – the main objectives of work, the numerical code according to the classification of professions, the place within the larger organizational structure, necessary competencies, and requirements for education and previous experience.

To ensure accurate information on the specifics of the job, a job analysis is performed. It is one of the oldest practices of contemporary human resource management, often seen as a cornerstone for creating an overview of both the job and the organization in general (Sanchez & Levine, 2012). Still, the paradigm of job analysis is a process of ongoing change, caused by increasingly undefined and variable borders of organizational structures and professions. As a result, the approaches to job

analysis and person-job compatibility determination allowing flexible response to change at the workplace are of increasing popularity.

In the recent years, to stress the changes to the approach, a new and generalized term 'work analysis' is being used, including a systematic analysis of job requirements, as well as offering a wider context to situations where the job requirements are manifested (Morgeson & Dierdorff, 2011).

Using a comparable approach, work analysis has recently been performed for accountants and managers in the local context (Kalniņš, Ķirse, & Čivžele, 2015). Similar research on human resource specialists is no less important, as it would allow to improve the contents of the education program according to the current needs of organizations.

Methodology

The interviews were held at the premises of the organizations, with one, two, or three interviewers. In all the interviews, the first author of the article was present, the other interviewees being students involved in the research process. The process of interviewing took on average one hour, the shorter interviews being 20 minutes long, but the longest interviews took 1.5 hours. The shorter interviews were held at the organizations with several personnel specialists, so each of them answered questions only about their specific tasks.

A set of questions was developed for the interviews. With this research analysis, the first focus of research questions is on the typical tasks of the personnel specialists: what tasks make the typical days, what tasks are also important but less routine, and also what are irregular but presumed or probable. However, the interview also included other related questions: the specifics of the organizational structures (work organization, the comparative complexity of tasks), typical profiles of employees (age and education, educational and experience background and their life stories, work motivation and intelligence), typical problems with dealing with employees (levels of turnover, lack of motivation, burnout, communication issues, etc.), legal, seasonal and other specifics in the industry (organization of work hours), evaluation criteria of personnel specialists. Additional questions were asked if these appeared to lead to more insight in understanding the problem.

The participants were selected to cover as wide range of industries as possible, while maintaining the profile of large organizations (i.e., at least 200 employees), including building, banking, manufacturing, IT, retail company, and public service companies have been included in the study. Overall, 18 personnel specialists from 8 public and private sector organizations in Latvia were interviewed. From these organizations, three are local branches of international companies, two are public companies of mainly local capital, and one is privately held company of local investors. All of them are active members of Latvian Association for People Management, which invited the companies to participate in the research.

Results

Role of a Personnel Specialist

The status of Human Resource management differs between organizations. In some, the representative of the department is also a member of the board, while in some of the others, this is not the case. In many cases, the direct superior of the head of Human Resource department is the chief executive of the company, but not in all of the cases. In some organizations, the direct superiority of chief executive means representation in the board, but sometimes not.

To a certain extent, the place of Human Resource department in the organizational structures can be explained by the relatively small number of employees (for large organizations). However, this is not always the case, as the authority of Human Resource department can be limited even in the largest organizations.

For example, the head of Human Resource department at Accenture Latvia is both a direct subordinate of the chief executive, and member of board. At Rural Support Service, the head is a direct subordinate but does not have a status of a chief officer.

The number of jobs at the human resource department is also a variable. As the interviewed organizations were all large organizations, the number is between 2 and 9 employees. However, in some of the cases the HR department also serves other organizations within the same group. At VISMA, HR department is engaged in two other companies of the same group, providing them with a limited range of HR services (mostly records management), while at Accenture, HR department also offers selected records management services to Accenture branches in other countries (namely, Nordic countries).

Most of aforementioned is already well known. It can be noted that a significant number of the leading companies has already switched to the model of direct supervision of the chief executive at the company, although this review does not provide with the statistical information. Another important fact signalling globalization, is the involvement of local HR employees in managing processes in other countries. As large international enterprises choose Latvia as the place of their back offices more and more often, the skills of adapting to international work, that is, varying work cultures and legislation, will continue to grow with time.

Functions of a Personnel Specialist

Although it is clear from the research that the job of personnel specialist involves a set of tasks from the theory, the contents of these tasks often differ between organizations. In most of the organizations, recruitment is one of the dominating tasks, especially at the entry level of HR jobs. In most organizations with several HR jobs, one or more positions are dedicated solely to recruitment.

However, the contents of recruitment differ. At the company of road construction, the main recruitment problem is recruiting unskilled seasonal workers. At the retail chain, the HR department only organizes the first phases of recruitment, while shop managers themselves interview the candidates. Then, if the process of selection is successful, HR department joins back in and prepares employment contract and other necessary documents.

At the state authority, the problem is attracting candidates to the regions with the highest salaries. At the technology companies with a limited pool of candidates, there are two solutions. One, to identify potentially talented candidates and to effectively educate them. Second, to attract candidates' attention to consider job offers.

There are also exceptions. At pharmaceutical company, the employee turnover is low, and even then, many of the positions are filled with internal resources. Here, the focus is not that much on recruitment than on training.

Personnel selection covers a wide range of methods, from an unstructured interview to psychological testing and behavioural interviews. It is worth noting though that several organizations use psychological testing as a means to evaluate the candidates.

Another core task is records management. Latvian laws regulate it rather strictly, so the dominating approach to records management is to keep all the documents in paper form and signed, including vacation applications and internal orders. However, the process is being increasingly automated, and organizations are at various stages of doing it. Several companies noted that they are at the process of testing new automatization tools.

With the rising importance of professional knowledge, the importance of onboarding activities is also on the rise. The process has various interpretations; however, all the interviewed companies provide support for new employees to a varying degree. The technology company pays special attention not only to select the employees but also to offer them basic formal training (2 to 4 weeks) and give another 4–6 months (and sometimes even a year) in a status of an intern with access to a large database of digital training materials to finalize their preparation to work and enter a project team. Employees are mentored by HR specialists during the period. The drug production company also organizes basic certification trainings for newcomers.

Since the human resource specialists are the first persons to get acquainted with at the company, they often become the main representatives of the company to the employees – they are often approached in the case of sick leave or other less typical situations.

In some cases, the work with employees starts long before they apply to a job or training. Cooperation with universities is widely used, university interns are accepted and later approached as candidates. In several organizations, recruitment processes start even before that. Activities for secondary school, professional school and even middle school children are organized to inform them about possibilities and requirements of work at their companies. This includes organizing trips to the company for schoolchildren, offering educational activities and so on.

The process with one of the most varied interpretations across the organizations is employee evaluation. In some of the organizations, the evaluation process is developed and strictly regulated; while in others, it largely depends on decisions of department managers and is rather situational. As a part of higher organizational flexibility, this can be a benefit from the perspective of effective use of resources. However, this can also interfere with the need of talent management.

As one of the support functions, HR department sometimes gets trusted with tasks that are only remotely related to human resource management in its classical form. The process occurring relatively often is a task of organizing internal events, like company sports games, Christmas celebrations, birthday parties, management of occupational safety and health checks, health insurance. Sometimes these are organized in cooperation with other departments or the duties are switched from year to year.

In retail chain, which is the most publicly known company among the interviewed, the human resource department is also responsible for mitigating risks from negative flow of information within social networks (e.g., Facebook, Twitter).

Conclusions

The research confirms that most personnel specialists in Latvia are indeed engaged in accomplishing the well-established duties described in the more classical textbooks. involves a set of tasks from the theory; the contents of these tasks often differ between the organizations. However, it also appears that there are also companies that go in line with contemporary tendencies in the job worldwide. These are especially evident in the companies operating in the industry of information technology where the contents of tasks correspond to the contemporary tendencies, including the flexibility of job boundaries.

One of the most peculiar source of differences lays in the field of recruitment where the information technology companies, due to the shortage of qualified specialists, invent creative ways of attracting the necessary employees and of creating a higher level of comfort at the organization.

In the organizations from other industries, the tasks roughly correspond to the more conventional models of human resource management. However, the most notable new knowledge from the research shows the relative importance of borderline processes – the tasks that are not a part of human resource management in theory, but in certain organizations are expected from human resource management departments. This includes organizing internal company-wide activities, for example, company games or celebrations, organization of health checks and health insurance, as well as being responsible for public communication about the internal issues of the organization.

This research gives a general impression on the current activities in the profession of personnel specialist. However, one should be careful to draw statistical generalizations of it. Being a qualitative research, the focus here is to identify the possible interpretations within the profession. All the companies asked to participate in the research are well established and comparatively large (to the local standards); therefore, the results may not reflect the situation in young and aspiring organizations, as well as ones that could be classified as having low levels of publicity or remote.

The conclusions could extend to additional research comparing these findings to the tasks set out by the job descriptions, as well as comparing them to the curricula of the universities to analyse the necessity to adapt to the changes in the demands of the businesses.

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CULTURE AS A TOOL FOR SCHOOL IMPROVEMENT: THE CASE OF CHILDREN'S SOCIALISATION CENTRES

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Abstract. The concern for delinquent children's social and emotional development in closed institutions is a significant topic in educational research. This shows the need to improve the existing re-socialisation practice. Despite the fact that school effectiveness and school improvement researches theoretically have different general purposes and value bases, educational effectiveness and improvement paradigm involves both trends, which are combined by the same aspects: scientific approach and empirical data based on educational settings; knowledge of how to improve the school practice; and use of this knowledge for social purposes. In this context, the concept of the school culture is one of the main variables that allow us to answer how to address the needs of all children and improve their academic or social outcomes. The aim of this article is to illustrate the cultural characteristics of children's socialisation centres as specific schools and to identify the guidelines for improving their performance. The mission of children's socialisation centres is to re-socialise delinquent behaviour of children and to help them to integrate into the society. Quantitative data for measuring the school culture is obtained from the survey that was conducted using the School Culture Inventory (Maslowski, 2001). This instrument is based on the Competing Values Framework (Cameron, Quinn, 2011) consisting of four dimensions, which are labelled by human relations, open systems, rational goal and internal process orientation. The theoretical value of the survey is the analysis of school culture in terms of successful re-socialisation. The cultural profiles of these schools showed the priorities that require practical changes.

Keywords: school, performance, culture, improvement, re-socialisation

Introduction

Children's socialisation centres in Lithuania have been criticised for several years as a result of unchanging work with juvenile delinquents (Merkys *et al*, 2002; Šapelytė, Alifanovienė, 2009, Bakutytė *et al*, 2013). Owing to the rapidity of change in this context, the concept of re-socialisation and the role of these schools in the society have changed significantly. As Cameron and Quin (2011) stated, most organisational scholars have already recognised that organisational culture has a powerful effect on the performance and effectiveness of each organisation. These provisions are in line with the literature of school effectiveness and improvement (Terhart *et al*, 2013; Sammons *et al*, 2016), which emphasises the need to investigate the links between the school culture and socialisation. Nevertheless, using school as the primary unit of analysis, the main goal is to find the capacities to provide professional development rather than rely on an external transition model or to marginalise them (Chapman *et al*, 2016).

Van Gasse *et al* (2016) stated that a lot of studies showed schools to be different in terms of effectiveness and offered to refuse focusing only on children cognitive outcomes in the school culture researches. The mission of children's socialisation centres as specific schools is to re-socialise delinquent behaviour of children in order to help them to integrate into the society. Despite this, they are defined as general educational schools at the legal level and it requires defining the meaning of school effectiveness in a different way. From organisational point of view, school culture is related to the core values of the organisation, based on which it can be assumed that it directly influences the process of children's re-socialisation (Sakalauskas, 2015). However, there is a very little empirical evidence on school's capacities to improve the children's socialisation at organisational level and it is hard to find the analysis of the re-socialisation process in literature at all. As noted by Muijs (2013),

the understanding of the importance of organisational culture is the first step during the organisational improvement process. According to the paradigm of school effectiveness and improvement, in order to define what needs to be improved, first of all, a current organisational culture has to be diagnosed. In addition to this, the aim of this study is to identify each socialisation centre's cultural profile by showing the features of implementation of re-socialisation process.

In this survey, school culture is defined as 'a system of fundamental values that underpins the activities of the organization and its members, which are supported, fostered and created by the organization's myths, stories and traditions' (Targamadzė, 2006). This definition refers to values as a basis of culture, which acts as guidelines for the positive organisational behaviour. It corresponds to a functionalist approach and is based on competing values framework (Cameron, Quinn, 2011) as the validated model of organisational culture change. The study uses the School Culture Inventory (Maslowski, 2001) for the purpose to get a deeper understanding of the cultural characteristics of children's socialisation centres. The analysis of school culture is made by using approach in which quantitative data 'examines concepts in terms of amount, intensity, or frequency'(Ketokivi, Choi, 2014).

Literature Review

More than 40 years, the outcome of schooling and its effect on children's social, emotional and academic development have been the main topics in educational research. The scientists were discussing and rethinking the role of the school as an organisation as well as evaluating existing practices constantly in order to answer what is a 'good' school. Finally, they made a conclusion that each organisation is unique and transferring the positive experience to another context does not necessarily mean success (Hopkins, 2016). For that reason, school improvement ideas became more acceptable because of comparing dynamics of the school itself, not just the different schools with each other.

The idea of improving the activities of children's socialisation centres is also not new: for many years, it has been debated, what should be the role of these non-traditional schools in society? Children's socialisation centres as schools or organisations working with special target group were an object of educational research for the past few decades. However, the culture of children's socialisation centres has never been analysed as a separate concept. It is interesting that the culture of these schools has never been linked to the results – the successful re-socialisation of children.

According to Creemers and Kyriakides (2016), 'organizational theories often adhere to the position that the effectiveness of organizations cannot be described in a straightforward manner; instead, a pluralistic attitude is taken with respect to the interpretation of the concept in question'. It means that different approaches to effectiveness have a lot of models, which include various evaluation criteria. In this case, there is an approach (Scheerens, 1992) that the culture could be analysed by ordering the criteria of productivity or involvement according to external stakeholders. Another approach (Cameron and Quinn, 2011) argues that the criteria as competing values – this perspective concerns the distinction of all the possible aspects of school functioning that are important to reach the effect. The latter approach was chosen in this study using the universal model as methodology, which can be applied to the analysis of culture in the context of organisational performance.

Competing values framework (Cameron, Quinn, 2011) is theoretical framework for understanding organisational culture. It is especially useful for interpreting a variety of organisational phenomena in order to identify its performance and lead the cultural transformation. This model was created on the analysis of 39 indicators of organisational effectiveness, which represented 4 main clusters as quadrants of the model: (1) internal process, (2) human relations, (3) open system and (4) rational goal.

The part of 'internal process' is focused on values such as stability and predictability. It is believed that organisation can operate effectively when its actions are coordinated, that is why documentation and information management are understood as the most important priorities in order to reach the results. The second part is named 'humans relations', it is based on the idea that only high morale and

concern for people can create an open atmosphere, which is needed to make the right decisions and effectiveness. The 'open system' represents the values such as innovation and adaptation, which are related to external environment. The main idea of this part is the responsiveness to change the conditions in the environment and further growth for ensuring support from stakeholders in the external environment. The 'rational goal' quadrant is based on the pragmatic approach and actions for achieving the organisational goals. In this context, the meaning of effectiveness is goal clarification, feedback and productivity.

This model also distinguishes two major dimensions: (1) flexibility control and (2) internal-external. The first one is differentiated effectiveness criteria that emphasise the flexibility and dynamism from criteria that emphasise stability and control. It means that the continuum is ranged from organisational versatility to organisational steadiness. Another dimension measures effectiveness criteria from integration and unity to differentiation and rivalry. This means that some organisations are effective if they are oriented to internal harmony whereas others are interacting with others outside (Cameron, Quinn, 2011).

The logic of this model is that each part of the model illustrates what people value is, what is good and appropriate in the organization, but their expression in every organisation is different. The strength of the culture of the organisation is associated with homogeneity and clear focus and thus shows that the specific culture type is dominant. Organisations may need a more balanced culture where every part of culture is in the similar level; however, such cases are rare. On the other hand, the balanced or eclectic profile of culture is usually interpreted quite negatively, that is, it explains that the organisation does not use its culture as an instrument to improve its performance (Maslowski, 2001).

The last important aspect of organisational culture is congruence when comparing the values of individual staff members and the school. The competing values framework emphasises the terms of the integrative approach to school culture, which is considered to be an important determinant of the effectiveness of any organisation. Cameron and Quinn (2011) argued that congruence predicts the success and high performance of any organisation because the strategy, leadership style and reward system are clear and based on the same values. The more these values are similar to the values of staff members, the stronger is the congruence.

Methodology

Sampling. As the sample size is very important for the statistic accuracy, it was determined by assessing the whole population with a 5% sample error (Creswell, 2013). The sample size is determined by the following formula:

$$n = \frac{1}{\varDelta^2 + 1/N}$$

where

n is the sample size

$\varDelta$ is the error size

N is the size of the general population

According to the data provided by the Centre of Information Technologies in Education in 2016–2017, children's socialisation centres had 199 employees. After the calculation of the received data, not less than 133 employees participates in the survey.

Respondents. The total respondent of the survey was 153: 9 management members, 53 teachers, 40 mentors, 18 specialists of educational assistance and 33 service staff members. The distribution of respondents according to the different institutions is given in Table 1.

Table 1. The comparison between the total number of the employees in children's socialisation centres and the number of the survey participants (Source: author's compilation)

Children's socialisation centre	Total employees	Participants (%)
1	38	31 (82)
2	43	28 (65)
3	42	40 (95)
4	39	28 (72)
5	37	26 (70)

Design. Quantitative data are obtained from the survey that is based on the School Culture Inventory (Maslowski, 2001). This instrument is constructed and validated for measuring school culture that reflects values expected to be related to school performance. It is based on the competing values framework consisting of four perspectives on organisation. Conceptually, these perspectives can be described by means of the focus of school and the emphasis on flexibility versus control. The focus of school can be aimed at internal or external issues: internal means that the school itself is the most important; external reflects the relationship between the school and the environment. Research shows four dimensions of school culture, which are labelled by human relations, open systems, rational goal and internal process orientation. This inventory is made up of 4 scales, each of them consisted of 10 items (values). They are valued according to the Likert scale based on the level of person and school from 1 (not important) to 5 (very important). All the items have to be valued at personal and organisational levels, which measures cultural fit (homogeneity and strength) between the values of individual staff members and the school values. In order to use this instrument, a double translation was made: English to Lithuanian and back translation to English.

Data processing. Date of the survey was from November 2016 to January 2017. There are five children's socialisation centres for identifying the cultural features of each institution. In order to be able to collect the data, a pilot survey was conducted, in which the staff from one children's socialisation centre were surveyed anonymously. To be able to survey as more members of each institution as possible and taking into account the organisational features of this school (continuous work, shifts of employees, etc.), the employees of the centres had a possibility to provide their data through the questionnaires during the visits or through the online version of the questionnaire.

Data analysis. The statistical processing of the data was made using a software suite SPSS 22.0; the received data were used to determine the total (averaged) estimate and instrument reliability (internal consistency) of Cronbach's α coefficient in the level of a person and school. The congruence was determined using the Wilcoxon criterion.

Limitations. This study helps to identify the essential features of school cultures, the congruence of staff members and school values but does not reveal the content of the culture. A deeper qualitative analysis of existing culture is necessary in order to design a vision of children's socialisation centres' improvement.

Ethics. During the analysis of the data, the names of the children's socialisation centres are anonymised in order to ensure the ethics of the survey, whilst the institutions are numbered from 1 to 5 to prevent the potential negative effect of the public data analysis.

Results

The reliability of the survey inventory was examined by determining the reliability of aggregated variables at human and school levels (Table 2). At the human level, this revealed satisfactory values for the open system and human relations. The rational goal orientation was found to be highly reliable (0.909) and the internal process was relatively low (0.795). At the school level, all the coefficients of cultural orientations were sufficiently reliable; the highest reliability was shown by the rational goal

and human relations subscales (0.922). Given the fact that the values of all coefficients are significantly higher than 0.6, assuming that the homogeneity of the questionnaire is sufficient, the data of all subscales may be interpreted.

Table 2. The reliability of scales in personal and school levels. (Source: author's compilation)

Subscale	Number of items	Cronbach's α coefficients	
		Person level	School level
Open system	10	0.887	0.869
Rational goal	10	0.909	0.922
Humans relations	10	0.859	0.922
Internal process	10	0.795	0.870

As it was mentioned, very little is known about the features of children socialisation cultures, which shows what is valued in these schools. For this reason, the survey results give the number of descriptive statistics for identifying the situation. Table 3 reveals that the hierarchy of cultural orientations are not the same in different schools – this emphasises the fact that the uniqueness of each organisational culture.

It is worth mentioning that all the cultural orientations of the first school are closed to the grand mean. Despite the fact that this children's socialisation culture shows rather similar mean score range for all subscales, human relations and internal process are relatively high rating. This indicates that teachers, school administration and other staffs value collegial relationships, commitment and stability. It can be argued that this organisation is least oriented towards changes and external requirements.

The second school culture demonstrates strong focus on internal process – this subscale reflects that school community is oriented towards predictability and control. The dominant feature of this school culture shows that teachers and administration value the formalisation of school processes, which regulates and coordinates the activities of individual staff members to be necessary. The mean scores of rational goal and human relations (x= 3.65) are slightly smaller than open system – all these cultural orientation seem to be less prominent at this children's socialisation centre.

The results indicate that the culture of a third organisation, similar to the first one, emphasises the importance of mutual relations, internal formalisation and continuity during children re-socialisation process. The mean scores of school on human relations and internal process orientations (x = 4.20) are greater than the values of the open system and rational goal orientations, ranging from 0.27 to 0.33. The high focus on internal aspects demonstrates a relative isolation from external factors that change over time and require schools to exchange as well.

Table 3. The descriptive statistics of cultural orientation (Source: author's compilation)

Cultural orientation	1	2	3	4	5	Total
Open system	4.24	3.68	3.87	4.00	4.01	3.96
Rational goal	4.32	3.65	3.93	4.03	4.13	4.01
Humans relations	4.39	3.65	4.20	3.99	4.10	4.08
Internal process	4.35	3.90	4.20	4.15	4.18	4.17

The fourth children's socialisation centre can also be characterised by a relatively strong internal process orientation, indicating that administration and teachers believe that the school can operate well when all the activities are clearly identifiable and coordinated. The other three cultural orientations

related to both the external integration and internal human relations, as the data show, are probably not prioritised. Owing to the fact that one cultural orientation strongly dominates, it can be argued that culture can be described as strong.

The last cultural profile identifies the internal process (x = 4.18) and rational goal (x = 4.13) orientations as the priorities to the effectiveness of this school. The rational goal orientation in any of these schools has not been so appreciated – it indicates that the members of organisation value the demand of accountability and are inclined to realise their objectives. Given the fact that the average of open system orientation is the lowest one, it is possible that the school perceives the implementation of re-socialisation in its own way and the external requirements are not always the most important for it.

The general assessment of the data of all children's socialisation centres' cultures shows that these schools have a strong orientation towards internal activities (x = 4.17). In other words, all communities understand that the stability, continuity and coordination are necessary for the functioning of the institution. The average of the open-system orientation is the smallest one (x = 3.96) – this also indicates that the members of organisations are far less inclined to implement educational reforms and changes. What is more, it should be mentioned that the staff valued the rational goal orientation rather low (x = 4.01). This indicates that management, teachers and specialists are less likely to appreciate the quality of work, that is, the reputation of the institutions according to its performance and use of external resources. Meanwhile the importance of cooperation and good interpersonal relationships were valued fairly high (x = 4.08). Thus arguments that trust, understand and solidarity are considered to be significant features of school teams during the re-socialisation process.

The two last criteria (summarised in Table 4) consist of the dimensions of competing values framework and cultural fit (congruence). These data demonstrate which cultural aspects of school communities are prioritised in order to achieve the effectiveness of school performance (successful re-socialisation of students). It will also help to identify whether the values of the school and the people working there are the same – as already mentioned, this aspect is considered to be very important when diagnosing the culture because of a work practice improvement.

Table 4. **The school cultural features by dimensions and the congruence** (Source: author's compilation)

Children socialization centre	Internal vs external	Flexibility vs control	The congruence of personal and school levels (cultural fit)
1	Internal	Equally	3 cultural orientations coincide
2	Equally	Equally	No cultural orientation coincides
3	Internal	Equally	1 cultural orientation coincides
4	Equally	Control	No cultural orientation coincides
5	Equally	Control	1 cultural orientation coincides

The comparison of cultural profiles in the model of competing values framework dimensions (internal vs external and flexibility vs control) have shown that school culture profiles are different and can be grouped together according to the dimensions. The answers of staff members of the first and third children's social centres are similar: they show strong orientation towards internal processes, whilst the dichotomy of flexibility and control is assessed equally. Meanwhile, the cultural features of the fourth and fifth children's socialization centres coincide contrary: internal and external dimensions are equally distributed, but both schools exhibit a high level of control. In this regard, the two pairs of children's socialisation centres are contrasting in the same way. Only the profile of the second school's culture was different from others because its results were distributed equally in both dimensions of culture.

Finally, the congruence of individuals and school values is analysed. According to this criterion, the second and the fourth schools can be described as completely unfit for all cultural orientations. In the

third and fifth schools, only one cultural orientation coincides in the personal and school levels. The first centre of children's socialisation is distinguished by the greatest cultural coherence: the assessment of only one cultural orientation is controversial. When analysing the content of cultural orientations, it should be noted that the contrast can be seen amongst the first and fifth children's socialisation centre, as the employees of the first school controversially assessed the orientation of the internal process, whilst the staff in the fifth school was only united on the orientation of the internal process; this indicates the differences not only in the balance of values but also in the importance of the process of the re-socialisation.

Conclusions

According to the paradigm of school effectiveness and improvement, school culture, regardless of the concept of performance effectiveness, must be oriented towards change because of the changing society and the new challenges the education face. Throughout the working period of the children's socialisation centres, the concept of re-socialisation has significantly changed because of the changing attitude to juvenile delinquents: earlier, it was intended to isolate them from the society, it is now internationally assumed that such behaviour is caused by various risk factors that need to be reduced or eliminated by providing assistance to make it easier for them to integrate into the society.

The cultural profiles of children's socialisation centres have a strong orientation to sustainability and avoidance of changes whilst confirming that the culture of these schools is not oriented towards the modern content of re-socialisation. It can be added that such a feature as a high level of formalisation of activities is basically not favourable for re-socialisation because of the strict structure, not giving the students the opportunity to learn autonomously, not empowering them to plan, act and make decisions by themselves. Probably, the culture as a factor of experience protection and inertia makes it possible to operate because it is known and tested. These data also confirm the opinion of Fullan (2007) on changing school practices in which the ongoing reforms are aimed solely at restructuring rather than replacing cultural aspects.

The research results show that schools could work in two main directions in order to improve their performance and achieve results. First, the communities need to promote the use of external resources and they should have a clear agreement on what and how it should be achieved in the process of re-socialisation, in order to meet the expectations of the country as well as the society. Schools have to become more open-minded and not only follow their own experiences but also to come up with a wider vision for the implementation of re-socialisation. Second, it is equally important that the values declared by the members of the community and the school are the same – according to the results, most of the school staffs are not in favour of the school's working practice. This means that the potential of employees is not fully used; it might be that employees have innovative ideas but they are not heard or implemented – strong orientation is usually associated with autocratic management of the institution.

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SEARCHING FOR KEY FACTORS IN ENTERPRISE BANKRUPT PREDICTION: A CASE STUDY IN SLOVAK REPUBLIC

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Abstract. The issue of enterprise in bankrupt or financial health as a whole is still very actual topic not only in Slovakia but also in abroad. Works dealing with the enterprise in bankruptcy have already appeared in the 1930s of the 20th century. Bankrupt of enterprise affect all subject in relationship with this enterprise. Financial experts were looking for the ways for enterprise bankrupt prediction. This article is based on the searching for key factors that could indicate the enterprise in bankrupt in Slovak conditions. This article tries to work with financial variables from the area of financial health assessment of enterprise and works with the sample of Slovak enterprises. This sample includes 8,522 financial statements of enterprises in 2016. According to several relevant decisions rules, for example, the value of equity or equity debt ratio, enterprises are divided into two categories – bankrupt enterprises and creditworthy enterprises. Subsequently, this article tries to find statistically significant financial variables that could indicate involving enterprises in these two categories and works with several statistical methods for searching significant relationship between variables and the tightness of relations between them. As a main statistical method, Pearson´s correlation coefficient is used, which is supported by correlation matrices. In addition, it is necessary to test an existence of outliers in the sample of enterprises. Existence of outliers is tested by the Grubbs test of outliers.

Keywords: bankrupt; prediction model; financial health; financial ratios

JEL Classification: G1, G32, G33

Introduction

Nowadays, the problem with failure of business entities is very actual topic in market economy. One of the biggest business risks is credit risk, which relates to secondary insolvency of business entity. The failure of business entity has negative influence on all subjects in relationship with this business entity. Possibility of evaluating and predicting credit risk and financial situation of business entities is an advantage for creditors, investors and business owners. On the basis of the assessment and forecasts of credit risk and financial health of business entities, we are able to take necessary corrective action in time. Economists are able to evaluate and predict credit risk and financial health of business entities because of ex-ante financial analysis – through prediction models. Prediction models can predict early the probability of failure of business entity. The problem that is necessary to solve for the application of prediction models is the selection of prediction model that is able to provide the best evaluation of probability of failure of analysed business entity and, of course, model that is able to provide exact and relevant results (Siekelova, Moravcikova 2015).

The possibilities of forecasting the development of financial health of business entity and its future solvency or insolvency have taken attention of economists since past century. The issue of relevant prediction model is very actual topic not only in Slovakia but also in abroad. Prediction models are suitable for the management of business entity because they allow to correctly interpret relevant

indicators of potential problems in the future. Thanks to these indicators, the negative development in entity may be identified before its results bring more serious financial and economic problems or financial crisis. In case, when business entity was not able to find any crisis solution, these financial problems can end up like its bankrupt.

The main aim of this article is to find the *key factors in enterprise bankrupt prediction in Slovak condition.*

Literature Review

The first studies devoted to bankruptcy prediction were based on one-dimensional analysis of the financial ratios. These studies simply analysed financial ratios and compared the results of these indicators in creditworthy enterprises and enterprises in bankrupt. In 1930, the Bureau of Business Research (BBR) presented a study that analysed the development of 24 financial ratios from 29 industrial enterprises in bankrupt (Fitzpatrick 1932, Malin 2017).

In 1935, Smith and Winakor verified the BBR study results. They analysed financial indicators of 183 enterprises in bankrupt and their results confirmed the BBR study (Bellovary et al. 2007).

Beaver was the first economist who used statistical methods for the prediction of financial health of enterprises. In his study, 'Financial Ratios of Prediction of Failure', in 1966, he divided enterprises into the two categories, creditworthy enterprises or bankrupt enterprises, based on the certain number of financial indicators (Beaver 1966, Jones 1987).

In 1968, Altman created one of the most famous and also the first bankruptcy prediction model, which is known as 'Z-score'. This model interconnected explanatory power of several variables. This model is the basic stone of multiple discrimination analysis (Altman 1968).

Since this time, the number of bankruptcy models has risen up. In 1970s, 28 studies about prediction models were published; in 1980s 53 studies were published; and in 1990s, 70 studies were published. Other authors who have tried to improve Altman's multiple discrimination analysis are, for example, Deakin (1972), Taffler (1974), Loris (1976), Springate (1983), Fernandez (1988), Neumaier and Neumaierova (1995, 1999, 2000, 2005), Gajdka and Stos (1996), Virag and Hajdu (1996), Chrastinova (1998), Binkert (2000), Gurcik (2002), Sharita (2003) and so on (Virag, Kristof 2005, Mousavi et al. 2015, Gurcik 2002, Agarwal, Taffler, 2007, Kubickova 2015, Zavrgen 1985, Siekelova 2017, Poddig 1995, Ohlson 1990).

In 1970s, prediction models based on the logistic regression – logit and probit models – also raised. The first authors who used logistic regression for predicting the bankrupt of enterprise were Santomero and Vinso (1977) and Martin (1977). They only analysed the bankrupt of American banks. In 1980, Ohlson analysed bankrupt of enterprise using logistic regression in general. The result of his model is one value that directly determined the probability of bankrupt of enterprise. Logit analysis was also analysed in the works of Casey and Bartczak (1985), Zavgren (1985), Pantalone and Platt (1987), Jakubik and Teply (2006), Sajter (2008), Hurtosova (2009), Bredar (2014), Gulka (2016) (Zavrgen 1985, Siekelova 2017, Poddig 1995, Ohlson 1990, *Hiadlovsky, Kral 2014*).

A pioneer in the area of probit regression was Zmijewski (1984) with his work '*Methodological Issues Related to the Estimation of Financial Distress Prediction Models*'. Other authors followed up his results, for example, Gloubos and Gramamatikos (1988), Skogsvik (1990), Theodossiou (1991), Boritz and Kennedy (1995), Lennox (1999) (Gulka 2016, Zmijewski 1984, Skogsvik 1990, Svabova, Kral 2016, Durica, Adamko 2016).

Since the 1990s, studies focused on the development of prediction models using neural network methods have been conducted. The foundation to this method was laid by Odoma and Sharda in 1990, later followed by Coats aFant (1992), Altman aVaretto (1994), Wilson aShardy (1994), Rudorfer (1995), Alici (1996), Serrano-Cinca (1996), Kivilluoto (1998), Sung, Chang and Lee (1999), Zhang (1999) Lee (2001), Witkowska (2002) (Bellovary et al. 2007, Hiadlovsky, Kral 2014, Press, Wilson 1978).

Table 1 captures historical development of individual methods for prediction model creations. The table shows the number of prediction models that was created by individual methods in studies about prediction model creations.

Table 1. Historical development of methods for prediction model creations. (Source: author's own compilation according to Bellovary et al. (2007), Spuchlakova (2016) and Kubickova and Nulicek (2017))

Period	Methods				
	Discrimination analysis	Logit analysis	Probit analysis	Neural networks	Different
1960	2	0	0	0	1
1970	22	1	1	0	4
1980	28	16	3	1	7
1990	9	16	3	35	11
2000–2004	2	3	0	4	3
2010–2017	5	10	0	15	2
Total	68	46	7	55	28

According to the data in Table 1, the most commonly used method for the prediction model creation is discrimination analysis. Neural networks are at the second place. However, there exists a very thin border between neural networks and logit analysis – only nine studies. Logit analysis was used in 46 studies about prediction models, and neural networks were used in 55 studies about prediction models.

Methodology

The methodology of prediction models has had long history, as mentioned earlier. The main aim of this article is to find key factors in enterprise bankrupt prediction in Slovak condition. The methodology used in this article is adapted according to the main aim. Authors work with the database of Slovak enterprises. This sample includes 8,522 financial statements of Slovak enterprises in 2016. The methodology used in this article is divided into four basic steps.

In the first step, it was necessary to choose several decision rules for dividing enterprises into two categories – bankrupt enterprises and creditworthy enterprises. On the basis of the relevant literature, three basic decision rules were selected:
– *the value of equity* – according to Slovak law – 'enterprise in bankrupt' is an enterprise with the negative value of equity. If the value of enterprise equity is negative, then this enterprise was considered as an enterprise in bankrupt,
– *the value of net income* – the negative value of enterprise net income may indicate 'enterprise in crisis',
– *the value of equity to debt ratio* – this financial indicator shows the share of equity of total liabilities. According to Slovak law – 'enterprise in crisis' is an enterprise with an equity-to-debt ratio lower than 0.04. It means that the value of equity must represent 40% of total liabilities (Svabova, Kral 2016, Durica, Adamko 2016).

In the second step, it was necessary to choose the most used prediction models created in Slovak Republic. These models were calculated in database of Slovak enterprises and considered their total explanatory power in current Slovak conditions. The following models were chosen for this article: Chrastinova model, Gurcik model and Delina–Packova model. In Slovak Republic, there is a lack of relevant prediction models created in Slovak conditions. For these reasons, the article analysed the three most popular prediction models in Slovak Republic.

Chrastinova model

This model was created by Chrastinova in 1998 and is also known as 'CH-index'. Model was adapted to the specific needs of enterprises operating in the agricultural sector, which is its disadvantage. Final

model prediction equation is the product of multiple discriminant analysis. Chrastinova analysed 1,123 enterprises from agricultural sector and she worked with 10 input variables.

$$CH = 0.37_{x1} + 0.25_{x2} + 0.21_{x3} - 0.1_{x4} - 0.07_{x5} \tag{1}$$

Table 2 shows five financial variables that represent individual parameters of prediction equation.

Table 2. Financial variables of CH-index. (Source: author's own compilation according to Chrastinova (1998))

Variables	Calculations
$x1$	EAT/total equity and liabilities
$x2$	EAT/total revenues
$x3$	Cash flow/total liabilities
$x4$	(Total liabilities/total revenues)*365
$x5$	Total liabilities/total equity and liabilities

According to the results of prediction equation given in the 'CH-index', the probability of enterprises in bankrupt was classified into three groups. Limits for classification are given in Table 3.

Table 3. Limits for CH-index. (Source: author's compilation own according to Chrastinova (1998))

Limits	Categories
CH ≥ 2.5	Creditworthy zone
2.5 < CH > −5	Grey zone
CH ≤ −5	Bankrupt zone

Gurcik model

This model was created by Gurcik in 2003 and is also known as 'G-index'. His model is based on the multiple discriminant analysis. He analysed 60 enterprises from agricultural sector in Slovak republic. The number of samples and the sector analysed are the disadvantages of the model. Finally, his final form of model includes five variables:

$$G = 3.412_{x1} + 2.226_{x2} + 3.227_{x3} + 3.419_{x4} - 2.063_{x5} \tag{2}$$

Table 4 shows five financial variables that represent individual parameters of prediction equation.

Table 4. Financial variables of G-index. (Source: author's own compilation according to Gurcik (2002))

Variables	Calculations
$x1$	Retained earnings/total equity and liabilities
$x2$	Earnings before taxes/total equity and liabilities
$x3$	Earnings before taxes/total revenues
$x4$	Cash flow/total equity and liabilities
$x5$	Stocks/total revenues

According to the results of prediction equation given by the 'G-index', the probability of enterprises in bankrupt was classified into three groups. Limits for classification are given in Table 5.

Table 5. Limits for G-index. (Source: author's own compilation according to Gurcik (2002))

Limits	Categories
G ≥ 1.8	Creditworthy zone
−0.6 < G > 1.8	Grey zone
G ≤ −0.6	Bankrupt zone

Delina–Packova model

This model was created in Slovak Republic in 2013 by Delina and Packova (P-model). They analysed financial statements of 1,560 Slovak enterprises. They created the model using logistic regression. Authors worked with all sectors and big sample, which are the advantages of this model. Finally, their prediction equation included six financial variables:

$$P = 2.86 - 0.0001278_{x1} + 0.04851_{x2} + 0.2136_{x3} - 0.000071_{x4} + 0.0001068_{x5} - 0.0006116_{x6} \tag{3}$$

Table 6 shows six financial variables that represent individual parameters of prediction equation.

Table 6. Financial variables of P-model. (Source: author´s compilation according to Delina, Packova (2013))

Variables	Calculations
$x1$	(Financial assets – current liabilities)/(operating costs – depreciation)
$x2$	Retained earnings/ total equity and liabilities
$x3$	Basic capital/total equity and liabilities
$x4$	Cash flow/total liabilities
$x5$	Earnings before taxes/total revenues

According to the results of prediction equation given by the 'P-model', the probability of enterprises in bankrupt was classified into two groups. Limits for classification are given in Table 7.

Table 7. Limits for P model. (Source: author's own compilation according to Delina, Packova (2013))

Limits	Categories
$P > 0$	creditworthy zone
$P < 0$	bankrupt zone

In the third step, it was necessary to choose several relevant financial indicators that may have significant relationship with the probability of enterprise in bankrupt. According to the analysis of relevant literature, the most used financial ratios in prediction models in studies from all over the world were found. Table 8 shows the most used financial ratios studies about prediction models.

Table 8. The most used financial ratio in studies about prediction models. (Source: author's own compilation according to Bellovary et al. (2007), Pawelek et al. (2016), Bressan et al. (2017), Plihal et al. (2017))

Code	Financial indicator	Number of studies	Code	Financial indicators	Number of studies
ratio1	Earnings after taxes (EAT)/total assets	54	ratio6	Sales/total assets	32
ratio2	Current assets/short-term debts	51	ratio7	(Current assets – inventory)/ short-term debts	30
ratio3	Net working capital/total assets	45	ratio8	Total debts/total assets	27
ratio4	Retained earnings/total assets	42	ratio9	EBIT/interest expense	10
ratio5	Earnings before interest and taxes (EBIT) /total assets	35			

Significant relationship between variables was tested using Pearson's correlation coefficient, which is supported by correlation matrices. This article tested the significant relationship between the equity-to-debt ratio, which represents basic decision rule about enterprise in crisis, and several chosen financial

ratios/indicators. These ratios were chosen based on the analysis of Slovak and foreign literature. This includes the following steps:
- calculation of financial indicators in database of 8,522 Slovak enterprises,
- identification of outliers in the results of calculations,
- creation of correlation matrices between equity-to-debt ratio and other financial indicators.

In the last step, it was necessary to compare the results of total explanatory power of Slovak prediction models in database of Slovak enterprises with the results of literature articles on the significant relationship between equity-to-debt ratio and other financial indicators. Thanks to this comparison, an existence of significant financial ratio in current Slovak prediction models was identified.

Results

The results were obtained by following the four basic steps, which were described in previous section – methodology.

In the first step, 8,522 enterprises from database were divided into two categories – enterprise in bankrupt and creditworthy enterprise. This distribution was created according to decision rules, which were described in methodology. Three decision rules created the group of enterprises in bankrupt with 2,556 enterprises and the group of creditworthy enterprises with 5,966 enterprises.

The second step includes the results of Slovak prediction models (Chrastinova model, Gurcik model and Delina–Packova model) in the database of 8,522 Slovak enterprises. The results of Slovak prediction models and the results based on the decision rules are compared in Table 9.

Table 9. Explanatory power of Slovak prediction models. (Source: author's own compilation)

Decision rules	CH-index		Total
	Creditworthy	Bankrupt	
Creditworthy	521	5,445	5,966
Bankrupt	113	2,443	2,556
			8,522
Decision rules	G-index		Total
	Creditworthy	Bankrupt	
Creditworthy	3,269	2,697	5,966
Bankrupt	1,514	1,042	2,556
			8,522
Decision rules	P-model		Total
	Creditworthy	Bankrupt	
Creditworthy	1,888	4,078	5,966
Bankrupt	256	2,300	2,556
			8,522

According to data in the table, CH-index was right in 2,964 cases – it determined 521 enterprises as creditworthy and these enterprises were really creditworthy according to the decision rules. In addition, the model determined 2,443 enterprises as bankrupt and these enterprises were really bankrupt according to the decision rules. The CH-index was wrong in 5,558 cases. The total explanatory power of CH-index was 34.78%.

G-index achieved the following results: the model was right in 4,311 cases – it determined 3,269 enterprises as creditworthy and these enterprises were really creditworthy according to the decision rules. In addition, the model determined 1,042 enterprises as bankrupt and these enterprises were really bankrupt according to the decision rules. The G-index was wrong in 4,211 cases. The total explanatory power of G-index was 50.59%.

P-model achieved the following results: the model was right in 4,188 cases – it determined 1,888 enterprises as creditworthy and these enterprises were really creditworthy according to the decision rules. In addition, the model determined 1,042 enterprises as bankrupt and these enterprises were

really bankrupt according to the decision rules. The P-model was wrong in 4,334 cases. The total explanatory power of the P-model was 49.14%.

In the third step, nine financial ratios/indicators in database of 8,522 Slovak enterprises were calculated. Subsequently, outliers in these data were identified (Figure 1). For outliers, the values with variance significant from other values were considered. Outliers could influence the final results. For testing of outliers, interquartile range was used. Interquartile range for all variables was the basic stone for removing outliers. Next step was identifying the limits that indicate outliers. Limits were set as triple of upper and lower quartile, which means triple of interquartile range. Values between these limits were not considered as outliers.
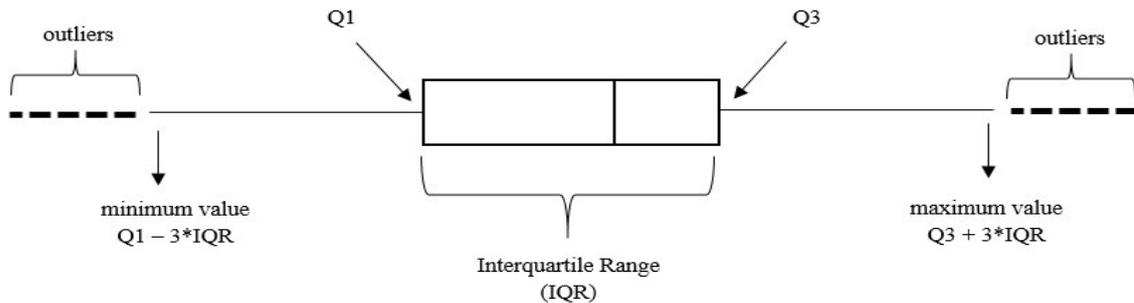

Fig. 1. Searching for outliers using interquartile range. (Source: author's own compilation)

In total, the data included 511 outliers. Table 10 presents the number of outliers in all financial ratios.

Table 10. Outliers in data. Source: author's own compilation.

Code for ratio	Financial ratio	Number of outliers
debt-equity ratio	Equity/total debts	28
ratio1	EAT/total assets	4
ratio2	Current assets/short-term debts	37
ratio3	Net working capital/total assets	28
ratio4	Retained earnings/total assets	35
ratio5	EBIT/total assets	52
ratio6	Sales/total assets	3
ratio7	(Current assets – inventory)/short-term debts	270
ratio8	Total debts/total assets	48
ratio9	EBIT/interest expense	11
Total		511 outliers
Database		8,005 enterprises

Outliers were excluded from database; subsequently, the database consisted of 8,005 Slovak enterprises. Then correlation matrices between equity-to-debt ratio and all financial ratios were created. Correlation matrices were created using Pearson's correlation coefficient (Cipra 2008).

On the basis of the results of Pearson's correlation coefficient, obtained from correlation matrices, determined the strength of dependence between variables (Rimarcik 2007).

Figure 2 shows correlation matrices between equity-to-debt ratio and all financial ratios.

Variables	debt-equity ratio	ratio1
debt-equity ratio	1	0.354
ratio1	0.354	1

Variables	debt-equity ratio	ratio2
debt-equity ratio	1	0.368
ratio2	0.368	1

Variables	debt-equity ratio	ratio3
debt-equity ratio	1	0.062
ratio3	0.062	1

Variables	debt-equity ratio	ratio4
debt-equity ratio	1	0.077
ratio4	0.077	1

Variables	debt-equity ratio	ratio5
debt-equity ratio	1	0.057
ratio5	0.057	1

Variables	debt-equity ratio	ratio6
debt-equity ratio	1	-0.077
ratio6	-0.077	1

Variables	debt-equity ratio	ratio7
debt-equity ratio	1	0.393
ratio7	0.393	1

Variables	debt-equity ratio	ratio8
debt-equity ratio	1	-0.151
ratio8	-0.151	1

Variables	debt-equity ratio	ratio9
debt-equity ratio	1	0.273
ratio9	0.273	1

Fig. 2. Correlation matrixes between variables. (Source: author´s compilation)

On the basis of the results obtained from Figure 2, three variables (financial ratios) that have medium dependence with equity-to-debt ratio were identified. These ratios are ratio1, EAT/total assets; ratio2, current assets/short-term debts; and ratio7, (current assets – inventory)/short-term debts. In addition, interesting results were achieved by ratio8, total debts/total assets, and ratio9, EBIT/interest expense. Other variables have weak dependence.

The results of the article showed that financial ratios may be used in prediction model creation in future. These variables may be decisive in the process of identification of the probability of enterprise in bankrupt. Subsequently, they may have an influence on the total explanatory power of prediction model as a whole. Despite the fact that the most used financial ratios in the prediction models were chosen from all over the world, according to the relevant literature, in Slovak conditions, only three of them had relationship to decision rule about the probability of enterprise in bankrupt.

The last step includes comparison of the results of total explanatory power of Slovak prediction models in the database of Slovak enterprises with the results of testing of significant relationship between equity-to-debt ratio and other financial indicators. The CH-index achieved the worst total explanatory power in the database of Slovak enterprises – only 34.78%; the second one was the P-model, with total explanatory power of 49.14%; and the best total explanatory power was achieved by the G-index, 50.59%. From these results, the total explanatory power of Slovak prediction models is relatively low. Interesting is that none of them contain ratio2, ratio7, ratio8 or ratio9, which could be potentially decisive ratios in the process of identification of the probability of enterprise in bankrupt. It could be the reason for their low value of total explanatory power. Only the CH-index contains ratio1, which could be potentially decisive ratio in the process of identification of the probability of enterprise in bankrupt. Despite this fact, the CH-index had low total explanatory power.

Conclusions

The main aim of this article was to identify the key factors in enterprise bankrupt prediction – a case study conducted in Slovak Republic. The article worked with the database of 8,522 Slovak enterprises. Three basic decision rules were determined for identifying the enterprise in bankrupt. Subsequently, three prediction models, created in Slovak Republic, were chosen and their total explanatory power in Slovak enterprises was provided. In addition, the relevant Slovak and foreign literature were analysed and the most used financial ratio in prediction models from all over the world were found. Subsequently, significance of the relationship between these ratios and equity-to-debt ratio were calculated, which was stated as key identifier in the process of quantification of the probability of

enterprise in bankrupt. This study also found the three variables with medium dependence on the equity-to-debt ratio –EAT/total assets, current assets/short-term debts and (current assets – inventory)/short-term debts. These financial ratios may be used in the prediction model creation, in the future. These variables may be decisive in the process of identification of the probability of enterprise in bankrupt. In addition, interesting results were achieved by ratio8, total debts/total assets, and ratio9, EBIT/interest expense. Other variables have weak dependence. In addition, it was found that the total explanatory power of Slovak prediction models is relatively low. Interesting is that none of them contain financial ratios (ratio2, ratio7, ratio8 or ratio9) that could be potentially decisive in the process of identification of the probability of enterprise in bankrupt, according to the correlation matrices. It could be the reason of their low value of total explanatory power. Only CH-index contains ratio1, which could be potentially decisive ratio in the process of identification of the probability of enterprise in bankrupt. Despite this fact, the CH-index had low total explanatory power.

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PREDICTION OF DEFAULT OF SMALL COMPANIES IN THE SLOVAK REPUBLIC

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Abstract. From the time of Altman and the first bankruptcy prediction models, the prediction of default of companies is in the centre of interest of many economists and scientists all over the world. For companies, early detection of the possible threat of imminent financial difficulties or even bankruptcy is a very important part of financial analysis. Over the last few years, many predictive models have been created in the world. However, it has been shown that these models are not very well transferable to the conditions of the economy of another country and their prediction or rating power in another country is lower. Therefore, it is best to create a specific predictive model in the country that takes into account the situation of companies on the basis of real data on their financial situation. This paper is focused on creating a model of failure prediction of small companies in Slovakia using a well-known and widely used method of multivariate discriminant analysis. Discriminant analysis is one of the oldest multivariate statistical methods and sometimes it is difficult to fulfil certain assumptions for data. However, its results are easily interpretable and can be used to classify a company to the group of companies with risk of financial difficulties or, on the contrary, between well-prosperous companies. Prediction model is created based on real data on Slovak enterprises and has a strong classification ability in the specific conditions of the Slovak Republic.

Keywords: prediction of default; bankruptcy prediction models; financial distress; multivariate discriminant analysis

JEL Classification: C38, G33

Introduction

The prediction of a company's bankruptcy is a matter of interest for many researchers and economists since the early 20th century (Kovacova, Kliestik, 2017). Since then, hundreds of bankruptcy prediction models have been created around the world. Some of them are known worldwide, others only at a national level. As a first study on this issue can be considered the work of P. J. Fitzpatrick from 1932. The study focused on the main differences between successful and unsuccessful companies. The basis for predicting bankruptcy was the analysis of the financial ratios. Further research in the 1960s focused on a univariate analysis (Zvarikova *et al.*, 2017). Beaver, who used univariate discriminant analysis for the first time in 1966, also formed the basis for prediction models in this field. Based on Beaver's recommendation, in 1968 Altman used multidimensional discriminant analysis to develop the prediction model. Using a sample of 33 prosperous and 33 failed companies, he identified five variables that were the most important in predicting bankruptcy (Kocisova *et al.*, 2015).

Since the 1990s, neural networks have been used to predict company's failure (Kral, Bartosova, 2016). Unlike traditional statistical methods, neural networks do not require such restrictive assumptions as linearity, independence, and normal distribution of variables. Neural networks were first used to predict bankruptcy by Odom and. Sharda (Zhang *et al.*, 1999).

In Slovakia, the first ex-ante analysis was Chrastinová Ch-index, published in 1998. The model was designed for Slovak agricultural companies and is based on discriminant analysis. This specifically

oriented model is used not only in Slovakia, but also in the Czech Republic. The second Slovak model, the G-index, the author of which is Gurčík, as well as the CH-index, uses discriminant analysis and also focuses on the agricultural area. Many scientists share the view that it is not appropriate to use foreign models in domestic conditions uncritically, because they were created under different conditions (Kovacova et al., 2017). Therefore, for the prediction of prosperity of Slovak companies, it would be appropriate to use only models that have been constructed in Slovak conditions. This is why, this research is focused on creating a specific model for companies in the Slovak Republic, selecting small companies (up to 50 employees), which are the largest group of companies in Slovakia. The research goal is to create a model for the inclusion of a small company either into a group of prosperous companies or into a group of companies with threatening bankruptcy, where the financial ratios of the companies are used to model this discriminatory function. The prediction model is based on a linear, multivariate discriminant analysis, using the financial ratios of real companies operating in Slovakia in 2015 as explanatory variables. As these indicators indicate the functioning of the company and also its future development, the inclusion of a company into one of the groups of prosperous or non-prosperous ones can be predicted based on the values of these financial ratios. The generated model is a linear combination of 7 financial ratios, from originally used 37. This prediction model can be used for early identification of financial threats for small companies in Slovakia, one year in advance. Created discriminant model has very good classification ability, especially with regard to the correct classification of non-prosperous companies (93%). In predicting the financial difficulties of a company, the proper inclusion of the company, which is really in financial troubles, precisely into this category is important; this research is focused on the creation of a discriminant model mainly on this classifying ability of the model.

Literature Review

Considering the large number of existing models, finding a suitable model for prediction is a role for economists and analysts worldwide (Kovacova, Kliestik, 2017). In order to find the optimal model of bankruptcy prediction, several evaluations and comparisons of existing models were carried out by several authors. Comparison of two mathematical – statistical methods of logit and probit was dealt with by Kovacova and Kliestik (2017). The survey was conducted on the data set of Slovak companies for 2015. The study concluded that the model based on logit function slightly exceeds the precision of the probit model. Finding the most suitable prediction model for transition economies has been dealt by Zvarikova et al. (2017). They compared 42 models constructed in seven selected transition economies to determine which variables in the models are relevant for prediction of bankruptcy. The result of the comparative study was the identification of 20 variables, in which the authors suggest the best prediction accuracy in case of a transition economy and should therefore be used to create new models.

In addition to comparing the existing models, there are nowadays new models created around the world. In 2007, Sandin and Porporato developed a model for the emerging companies in Argentina (Sandin, Porporato, 2017). Boritz et al. (2007) recalculated the coefficients of Altman model using the data of Canadian companies. Similarly, Wang and Campbell (2010) recalculated the coefficients of Altman model for companies in China. Christidis and Gregory (2010) have developed a prediction model for the United Kingdom. The authors point to the importance of taking into account of macroeconomic factors. A model based on multivariate discriminant analysis was presented by Altman et al. (2014). For Iranian companies, Khademolqorani et al. (2015) developed a hybrid model based on a combination of statistical methods and machine learning methods. Singh and Mishra (2016) have developed a prediction model for the Indian manufacturing companies. Alaminos et al. (2016) created a global prediction model based on logistic regression.

Alaka et al. (2016) pointed to different criteria that the scientists used to develop their prediction models. Based on these criteria, they compared the utility of popular bankruptcy prediction tools such as multivariate discriminant analysis, logistic regression, neural networks, genetic algorithms, and more. The authors have concluded that there is no single tool that is predominantly better than any other tool with respect to the identified criteria. However, it is clear that each instrument has its strengths and weaknesses in certain situations.

Methodology

For the purpose of the creation of a prediction model, the method of multidimensional discriminant analysis was used to develop a model of predicting the financial difficulties of Slovak small companies. Discriminant analysis aims to identify the ability of the included quantitative variables to distinguish the data into one of the already existing group of statistical units (Kral *et al.*, 2009). A prediction function of discriminant analysis is to create a classification rule to include unclassified units into one of the groups. The advantage of discriminant analysis is a simple application and interpretation. As disadvantage may prove the necessity of fulfilling a number of assumptions that are imposed on the data. Discriminators, used as explanatory variables to predict the financial difficulties of the companies, must be independent of each other. They must also have a multi-dimensional normal distribution. Meeting this assumption of multidimensional normality will allow to test the statistical significance of the obtained model and to characterize its prediction ability, based on the incorrect classification of the objects into one of the groups. Another assumption of discriminant analysis is that covariance matrices within each group of companies in financial distress and healthy companies must be similar; hence, covariance between input variables should have a comparable size. Moreover, it is advisable to verify the equality of means of explanatory variables among the groups of companies. This verification is used for the initial identification of suitable predictors of financial difficulties of companies. If the mean values of some financial ratio are not significantly different among the groups of prosperous and non-prosperous companies, this financial ratio is probably not an appropriate predictor for identifying the inclusion of a company into one of the groups. Equality of means is tested using two-sample analysis of variance. The advantage of using analysis of variance is that it is sufficiently resistant to not achieving the assumption of multidimensional normality of the predictors used (Hebak *et al.*, 2007).

By using the method of multidimensional discriminant analysis, a classification rule will be derived, that is, with a high probability, that will be able to classify the company into a group of prosperous companies or companies in financial difficulties. Creating a discriminant rule will also get a set of financial ratios that can indicate the company's financial difficulties for at least a year in advance.

To create a model for prediction of bankruptcy of small companies in the Slovak Republic, real data from the financial statements of the Slovak companies was used. The data come from a database Amadeus – a database of comparable financial information for public and private companies across Europe. Data was used from the profit and loss statement, company balance sheet data, as well as the calculated financial ratios provided by Amadeus. The values of the financial ratios are from the year 2015, predicting the possible existence of financial difficulties in the year 2016. Overall, a set of 88 252 small companies was used. The criterion for the inclusion of the company to the group of small ones was in the Amadeus database, that is, primarily the number of employees. A company having up to 50 employees was considered as a small company. Out of a total of 88,252 enterprises, almost 75% had no financial difficulties in 2016 and the remaining approximately 25% of companies showed financial distress on the basis of the criteria defined below. The absolute and relative numbers of companies used are given in the following table (Table 1).

Table 1. Frequencies of small companies in financial distress (1) and prosperous small companies (0) (Source: author's compilation)

Y				
Financial distress	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
0	66070	74.9	74.9	74.9
1	22182	25.1	25.1	100.0
Total	88252	100.0	100.0	

The criteria – according to which every company was included either into a group of financially healthy or the group of threatened companies, on the basis of its actual results from the financial statements – are given below. A company was considered as non-prosperous if it met the following three conditions:

- value of current ratio is smaller than 1
- ratio profit / loss is smaller or equal to zero
- solvency ratio (liability based) is smaller than 0.04 (this value is valid for year 2016)

Regarding the financial ratios used, a total of 37 financial ratios, that are usually the most frequently used ratios when creating prediction models, were available. Among these ratios, 13 rations were discarded in the initial data mining phase, mainly due to the high percentage of missing data. The remaining 24 ratios were used as input explanatory variables in the multivariate discriminant analysis. The following table (Table 2) shows all the variables and methods of calculation.

Table 2. Financial ratios used as predictors (Source: author's compilation)

Ratio name	Method for calculation	Ratio name	Method for calculation
X1	Sales / Total assets	X20	Net income / Sales
X2	Current assets / Current liabilities	X21	Non-current liabilities / Total Assets
X3	Gross profit / Total assets	X22	Cash & cash equivalents / Current liabilities
X4	Net income / Shareholders equity	X23	Cash flow / Current liabilities
X5	EBITDA / sales	X24	Working capital/ Sales
X6	(Non-current + current liabilities) / EBITDA	X25	Current ratio
X7	Net income/ Total assets	X26	Liquidity ratio
X8	Working capital / Total assets	X27	Return on assets
X9	Operating profit / Total assets	X28	Return on equity
X10	(Non-current + current liabilities) / total assets	X29	Shareholder liquidity ratio
X11	Current assets / Total assets	X30	Solvency ratio (liability based)
X12	Cash & cash equivalents / Total assets	X31	Cash flow / Operating revenue
X13	Cash flow / Total assets	X32	Net assets turnover
X14	Cash flow / (Non-current + current liabilities)	X33	Interest paid
X15	Current liabilities / Total assets	X34	Gross margin
X16	Current assets / Sales	X35	Profit margin
X17	Operating profit / interest paid	X36	Net current assets
X18	Stock / Sales	X37	Working capital
X19	Cash flow / Sales		

In order to be able to evaluate the classification ability of the created discriminant model, the set of companies was randomly divided into a training sample and test sample at a rate of 80:20. Then a discriminant model was created on a training sample of 70,738 small companies. Since the discriminant ability of a model certified on a training sample is slightly overvalued, the other 17,514 companies were used to evaluate the percentage of the correct company ranking into one of the groups.

Results

The first step in the analysis and in the process of creation of prediction model was the selection of suitable predictors of the financial difficulties of small companies in Slovakia. These predictors serve as explanatory variables in the created discriminatory model. Among these, financial ratios was chosen as the appropriate predictors for those variables that differ in their mean value among groups of prosperous companies and healthy companies. The mean values of these two groups of small companies were compared for each financial ratio by a statistical test of equality of means, or analogously by analysis of variance. The results of this testing are given in Table 3.

All the ratios, whose values are significantly different in the group of companies in financial problems and in the group of healthy ones, can be considered as suitable predictors in the model of company prosperity.

In this way, using the significance level of 0.05, all the ratios except the X16, X18, X20 and X24 can be selected as the explanatory variables in the predictive model. As can be seen in Table 3, for these four ratios, the hypothesis of equality of means for a given financial ratio within two groups of companies cannot be rejected. All other ratios can be used as appropriate explanatory variables for creating a model of predicting the financial difficulties of small companies in Slovakia.

Table 3. Tests of Equality of Group Means (Source: author's compilation)

Variable	Wilks' Lambda	F	Sig.	Variable	Wilks' Lambda	F	Sig.
X01	1.000	15,083	0.000	X20	1.000	0,039	0.843
X02	0.991	402,018	0.000	X21	0.998	100,057	0.000
X04	0.982	808,737	0.000	X22	0.992	343,190	0.000
X07	0.976	1112,340	0.000	X24	1.0007	0,055	0.815
X08	1.000	7,791	0.005	X25	0.991	402,020	0.000
X09	0.980	903,152	0.000	X26	0.991	408,040	0.000
X10	0.946	2569,830	0.000	X27	0.978	1010,727	0.000
X11	0.995	233,660	0.000	X28	0.991	427,088	0.000
X12	0.990	454,965	0.000	X30	0.997	148,839	0.000
X15	0.952	2251,264	0.000	X35	0.985	700,564	0.000
X16	1.000	0,059	0.808	X36	0.990	431,541	0.000
X18	1.000	0,053	0.817	X37	0.999	27,679	0.000

The model of predicting the financial distress of small companies was created using a stepwise discriminant analysis. Before the resulting model itself, the validity of the assumptions, required by the discriminant analysis, was tested. Equality of the covariance matrices for the sets of prosperous and non-prosperous companies is verified using the Box Test. Covariance matrix of the two groups should be identical. Test results are presented in Table 4.

Table 4. Box Tests of Equality of Covariance matrices (Source: author's compilation)

Test Results	
Box's M	53913,450
Approx.	1196,620
df1	45
df2	65788564,930
Sig.	.000

According to the p-value of the Box test shown in Table 4 above, the hypothesis on the equality of the covariance matrices of sets of prosperous and non-prosperous companies is rejected. Due to the result of this test, it may be appropriate to consider using a quadratic discriminant analysis instead of a linear one. This, however, is more difficult to interpret as linear discriminant analysis and moreover, in SPSS software, which was used for model creating and statistical processing of data, there is no quadratic discriminant analysis implemented. Violation of the assumption of the covariance matrices equality may adversely affect the resulting classification ability of the model. However, as we will see, the small companies´ model's classification ability, obtained through a linear discriminant analysis is sufficient. In order to ensure the validity of the conclusions, an assumption of separate-group covariance matrix instead of the within-group covariance matrix was used.

The assumption of independence of explanatory variables was also verified. Given the results of the test of significance of the correlation coefficients among the variables, it can be said that although in some cases, the coefficients of correlations are considered to be statistically significant, they are very weak or, at most, weak, with a maximum value of 0.163.

Using a stepwise discriminant analysis, the final prediction model of financial difficulties of small companies in Slovakia was received. With this model, for each company can be calculated its Z-score as follows:

$$Z - score =$$

$$-0{,}263 \cdot X04 - 5{,}823 \cdot X07 + 3{,}022 \cdot X10 - 0{,}707 \cdot X21 + 0{,}019 \cdot X25 + 4{,}707 \cdot X27 - 0{,}069 \cdot X28 - 1{,}592 \qquad (1)$$

Since this model is created with a constant, the company's belonging to one of the groups of prosperous or non-prosperous companies is determined by comparing its Z-score (Eq. 1) to zero. If the Z-score of the company is negative, this company is included in the group of prosperous companies and vice versa, if its Z-score is positive, it will be in the group of non-prosperous ones.

The quality of the prediction model can be assessed by using a canonical correlation of the discriminant function and a test of its statistical significance. The canonical correlation of discriminant function is 0.297. This correlation is statistically significant, as confirmed by a significance test whose p-value is zero. The obtained discriminant function thus sufficiently distinguishes the two groups of companies.

In the following table (Table 5), the discrimination ability of the variables to distinguish companies in financial difficulties and healthy ones is given. Based on these coefficients, the variables X07 and X27 and X10 can be considered as best discriminators.

Table 5. Standardized Canonical Discriminant Function Coefficients (Source: author's compilation)

Variable	Function
X04	-0. 304
X07	-1.201
X10	0.940
X21	-0.099
X25	0.167
X27	1.019
X28	-0.064

In the following table (Table 6), the values of the correlation coefficients of each variable and the resulting discriminatory function can be seen. The strongest correlation is between the discriminating function and the variable X10. In addition, this variable is positively correlated with a discriminatory function. Except for X21, all other variables are negatively correlated.

Table 6. Structure Matrix (Source: author's compilation)

Variable	Function
X10	0.802
X04	-0.534
X07	-0.529
X27	-0.501
X28	-0.417
X25	-0.312
X21	0.154

Finally, the model's classification ability was evaluated using the classification table. As the first part, the percentage of correct classification of companies in the test sample was evaluated. The model correctly classified 73.5% of all companies. But, what is more important to us is that 93.1% of companies with financial problems were correctly marked as non-prosperous. Since this model's classification ability may be slightly overestimated by using the original test sample, the percentage of

the correct classification of small companies was verified by the training sample, which accounted for 20% of the original data file. This evaluation constitutes the second part of the classification table (Table 7) below.

Table 7. Classification table (Source: author's compilation)

Y			Predicted Group Membership		Total
			0	1	
Test sample	Count	0	35486	17537	53023
		1	1229	16486	17715
	%	0	66.93	33.1	100.0
		1	6.94	93.1	100.0
Training sample	Count	0	8815	4232	13047
		1	314	4153	4467
	%	0	67.56	32.4	100.0
		1	7.03	93.0	100.0

In the training sample, the model correctly classified 93% of the really non-prosperous companies to be non-prosperous. In view of this, the model can be considered to be a sufficiently correct tool to detect the financial difficulties of small companies in Slovakia.

Conclusions

This article has introduced a model of predicting the financial difficulties of small companies in the Slovak Republic. This model was created by using a linear discriminant analysis. This method is the most widely used one for predicting a company's bankruptcy. It's also thanks to its simple application and interpretability. The model was created on the basis of real data from the financial statements of Slovak small companies that come from the Amadeus database. The prediction model include a total of 24 financial ratios, from which by using a step method in the final model, 7 variables remained. These variables are the best discriminators when determining a company in financial difficulties. The paper also reported the values of the correlation coefficients between the resulting discriminant function and the individual variables included in it. Based on this, correlations can be determined, and it can be understood which variables have positive and the negative impact on the value of the discriminant function, that determines the inclusion of the company into one of the groups. The classification ability of the model is very good; the model correctly ranked up 93.1% of non-prosperous companies within the test sample and 93% of non-prosperous companies in the training sample. Correct classification of the company to a group of companies in financial distress is very important because it demonstrates the impending financial difficulties, or even imminent bankruptcy. For company management, this information, that can be achieved through a predictive model one year in advance, is very important, as the company can then take the necessary measures that would enable them to improve the situation and avert the impending difficulties. In future, there is the possibility of verifying the validity of the model or improving its prediction ability by applying it to the more up-to-date data of small companies form the year 2017.

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SENSORY MARKETING FROM THE PERSPECTIVE OF A SUPPORT TOOL FOR BUILDING BRAND VALUE

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Abstract. A brand is one way to distinguish products from each other, while simplifying consumers' decisions in choosing an appropriate product. Brand building is not just about design but also strategy, which is even more important in the process. The result of brand building is the potential to represent a certain value for the company. However, sustaining and improving a brand's position in the market is not a simple process in the current competitive environment. Therefore, there is scope for application of new marketing strategies such as sensory marketing. Sensory marketing represents a way for companies to influence consumers' senses (sight, hearing, smell, touch, taste) and evoke the emotions affecting their buying behaviour and perceptions of the product or brand. The aim of the article is to provide a literature review on the issue from several foreign and domestic authors. It discusses the essence of a brand, brand value, sensory marketing and also analyses its use as a support tool for building brand value in practice through secondary research data. Based on this, in conclusion, the authors highlight the benefits of using sensory marketing for building brand value, including ensuring loyalty of standing customers as well as gaining new ones, building a successful brand and positive perception of the brand and product by users.

Keywords: sensory marketing; brand value; consumer; emotions; buying behaviour

JEL Classification: M30, M31

Introduction

The brand currently performs a very wide range of tasks and it has great importance not only to the brand owner but also to every market entity. Therefore, the brand represents a certain added value for the product. It makes it easier for consumers to make purchasing decisions, reduces purchase risks and confirms the producer that a product or service meets customer needs and fulfils its expectations in the same quality as the product declares. Therefore, a strong brand is one of the most valuable assets of the company and also a very effective tool in a competitive battle (Salaga *et al.* 2015). It is very complicated and costly to get customers who are faithful to another established brand (Podhorska *et al.* 2016). If they know what they can expect from verified branded products, it is challenging to get them to try another brand, even though these products can be even better (Lizbetinova 2017). This forms a barrier to entry into the market by potential competitors and makes it much more difficult for the current competitors.

Each brand goes through several periods of its life cycle when it gains or loses the value or loyalty of consumers. Based on this, we can claim that the favour and loyalty along with the brand image are the essence of brand value. The brand can be marked as successful when, among other things, it awakens and leaves some emotions to the customer. One reason is to stimulate the consumer's senses that are directly linked to the limbic part of our brain, responsible for memories, feelings, pleasures or emotions. It's just the senses through which a company can be unique and specific in its area, build a brand and image, differentiate itself from competition, and secure the loyalty of its customers.

The aim of the article includes to provide a literature review on the issue from several foreign and domestic authors. It discusses the essence of a brand, brand value, sensory marketing and also analyses its use as a support tool for building brand value in practice through secondary research data.

The primary source for writing the post was secondary data. In their processing, mainly general scientific methods were used, such as analysis, synthesis, deduction, induction and comparison.

Literature Review

The issue of the brand and its value is currently dealt with by many foreign and domestic authors. According to the American Marketing Association, a brand is a name, term, design, symbol, or any other feature that identifies one seller's good or service as distinct from those of the other sellers. Keller (2007) defines the brand as a further dimension of the product that distinguishes it from other products. Kotler (2011) perceives the brand as the declared product quality. Schmitt (2012) represents a consumer-psychological model of the brand with the possibility to test using both traditional methods and consumer neuroscience. He (2012) examines the identity of the brand, the relationship of the customers to the brand and the acquisition of their loyalty.

The brand value for the consumer lies in the trust in the unmatched quality of the product at a stable price, advantageous purchase, product satisfaction, brand communications with consumers, traditions, customer's associations with a particular brand, the prestige given by using the product and so on. Associations that a consumer deals with in connection with the brand are such an abstract aspect that contributes to the brand value creation and can be both positive and negative.

Leek and Christodoulides (2012) define brand value as the value of goods and services, as well as added value (functional and emotional) from the brand. According to Aaker (2003), the brand value is a set of assets or liabilities linked to a brand's name and symbol that adds to or subtracts from the value provided by a product or service. However, in addition to these standard items, the value of the brand and the company is also made up of extensive intellectual property, goodwill and last but not least, the price of brands that they have in their portfolio.

On the above, we can say that brand value is measured by the consumer's willingness to buy or not to buy the brand's products. The measurement of brand value is strongly linked to loyalty and it measures segments starting with loyal users, ending with those who can move to the brand from competitors.

Tracking the development of consumer buying behaviour and their perception of brand value offers space for new marketing strategies, including the sensory marketing.

Nowadays, the topic of sensory marketing is very current in order to gain a competitive advantage. The essence of sensory marketing is dealt with by several world-renowned authors, who explore it not only from a marketing point of view, but also from a psychological or sociological point of view.

Significant foreign authors include, in particular, the American professor Krishna, who is considered as a pioneer in sensory marketing. In the publication Sensory Marketing: Research on Sensuality of Products (2011), she describes how sensory aspects of products, that is, touch, taste, smell, sound, and appearance of products affect our emotions, memories, perceptions, preferences and choice of product consumption.

Swedish writers Hulten *et al.* (2009) deal with the shift from mass marketing to the sensual. Lintelle (2014) provides a general framework for the impact of senses on consumer perceptions. Danish author Lindstrom (2010) shows how companies can appeal to five consumer senses. Derval (2010) helps understand and reveal consumer behaviour and preferences in the field of senses, fine-tune their location and assortment for each market. The American authors Batra *et al.* (2016) point to the importance of design in creating consumer desires for products. Bercik *et al.* (2016) deal with customer behaviour at sales points that is affected by the surroundings and feelings of well-being. Other renowned authors in the field of sensory marketing are Streicher and Estes (2016), dealing with the touch, highlight the importance of touching products before the actual purchase decision. Huang (2015) deals with the perception of food and beverages. He indicates that the colour of food or drink has effects associated with consumer emotions and consumers' existing expectations. Miletu *et al.*

(2016) explore emotions and their impact on consumers and their decision-making processes. Pereira *et al.* (2016) deal with the continuous development of marketing, especially by addressing the minds of consumers. According to them, sensory marketing expects not only addressing consumers' minds, but also influencing consumer emotions. They detected the impact of senses in relation to the brand, which determine the strong effect of sensory marketing in relation to the mark. They also provide information that companies should take into account in their marketing strategies in the field of sensory marketing. Kardes *et al.* (2010) deal with sensual marketing in terms of emotional, behavioural and mental impact on the mind of the consumer.

Among the renowned home authors belong Rybanska *et al.* (2016), who emphasize globalization in individual markets, consider sense marketing as a new marketing technique based on synergy between product or brand and consumer, using human senses. We can also mention Vysekalova, one of the most acclaimed Czech authors in the field of advertising psychology. In the publication Psychology of Advertising (2007) and Marketing Emotions (2014), she focuses on sensory marketing and its impact on customers, answering questions about what the customer prefers, how he is influenced by the image, sound or other aspects of sensory marketing.

Most Slovak authors agree that it is necessary to create a synergy between the different aspects of sensory marketing, that can create a positive image of the company and of course of the brand, not only for their consumers but also for the company itself.

Based on the above and other publications, we can choose a few definitions of sensory marketing.

According to Soars (2009), sensory marketing is a marketing that focuses on understanding consumer's perceptions. It is a process that starts with exposure to consumer's senses to stimulus and the way consumers analyse, interpret and respond to these suggestions. These activities are used to create a marketing plan, which aims to design products and brands in a way to interest the consumer. They are a key factor for consumer awareness of product and brand awareness.

According to Lindstrom (2010), sensory marketing represents a marketing focused on human senses that have not been given enough attention in traditional marketing. Each person's senses are diverse and relevant to his shopping behaviour and purchasing experiences. By means of senses, each individual is aware of and perceives the world around him, and also the products offered by the company. For this reason, marketers get information and other insight into the human senses they use to make the business more successful and the customer more satisfied. By acting on the customer's senses, a company can create a deeper and more personal relationship with customers and thus, with appropriate tactics, increase sales and reach the goals of the business.

Sensory marketing can be applied in various fields of business. Using sensory marketing, a company can influence consumer's purchasing perceptions, whether for both new and current products. It is used almost everywhere, so consumer's senses are influenced without the consumer's being conscious (Lindstrom, 2005).

According to the Czech author Vysekalova (2007), sensory marketing is also associated with sensory marketing of the brand, which represents a type of marketing appealing to all senses in relation to the brand. It uses all the consumer's senses that touch its emotional level. Brands can thus distract the emotional association in the minds of consumers, thereby achieving a sensory experience that is described as an individual perception of products and services or other requirements in the process of shopping, as well as the image that attacks the human mind and senses.

According to SAM research (2016), sensory marketing is based on the fact that most consumers are buying impulsively, which means that shopping is not a rational business, but rather, it is based on consumer emotions.

Providing customers with unique and memorable experiences to establish a positive customer-brand relationship has become one of the key challenges for brand managers. However, it is still little known about how the sensory marketing lead to build strong brand value for customer.

Therefore, Wiedmann *et al.* (2018) conducted an empirical study in a distinctive service industry, luxury hotels, that provides a good role model for learning about an approach that targets all senses.

The main goal of the study was to better understand the causal relationships among multisensory marketing, brand experience, customer perceived value and brand strength. The results of the study show that multisensory marketing is an important means to establish brand experiences that reflects in the brand value perceived by customer. And that's what creates brand strength.

Several other authors agree on the same. According to Rybanska *et al.* (2014), sensory marketing is a revolutionary new development based on creating the concept and the brand image (including the brand value) and building the perfect synergy between product and consumer leading to increased consumption. It means, more the senses are engaged in relation to a specific brand means a greater chance in gaining the customer.

Whether the above-mentioned authors are devoted to sensory marketing from marketing, sociological or psychological view, with specialization on one or more of them, largely they agree that traditional marketing tools are no longer sufficient for consumers. The market offer is very wide, and so, the consumer becomes indecisive when choosing a product or brand. They point to the fact that consumer's senses and emotions are one of the major factors influencing consumer's buying decisions while their importance has been underestimated by marketers for a relatively long time.

Therefore, companies need to be unique and distinguish their products and especially their brands from the competitors with the possibility of using individual aspects of sensory marketing. Selected authors also appeal to the proper and correct application of sensory marketing tools, with which a company can ensure long-term trust and loyalty of its customers, a unique marketing strategy and successful building of the brand value. At the same time, they get feedback from consumers, which is a prerequisite for effective customer relationship management and satisfaction of their needs and expectations.

Because sensory marketing is based on the use of the consumer's senses, we can characterize its individual components as follows:

- Visual marketing is based on the fact that the view is the most used sense in marketing, which is the most stimulated by environment. Choosing colours, shapes and product materials is important for organizing a sales place, implementing a promotional campaign for key success or failure factors that must be well understood by marketers to attract a consumer.
- Audio marketing is based on the fact that sound has a significant influence on the mood of the consumer and thus his shopping behaviour. Linking music and advertising correctly ensures that the consumer remembers it easily. Music plays an important role in promoting the identity and the atmosphere of a business company in accordance with the client's business.
- Aroma marketing is based on the fact that the smells that the human nose feels give rise to certain stimuli in the brain responsible for creating emotions and memories. Unlike sight, smell produce much more emotional experiences and thanks to the smell, we recognize them and specify for a long time.
- Tactile marketing is based on the fact that human skin has several million sensory receptors to help us perceive materials, weight, smoothness, simplicity or complexity of products. The sense of touch plays an important role with regard to the design of packaging, the consumer can test whether a product has the required and expected properties, and also to persuade the quality of this product. It also perceives the overall atmosphere and the individual elements of the environment, because touching is one of the main factors driving a sense of well-being.
- Taste marketing is an important part of sensual marketing that allows a company to differentiate itself from competition. In particular, it includes promoting on-site sales in the form of tastings. By means of taste receptors, consumers can specify tastes and what they like on the basis of taste sensations.

In general, when sensory marketing is applied, the condition is that the intensity of the stimulus should be above the threshold of perception, and the consumer must be in the state of average attention. It should also be noted that if the product and respectively the brand influences more senses at the same time, the consumer perceives it more intensely and leaves deeper emotions in him.

Methodology

The aim of the article is to define the theoretical basics of brand, brand value, building the brand value and sensory marketing from the viewpoint of several foreign and Slovak authors, to analyse and to point out the use of sensory marketing as a support tool for building brand value in practice. Based on the results of the analysis were highlighted benefits of using sensory marketing for building brand value, including ensuring the loyalty of standing customers as well as gaining new, a successful branding and positive perception of brand and product by users.

The basic sources of research were secondary data obtained from companies' reports, statistical rosters, published reports in print and electronic media of professional publications. In the processing of the data, mainly general scientific methods such as description, comparison, analysis, synthesis, deduction and induction were used.

Results

Sensory marketing is becoming increasingly important for companies in Slovakia and abroad, precisely because of the acquisition of competitive advantage. Whether it is the sale of tangible products or services, by influencing the consumer in an imaginative way and acting on his senses, the company can shape the overall atmosphere in order to create a good relationship of the consumer to the brand and the product.

The main reason for the use of sensory marketing to build a brand and increase its value is the ever-increasing competition that makes sensory marketing a way of differentiating from other competitors. Another reason for the use of sensory marketing is the mass development of e-commerce; so, the stone stores need to find a way to develop the features that the Internet does not have (Moravcikova 2017). The advantage of stone shops is the possibility of tasting, smelling, touching products, or pleasant atmosphere at the point of sale.

Based on the above, we can summarize the possibilities of the individual components of sensory marketing in order to build the customer relationship to the brand and its perception of brand value.

Visual marketing is based on the fact that consumers are able to perceive shapes, forms, colours, dimensions, movements and distances between objects. Also, in recent years, scientists have pointed out that the way in which the product is presented, it means how it looks, is an important factor for the consumer. When building a brand value, choosing colours and logos is one of the most important decisions to influence consumers in a positive way and remember them for a long time. In practice, brand selection represents a number of attempts to sort consumers' responses to individual colours. Up to 90% of all product reviews are based on the colour, depending on the product. Colours and shapes are the first way of identifying and differentiating. And the fact that individual brands have their own colours has its own justification because colours are easy to store in the customer's memory. For example, Coca-Cola and its red-white, the same colours KFC or the red-yellow Mc Donald logo (Singh, 2006). We can argue that consumer behaviour and brand perception are largely influenced by colours. The colours affect not only the person, but also the relationship, and the opinion about the brand is also important. The colours and overall colour of the brand, logos, product is important, but more important is the colour suitability of the product.

Audio marketing is based on the fact that sounds are a part of everyday life of each and every one of us. We can hear them at every step; they affect our behaviour and our mood. Music is easy to access and has many uses in marketing. But compared with the use of audio marketing in Slovakia and abroad, Slovakia lags behind. When we compare internationally with other developed countries (for example, Switzerland or Germany), we can safely say that traders' awareness of the possibilities of using music in marketing is much higher in those countries than in Slovakia. Music puts great emphasis on sales. Its goal is to influence the mind of the customer so that he can buy the product. Studies have also been carried out to find out what kind of music best suits the different places of sale. For example, classical music will enhance the quality of the wine cellar. It has also been shown that when salespeople play French music in their shop, more French wines were sold because the customer

was affected by the music that was playing in the wine trade. Music also influences the time that a customer spends at the point of sale. Fast music increases customer turnover and slows the cost of each individual customer. The international trade chain Tesco uses the Store Media services in the Slovak market, namely a music program, which makes it easier to shop for customers in its business chain every day. The use of music is also important in advertisements. Many transnational brands use sounds and melodies that customers remember. As an example, we can mention the Magnum ice cream, which uses the sound of cracking chocolate in the commercials, when it comes to the ice cream bar; the Coca Cola brand, which uses the sparkling sound of a drink when the consumer opens it and then pours it into the glass. Each of Mc Donald's customers well knows the well-known slogan 'I am lovin it'. Mc Donald combines sound in conjunction with the sound, and thus, uses it in its marketing to influence the senses and memory of consumers.

Aroma marketing is a powerful tool for triggering emotions in consumers. Information that the customer perceives by the smell influences directly and immediately upon his decision. Surveys have highlighted the fact that smell can change the mood of the consumer, especially when the consumer is waiting for it. For example, the American Barnes & Noble chain smells like new books and fresh coffee beans. This is how they try to release their clients. Studies have also shown that clients are more willing to buy if the product blends with a pleasant smell, but it is also possible to induce a negative reaction to the client if the smell of the place of sale is unpleasant. Tests and studies have also shown that women and men tend not to stay too much in the area that smells as opposite sex. Nowadays, with many opportunities, there are specialized companies who are able to suggest the right combination of aspects of sensory marketing, such as a combination of smell just for a particular business. At the same time, it is important to note that the aroma marketing is not just about creating the atmosphere but also about appealing to the potential customers with a pleasant smell. Successful international trade chains have long known that the smell of chocolate and the scent of freshly baked bread increases the sales of products in supermarkets. In clothing stores, such as in Bershka, a lot more trousers are sold since then, when pheromones of selected fragrances are used and dosed every two hours. Sony uses just the smell of vanilla and mandarin to attract consumers, the coffee shop uses the scent of freshly brewed coffee and the Sheraton hotel chain with jasmine, figs and spice clove. In Italy, the hotel chains use creative marketing, so each floor of the hotel can be smelled with another floral scent.

Tactile marketing relates to the use of materials, technologies to improve the sale of products and services through tactile sensations. Touch contributes to building the relationship between the product and the consumer, which is formed through contact. A positive touch experience mainly concerns information such as the value, durability and functionality of the products. Product touch is an important part of product sales. Companies also give importance to the consumer's attention on the shape of products. The shape is another way of selling products based on its tactile properties. For example, Coca-Cola bottles are closely linked to their familiar shape and the way they fit into their hands. Mc Donald also uses hamburger wrappers, fries and other products that each customer can identify. Customers recognize well-known brands with colours and shapes. If a company wants to sell a product with an unusual shape, it's a good idea to try this form on multiple target groups. If the seller gets a positive answer, he knows he has a unique shape for a marketing campaign. Another important part of the touch for companies is the weight of products. Weight talks to the customer about the resilience and strength of the product and the ease and simplicity of use. An example is furniture. It is generally known that if the furniture is heavy, it is considered to be more valuable. The customer recognizes that the furniture is made of quality wood and not light wood chipboard. The use of sensory marketing in this area is used, for example, by Decodom, whose products are characterized by high quality.

Taste marketing is used mainly in the food sector. Many food businesses are just starting to realize the importance of influencing consumer's senses and subconscious minds. In a recent study investigated by the well-known pioneer of sensual marketing Krishna (2011), the effects of sensations in food advertising were investigated. It was found that food in advertising increases the taste of people and also affects the amount consumed by the consumer. For example, the image of biscuits helps consumers identify and get memories, raises the taste of biscuits, creates a lively mental image and a

pleasant experience that results in a positive response. While businesses in the food industry spend billions on advertising each year, marketers do not use the potential of sensory marketing well enough. Krishna (2011) suggests that even simple changes in visualization and text can produce delicious ads that cause the consumer to taste food. Taste marketing is not only used in the food industry but is also justified where the products are getting close to the consumer's mouth. We can mention, for example, a well-known Italian cosmetics brand Pupa, which produces lipsticks with different flavours, thus giving consumers a pleasant feeling and taste. Other brands that use fragrances and flavours in their products include, among others, Mary Kay, LR or Avon. Also known fast food restaurants realize the power of taste, smell and other sensory aspects of marketing, which is reflected in their mass attendance.

In practice, we meet with a number of successful cases of building brand value through sensory marketing. Many other companies are aware of the importance of consumer empowerment, to a large extent. Dunkin Donuts in South Korea conducted a campaign that focused on the hearing and smell senses of consumers by playing business melody in city buses, where the sprayer also acted on the smell by coffee aroma. The campaign's results were favourable as the sales of the brand increased by 29%.

In 2006, TV advertising for the Swedish Volvo brand was made as part of the Ford Motor Company. It was commercially broadcast on Swedish TV4 channels under the theme 'The Sixth Sense'. This automaker wanted to point out that if a person drives a car, it is obvious that he uses at least three human senses, namely sight, sound and touch. Volvo understood the importance of senses and spread the message that Volvo is a car that should be perceived as 'The Sixth Sense'. For a driver, it is a pleasure to drive such a car. Volvo takes care of safety and also the extraordinary driving experience. And why the sixth sense? For example, because Volvo feels when it is near the threat of collision with another vehicle, it feels near threat and then automatically slows down.

In an attempt to get people to pay attention to public service announcements, Metro Trains in Australia created a viral awareness campaign. First, they wrote and released a song on YouTube. This then led to a Tumblr site, a book, radio airplay, outdoor advertising, a smartphone game, a karaoke video, and posters that called for people to take a safety pledge. The response was phenomenal, and the impact was tangible. The campaign transformed dull safety announcements into something memorable and enjoyable; and it changed people from being passive consumers into active participants (Villiers 2016).

The popular brand Netflix has achieved success when it effectively applied multi-sensorial. The Netflix Switch dims the lights, silences calls, orders take-aways, and turns on the man's shows. It transforms the concept of Netflix and chill into a reality. People have to build the switch themselves, which makes this a relatively exclusive experience that requires knowledge and skill in electronics and programming (Villiers 2016).

Meet South Africa, a tourism brand, uses many visual clues among others to immerse the viewer in the world of South African sensory experiences, such as the feeling of sand between toes, salty ocean air on face, the rush of surfing, and the intricate detail of textured art, the rhythmic sound of drum and dance and language, the earthy aroma and taste of wine and fruit. This is a multi-sensorial experience of South Africa that does not depend solely on sight (Villiers 2016).

Ibiza Sublimotion, as the well-known and most expensive restaurant in the world, offers its customers a truly multi-sensory experience, combining their meals with a digital environment that changes with food. Thanks to its creativity and the use of senses, it is reserved a few months in advance. Its aim is to awaken the senses of customers, bringing them back to forgotten memories, whether it's fear, laughter, joy or nostalgia.

Starbucks, in building brand value, chooses the same scent of freshly prepared coffee and all playlists or specific materials that make a lasting impression on the consumer. These sensory marketing elements are so identical in branches around the world. Choosing the same device, music, scents should help the consumer immediately identify the brand, no matter what nationality the consumer is.

These cases are only a fraction of the successful use of sensory marketing in practice, with the aim of building and respectively, strengthening the brand value. Based on the above, we would like to point out that the perspective of sensory marketing as a support tool for building brand value or reinforcing it in the eyes of customers is well founded.

Conclusions

Nowadays, building a strong, competitive position and securing success in market is not at all easy for companies. One of the most effective ways is to promote sales through senses.

So, when the entire marketing world talks about customer experiences and focuses on creating emotional interconnection between brands and customers, the sensory marketing is an effective way to ensure the loyalty of current customers as well as new ones, while also providing customers with a unique shopping experience. It is also important for successful branding, positive consumer perceptions and brand value-enhancing tool for customers. Using multiple sensory experiences ensures better connectivity with consumers in a world that is full of traditional visual and audio ads and marketing campaigns.

In sensory marketing, expectation is the driving force of success. The first look at the product offers expectations of form, material and smell. If these expectations are not met, it means expectations are not responsive to sensory perception, the consumer is surprised by this sensible mismatch. This then affects the experience with the product. If product experience exceeds expectations, consumers often evaluate the experience as positive. If the interaction is inadequate, experience is often considered negative. That sensory mismatch also affects brand value rating. Consumers' brand perceptions is based on the mentioned interactions with the brand.

On the basis of the above, we can summarize that the use of sensory marketing as a supporting tool for building and hence strengthening brand value perceived by customers has many benefits: 1) increasing the number of customers and thus increasing sales; 2) obtaining a competitive advantage; 3) strengthening the value of the brand perceived by customers; 4) strengthening the market position of the brand; 5) increasing consumer awareness of the brand; 6) improving the effectiveness of the brand's product sales; 7) improving brand image; and 8) achieving customer loyalty.

Acknowledgements

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PREDICTIVE ABILITY OF CHOSEN BANKRUPTCY MODELS: A CASE STUDY OF SLOVAK REPUBLIC

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Abstract. Bankruptcy models are used to assess credit risk and predict financial situation to indicate the probable bankruptcy of the company. Contribution deals with the application of chosen bankruptcy models in analysing and predicting the financial health of selected companies. Most of the models have been developed abroad. In case of Slovak Republic, its application and correctness of the results can be problematic; therefore, we have focused primarily on those that have emerged in countries with a similar economy. We have calculated the selected prediction models in a sample of 500 Slovak enterprises. Predictive ability lower than 64% is considered as unfavourable. As part of the contribution, based on expert literature and relevant legislation, we have defined the criteria that allow to divide businesses into two groups: prosperous and non-prosperous. In the end, we compared the results of the selected models with the inclusion of enterprises in a prosperous and non-prosperous group based on the criteria set by us. We also dealt with examining of error types I (when an enterprise in bad financial condition is included in a non-bankruptcy group) and II (when an enterprise in good financial condition is included in a bankruptcy group). The aim is to analyse the predictive ability of the selected bankruptcy models.

Introduction

Predicting bankruptcy is becoming increasingly important for corporate governance. Many different bankruptcy models are used to predict the upcoming financial difficulties. A large number of economists around the globe are dealing with the development of predictive bankruptcy models that could give a timely prediction of incoming or emerging financial hardship. In this way, they can offer advice to users on how to prevent the bankruptcy of their company or how to delay the bankruptcy as much as possible. Neither model has one hundred percent speech ability. Each mechanism has its strengths and its weaknesses. Therefore, the choice between them is not easy. The aim is to analyse the predictive ability of selected bankruptcy models. Most of the older verified prediction models come from abroad, especially from the US. However, the US economic environment is completely different from that of the emerging markets. Therefore, the relevance of using these models may be questioned. However, new predictive models are being developed and tested under the condition of emerging markets. As part of our contribution, we mainly focused on them and we analysed their predictive abilities through a matrix of change. In this contribution, we were working with a database consisting of 500 financial statements of Slovak enterprises that capture the years 2016 and 2017. At the outset, we have divided the enterprises into threatened with bankruptcies and those to whom bankruptcy is not threatened, based on the criteria that are more specifically mentioned in the methodological part of the contribution. We subsequently evaluated the financial health of these businesses through four selected prediction models. In the last part we compared the results. We recorded the results of the comparison in the matrix of changes. We have examined how many times a match is made between

placing a business in a bankruptcy or non-bankruptcy group on the basis of the criteria chosen by us (according to The Commercial Code) and between assessing the financial stability set by the selected models. On the basis of which, it was possible to determine the predictive ability of the model under conditions of the Slovak Republic. The relevance of the results is determined by a relatively large sample of enterprises.

We have found different definitions of bankruptcy models in book publications. According to Svabova L. and Kral P., bankruptcy models are a system of several ratios that are weighted, and their weighted sum gives a score that determines whether an enterprise is prone to financial distress and bankruptcy, or a bankruptcy is very unlikely, or the score is in the grey zone, that is, inside an interval, when the bankruptcy probability cannot be decided (Svabova, Kral 2016). According to S. Cisko and T. Kliestik, the role of bankruptcy models is to inform the user in advance of whether the business is in the near future threatened with bankruptcy (Cisko, Kliestik 2013). Bankruptcy models predict business failure and are built on empirical data from the economy and the market (Virag, Kristof 2005). It is important to remember that the success of a given model depends, in particular, on the input data. There is a possibility that this information may be somewhat distorted. Point assessment methods, mathematical-statistical methods and neural networks are used to forecast the future development of a business entity's financial position. Numerous authors have used mathematical and statistical methods on which they have constructed their models, and these are still well-proven. Bankruptcy models based on mathematical and statistical methods are based on discriminatory analysis (one-dimensional, multidimensional), logistic regression (LOGIT, PROBIT models), and structural models form a specific group. Over time, a number of economists are beginning to take on more advanced methods of modelling, mainly neural networks, as well as genetic algorithms, decision trees, proportional hazard models, expert systems or mathematical programming.

Literature Review

One of the oldest papers dealing with business failure and bankruptcy prediction was an article by Paul J. FitzPatrick (1932) titled *'A Comparison of the Ratios of Successful Industrial Enterprises Those of Failed Companies'* in the 1930s. The beginnings of the prediction models are mainly related to the United States. William H. Beaver's pioneer work (1966) titled *'Financial Ratios and Predictors of Failure',* and in particular Edward I. Altman's (1968) *'Financial Ratios. Discriminant Analysis and Prediction of Corporate Bankruptcy'*, developed the first business insolvency models. One-off and multi-purpose approaches and available data from the US companies were used. We find very interesting the fact that the emergence of predictive models was not the result of any economic crisis or other external factors that would have a significant impact on the functioning of the country's economy but the natural development of financial management research (Mousavi *et al.* 2015).

Looking at the method of one-dimensional discriminatory analysis, which was used among the first by W. H. Beaver in his work, does not use any complicated apparatus apart from the graphical representation of the values of the selected ratios. His approach is based on the so-called dichotomous classification test, where multiple ratios with highest predictive power are selected. However, over time, many opinions have emerged that have negated the unambiguous predictability of financial health by Beaver. As a result, more complex, so-called multidimensional statistical methods were created. These make it possible to categorize businesses definitely. One of the authors of multidimensional methods, namely the multidimensional discriminatory analysis, was in fact E. I. Altman. His work is based on the ideas of R. A. Fisher (1936), specifically his article *'The Use of Multiple Measurements in Taxonomic Problems'.* By using this analysis, businesses can be divided into two groups – bankruptcy and non-bankruptcy businesses based on a linear combination of characteristics that best differentiates between these two groups. In his research, he used 5 financial ratios that have the best ability to predict the financial health of the enterprise. He assigned them weight and created a discriminatory function. However, along with the methodology, he also studied its reliability, and respectively error. He divided the faulty ratings into two types: Error α – Faulty Type I, in which non-prosperous businesses are ranked among prosperous and Error β – Faulty Type II, where prosperous businesses are ranked among non-prosperous. E. I. Altman, therefore, could be identified as the father of predictive models, because after his studies and research, further

development occurred, not only in the United States but also globally. Another national business environment or different types of accounting systems led Professor E. I. Altman to develop specification of his models by applying them to other national economies such as Altman, Kim and Eom (1995), Altman, Lavalle (1981) or Altaman et al. (1972). He also attempted to design models for the rapidly expanding markets Altman, Hotchkiss (2006). In addition to Altman, many other pioneers in the field of predictive models wanted to apply their models to other national economies such as Taffler (1982), Koban (1978), Horrigan (1996) Kralicek (1990) (Weissova, Gregova 2016; Abiodun *et al*. 2017).

In his publication, T. E. McKee (2000) presented a division of several methods of constructing prediction models: one-dimensional models, multiple discriminatory analysis, linear probability models, LOGIT and PROBIT models, decision trees, proportional hazard model, expert systems, mathematical programming, neural networks, or a rough set approach. We can say, that the apparatus of discriminatory analysis is thus overcome by modern methods, one of which is logistic regression. This method is based on finding a dependency of the logistic variable (0 – non-bankruptcy enterprise and 1 – bankruptcy enterprise) from multiple independent variables, which means from financial ratios. Modified regression analyses are called LOGIT and PROBIT models. The beginnings of the LOGIT model are associated with J. Ohlson (1980) and J. E. Fernandes (2005) and PROBIT analysis with Mark E. Zmijewski (1984) (Jones 1987; Altman 2005).

Within the Slovak Republic, models were developed for one area of the national economy, namely agriculture. These are the CH-index of Z. Chrastinova (1998) and the G-index of L. Gurcik (2002). The CH-index of Z. Chrastininova (1998) is created by a discriminatory function and is among the first bankruptcy models of ex ante analysis of agricultural enterprises. It was published in the publication titled *'Methods of Valuation of Economic Creditworthiness and Financial Situation Prediction in Agricultural Enterprises'*. Testing was done on a sample of 1123 enterprises. The result of this test is the claim that the model can be realistically applied in SR conditions. The model classifies most of the enterprises into the gray zone as a troubled enterprise, which mainly results in long maturities of the liabilities. This model is used not only in Slovakia but also in the Czech Republic. (Chrastinova 1998) G-Index of L. Gurcik (2002) is a multiple discriminatory analysis model. He published it under the title *'G-index - Method of Predicting the Financial Condition of Agricultural Enterprises'*. He focused on a set of 60 agricultural enterprises, which he divided into prosperous and non-prosperous according to their profitability and return on equity (Gurcik 2002). However, the index or part of it cannot be used to predict a problem of insolvency (Fanelli, Ryden 2018). Another one, within the Slovak Republic, is the model predicting the future decline of businesses operating in the conditions of the Slovak Republic. The author of the model is M. Gulka (2016), who developed it through logistic regression. All business entities based in the SR were the object of the survey, with the exception of the financial sector. Altogether, the testing database contained 120,854 enterprises. The study has brought interesting results. Using only the financial ratios, the accuracy of the model was 75% to 80%. The surveyed set of business subjects was also applied to Altman's Z-score. Subsequently, the Gulka's model and Z-score were compared. The result is a higher success rate of 75.64% compared to the Z-score with 55.09%. M. Gulka in his thesis also questions the usability of the Altman Z-score model in SR conditions, as Z-score denotes many Slovak companies as failing. This is mainly due to the fact that Z-Score was developed for the US companies and in different times (Gulka 2016; Cisko, Klieštik 2013). M. Gulka was awarded the NBS Governor Prize for his research in his diploma thesis titled *'Model of Bankruptcy Prediction of Businesses Operating in the Slovak Republic'*. Other author J. Hurtosova (2009) also developed a model using logistic regression in her dissertation thesis titled *'Construction of a rating model, a tool for assessing the creditworthiness of an enterprise'*. The input data for the model came from an anonymous commercial bank based in the Slovak Republic, which provided information on business entities (legal entities and individuals). The author examined a sample of 427 business entities and utilized four of the original 126 financial ratios.

In the current literature, we find a wide range of available bankruptcy models, which vary considerably by their applicability in the conditions of the Slovak Republic, depending on the level of their ability to report (Weissova, Durica 2016; Neumaierova, Neumaier 2005; Rowland *et al. 2016*).

Methodology

Bankruptcy models are aggregated indexes, the main purpose of which is to express the financial and economic situation of a company using a single number. They are based on the construction of classification models using historical data. They are directly based on the assumption that past values of suitably selected financial and economic indicators can indicate the development of financial health. Bankruptcy models therefore deal with a possible default of the business, in other words, warn against the likely bankruptcy of a business. In bankruptcy models, their predictive ability is verified. Some of them should be used within a precisely specified industry (Hurtosova model, Gurcik model), others take into account certain specificities of the country in which they were created. Especially when applying foreign models in the conditions of the Slovak Republic, a problem of their low predictive ability occurs. Predictive ability of less than 64% is considered to be unfavourable, on the contrary, more than 70% is considered to be good, higher than 83% is relatively high, and in cases where predictive ability reaches 97%, we can talk about extreme. The paper also focuses on examining the extent of classification errors. For a Type I error, the bankruptcy is classified as a prosperous. Type II error on the other hand, classifies a prosperous enterprise as bankrupt one (Zavgren 1985). As part of our paper, we have focused on the calculation of selected prediction models, which are very often used in our territories to predict bankruptcy, and then we compare the results of these models with whether or not the enterprise is actually in decline or whether it is threatened or not by bankruptcy. For comparison, however, it was first necessary to characterize the criteria that distinguish a prosperous and non-prosperous enterprise. In defining the following criteria, we mainly took into account the legislative adjustment of the subject matter. The declaration of bankruptcy of the debtor's assets is considered when he goes bankrupt. The bankruptcy is governed by § 3 of Act no. 7/2005 Coll. on Bankruptcy and Restructuring, as amended, according to which the debtor is in decline if he is insolvent or overdebted. It is therefore necessary to define clear rules when an enterprise is in decline or being overdebted and, on the basis of these rules, to divide businesses from our group into prosperous and non-prosperous.

- A legal person is insolvent if it is unable to pay at least two monetary obligations to more than one creditor for 30 days after the due date. With such a large sample of businesses that we will be working with, it will not be possible to determine individually how many financial obligations every single company has over maturity (and how long) or the exact number of their creditors. This cannot be ascertained directly from the financial statements. Therefore, we would suggest using an overall liquidity indicator. The decisive criterion for non-prosperous businesses is as follows:

$$L_3 < 1 \qquad (1)$$

  Another criterion may be achievement of profit. The inability of a business to generate profits may lead to insolvency. The decisive criterion for non-prosperous businesses is as follows:

$$Earning\ after\ tax \leq 0 \qquad (2)$$

- An overdebted company is required to keep accounts under a special regulation, has more than one creditor and the value of his obligations exceeds the value of his assets. Therefore this company has a negative equity. The decisive for non-prosperous businesses is as follows:

$$assets - (liabilities\ + liabilities\ accruals) < 0 \qquad (3)$$

Amendment to Act no. 513/1991 Coll. The Commercial Code, as amended, comes with a new institute – a company in crisis, that came into force on 01.01.2016, which we can also consider when assessing the client's creditworthiness. The company is in a crisis when it is in decline or at a risk of decline. Decline has already been defined above. Amendment to Act no. 513/1991 Coll. The Commercial Code, as amended, comes with the definition of the conditions under which companies are at a risk of decline. Companies are at risk of decline if their equity and liabilities ratio is less than 8 to 100. Under the transitional regulation, the ratio of 8 to 100 will only be used after 2018. Until then, the rules will

be even less strict. In 2016, the ratio of equity and liabilities will be 4 to 100 and in 2017 ratio 6 to 100. We suggest using a ratio of 6 to 100 and from the next year to use the recommended ratio of 8 to 100 for verification. The decisive criterion for non-prosperous enterprises is as follows:

$$\frac{equity}{liabilities \ + \ liabilities \ accruals} < 0.06 \ (or \ 0.08 \ from \ year \ 2018) \tag{4}$$

According to the selected criteria, we propose to designate these companies as non-prosperous:

[1] All of which apply: (regardless of condition [2])

$$assets - (liabilities \ + \ liabilities \ accruals) < 0 \tag{5}$$

[2] Those for which the inequality of the first condition does not apply, but all three following conditions apply at the same time:

$$L_3 < 1 \tag{6}$$

$$Earning \ after \ tax \ \leq 0 \tag{7}$$

$$\frac{equity}{liabilities \ + \ liabilities \ accruals} < 0.06 \ (or \ 0.08 \ from \ year \ 2018) \tag{8}$$

In the second part of the practical, we focused on the calculation of the selected models used for predicting bankruptcy. We focused primarily on the most used Czech and Slovak prediction models, because they should take the specifics of the Slovak economy into utmost account and should therefore have the highest predictive ability. An overview of the calculation of the used financial health prediction models is shown in Table 1.

Table 1. An overview of the calculation of the used financial health prediction models (Source: author's compilation)

Jakubik Teply model	$p = \dfrac{e^{2,4192+2,5779x_1+1,7863x_2-3,4902x_3-2,4172x_4+1,7679x_5-3,3062x_6-2,2491x_7}}{1+e^{2,4192+2,5779x_1+1,7863x_2-3,4902x_3-2,4172x_4+1,7679x_5-3,3062x_6-2,2491x_7}}$
x_1	(liabilities + other liabilities)/equity
x_2	(long-term loans + long-term bonds)/equity
x_3	operating profit / interest expense
x_4	operating profit / revenues
x_5	stock /(revenues/365)
x_6	financial assets / current assets
x_7	net profit /capital
If p is less than 0.5, the business may be considered as prosperous	
If p is greater than 0.5, the enterprise may be considered as non-prosperous	
Hurtosovej model	$p = \dfrac{e^{-1,6889+0,00337UK27-4,4075UK55+1,4058UK57-0,0165UK67}}{1+e^{-1,6889+0,00337UK27-4,4075UK55+1,4058UK57-0,0165UK67}}$
UK27	(average inventory/revenues)*365
UK55	depreciation/costs of economic activity
UK57	cost interest/costs of financial activity
UK67	self-financing: (equity /capital)
If p is less than 0.5, the business may be considered as prosperous	
If p is greater than 0.5, the enterprise may be considered as non-prosperous	

Gulkov model	$$p = \frac{e^{0{,}0216 - 0{,}6131x_1 - 0{,}0068x_2 - 0{,}0293x_3 - 0{,}0011x_4 + 0{,}0240x_5 + 0{,}0317x_6 - 1{,}0663x_7}}{1 + e^{0{,}0216 - 0{,}6131x_1 - 0{,}0068x_2 - 0{,}0293x_3 - 0{,}0011x_4 + 0{,}0240x_5 + 0{,}0317x_6 - 1{,}0663x_7}}$$
x_1	cash ratio
x_2	turnover of working capital
x_3	financial accounts/total assets
x_4	degree of self-financing
x_5	credit indebtedness
x_6	liabilities to state instances of total assets
x_7	EBIT DA/assets
If p is less than 0.5, the business may be considered as prosperous	
If p is greater than 0.5, the enterprise may be considered as non-prosperous	
Index IN 05	$IN05 = 0{,}13x_1 + 0{,}04x_2 + 3{,}97x_3 + 0{,}21x_4 + 0{,}09x_5$
x_1	total assets/foreign capital
x_2	EBIT/interest expense
x_3	EBIT/ total assets
x_4	revenue/ total assets
x_5	current assets/short-term liabilities
IN 05 > 1.6 Enterprise is creating value	
0.90 < IN 05 ≤ 1.6 Gray zone , enterprise does not create value but is not heading towards bankrupt	
IN 05 ≤ 0.90 Enterprise is heading towards bankrupt	

Other models have been developed in the Slovak Republic. In particular, the Chrastinova model, the Gurcik model and the Binkert model. These models are relatively known and used. We have decided not to calculate these models due to certain specificities associated with them. Chrastinova's and Gurcik's models are primarily oriented at agricultural enterprises and therefore we do not consider it correct to examine and compare their prediction ability in companies from other industries. The Binkert model, as the only one, takes the calculations of the three consecutive periods into account, but our database is comprised of 500 accounts that capture only 2 periods, namely 2016 and 2017, so we do not have the data necessary to calculate the model. Finally, we compared the model's results with the inclusion of a business into a prosperous / non-prosperous category based on the established criteria. The results are briefly presented in the following chapter of the paper.

Results

In this contribution, we are working with a database consisting of 500 financial statements of Slovak enterprises that capture the years 2016 and 2017. The database is made up of companies that are filtered by ownership, and we used private ownership as a criterion for the type of ownership. Within the database we also work exclusively with companies whose legal form is a limited liability company. The resulting database was also cleared from the accounting units that reported negative assets in the balance sheet, as well as those that caused a division by zero within the selected financial indicators. Finally, we removed the units that were abolished during the reporting period. Brief characteristics of the database are found in Tables 2 and 3.

Table 2. Regional representation of enterprises in the database (Source: author's compilation)

Region	Number of enterprises (absolute value)	Number of enterprises in %
Bratislava	96	19.20
Trnava	53	10.60
Trenčín	58	11.60
Nitra	69	13.80
Žilina	32	6.40
Banska Bystrica	74	14.80
Presov	55	11.00
Kosice	63	12.60
Sum	500	100.00

Table 3 shows the five most represented regions in terms of number of enterprises. We do not further specify the other sectors and summarize the number of enterprises that are in them in the 'other'.

Table 3. Economic sector representation of enterprises in the database (Source: author's compilation)

Economic sector	Number of enterprises (absolute value)	Number of enterprises in %
Wholesale and retail trade, repair of motor vehicles and motorcycles	125	25.00
Construction	101	20.20
Industrial production	83	16.60
Accommodation and catering services	69	13.80
Information and communication	55	11.00
Other	67	13.40
Sum	500	100.00

On the basis of the criteria that we had described, in 2017, we classified the businesses into two groups: prosperous and non-prosperous. As a result of this classification, 383 prosperous and 117 non-prosperous enterprises were identified in total. Subsequently, the selected prediction models were calculated for all enterprises in 2017, and again, the enterprises were classified into two groups based on the results of the calculated models.

The results of the calculation of selected models can be found in Table 4.

Table 4. An overview of the calculation of the financial health prediction models used (Source: author's compilation)

Model	Prosperous enterprise	Non-prosperous enterprise
Jakubik Teply model	382	118
Hurtosova model	342	158
Gulka model	312	188
IN 05	395	105

In the last part, as already mentioned, we focused on comparing the results and identifying the first and second type errors. This comparison was shown in the matrix of changes. The general matrix of the changes looks as follows (Table 5).

Table 5. Matrix of changes (Source: author's compilation)

Business classification based on predictive models			
Business classification based on selected criteria according to The Commercial Code		Non-prosperous enterprise	Prosperous enterprise
	Non-prosperous enterprise	True Negatives	False Positives
	Prosperous enterprise	False Negatives	True Positives

Where:

- True Positives – expresses a positive match, and hence, how many prosperous businesses were correctly classified as prosperous
- False Positives –- expresses how many non-prosperous businesses were classified as prosperous (error types I)

- True negative –- is a negative match, hence, how many bankruptcy businesses have been properly classified as bankrupt
- False Negatives –- expresses how many prosperous businesses were classified as non-prosperous (error types II)

The results of our comparisons are summarized in Table 6.

Table 6. Comparison of results (Source: author's compilation)

Business classification based on Jakubik Teply model			
Business classification based on selected criteria according to The Commercial Code		Non-prosperous enterprise	Prosperous enterprise
	Non-prosperous enterprise	286	48
	Prosperous enterprise	54	112
Business classification based on Hurtosova model			
Business classification based on selected criteria according to The Commercial Code		Non-prosperous enterprise	Prosperous enterprise
	Non-prosperous enterprise	276	53
	Prosperous enterprise	48	123
Business classification based on Gulka model			
Business classification based on selected criteria according to The Commercial Code		Non-prosperous enterprise	Prosperous enterprise
	Non-prosperous enterprise	235	68
	Prosperous enterprise	48	149
Business classification based on IN 05			
Business classification based on selected criteria according to The Commercial Code		Non-prosperous enterprise	Prosperous enterprise
	Non-prosperous enterprise	299	43
	Prosperous enterprise	15	143

Predictive ability of selected models is then determined as a percentage of correctly classified businesses.

Table 7. Predictive ability (Source: author's compilation)

Model	Number of properly classified enterprises	Type I error	Type II error	*Predictive ability*
Jakubik Teply model	398	48	54	*79. 60*
Hurtosova model	399	53	48	*79. 80*
Gulka model	384	68	48	*76. 80*
IN 05	442	43	15	*88. 40*

In the case of the Jakubík Teplý model, 54 enterprises were included in our sample as non-prosperous, although according to the criteria chosen by us, they should not be in decline, but also not in risk of decline. 48 enterprises were among the prosperous although they can be at a risk of decline. In the case of the Hurtosova model, the situation was the opposite. Of the 67 enterprises wrongly classified, most enterprises (53) were ranked among the prosperous, although the ratio of their equity and liabilities was less than 0.06. The remaining 48 businesses have been ranked as non-prosperous, although they are not non-prosperous according to our chosen criteria. The Gulka model, as well as the Hurtosova model, has classified among the prosperous enterprises many enterprises (68 enterprises) that should

be classified as non-prosperous and 48 non-prosperous were classified as prosperous. The IN 05 index, which mistakenly classified only 57 enterprises, was the most accurate, with 15 of the companies that should have been in prosperous category and 43 in non-prosperous category but ranked opposite.

Conclusions

In our paper, we focused on predicting the financial health of Slovak enterprises through the selected Slovak and Czech models. We chose three Slovak and one Czech, which are most used. Based on the results, it can be stated that in almost 77% of the cases, these were enterprises with good financial health, which is a basic prerequisite for the future payment of the provided commercial loan in a timely manner. Nevertheless, we still recommend that businesses review the ability to reimburse the loan granted individually with each supplier, especially if it is a new potential business partner. Models of financial health predictions supplemented by basic computations in the framework of financial and economic analysis can provide a fast and relatively easy-to-read image of the financial situation of a business partner, which will ultimately support the right decision to grant or deny commercial credit. Bankruptcy models therefore deal with a possible default of the business, in other words, warn against the likely bankruptcy of a business. In bankruptcy models, their predictive ability is verified. We decided to verify their predictive ability through comparison results, which were obtained from calculation of selected models, to set criteria.

Acknowledgements

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THE ANALYSIS AND ASSESSTMENT OF INTERNATIONAL CAPITAL FLOWS IN THE FORM OF FOREIGN DIRECT INVESTMENTS AND FOREIGN DIRECT DIVESTMENTS: THE CASES OF LATVIA AND POLAND

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Abstract. Decisions to invest, withdraw, or transfer capital in different foreign markets have become a fixed part of management pragmatics in contemporary companies. The results of the 2017 Global Corporate Divestment Study show that multinational enterprises (MNEs) from particular parts of the world tend to see the main reasons behind their decisions on FDI (foreign direct investment) and FD (foreign direct divestment) in a slightly different manner. Insofar as internationalization processes and FDI have been relatively thoroughly studied and discussed in world and Polish literature, the concept of de-internationalization pursued through the prism of divestment still requires further analysis and consideration. The article aims to present the general framework of the process involving FDI, FD, and the major factors behind it in Poland and Latvia. Theoretical considerations are supplemented with the analysis of statistical data coming from the UNCTAD database as well as the database of Poland's and Latvia's central banks, illustrating foreign investment flows. The article uses the method of critical analysis of world and Polish literature, analysis of reports on relevant issues, and desk research analysis.

Introduction

Since the 1990s, an approach focused on the dynamic internationalization, or even globalization, of the economy and economic entities, including enterprises, prevailed both in literature and economic practices. Generally speaking, globalization can be defined as the intensification of worldwide social relations linking distant localities in such a way that local happenings are shaped by events occurring many thousands of miles away and vice versa (Giddens 2002). In economic terms, globalization is defined as the process of creating a liberalized and an integrated global marketplace for goods, services, and capital as well as shaping a new international institutional order for the development of production, trade, and financial flows around the world (Szczakowski 2005). In the opinion of Rymarczyk (2004), globalization is an important stage of internationalization involving the treatment of the world as a single market, which is associated with an unprecedented increase in the number and intensity of connections between countries, based on the flows of capital, technology, goods, services, and people. Dunning (1992) also emphasizes the gradual formation of a system of open national economies, in which individual countries become closely linked, and even mutually dependent in terms of trade, investment flows, labor migration, as well as cooperation at the level of enterprises. The functioning of such a system requires the liberalization of the conditions for international trade, the standardization of the foreign investment principles, and the production- and trade-related freedom of international enterprises and their subsidiaries. Globalization is inextricably linked with the progress of liberalization processes in the global economy, both in the macro- and microeconomic sphere. Globalization is the theme of many publications describing the external and internal success factors on international markets, ways of choosing markets for an enterprise's international expansion, decisions on the time and sequence of entering foreign markets, and the selection of an adequate form of activity on foreign markets; or building competitive advantage and, based on it, developing a winning strategy (Zorska 2002, Nowakowski 2005, Penc 2003, Koźmiński 1999, Stonehouse *et al.*, 2001, Gorynia 2007, Rymarczyk 2004).

However, the volatile political and business environment, regulatory changes, the slowdown of liberalization processes in the world economy, as well as the experience of the global financial and economic crisis in 2008 prompted many enterprises to revise their international activities. In practice, this meant that many companies pursuing their strategy in foreign markets scaled down their production or put an end to investment plans concerning the construction of local production plants. In this context, terms such as de-internationalization and foreign direct divestment (FD) begun to emerge. To paraphrase the definition of internationalization, it can be said that de-internationalization is the reverse process in its various dimensions (Turcan 2003). Benito and Welch (1997) define the concept of de-internationalization as voluntary or compulsory measures taken to reduce the company's involvement in international activities. The same authors also enquire whether the driving forces that affect international expansion may also work in the opposite direction, causing a company's withdrawal from foreign markets. The de-internationalization process usually means a partial reduction in international activities, which may be manifested, for example, by limited activities in or total withdrawal from one of foreign markets, changing the form of foreign activity into a form with a lower level of resource involvement, the sale or liquidation of production, distribution or service subsidiaries, reducing an interest in a foreign company, or the takeover of foreign assets by the authorities of a host country (Bamberger, Upitz 2007). In an extreme case, this can also mean the total withdrawal of an enterprise from foreign markets. It is worth pointing out that apart from the concept of de-internationalization, literature offers the concept of re-internationalization. Welch and Welch (2009) defined it as a strategic move of a company, which involves a temporary departure from the foreign market, ended with a successful return.

While the processes of internationalization and globalization are relatively thoroughly researched and discussed in literature, the issue of de-internationalization is presented selectively (Benito, Welch 1997, Turcan 2003) through the prism of divestment (Benito 1997) or the withdrawal from export (Pauwels, Matthyssens 1999).

The article presents the issues of international capital flows in a form of foreign direct investment (FDI) and FD and its major determinants. The concept of FDI is explicated based on OLI paradigm of Dunning and FDI is explicated as the so-called reverse OLI paradigm, proposed by J. Boddewyn. The article aims to present the general framework of the process involving FDI, FD, and the major factors behind it in Poland and Latvia. Theoretical considerations are supplemented with the analysis of statistical data coming from the UNCTAD database as well as the database of Poland's and Latvia's central bank, illustrating foreign investment flows in the years 1990–2016. The article uses the method of critical analysis of world and Polish literature, analysis of reports on relevant issues, and desk research analysis.

International migration of capital: foreign direct investment and foreign direct divestment

Capital is the most liquid production factor. According to a number of macroeconomic theories, it is one of the factors of economic growth; therefore, individual countries compete for capital with each other. International capital flows are understood as any capital movements that are statistically reflected in the balance of trade with foreign countries and are recognized in a country's balance of payment. The movements of capital may result, among others, from the purchase of goods and services abroad, granting or receiving foreign commercial credit and financial loans, establishing enterprises in one country by the residents of another country, or buying or selling foreign securities (Bożyk *et al.*, 1999).

The form of international capital flow that has gained significance and dynamics since the 1980s is foreign direct investment (FDI), which is undertaken as part of the strategy of enterprises seeking to grow through the expansion to the global market. Direct foreign investment is defined as the investment made in a country other than investor's country of origin, involving the placement of capital—usually long-term—in a foreign enterprise in order to obtain effective management control over this enterprise and, as a result, make a return on the investment. FDI includes the purchase of a stake in existing foreign companies, the establishment of a new subsidiary abroad, the establishment of a joint venture with a foreign entity, and the acquisition of real property abroad to expand the existing

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operations (Krugman, Obstfeld, 2005). According to the OECD (Organisation of Economic Cooperation and Development) nomenclature (2008), direct investment is made when a foreign investor has a minimum of 10% shares or votes in a given enterprise, and although it does not have to exercise absolute control over the company, it is important that it has an impact on its management.

Direct investment may take the form of greenfield investment (i.e., building a completely new operation), brownfield investment (i.e., the acquisition of an existing enterprise by, e.g., purchasing shares), or capital involvement in an enterprise (if the 10% threshold is exceeded).

Literature presents many theories that explain why investors invest their capital abroad, for example, the theory of monopolistic advantages, the theory of the international product life cycle, the theory of location, and the theory of internalization. However, the most frequently quoted theory that constitutes their synthesis is the eclectic theory of international production by Dunning (2000), which is also referred to as the OLI paradigm. According to this theory, the prerequisite for FDI is the simultaneous occurrence of three factors (Budnikowski 2006):

- Ownership, that is, having access to, for example, capital, resources of qualified workforce and managerial staff, raw materials, unique technology, information, management methods, brand, monopolistic position, research potential;

- Location, that is, the advantage that concerns the attributes describing the attractiveness of the foreign market, for example, a dynamically developing market, low prices of basic production factors, high qualifications and productivity of the workforce, transport accessibility, low transport costs, the friendly attitude of a host society to foreign capital, and favorable legislation;

- Internalization, which means that international transactions within the company are more favorable than transactions concluded in the free market. Establishing a subsidiary abroad allows an enterprise to protect technology and provides the possibility of coordination and vertical integration.

Apart from the classic OLI model, in their decisions to choose FDI to expand into foreign markets, enterprises take into account both the standard—"hard"—factors and other—the so-called "soft"—factors that constitute a specific "value added" to a location (Table 1).

Table 1. Examples of soft factors to locate FDI (Source: own elaboration based on Rosińska-Bukowska 2009)

Area	Specification
Labour Market	- Quality of administration - Relations with trade unions - Possibility of acquiring work, professional development, education - Spatial distribution of labor force (a distance from a workplace and transport connections)
Economic activity infrastructure	- Image of a given area as a place of economic activity (existence of other entities, industrial zones, business centers, logistic hubs) - The quality of space management and the ideas of decision-makers regarding development prospects (records, plans, regulated legal status of land and property)
Costs	- Costs of regional promotion (participation in the integrated promotion system, reducing an enterprise's own costs) - Regional differences in remuneration—non-wage incentives
Economic climate	- Social climate for new initiatives - The quality of administration that supports the economy and its ability to adapt to change ("learning" skills) - Political climate and stability in the pursuit of a chosen strategy
A location's public relations	- The image of a location as an environment of entrepreneurship and innovation - The image of a region in terms of modernity (technologies, services) - The image of a region and in terms of a province–metropolis - Historical and cultural significance

Cultural environment	– The importance of a location as a cultural and information center – Sponsorship of culture – Cultural events and leisure services (theaters, concerts, museums, art, cinemas)

FD is defined as a voluntary or forced reduction in the scope and scale of activities pursued by the units of direct investment enterprises by ceasing part of these activities or selling them off. The scope of activity means a sector and/or a volume of production, while its scale means the size of financial involvement in a particular unit. Accordingly, foreign divestment means changes in the activity and/or ownership of foreign subsidiaries (Nowara, 2013).

Literature presents various concepts that explain FD. The one developed by Boddewyn (1983) reverses the theory of FDI based on the OLI model. However, Dunning's paradigm states that all three advantages have to be achieved for direct investment to be established, but in the case of divestment, the disappearance of just one is sufficient to validate the decision to divest. Burmester (2006) argued, on the other hand, that an enterprise will be prone to initiate divestment in a situation of the considerable worsening of the ownership advantage accompanied by internalization or the weakening of the ownership and location advantages. This means that decisions to pursue FD are made when two factors of the OLI paradigm disappear, with the ownership advantage being of crucial importance. Certain deviations from this rule, however, can be observed and they concern four situations:

– when an investor considers delocation, changes in the location advantage may be sufficient to trigger divestment,

– in the case of defensive investment, the intention to emulate the competition can be the only motivation for divestment (this is rare),

– in the case of defensive investment, when an enterprise intends to restore the organizational advantage weakened by an acquisition or merger,

– when the shortage of resources (capital, human) allowing an enterprise to continue all the forms of activity causes that it chooses to cease one of the forms.

A wider perspective on the determinants of FD calls for the expansion of the reverse OLI paradigm by including the conditions creating the state of equilibrium inside an enterprise, which is a response to changes in the environment (Boddewyn 1983, Miller 1992). This may, for example, mean that direct divestment is a corrective move aiming to eliminate an error stemming from the inaccurate assessment of grounds for investing. There is the conviction about the asymmetry of information while making decisions about FDI and FD. Contrary to investment decisions, divestment decisions are made in the full knowledge of the conditions prevailing in a host country.

On the basis of the existing research results (cf. Moschieri, Mair 2005, Morschett et al. 2009), the factors determining divestment tend to be classified on three levels connected with a company's characteristics, its subsidiary's features, and the location/character of a sector in a host country (Table 2). Although the most common cause of FD is poor performance of an overseas subsidiary (Jagersma, van Gorp 2003). Every overseas subsidiary falling short of revenue targets set by a parent company becomes a potential candidate for divestment.

Taking into account the scope of direct divestment in a foreign market, we can talk about partial or complete divestment. The former involves an enterprise's overseas subsidiary to be sold or liquidated in part; the latter means the complete sale or liquidation of an entity. The sale can mean the continued existence of an entity, which may operate in an unchanged or a reduced scope (theoretically even increased). If it is the sale of a relatively minor interest, it can be expected that the entity's operations will not be reduced. If, however, the entire subsidiary is sold, all scenarios are possible.

Liquidation normally means the cessation of a subsidiary's operations or part of operations (e.g., production) and the withdrawal of assets. This situation may lead to numerous disruptions in a host market, such as lack of capital, technological or managerial injections, reduced entrepreneurship and competition, limited growth of certain sectors connected with foreign investment, lower Gross

Domestic Product (GDP) growth (e.g., because of less tax paid to a state budget), an increased deficit in the current account, fewer links with the entities of global economy, or even increased xenophobic sentiments. These deficits may be particularly severe in the case of developing countries, which often rely heavily on intensified relationships with partners in foreign markets (Żak 2010).

Table 2. Major determinants of FD (Source: own elaboration based on Mińska-Struzik, Nowar, 2015)

Level of analysis	Specification
Parent Company	− Poor financial performance − Reduction in the scale of operations though downsizing, sale of assets, lowering sales and/or R&D (Research & Development) − Limited experience in the implementation of the strategy in international business, including: international, multinational, transnational and global − Low geographical diversification − Poor knowledge of/negative experience in a host market
Subsidiary	− Lack of further growth opportunities − Failure in the initial stages of an enterprise's presence in a host market The longer a subsidiary is in operation and the more experience it obtains, the lower the likelihood of divestment − Brownfield investment are burdened with higher likelihood of divestment compared to greenfield investment − Weak and scarce links with other units of the same enterprise − Lack of specific and nontransferable resources
Host Country	− Economic downturn, weaker economic growth indicators, e.g., GDP − Increased operating expenses, in particular production costs − Crisis in a sector/industry − Strong concentration in a sector/industry − High political volatility − Significant cultural differences

Foreign direct investment and foreign direct divestment in Poland and Latvia in the light of statistical data—selected characteristics

Capital flows in the form of FDI and FD constitute one of the most characteristic features of the modern global economy. Several phases can be observed (Fig. 1).

− From the early 1990s to the 2000s—a dynamic growth in both FDI (a sixfold increase in value) and FD (a fivefold increase in value)

− In the years 2001–2003, a sharp decline in the flow of capital flows in the form of FDI and FD, caused by the crisis triggered by, among others, the Internet bubble (associated with IT and IT-related companies; it was characterized with the overestimation of enterprises that operated on the Internet or intended to go online).

− The years 2004–2007 saw another dynamic increase in capital flows in the global economy. In 2007, both FDI and FD reached record highs that were never to be reached again in the following years.

− The year 2008 and later—the time of the slowdown in capital flows caused by the global economic and financial crisis. FDI and FD are characterized by high volatility.

In recent years, the main players between which the flows of FDI and FD occurred were the corporations from North America, Western Europe, and Japan. It is estimated that FDI for these regions accounts for 80% of global FDI, whereas FD accounts for two-thirds of its global value. The

dynamic economic growth in Southeast Asia causes that—in addition to the economic Triad of the United States, Western Europe, and Japan—other countries, in particular China, Hong Kong, and South Korea, also play an important role. It should be added, however, that although Asia has for many years been an important investment region, a number of international companies reduced their FDI involvement there in 2014 (by approximately 17%). This fall, amounting to USD 70 billion, was mainly triggered by a reduction in FDI from Hong Kong (by 54%).
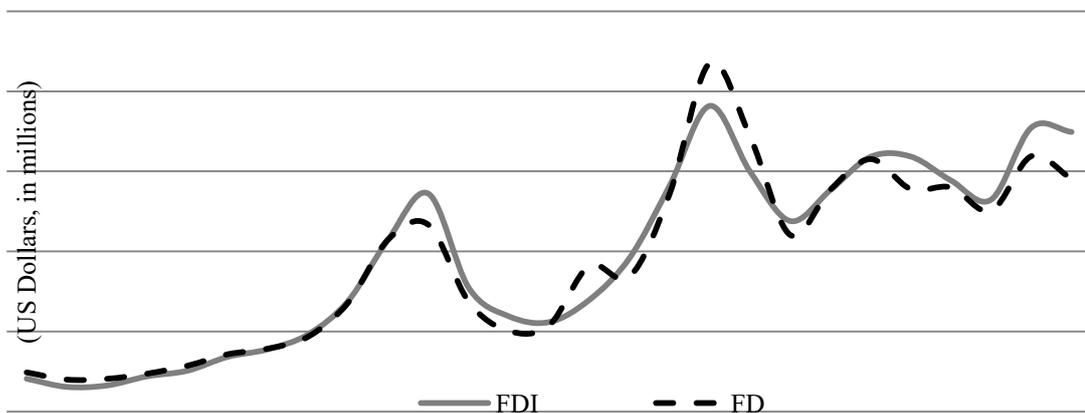
Fig. 1 FDI and FD flows in the world economy, 1990–2016 (Source: own elaboration based on UNCTAD.Database.)

Since the early 1990s, the Central and Eastern European countries have been attracting investors. The increase in the investor interest in this part of the world was primarily influenced by changes involved in the post-communist transformation of the region, integration with the European Union, a favorable labor cost index, and fast-growing markets. According to the latest E&Y report (2017), the Central and Eastern European countries rank third, behind Western Europe and the United States, among the most attractive regions of the world in terms of international investment. In addition, Central and Eastern Europe have reported the strongest growth among all regions, catching up with China.

The trends regarding FDI and FD capital flows in Latvia and Poland, in an appropriate comparative scale, are similar to the trends in the global economy. The prospect of Latvia's EU accession has caused that from 2004, we saw a sharp increase in FDI, lasting until 2007 (USD 2,324 million). The main factors strengthening the FDI inflow to Latvia were new market opportunities for foreign investors, stable monetary policy, and well-developed infrastructure. The financial crisis of 2008 significantly worsened the state of the Latvian economy. Although it began to recover and regain the confidence of foreign investors, which resulted in a short-term increase in FDI, since 2012, there has been a systematic fall in FDI flows. In 2016, the value of FDI was at the level of 2002. Still worse, this was accompanied by an increase in the value of foreign capital withdrawn from the country (Fig. 2). At the end of 2016, the aggregate FDI value was USD 14,253 million, and the aggregate FD value was USD 1,374 million.
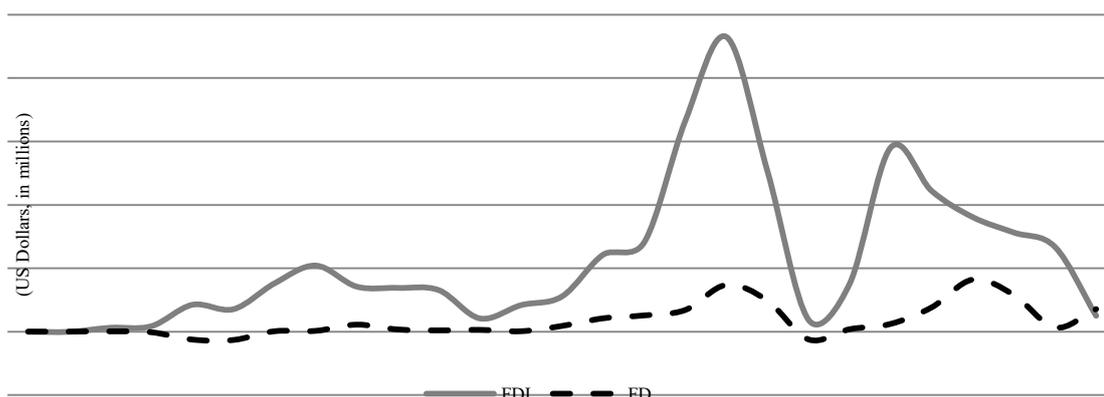
Fig. 2 FDI and FD flows in Latvia, 1990–2016 (Source: own elaboration based on UNCTAD.Database.)

Based on the statistics of the Bank of Latvia, it can be stated that the share of FDI originating from the European Union has been growing steadily. While, in 2000, it accounted for 55%, it has increased to more than 70% since 2010 (Fig. 3). Sweden, Denmark, Estonia, and Germany are those EU countries from which the highest FDI values come. Since 2010, an important share of FDI has also come from the Netherlands, Cyprus, and Lithuania.

FDI /extra EU ; 2000; 45

FDI /extra EU ; 2005; 30   FDI /extra EU ; 2010; 26   FDI /extra EU ; 2016; 27

FDI /EU area; 2000; 55

FDI /EU area; 2005; 70   FDI /EU area; 2010; 74   FDI /EU area; 2016; 73

■ FDI /EU area ■ FDI /extra EU
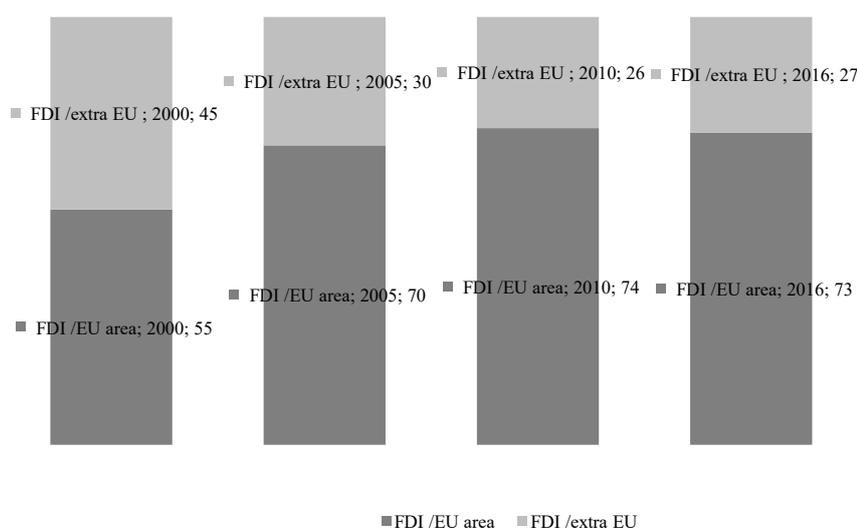
Fig. 3 EU and non-EU FDI in Latvia, 2000, 2005, 2010, and 2016 (Source: own elaboration based on Bank of Latvia)

As for the Polish FDI in Latvia, a dynamic growth was reported: from EUR 2 million in 2000 to EUR 67 million in 2016. The most important non-EU FDI investors in the period in question are the United States, Norway, and the Russian Federation, and since 2010 relatively high capital also came from Ukraine, Iceland, Canada, and Switzerland.

In terms of the type of activity in which FDI was undertaken in 2000, the most important areas were financial and insurance activities (23%), wholesale and retail trade, repair of motor vehicles and motorcycles (20.3%), manufacturing (16.3%), and information and communication (12.3%). In 2016, the largest share of FDI in Latvia in particular areas was recorded in financial and insurance activities (26%), wholesale and retail trade, repair of motor vehicles and motorcycles (14.9%), real estate activities (12.8%), and manufacturing (12.1%). The largest international investors in Latvia are,

among others, Coca-Cola, Bucher Schoerling, Schneider Electric, Procter & Gamble, Unilever, Tieto, Cytec, Siemens, Nokia, Statoil, Generex Biotechnology, Cemex, and Brabantia.

Unfortunately, the Bank of Latvia does not provide detailed information on the countries that withdraw their capital as foreign divestment or re-investment. However, in order to attract foreign companies, the Latvian government offers financial assistance. Its strategy is especially to promote the high-technology industrial sector. The different funding enables the quality of services to be improved. A loan and semi-loan plan has also been launched to promote small and medium enterprises (SMEs).

In terms of FDI, Poland is one of the most attractive countries in Europe and remains the leader in Central and Eastern Europe. Fluctuations in the inflow and withdrawal of capital in the form of FDI and FD coincide with overall trends in the global economy (Fig. 4). The highest value of FDI, which was not reached again in other years, was recorded in 2007—USD 1,909,234 million. In Poland, the aggregate FDI value at the end of 2016 amounted to USD 185,903, while the aggregate FD value amounted to USD 24,790 million, which in practice means that many foreign investors are eager to choose Poland as a place to invest their capital despite temporary setbacks. The opinion is confirmed by the Ernst & Young Report (2017): 29% of foreign investors indicate an improvement in Poland's attractiveness in 2016 compared to 24%, which points to its deterioration. A significant percentage of respondents (as many as 48%) expect the improvement of Poland's investment attractiveness for the next three years. Compared to similar surveys in other countries, investors are more optimistic only about Portugal and the Netherlands. According to the same report, in 2016, Poland moved up to the fifth place in Europe (the highest since 2008) in terms of the number of FDI projects and the second place in terms of planned jobs. The characteristics of the labor market are often listed among the strengths of the Polish economy. According to more than 70% of foreign investors, the level of skills of Polish employees, the potential for productivity growth, and labor costs are very or quite attractive compared to other European countries. And it should be stressed that relevant education and skills of employees are identified by investors operating in Europe as key factors influencing investment location decisions.
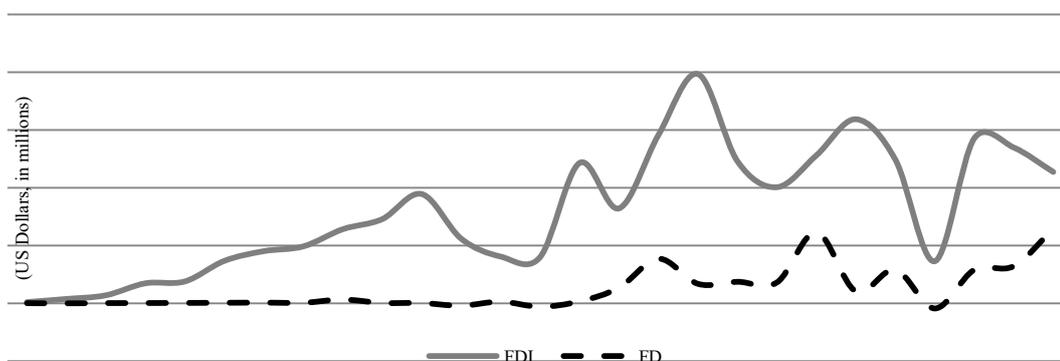

Fig. 4 FDI and FD flows in Poland, 1990–2016 (Source: own elaboration based on UNCTAD.Database)

On the basis of the statistics of the National Bank of Poland, it can be concluded that before Poland's EU accession, the share of FDI in this area was high and amounted to 74%, and then it systematically increased to reach 92% in 2016 (Fig. 5). In 2003, the highest FDI values came from countries such as the Netherlands, France, Germany, Austria, and the United Kingdom and from countries outside Europe—from the USA and South Korea. In 2016, the largest FDI inflow was recorded from the Netherlands, Germany, and Luxembourg and from outside Europe: Japan, Israel, and the United States. When it comes to the Latvian FDI in Poland, its value in 2000 was 0, and only in 2007 the amount of EUR 1 million was invested in Poland by Latvian companies, the figure that reached the level of EUR 77 million in 2016.
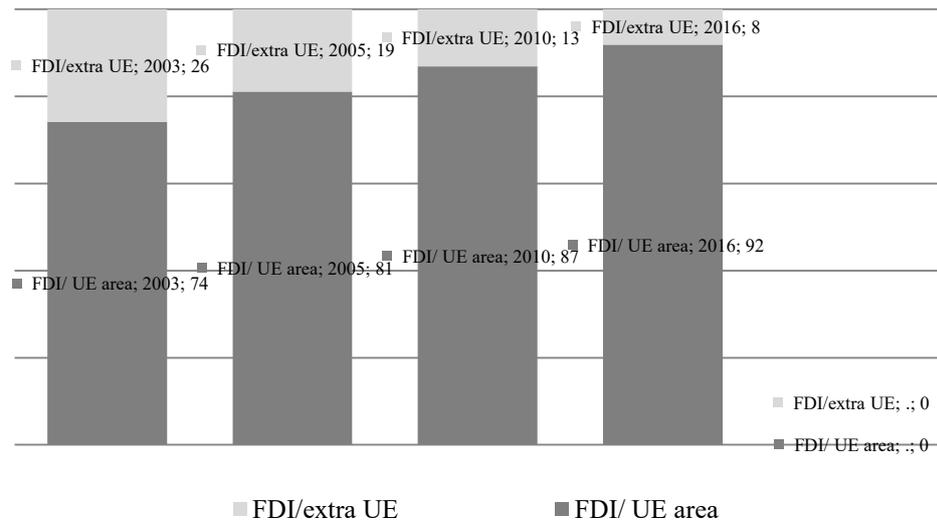
Fig. 5 EU and non-EU FDI in Poland, 2003, 2005, 2010, and 2016 (Source: own elaboration based on NBP)

In 2003, the largest amount of funds was invested in entities operating in the area of industrial processing, trade and repairs (61%), real estate services, IT, science, machinery rental and other services related to running a business (14%), financial intermediation (11%), and the production and supply of electricity, gas, and water (10%). Simultaneously, a significant outflow of foreign capital from construction and mining was recorded. In 2016, FDI concerned above all entities operating in construction, trade and repairs, hotels and restaurants, transport, communication (36%), as well as real estate and business act (30%) and manufacturing (29%). The outflow of capital was recorded for entities operating in the production and supply of electricity, gas, and water.

In the case of FD in Poland in the analyzed period, it reached decidedly lower values compared to FDI, but its steady growth should be the reason for concern. Both in 2011–2013 and in 2014–2016, the decreasing values of FDI were accompanied by a growth in the outflows of foreign capital from Poland. A relatively high variability concerning foreign investment and divestment transactions in Poland in particular years was the result of single transactions of relatively high value at some points in time. The examples of such transactions in 2014 were the acquisition of the Polish assets in the Swedish bank Nordea by a Polish bank and the merger of Polkomtel and CyfrowyPolsat. The analysis of the breakdown of foreign investment inflows and outflows in Poland indicates a certain change in the areas and forms of investing, which can be observed as a change in direct investor preferences. In services, investments in the form of shares and other equity interests are gaining in importance at the expense of other forms of investing. In the Polish manufacturing industry, the dominant form of investing is profit reinvestment, while, at the same time, capital invested in shares and other forms of equity interests flows out (NBP).

Conclusions

In the past three decades, capital flows among countries of the world economy have significantly increased. One of the reasons for this increase is the liberalization of capital flows, which is an inherent part of the globalization of financial markets. Both the globalization and liberalization of capital flows attract mixed opinions in terms of the interests of the countries involved. A country's entry into the international financial market system brings not only benefits but also threats (Nowara 2001). The former include

− the opportunity to increase production, employment, and labor productivity in a country,

− access to modern and effective technologies, know-how, and management techniques, especially in a country where the main barrier to development is the lack of capital,

- a chance to improve the balance of payments when foreign investment causes an increase in export production and domestic suppliers dominate material supplies,

- financing opportunities for restructuring and development processes that are safer compared with foreign loans and stimulation of the activity of domestic producers,

- raising the quality of products, enabling consumers to access new products and services as a result of increased competition on the domestic market.

The main threats include

- the risk of the imbalance of payments when companies transfer a large part of their profits abroad and use domestic supplies to a small extent,

- the deterioration of terms of trade and the reduction in tax revenues as a result of foreign transfer prices used by foreign companies,

- the risk of gradual elimination of competition from domestic companies and the creation of local monopoly by a foreign company,

- the possibility of increased unemployment in a situation of the extensive labor force resources in the local labor market, while foreign investors use capital-intensive techniques or when, through their activity, they cause bankruptcies of local businesses,

- taking over control of domestic industries by increasing the competition on the domestic market, with which local companies are unable to cope.

- limiting the effects of macroeconomic policy in a situation in which the share of investors (international corporations) in the output of a given country is high, while financing of their operations comes mainly from abroad,

- a threat to the natural environment because of the relocation of obsolete or the so-called dirty technologies, which is the result of less-restrictive legal regulations in a host country,

- the acquisition of domestic enterprises with the intention to liquidate them,

- deepening development disproportions caused by FDI concentrating in the most attractive industries and regions of the country,

- threats to the sovereignty of a state in a situation in which the control is over strategic industries and sectors of the economy.

In order to continue the process of catching up with the more developed world economies, Poland and Latvia have to consistently increase the investment rate, which in the past decade has been lower than the level recorded in most countries of Central and Eastern Europe. FDI plays a special role in the building of the potential of both countries, as it has significantly contributed to the internationalization of enterprises and their integration with the global economy. The benefits stemming from FDI make it desirable especially in the economies of countries that still need to cover distance that separates them from to the richest economies. This makes the competition for investments intense. Highlighting the strengths and eliminating the weaknesses of the Polish and Latvian economy can undoubtedly contribute to improving the perception of these countries and thus help raise further investment and increase in the potential of both economies in the long term. The strengths of Latvia as the location of FDI include a skilled and an inexpensive workforce, legislation that is harmonized with the European Union and favorable to investments, a simple and an attractive taxation system, the presence of strategic transit and logistics centers, high productivity, low taxes, and a strategic geographical location, which allow access to Russia and the former Soviet republics. The country's main weaknesses are the limited size of its domestic market, the low numbers of foreign companies in the country, economic instability, and high market fluctuations. In this regard, the economic crisis, which Latvia is currently going through, has shown the country's limitations, which remain the subject to political and social instability and whose economy could deteriorate rapidly (Santander Trade Portal).

In turn, Poland's advantages, attractive for FDI, are economic growth, large market, large labor force supply, the EU membership, relatively low labor costs, high qualifications of employees (especially managerial staff), decreasing barriers to the export of goods from Poland, and a developed banking system. Areas that need improvement in order to compete more effectively for the inflow of foreign capital are limited access to public procurement, relatively long procedures for investors acquiring property and obtaining all kinds of permits, discretionary clerical decisions, unfavorable changes in the legal system, a still insufficient network of motorways and expressways, and, finally, increasingly effective competition, especially from the Czech Republic and Hungary (Santander Trade Portal).

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ENTERPRISES COMMUNICATION IN E-ENVIRONMENT: CASE STUDY OF LATVIA AND KAZAKHSTAN

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Abstract. The performed scientific studies show that proper and skilful use of modern technologies can contribute to significant development of companies. Growth of technologies occurs rapidly, and the electronic environment continuously develops and improves along with it. The electronic environment now already offers companies practically all necessary marketing and communication tools for ensuring company development by creating competitive advantages; nevertheless, not all companies can employ the opportunities rendered by the e-environment, in order to increase company competitiveness and productivity. (Ščeulovs, Gaile-Sarkane 2014). The aim of the paper is to study and compare the enterprises communication in e-environment in two countries – Latvia and Kazakhstan. Study material – 130 enterprises of Latvia, 100 enterprises of Kazakhstan; method – survey. The study was conducted within the *Erasmus+* project 'Mobility between programme and partner countries (KA107)'. Using previous researches and scientific studies, as well as survey of enterprises representatives in Latvia and Kazakhstan, in this paper, the authors a) give an overview of the main trends of enterprise communication in e-environment and b) compare the experience of the two countries.

Introduction

Mobile phones and communication, the internet, TV and social media development affect the reduction of relationship among people, lifestyle and thinking. Everyday and mutual contact is no longer possible without digital communication. It complements and also changes the natural, individual and group communication, creating a demand for new relationship management. (Lasmane 2012). The Internet promotes small and medium business to achieve high rates, focuses on new sales channels and services and also provides modern models of business. Increase in productivity of the organization is one of the main factors of influence of the Internet which simplifies communication, accelerates and automates many business processes and also reduces transaction expenses. (Sergeeva, Khisamova 2015). Introduction of social technologies has brought business and consumers a number of advantages. The main one is access to information and experts' opinions. In this regard, we want to emphasize the impact of social networks on the reputation and corporate image of companies. One line of text published on a person's private social page can be fatal for the brand. Or, on the contrary, will make the company the most popular and respectable one (Kovalev 2018)

According to a study published by the magazine Forbes, the number of people who want to capture their experience and communicate it to others is increasing – I was there, I liked it and I urge you to go (Arnold 2017). Each of these entries on the social network serves as an advertisement for an event or product. It would be foolish not to use this kind of ad for your business. Social media serves as a platform to not only share what is happening, but also to create your own name as a brand (The Business of Influence 2017).

The aim of the paper is to study and compare the enterprises' communication in e-environment in two countries – Latvia and Kazakhstan. Research question is: Are social media the leading communication tools of the companies' communication in Latvia and Kazakhstan?

The authors studied the communication between electronic environment of various sectors of Latvian and Kazakhstan enterprises. In total, 130 enterprises of Latvia and 100 enterprises of Kazakhstan participated in the study.

The main results show that companies in Kazakhstan, in comparison to Latvia, are just beginning to use social networks and internet for growth and development of business. Enterprises of Latvia are a few steps ahead and the survey results about the social media part prove that Latvian enterprises are aware of the power of digitalization, but resources are not always sufficient to achieve the goals effectively.

E-communication trends in literature resources

Currently, the processes of global information and communication technologies are developing rapidly, and in recent years, they have been used in full scale. The main task of communication via the Internet is to find potential partners and provide the means to organize the necessary type of communication with them with the required intensity. Today it is almost impossible to find even a small organization that does not have an official website or does not post any information about goods and services on the Internet. (Medvedeva 2014)

As many authors emphasize that the internet provides the necessary tools, easy operation and exchange of information, and therefore, affects all diverse industries and companies. Sčeulovs and Gaile-Sarkane (2010) continue with the idea that the internet has become a useful tool for selling, buying and distributing goods and services globally in a rapidly growing supply chain. The potential market that the internet provides has little or no restrictions by either geography or time, and therefore, it poses a huge impact on any company considering.

The importance of technology in relation to customers has increased significantly (Rodriguez *et al.* 2014). This is also evidenced by the data from the European communication monitoring, which reveals an increase in leverage since the year 2007. Then 11.5% of respondents noted the importance of social media tools in addressing clients, which increased to 40.5% in 2011 (Kazaka 2014).

Zhanabekova et al. (2014) highlights that in Kazakhstan new media are actively developing increased possibilities of new information technologies. The new information markets are forming, there are new independent mass media, Internet sites, portals, international and domestic media organizations, blog sphere, and social networks are roughly developing.

In Latvia, there is still talk of use of general social media and commercial communication (Kazaka, 2014) and the efficiency of companies using the tools offered by the web without segmentation. The national public relation professional associations and agency blogs do not, in the majority of cases, distinguish between the specificities of communication in specific industry. There is a rarity in some kinds of research on business specific communications such as supermarkets. (Puce 2016) Is there really no difference? Maybe the industry affects channel selection?

The authors of the paper agree that the social media platform's communication has made it faster and easier. It is enough if you have some technical knowledge to perform relatively advanced activities, such as uploading video files on the internet, creating your own profile and maintaining communication. (Šmite 2011)

As Amnesty International (2017) research indicates, Kazakhstan has the highest level of Internet use in Central Asia, reflecting Kazakhstan's greater wealth and more developed communications infrastructure in comparison to its neighbours. Most people who use social media in Kazakhstan do so to communicate with friends. However, human rights defenders, independent journalists, and other activists also use these sites as important portals for sharing information and ideas with new audiences, whom they might not otherwise reach.

The authors of this paper agree that the benefits of participation in social networks of business give the possibility to find contacts, evaluate efficiency of interpersonal communication, to evaluate the results of communication and reflexive bound and also to evaluate the expenses of advertising in social networks (Ščeulovs, Gaile-Sarkane 2010).

Methodology

In order to carry out this research, a survey was conducted using a questionnaire and questions prepared by Alberta College (Latvia) staff members in collaboration with the Eurasian National University of L. N. Gumilyov (Kazakhstan) representatives. The survey was created and conducted electronically in each country.

Respondents were selected by students of the college and the university by different types of enterprises (size, popularity, geographic location, etc.). Selected companies received e-mails with a request to fill out a survey in the link provided. E-mails were also sent to emerging companies, as well as correspondence was created on the social media platform *Facebook.*

Questions covered such clarifications as: the form of the enterprise, the location, the scope of activities, what Internet resources are used by entrepreneurs to promote business and so on. There was also an application of the method of analysis, systematization, processing of the research results.

In total, 230 companies participated in the study: 130 from Latvia and 100 from Kazakhstan. 130 Latvian companies that participated in the study had the following distribution: 37 of culture/art/entertainment industry, 34 of trade/sale, 26 – education/sports, 19 – advertising/marketing, 7 – production, 3 – information technology, 2 – communication / public relation / media and 2 – transport / logistics. The Kazakh companies participating in the survey were: 12 of trade / sale, 11 – education / science, 10 – food / services, 10 – culture / art / communication / public relations / media, 9 – agriculture / environmental science, 8 – manufacturing / industrial production, 6 – law, 6 construction / real estate, 5 – advertising / marketing and 24 from other industries.

Results

In terms of experience, the companies in Latvia and Kazakhstan represented similar groups, but in the Latvian study, the companies show a wider spectrum – from 1 year to those companies that are on the market for more than 21 years. Latvia: the vast majority of respondents divided into similar parts by the age of their company – 32 companies (24.6%) were in the market since 1 to 5 years, 32 companies (24.6%) since 11 to 20 years old. 30 companies (23%) were 6 to 10 years old, and 31 enterprises (23.8%) were already 21 years old and above, and five of the respondents (3,8%) were in the market since less than a year. Kazakhstan: the main part of interviewed enterprises (44%) existed from 1 to 5 years, 19% of companies were situated in the market since about 6 to 10 years, 17% were young companies that existed for less than a year.

One of the central issues in the study was the question of whether and how specific the social networks were that were used by the companies. The results of the study showed a completely different scene in the two country studies. Kazakh study showed that 16% of the companies don't use social networks, while Latvian companies indicate almost 100% of their companies use social networks. And the companies in Latvia have to keep up and the *Facebook* community is almost 100% recognized as the leading communication tool. *Twitter*, *Instagram*, *Youtube* and local Latvian social network – *Draugiem.lv* are also used. All companies mentioned 4 major social networks – *Facebook*, *Twitter*, *Instagram* and *YouTube*. Latvian study results showed: *Facebook* – 129 (99.2%), *Twitter* – 84 (64.6%), *Instagram* – 74 (56.9%), Youtube – 42 (32.2 %), *Draugiem.lv* – 37 (28.4 %), LinkedIn – 2 (1.5%), *Vkontakte* – 2 (1.5%) and *Vimeo, Flickr, Behance, Soundcloud* – 1 (0.76%).

In Kazakhstan, while businesses prefer more customary methods of promotion, but social media is gaining popularity there, and given that last year the number of users of social networks in the country has almost doubled, it can be assumed that this trend will intensify (Motorina A. 2014). Kazakh study results showed: most companies (43%) create their profiles in such social networks as *Instagram*, 33%

don't have any profiles, 17% of respondents choose *Facebook*. The lowest popularity was given to *Telegram* and *2GIS*. Representatives of medium and small businesses in Kazakhstan, when choosing a social network to search for new customers and sales, make mistakes that greatly affect the results. Therefore, it is necessary to learn how to use the resources of social networks correctly, to approach professionally and not to ignore the possibilities of social networks for business development.

Another important feature is that Kazakhstanis use social networks to communicate and exchange personal information. In order to know how users interact with the online content and see their actions on the company's page, Analytics and Facebook analytics are used. Latvian companies, according to the results of the research, are also using analytical tools more actively than Kazakh companies. They use *Google Analytics* and *Facebook Insights* for the analysis – alone or both together.

Data on information about analytical tools used in Kazakhstan is not available as some of the many social networking platforms, such as Facebook and Twitter, have reliable analytics functions, Google Analytics does not support integration with these platforms. Therefore, when analysing traffic in social networks, it is strongly recommended to use these platforms individually to get a clear idea of why and how users interact with your online content.

It is expected that the Kazakh companies specifically highlighted the specifics of the website's communication and its advantages, while all the companies in Latvia, regardless of the industry, have indicated that contact information and information about goods and services is most relevant to the website. Kazakh study results: Analysis of the survey results showed that 45 survey participants have their own home pages on the Internet, 29% of respondents are working on the creation, 17% of those participating in the survey don't use the home page in web-based network. Also 43% of respondents consider that the most relevant information on the home page is information about goods and services. From the points of view of 25% of Kazakh study participants, it is important to have current information (news and novelties). Contact information (address, email, phone number) as the most relevant was chosen by 18% respondents, international cooperation and links to social networks were pointed by 4% and 3%, respectively.

The benefits of social networking according to the respondents are related to the classic needs of the company in various aspects. Prior to using social media in business, it was necessary to make large financial investments in advertising and visibility. Latvian study results: business visibility (112 participants or 86.1%), opportunity to communicate directly with existing and potential customers (92 participants or 70.6%), communication in social media significantly reduces advertising costs (49 participants or 37.6%), opportunity to reach customers in ways that other channels do not offer (58 participants of 44.6%). Figure 1 shows the benefits of social networking according to the respondents.
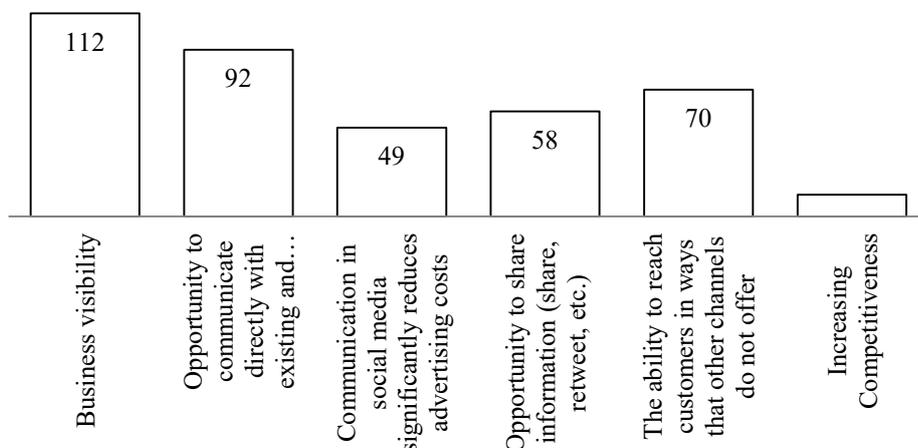

Fig. 1. The benefits of social networking according to respondents of Latvia

It is interesting to note that the major cultural and artistic companies in Latvia mention the main benefits of digital communication as the opportunity to communicate directly with clients and address them in ways that are not provided by other channels. Websites remain an essential source of contact information and current news, as well as a reference to social networks. Kazakh study results: the creation of recognition (28%) is the most popular among other options. The variant 'Possibility of direct communication with clients' was chosen by 20% interviewees. Two options, like 'Communication in social media decreases costs on advertisement' and 'Possibility to share information' gathered 9%, equally. 'Improving the competitiveness' and 'Possibility to communicate with clients, as it is impossible by other ways' have similar results (6%). And the lowest number of companies chose 'Possibility to communicate in different foreign languages' (4%). Other 2% noted that, it would be nice to have an opportunity to choose needed item and see the prices. Table 1 shows the main benefits of communication of Kazakhstan companies in social networks.

Table 1. The main benefits of communication of Kazakhstan companies in social networks

Answer options	Number of answers, %
Creation of recognition of the company	28
Possibility of direct communication with clients	20
Don't use social networks	16
Communication in social media decreases costs on advertisement	9
Possibility to share information (share, repost, retweet, etc.)	9
Improving the competitiveness	6
Possibility to communicate with clients, as it is impossible by other ways	6
Possibility to communicate on different foreign languages	4
Others	2
TOTAL	100

Another aspect of the study was devoted to find out which employees of the enterprise are responsible for communications in social networks. In this aspect, the picture in Latvian and Kazakh companies is quite close: for communication in social networks, the company employs marketing specialists and it is done by the company's heads themselves. Latvian study results: marketing specialist – 38%, head of the company or deputy – 32%, specialist in public relations – 12%, head of social media projects – 10%, the secretary/clerk – 4%, agency of communication/media agency (outsourcing) – 2%, others – 3%. Kazakh study results: specialist in public relations – 13%, marketing specialist – 22%, head of the company or deputy – 23%, agency of communication/media agency (outsourcing) – 11%, head of social media projects – 9%, the secretary/clerk – 6%, others – 16%.

Conclusions

The main conclusions of the research are:

1. E-environment offers a lot of many free of charge electronic communication tools and social media platforms, so enterprises can use those communication tools and platforms for different purposes.

2. The most popular e-communication tools between Latvian enterprises are social media platforms, but enterprises of Kazakhstan mostly use home page communication.

3. Promotion of Kazakhstan business in social circles remains topical, but it is no longer a novelty. The approach of Kazakhstani entrepreneurs to social networks has changed. The structure of use has changed towards the right destination, literate and professional. Thanks to them, communication with a live audience is built. For the Kazakh business, social networks remain an important tool for communication with customers and partners.

4. For many companies, especially not very large, public on the social network even replaces the site. Social networks today are a full-fledged community, where there are rules. To do this, it is not enough just to register a page and actively invite users to visit it.

5. Correctly built social media marketing is the result of following a carefully thought out strategy.

6. In order to build the right communication with customers through social networks, it is necessary to build a promotion strategy. It is necessary to clearly know who the main audience is and to understand the structure of business.

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