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SURVEY AND RESEARCH STUDIES

CORPORATE OWNERSHIP AND INNOVATION PERFORMANCE

Aneta BOBENIČ HINTOŠOVÁ

Abstract
The paper deals with a problem of the relationship between corporate ownership structure in terms of a ratio between foreign and domestic ownership, and innovation performance of companies. Based on theoretical background as well as previous empirical findings the role of corporate ownership in influencing corporate innovation performance is rather disputable. The research conducted on a sample of large manufacturing companies operating in Slovakia using regression analysis show that corporate domestic ownership as well as international ownership are positively and significantly associated with innovation performance of companies. On the other hand, foreign direct investment resulting to corporate foreign ownership seem to have insignificant impact on innovation performance. At the same time, it can be concluded that individual industrial sectors play divergent role in influencing innovation performance.

Key words:
international, domestic, foreign ownership, innovation performance

Introduction

Investigation of the effects of corporate ownership structure, in terms of a ratio between foreign and domestic ownership, on various aspects of corporate activities and business results has been the subject of intense research in the recent years. Most hypotheses tested are based on the assumption that foreign-owned companies outperform the domestic ones (e.g. Gelübcke, 2013), while the differences in performance are typically empirically evaluated in terms of indicators such as productivity (e.g. Bircan, 2019), profitability (e.g. Čerovič, et al., 2015; Greenaway, Guariglia, Yu, 2014) or wages (e.g. Girma, Görg, Kersting, 2019).

However, the empirical literature dealing with the effect of corporate ownership on the innovation performance is rather scarce and brings ambiguous results. Hence, the aim of the present paper is to answer the question how different types of corporate ownership (distinguishing domestic, international and foreign ownership) affects the innovation performance of companies. Moreover, it investigates also the role of different industrial sectors in influencing overall industrial innovation performance.

The rest of the paper is organized as follows: section 1 brings short overview of previous empirical findings regarding the relationship between corporate ownership and innovation performance investigated at the corporate level, section 2 explains the empirical methodology and introduces the dataset, section 3 brings own empirical results and their discussion followed by concluding remarks.

1 Previous Empirical Findings

A positive impact of foreign ownership on the innovation performance of companies is well documented in the existing literature. Lee (2012) in conditions of Korean companies showed that foreign ownership positively affects R&D investment. Moreover, the author state that these two affect each other, as well. The interacting effects of foreign ownership and R&D investment means that R&D investment can simultaneously be an outcome of foreign ownership, as well as a cause of the foreign ownership. This implies that foreign investors encourage R&D investment and, at the same time, are attracted to firms with high R&D investment.

Guadalupe, Kuzmina and Thomas (2012) based on a panel dataset of Spanish manufacturing companies also showed that multinational companies acquire the most productive domestic companies, which, on acquisition, conduct more product and process innovation (simultaneously adopting new machines and organizational practices) and adopt foreign technologies, leading to higher productivity.

Similarly, Cho, Daim and Dabic (2017) found empirical evidence that innovation activities in foreign-owned companies in Croatia are positively influenced by technology transfer from multinational corporations. They consider foreign direct investment as one of the most effective channels through which technology can be transferred to subsidiaries in emerging markets.

Girma, Gong and Görg (2009) also showed that state-owned enterprises in China with some share of foreign capital are more likely to engage in product innovation, but this relationship between foreign capital participation and innovation is concave. The foreign capital participation increases innovation up to a critical value, after which the marginal effect of changes in foreign capital on innovation activity starts to decline. Author advocated this by fact that while some foreign capital may bring knowledge transfer, which initially increases innovation activity, further increase in foreign ownership share (over 61%) may lead to innovation activity relocation to the parent country of foreign investor.

While above-mentioned authors found positive effect of foreign ownership on innovation and R&D activities, other studies did not confirm these findings. For example, Dachs and Ebersberger (2009) analyzed data from Austrian companies and found that the impact of foreign ownership on innovation input and output is not significant. After controlling for other variables that influence innovative behavior, they found that the impact of foreign ownership on innovation is neutral. Although membership in a multinational enterprise group significantly helps to overcome different obstacles in the innovation process, this advantage does not transfer into a higher innovative input or output. Differences between foreign owned and domestically owned enterprises in Austria can therefore rather be explained by enterprise characteristics such as size, sectoral affiliation, export intensity etc. than by the ownership status.

Similarly, Lee, Yoo and Kwak (2011) in conditions of Korea found that whether a company is domestic or foreign-owned, it seems not to increase R&D expenditure significantly. They stated that FDI did not have an effect on R&D expenditure intensity, and technical support from foreign companies made little contribution to companies' R&D activities. These results showed that there should be efforts and strategies to encourage foreigners to undertake more positive R&D activities.

On the other hand, Stiebale and Reize (2011) found highly significant and negative effect of foreign acquisition on R&D expenditures, as a measure of innovation input, in small and medium sized German companies, advocating it by relocation of R&D facilities from a host country to a parent country of a foreign investor. Alternative interpretation is that foreign investor rationalized the processes, and thus reduced R&D activities in target companies. In case of innovation output, authors found no significant impact of foreign acquisition on innovation sales or product and process innovation.

Zemplinerová and Hromádková (2012) in their study of Czech companies similarly found that foreign ownership decreases probability of a host country company´s decision to innovate, probably due to direct transfer of knowledge and technology to the parent country, as R&D in multinational companies is often centralized in headquarters. This result is in line with previous analysis of Srholec (2005), who found that foreign affiliates tend to engage less in internal R&D compared to domestic owned companies. In addition, Zemplinerová (2010) showed that there exists negative relation between foreign ownership of the company and numbers of R&D employees - foreign companies have less R&D employees in comparison to domestic ones.

Despite the consensus that internationalization through foreign direct investment generates learning opportunities for companies in the host country, the practical use of these opportunities leads to ambiguous effects on innovation performance. As a result, there is an incomplete understanding of whether foreign ownership generates innovation advantages for particular companies.

2 Data and Methodology

Analysis of the relationship between type of ownership and innovation performance is conducted on a sample of 278 large manufacturing enterprises with at least 250 employees as at 31.12.2017. The dataset consists of all large enterprises with a legal form of the joint stock company, or limited liability company, which operated in the manufacturing industrial sectors (NACE Rev. 2 classification codes 10 - 33), and were registered within the Business Register of the Slovak Republic at the end of the year 2017. 32% of the enterprises represent the innovation enterprises that have at least one patent, trademark, design, or utility model registered with the Industrial Property Office of the Slovak Republic, or the European Patent Office.

The ownership structure of the dataset is the following:

- 23% of the enterprises are domestic-owned,
- 12% of the enterprises are partially domestic- and partially foreign-owned,
- and 65% of the enterprises are foreign-owned.

The innovation performance is measured by output variable, namely the number of patents, trademarks, designs, and utility models. The following model is constructed to study the impact of independent variables on the innovation output variable:

$$IO = f(Own, Sales, LP, IS) \quad (1)$$

In the model (1), the dependent variable represents the number of innovation outputs (IO), which summarizes the number of patents, trademarks, designs and utility models that the enterprise has registered with the intellectual property office from its establishment till the end of year 2017. It denotes the innovation performance of an enterprise measured through innovation output variable, similarly as in the study e.g. by Ghazal and Zulkhibri (2015).

As key independent variable the type of ownership of a particular company (Own) is used. It is a factorial variable with three levels, which distinguishes, whether the company has purely domestic ownership, wholly foreign ownership, or international (i.e. mixed) ownership, where the share of foreign ownership is from 10% up to 90%. For example, Girma, Gong and Görg (2009) distinguished in the research the levels of the foreign ownership in a company. As additional independent variables, the volume of sales of a company (Sales) which is a measure for size, the labor productivity which represents the value added per employee in a particular company and the industrial sector dummies, representing the codes from 10 to 33 based on NACE Rev. 2 classification (IS) are used.

The cross-sectional dataset contains the data on innovation output obtained from the Industrial Property Office of the Slovak Republic and the European Patent Office. The data on ownership were obtained from the Commercial register of the Slovak republic. The financial data regarding sales and labor productivity as well as industrial sector were derived from the Finstat Premium database.

The data were processed using regression analysis. The coefficients of the model (1) were estimated with use of the OLS method. Similarly, for example, Lee, Yoo and Kwak (2011) used the OLS method in their research of cross-sectional data in Korean study of the determinants of R&D expenditures.

3 Results and Discussion

The empirical results of the model (1) obtained from OLS estimation are shown in the table 1. Based on R-squared, this model can explain 46 % of the dependent variable variance. Due to heteroscedasticity problem, the

heteroscedasticity corrected (HC) variant for estimating the coefficients – the White's estimator is used, which is the only one reported in the table.

Table 1 Empirical results of model (1) – dependent variable: number of innovation outputs

(standardized variables)	*Coefficient*		*Std. error*	*t-ratio*	*p-value*	*VIF*
Constant	1.27	***	0.21	6.15	0.00	-
Sales	-0.09		0.08	-1.11	0.27	1.24
Foreign ownership	0.36		0.34	1.06	0.29	1.16
Domestic ownership	0.71	*	0.43	1.67	0.10	
LP	0.47		0.31	1.54	0.13	1.34
IS 11 Beverages	1.16	**	0.49	2.36	0.02	1.02
IS 14 Wearing apparel	-1.28	***	0.23	-5.45	0.00	
IS 15 Leather	-1.60	***	0.28	-5.63	0.00	
IS 16 Wood	-1.83	***	0.29	-6.26	0.00	
IS 17 Paper	-2.41	***	0.66	-3.68	0.00	
IS 18 Printing and media	-1.95	***	0.32	-6.10	0.00	
IS 20 Chemicals	-0.71		0.68	-1.04	0.30	
IS 22 Rubber	-1.37	***	0.27	-5.11	0.00	
IS 23 Non-metal products	-1.89	***	0.41	-4.55	0.00	
IS 24 Metal products	-1.88	***	0.35	-5.32	0.00	
IS 25 Metal constructions	-1.90	***	0.34	-5.62	0.00	
IS 26 PC, electronics, optics	-1.77	***	0.25	-6.99	0.00	
IS 27 Electronics	-1.58	***	0.31	-5.04	0.00	
IS 28 Machines, equipment	-1.89	***	0.34	-5.53	0.00	
IS 29 Motor vehicles	-1.89	***	0.33	-5.81	0.00	
IS 30 Other vehicles	-0.76	*	0.41	-1.86	0.07	
IS 31 Furniture	-1.70	***	0.36	-4.77	0.00	
IS 32 Other manufacture	-2.01	***	0.35	-5.69	0.00	
IS 33 Repair and installation	-2.93	**	0.87	-3.37	0.00	

R-squared	0.46	Adjusted R-squared		0.28
F (22, 73)	2.64	H0: coefficients equal to zero	p-value	0.00
Breusch-Pagan BP	475.53	H0: heteroscedasticity not present	p-value	0.00
Shapiro-Wilk W	0.71	H0: error is normally distributed	p-value	0.00
Durbin-Watson DW	2.06	H0: no autocorrelation in errors	p-value	0.58

Note: The asterisks denote the statistical significance of coefficients on a level of 10% (*), 5% (**), and 1% (***), based on p-values. Since the Breusch-Pagan test shows presence of heteroscedasticity, we used the heteroscedasticity-corrected White´s estimator for coefficients estimation, and only these are presented in the table.

Source: own processing of the data

Based on the results in table 1, domestic ownership, and some of the industrial sectors have the statistically significant impact on the innovation performance. The constant represents an average-sized, average-productive, internationally owned enterprise operating in the sector of food products manufacture (the reference enterprise). The reference enterprise seems having on average even more innovation outputs than the average domestic-owned enterprise, and this positive effect is statistically significant.

It means that only when the ownership of a company is at least partially domestic it significantly produces innovation outputs. The results suggest that the cooperation between the domestic entrepreneurs with the foreign investor can be beneficial for innovation output production. The domestic owner usually brings the knowledge about the local market, while the foreign investor provides new technologies and international knowledge. Similarly, Collinson and Liu (2019) in their recent study found that a sustainable, reciprocal relationship between collaborative partners can generate superior innovation performance.

The purely foreign ownership does not have statistically significant impact of the innovation output, similarly as it has been already proved by Dachs and Ebersberger (2009) or Lee, Yoo and Kwak (2011). Thus, foreign-owned companies seem relocating their innovation activities outside the host country, as pointed out for example by Stiebale and Reize (2011).

Besides the main independent variables (type of ownership), the impact of other variables such size measured by amount of sales and labor productivity was investigated, however with no statistically significant results.

The last independent variable, industrial sector lead to conclusion that some industrial sectors have statistically significant impact (either positive or negative) on the innovation performance. The highest positive impact has besides the reference enterprise operating in the sector of food products manufacture also the sector of beverage manufacture. On the other hand, the lowest negative impact have the sector of repair and installation services of machinery and equipment followed by paper and paper products manufacture, and the other manufacture.

Conclusion

In the center of our interest within this paper was to examine the corporate ownership – innovation performance nexus specifically in the conditions of large manufacturing companies in the Slovak republic. It can be concluded that the drivers of innovation performance are domestic owned and internationally owned companies as it has been proved in the research. The pure presence of foreign investors in the local companies seems not to have significant effect on their innovation output.

Moreover, it has also been confirmed that the significance of innovation activities is sector/ industry specific with some sectors having significantly

positive and some sectors significantly negative effect on innovation performance.

On the other hand, none of the other enterprise specific characteristics, namely size and labor productivity seem to have statistically significant impact on the innovation output measured by number of patents, trademark, design and utility models that the company received.

Acknowledgement

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MODEL APPROACHES TO THE QUALITY OF LIFE MEASUREMENT AND SURVEY OF QUALITY OF LIFE - EVALUATION OF THE SUBJECTIVE QUALITY OF LIFE IN REGION

Naqibullah DANESHJO – Erika DUDÁŠ PAJERSKÁ

Abstract
The aspect of quality of life integrates the social and individual life of people and represents the synthesis i.e. leads to the synthesis of interdisciplinary aspects of different sciences. The work analyses issue of the quality of life according to several authors in the Slovak Republic and abroad. In the theoretical part there is specified concept of quality of life, its levels, model approaches and measuring the QoL. In practical part a composite index was designed for assessment of objective indicators of quality of life in regional level. It represents foundation for managers of the given territory in order to monitor the status of satisfaction of their citizens with living conditions and to observe the development trends of quality of life.

Key words:
quality of life, evaluation, human development index

Introduction

Quality of life is gradually becoming an important starting point for social policy as well as for other areas of social life. Since it is possible to analyze the development, quality of life is an important concept in international development, to a greater extent than the standard of living (preferably based on income). Standard quality of life indicators includes not only prosperity and employment, but also the environment, physical and mental health, education, recreation, leisure and social affiliation (Svobodová, 2008).

There is a wide range of quantitative measurement methods that are used to express the quality of life, due to differences in theory and in practice concerning human development (Cummins, 1997). Evaluating the quality of life as well as finding suitable measurable indicator is increasingly important. Accurate measurement of quality of life, which would be recognized by most experts do not exist yet. This is mainly due to the fact that the quality of life in itself contains two relatively separate components – objective and subjective.

Quality of life is used to assess the general well-being of individuals, people and the society. The term appears in a variety of contexts, including international development, as well as health care and policy. The term of quality of life should not be confused with the term of standard of living, which is preferably based on income. On the other hand, the standard indicators of quality of life include not only well-being and employment, but also the environment, physical and mental health, education, recreation, leisure and social affiliation.

From an objective point of view, quality of life can be defined by the interdependence of four determinants that include important functions and

activities of society. It is possible to hierarchically decompose each element, for example:

- Quality of population can be derived from the demographic structure of the population, the reproductive process, family behavior, the physical, mental and moral health of the population, as well as education and professional competence.
- Material welfare – its provision is determined by standard of living, graduated differentiation in income, living, telecommunications, business, education, culture, health system, mass media options, parameters such as access to basic services (drinking water, sanitation etc.) and equipment (market, park, bank, etc.) which are necessary to display the community.
- Quality of the social system is based on the right of people to education, employment, recreation, private ownership, personal protection, political stability of the system, individual integration into social infrastructure, social stability, racial and gender equality but also civil rights.
- State of ecology is influenced by the state of air, water resources, chemical and radioactive pollution etc.

1 Model approaches to the quality of life measurement

Discussions about what the quality of human life is and how we can measure it were proceeding intensively during the 80s and 90s. Accurate, reliable and theoretically satisfactory measurement of quality of life, to which would most experts agree, currently does not exist. This is mainly due to the fact, that it contains two relatively separate components – objective and subjective.

Since the beginning of research of quality of life there is a debate between supporters of the objectivist and subjectivist approach to quality of life about the question what criteria should be the quality of life be oriented and which indicator should be at the center of interest (Zapf, 1984). Therefore, the positions of "objectivists" and "subjectivist" are explained first.

In practical research, there are many variants how is quality measured (Kubás, 2017). Firstly there are two approaches, that represent "quasi" poles of a broad spectrum and whose specific perceptions of quality of life result from political traditions and social patterns. There exist a Scandinavian "level of access to life" and an American "quality of life approach".

In new empirical research was imposed a view that as objective as well as subjective indicators should be used together because they complement each other and influence each other to a certain degree (Radlinský 2000). Therefore, the complex quality of life cannot be measured directly. However, there exist theoretical concepts that try to outline the quality of life in a comprehensive way.

One of the quality of life models, which is promoted, includes four following domains (Frankovský, 2006):

1. Health area: includes daily activities, identifies the need for medical assistance, sufficient sleep, work capacity, overall mobility of the individual.
2. Psychological aspects: determine level of concentration, positive and negative emotions, physical appearance, spirituality, self-estimation.
3. Social relationships: personal relationships, sexual activity, social support.
4. Environmental factors: financial resources, living conditions, transport, availability of services, security, leisure time activities.

The quality of life design includes six basic domains (Fedáková, 2006):

1. Physical health: energy and fatigue, pain and discomfort, sleep and rest.
2. Psychological domain: physical image and appearance, negative emotions, positive emotions, self-estimation, thinking, learning, memory and concentration.
3. Level of independence: mobility, daily activities, medicines and medical devices addiction, working capacity.
4. Social relationships: personal relationships, social support, sex.
5. Environment: financial resources, freedom, physical safety and security, health and social care, home environment, opportunities to learn new information and skills, physical environment, transport.
6. Spirituality (religion), personal convictions: religious, spiritual, personal convictions.

Health issue is considered to be one of the dominant indicators of subjective understanding of quality of life. Despite the fact, that the Slovak Republic belongs according to the Human Development Index (HDI) among the developed countries of the world, the health status of the population is not satisfactory.

Social relationships have an extraordinary importance for the physical and mental integrity of a human and they form a basis for quality life. Their absence give the best evidence of their significance. Disturbed social relationships cause problems in family, work and on personality level. Problems in social relationships lead to negative social phenomena such as alcoholism, aggression, mental illness, crime, etc. (Sirgy, 1996).

Table 1 Comprehensive model of quality of life

<table>
<tr><th colspan="3">Sense of life</th></tr>
<tr><td></td><td rowspan="4">• Seamless aging
• The level of personality cultivation
• Social recognition
• Support for addicts
• Life support
• Universal altruism
• Solid health
• Survival of life satisfaction
• A satisfactory social environment
• The level of social development
• Friendly environment
• Level of knowledge and competence
• Good physical condition
• Normal mental state
• Growing up in a functional family</td><td></td></tr>
<tr><td>Axiological styles (Dionysian, Apollo), lifestyles (celibacy, workaholism), ideological styles (dogmatism, liberalism), cognitive styles</td><td>Passions (player, travel), hobbies (sport, creativity), interests (about things, people, ideas)</td></tr>
<tr><td rowspan="3"></td><td rowspan="3"></td></tr>
<tr><td>• Corresponding material and social security</td></tr>
<tr><td>• Life protecting the environment</td></tr>
</table>

Source: Železník, O. et al., 2011

Efforts to create a model approach to measuring quality of life is strongly developing in the world. In the Czech Republic the author Časlavka give a list of indicators of well-being according to which the quality of life should be assessed (Kováč, 2004) included several criteria of quality of life in his comprehensive model of quality of life, which contains three level: basal (panhuman), individual (civilization) and elite (spiritually cultural). – see Table 1. Each consists of six components with different weight and importance. The model is covered by the sense of life as a cross-sectional, systemic, psychic regulator of behavior (human action).

Each person has the necessity to shape their behavior in order to satisfy them. According to the American psychologist A. Maslow, needs are hierarchically arranged in terms of importance, from the most urgent to the least critical. This theory says that man is dealing with the needs of higher grades only when he has satisfied the lower needs. On the basis of the pyramid there are physiological needs. Only when these are satisfied, they come to the next level. Maslow distinguishes 5 degrees of satisfaction. The second stage consists of safety needs. This level is followed by the need of belonging somewhere, the need for love and appreciation. At the top of the pyramid there is a need for self-reliance and self-restraint – Figure 1.

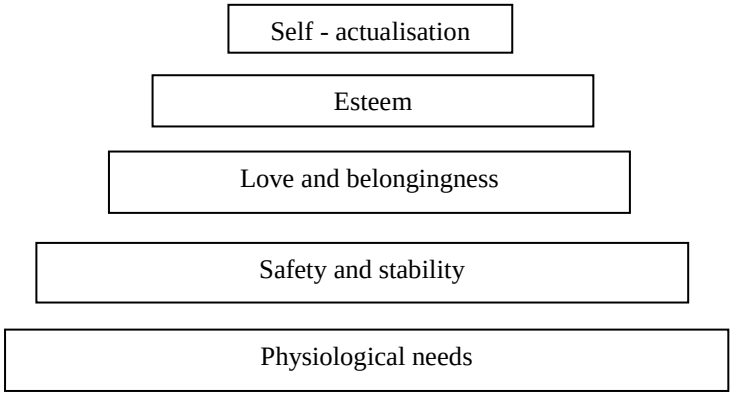

Figure 1 Maslow´s hierarchy of needs

Source: ISO/IEC 31010:2009

A model developed by Center for Health Promotion at the University of Toronto Canada is the best-known and most cited model of quality of life – see Table 2 and Table 3. The multidimensional model is based on a holistic understanding of quality of life and includes three basic domains and nine sub-domains. The real quality of life of a particular person is determined by the personal significance of the individual domains and the extent to which are they fulfilled in real life. The possibilities, opportunities and limitations, which a human have in his life, are emphasized and they represent reflections of the interaction between a human and the environment.

Table 2 Types of models of quality of life

Model type	Description
Conceptual Model	Model that specifies dimensions and properties of QoL (at least sophisticated type of model).
Conceptual Framework	Model that describes, explains or predicts the nature of the directional relationship between elements or dimensions of QOL.
Theoretical Framework	Model that includes the structure of the elements and their relationship within theory that explains these relationships (the most sophisticated type of model).

Source: Živelová, I. et al., 2008

Table 3 Conceptual framework of quality of life

BEING – who one is	
Physical Being	Physical health, personal hygiene, nutrition, exercise, grooming and clothing, general physical appearance
Psychological Being	Psychological health and adjustment, cognitions, feelings, self-esteem, self-concept, self-control
Spiritual Being	Personal values, personal standards of conduct, spiritual beliefs
SOCIAL BELONGING – connections with one´s environments	
Physical belonging	Home, workplace / school, neighborhood, community
Social belonging	Intimate others, family, friends, co-workers, neighborhood, community
Community belonging	Adequate income, health and social services, employment, educational and recreational programs, community events and activities
BECOMING – achieving personal goals, hopes and aspirations	
Practical realization	Domestic activities, paid work, school or volunteer activities, seeing to health or social needs
Leisure Becoming	Activities that promote relaxation and stress reduction
Growth Becoming	Activities that promote the maintenance or improvement of knowledge and skills, adapting to change

Source: Živelová, I. et al., 2008

Personal values and aspirations of individuals play an important role in determining their QoL. They define personal values as the importance to an individual of objective life conditions and subjective well-being with regard to a given aspect of life (Fedáková, 2006). The Schalock´s model rank order of core dimensions (Schalock, R.L. 1996). The priority people place on different domains varies across gender, age, level of education, etc. (Cummins, 1997).

As an example, we can mention a worldwide life quality survey, which is updated every year. It is a global ranking that is a result of global quality of life research. The research is performed by Mercer Company and the overall quality of life assessment is based on a detailed assessment of 39 quality of life criteria (Mercer, 2003).

The quality of life assessment is based on a detailed assessment of 39 quality of life criteria, which are grouped in ten categories (Mercer Consulting 2012):

- Political and social environment (political stability, crime, etc.).
- Economic environment (monetary regulation, banking services, etc.).
- Socio-cultural environment (censorship, restriction of personal freedom).
- Healthcare (medical services, etc.).
- Education and education system (level and availability of schools, etc.).
- Public services and transport (electricity, water, public transport, etc.).
- Recreation (restaurants, theatres, cinemas, sports, etc.),
- Consumer goods (availability of food and daily consumption goods, etc.).
- Housing (housing style, etc.).
- Natural environment (climate, natural disasters, etc.).

Quality of life measurement scientists focus their attention on identifying a clear and eloquent in all aspects, measurable indicator of quality of life, that would serve benchmarking in the subject area at regional, national and international level. Determining such a measurable indicator is a long-term goal, however, the first signs of solving this problem are documented.

In connection with the theoretical definition of the studied issue, in the next chapter is performed the analysis of the quality of life measurement used in the Slovak Republic and abroad.

2 Survey of quality of life - evaluation of the subjective quality of life in region

The aim of the research was to evaluate the subjective quality of life by the inhabitants of Žilina self-governing region and at the same time they were asked questions concerning various aspects influencing the quality of life. Individual respondents were asked by these questions about their satisfaction.

The calculated sample was divided by sex, employment, and education, based on the shares calculated from population sizes in each category, obtained from the statistical office.

In terms of social status, the majority of respondents were in the "employed" category (233). The second most numerous groups was "students" (157). Pension status, unemployed, entrepreneur and disability pensioners were reported by 128 respondents. The number of respondents with elementary education was 44 respondents, 280 respondents had secondary education and 206 respondents were enrolled in university education.

Due to limited research resources and the singularity of some groups, the specified number of respondents did not meet the specific categories. In the longer-term categories, the sample increased, increasing the ability to leak for that category. Based on the results of the survey, we could say that the majority of the respondents expressed their satisfaction with their place for living and work (74.67%) - Figure 2.

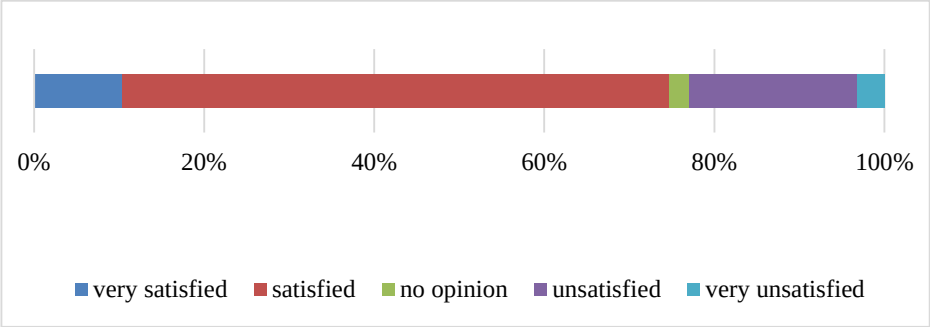

Figure 2Satisfaction with the municipality (town) as a place for life and work

Source: own procession

Most of respondents (72.54%) considered the accessibility of public transport in Žilina self-governing region (bus, rail) very good and were satisfied or very satisfied with availability of public transport. Negative opinions concerned mainly the quality of roads, sidewalks, railway transport or amount of cycle paths, etc.) – 60.79% of respondents expressed dissatisfaction, only 37.60% was satisfied with its quality – Figure 3.

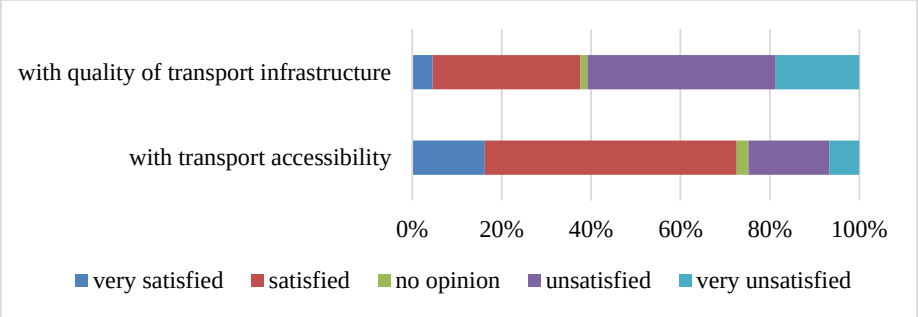

Figure 3 Satisfaction with quality and accessibility of traffic infrastructure

Source: own procession

Respondents are satisfied with the quality of services provided by public administration authorities (municipality office or town office, tax office, etc.) in 58.13%, which express the possibility of improvement in services provided in this sphere. People which do not use these services or are helped by relatives (seniors, young people or disabled) could not share their own opinion in 12.27%. The majority of respondents (79.47%) were satisfied or very satisfied with the availability of shopping possibilities. Quality of conditions for culture, sport and leisure time – 64.27% were considered by the respondents to be good enough. 69.6% of respondents were satisfied or very satisfied with availability of civic amenities (shopping centers, cinemas, restaurants, theaters, culture centers and post offices etc.) – Figure 4.

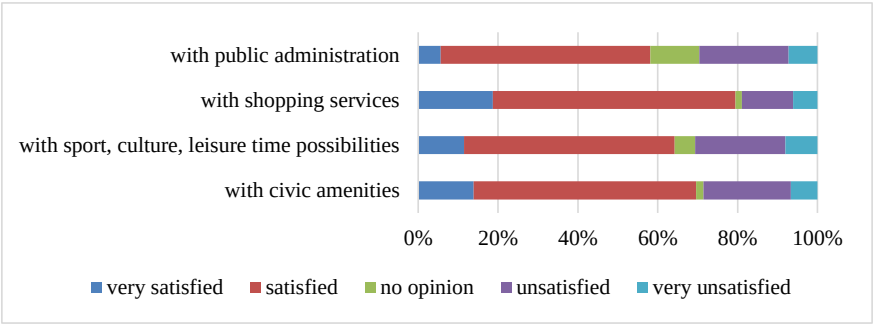

Figure 4 Satisfaction with the quality of services provided by the public administration, shopping services, conditions for culture, sport and leisure and civic amenities

Source: own procession

Quality of the environment is a prerequisite for a positive perception of the quality of life. Almost half of the respondents (63.47%) evaluated the quality of the environment positively; Very satisfied with the air was 64.80%. The air can

be considered as polluted due to the existence of pollution sources in bigger towns and cities in industry areas – Figure 5.

Most respondents (70.66%) evaluated the quality of water positively. 76.53% of respondents perceived the quality of the natural environment and the surrounding country as adequate (the landscape, amount of green areas, the building of the land, etc.). Respondents mainly from the urban areas dissatisfaction with the building of the territory and lack of green in the recreation zones.

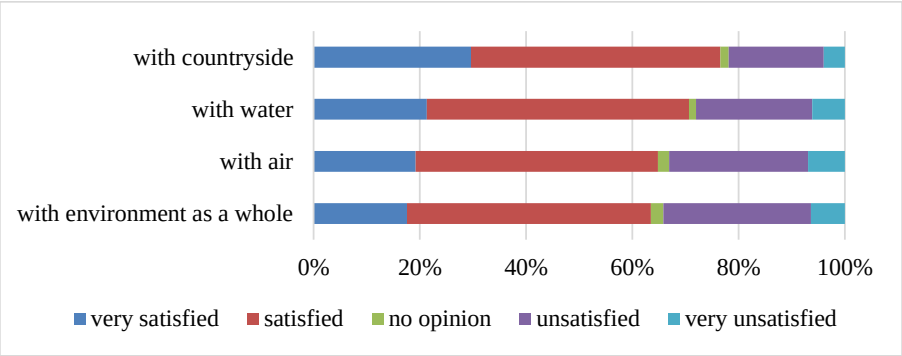

Figure 5 Satisfaction with the quality of the natural environment and the surrounding landscape, quality of the environment – water, air and environmental conditions as a whole

Source: own procession

Relatively low satisfaction was expressed by respondents with the quality of social services (labor offices) – in 34.13%. Relatively positive, the respondents evaluated the quality of social services provided (29.34%) - (nursing services, retirement homes, etc.) – Figure 6.

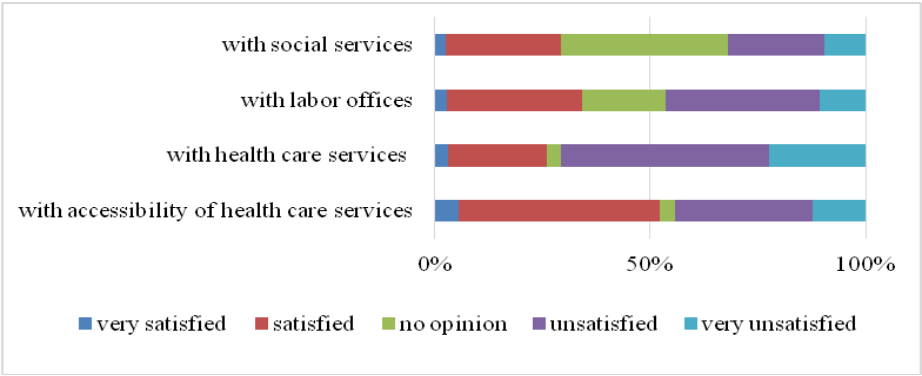

Figure 6 Satisfaction with the quality of social services, labor offices, the availability of medical facilities and quality of the provided health services

Source: own procession

A more than a half proportion of respondents evaluated positively the accessibility of health care institutions (up to 52.27%) while rather worrying number of respondents (70.67%) was dissatisfied and very dissatisfied with the quality of the health services provided, especially with long waiting periods, beds in institutional care 26.13% were satisfied Fig. 68. Satisfaction with quality of

housing was quite high, the amount of respondents' quality of housing was 87.74%.

Relatively low level was given by the respondents to the issue of using the community's potential for socio-economic development (cultural monuments, nature, healing springs, etc.) were relatively divided – 33.07%. Similarly, responses to measures to improve security of persons and property were considered to be improved (installation of security cameras in towns, etc.) – 36.6%. The answer to the question of the availability of suitable employment reflects the situation on the labor market – 34.4%. A large proportion of respondents is satisfied with the availability of education – 79.3% - Figure 7.

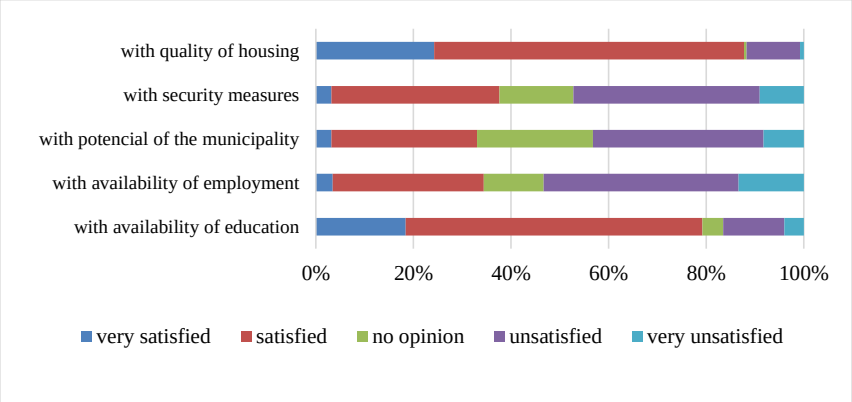

Figure 7 Satisfaction with the quality of housing, security, use of community potential for socio-economic development, availability of employment and education possibilities

Source: own procession

3 Total satisfactions of respondents

The relationship between total satisfaction of respondents according to sex and age groups shows Figure 8. Generally the satisfaction was higher in women than in the sample of men. The results show the rising trend of overall satisfaction in women which is more visible among female group.

Meanwhile there is no significant growth of satisfaction in men group over the age and there is a decline of satisfaction in higher age in men group.

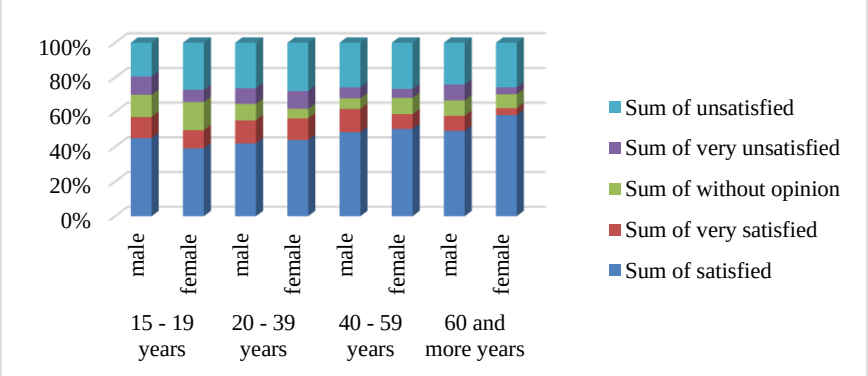

Figure 8 Total satisfaction of respondents divided by gender and age groups

Source: own procession

Divisions in overall satisfaction according to social status are shown in Figure 9. At least satisfied was a group of unemployed, students and entrepreneurs and retirees followed by respondents in group of economically active population (employees). Disabled people and retired expressed relatively good overall satisfaction. In Figure 10 we can see overall satisfaction according to educational background there was no significant difference in overall satisfaction among these groups.

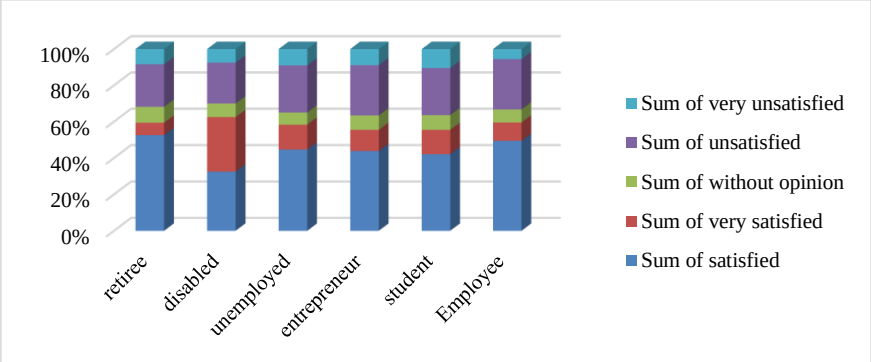

Figure 9 Overall satisfactions with division by social status

Source: own procession

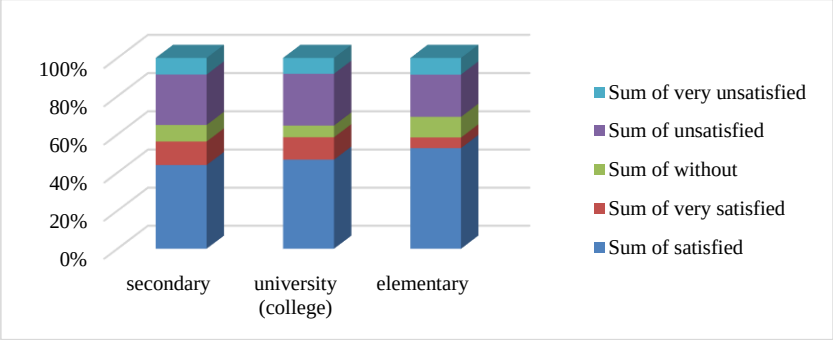

Figure 10 Overall satisfaction by education

Source: own procession

The highest share of satisfied respondents was with university education with primary education, then respondents with secondary education. The highest share of respondents who did not share the opinion how they were generally satisfied with the city / city as a place for life and work was in group with primary education.

Conclusion

The quality of life is an actual topic and sphere of interest of many scientific disciplines, i.e. the point of view depends on who analyses the issue of quality of life. This issue is a multidimensional construct which has an applied nature and that´s for it is very difficult to capture and measure.

Thanks to new ICT, innovation, based on creativity, the new economy brings economic growth which in linkage with social development is a base for the

improvement of the quality of life of the people. The work analyses issue of the quality of life according to several authors in the Slovak Republic and abroad. The composite index as well as partial indices was designed for measuring the quality of life in the model territory of the Žilina self-governing region, in order to measure quality of life from both perspectives.

Indices can serve as a foundation for managers of the given territory in order to monitor the status of satisfaction of their citizens with living conditions and to observe the development trends of quality of life. The proposals are based on the fact, that the financial or economic indicators are not always sufficient to assess the overall level of quality of life of the population.

Acknowledgement

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PERSONNEL AUDIT AND BUSINESS DEVELOPMENT

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Abstract
The aim is to define the innovation potential for the business development based on the results of personnel auditing. They have been production and services businesses audited. The audit criteria were standardized and objectivized. The results were compared with the criteria and objectives of the businesses. The proposals are oriented at removing obstacles and achieving objectives of businesses. The results of the survey are beneficial for determining the traits of enterprises profile in the current period, which are constantly adapting to external conditions of surroundings, but also have to ensure their internal integrity.

Keywords:
Business, Development, Employees, Innovation Potential, Personnel Auditing

Introduction

Human resources are considered as key resources. This show the results of a descriptive study by the authors Mayon, Burgos and Sanchez (2019), who realized descriptive study of bibliographic review type aims to analyse the management of human resources in business organizations, in the current times. Management of human resources consists of radius of action includes recruitment, selection, compensation, social benefits, hygiene, employee health and safety at work, organizational development, training and development of personnel, labour relations, database and information systems, and auditing, too.

Auditing can be defined in accordance with ISO 19011:2018 as a systematic, independent and documented process of obtaining the evidence of auditing and evaluating it objectively to determine the extent to which audit criteria are met. There are against each other criteria and evidence. Criteria of auditing are a reference set of procedures or requirements. For evidence of auditing are generally considered records, statements, facts or other information relating to audit criteria that are verified.

ISO 19011 Standard - Management System Auditing Guidance offers a unified and harmonized approach that enables effective auditing of multiple organization management systems. A key change in the revision of ISO 19011: 2018 is the extension of auditing principles to include a risk-based approach to reflect increased attention to risk management in management system standards. Innovation potential is a set of critical points in the structure and processes of a company, it is a prerequisite for its development.

The audit of the content of selected business processes is mostly the verification of the implementation processes of the management subsystem and analysis of the selected 15 business area is targeted optimization of the selected business area to ensure predefined objectives (Závadský 2012).

Internal audit is the "process of restructuring and permanent improvement of the corporate management system" (Truneček 2004).

Mateides (2006) outlines nine basic steps of internal audits: 1. preparation of audit plans; 2. preparation of auditors; 3. preparation of audit plan; 4. preparation of audit questionnaire; 9. realization of the final meeting.

Personnel work is a subsystem in the management system. The subject of personnel audit is personnel work and work analysis. The analysis of the work focuses on jobs, specifically on the content of work and requirements for employees who fulfill their duties.

Terms such as digital audit, digital staff and the like are used with the terms unemployment, social impact, social competencies and technical competencies. Surveys carried out in the world bring interesting results. For example authors Popkova and Zmiyak (2019) perform two experiments for determining the scenario according to which industry 4.0 develops and will develop. The first experiment is aimed at determining the influence of the number of robots at unemployment level in 2019 and 2022. The second experiment is connected to evaluation of the ratio of the number of robots to the number of population in 2019 and 2022. The results of the performed experiments realised in countries with the highest number of robots in the world showed that in 2019 and 2022 the level of robotization of socio-economic systems of the countries of the world will be very low, and robotization will not cause growth of unemployment.

Nowadays, from our perspective the next task of human resources management will be digital staff or digital personnel, and the process of auditing will be change.

In some countries they try to develop the scientific and methodological provision of an audit of training of digital personnel for the regional economy in the conditions of growing technologies by the example of regional flagship universities (Goryachikh 2019).

1 Search procedure

The aim of the research was, according to the results of personnel auditing, to define the innovation potential for the development of the company and to determine the personnel profile of the company by generalizing the common features of the innovation potential.

Personnel auditing was not focused on personnel work (performance of personnel manager / personnel department), but only on the content of work place and requirements on employees. The content of the personnel audit was to find out the current state of work, mutual substitutability of employees, continuity of work at jobs, succession, redundancy or insufficient number of jobs, but also requirements for education, experience, skills.

The tools of the qualitative survey were a work places analysis questionnaire and a checklist, but also selected internal companys documents were analyzed.

The questionnaire and checklist were standardized for use in the same types of businesses. The questionnaire was intended for employees, the checklist was determined by the manager. For the audit, it was ascertained what formalized documents had been drawn up in the companies and what the personnel goals were. If documents have not been drawn up or objectives have not been set, the competent manager has been asked to define them ad hoc for the upcoming period for next one and three years.

The questionnaire contained 12 questions, the checklist contained 22 questions. The survey took place in the period 2017 - 2019. All audited companies are located in the northeast of the Slovak Republic, they are similar in their features to make the results of the survey comparable. The consultants of the companies were their representatives – owners or managers.

They were audited: two production as a middle-sized businesses, 2 services (tourism) as a small-sized businesses. The selected business area for auditing was human resources management, specifically personnel audit area. The criteria were optimization aims. The same intention was to identify critical points and to propose and change for business development.

The data were analyzed and processed using mathematical calculations and statistical indicators, especially mean values (median, mode), deviations (mean and best), ranking method (according to the maximization or best result rule).

The audit methodology was based on setting audit criteria - personnel goals. These were compared with the results – proofs, they were founded in the company. Deviations between criteria and results (evidence) have been identified as innovation potential. All draft recommendations will focus on innovative business development.

2 Results

In enterprises have been collected primarily information about the existence of formalized documents containing personnel objectives. It was found that small service businesses don´t have such documents at all. Their consultants had to formulate these objectives ad hoc. The formulated objectives represented a reference requirement that should be verified by a personnel audit. This was the first audit evidence that is potential for improving staffing in enterprises there. In medium-sized manufacturing enterprises, there are business plans that have been included an organizational structure and a list of work places. Personnel objectives were formulated only in general terms, they were defined in a vague way, such as "keeping employment", "not allowing mass layoffs", etc. However, these documents have not been updated at all in the last 5 years.

Together, at the time of the audit, 155 work places were audited. Of these, 123 employees worked in manufacturing, medium-sized enterprises - Enterprise A had 56, Enterprise B had 67 employees. The average age of employees in manufacturing companies was 49 years. There were 32 employees in service

enterprises, small enterprises (Enterprise C 13, Enterprise D 19), with an average employee age of 34 years. A minimum of 3 and a maximum of 9 existing jobs were not audited in each audited company, their employees were absented from work at the time of the auditing, nor are they included in the total number of jobs.

It was found that out of the total number of jobs audited, 92 (59%) of their employees were unable to identify their job (name it). These results were particularly negative in medium-sized manufacturing companies - in Company A 37 employees and in Company B 45 employees. In service enterprises, 10 employees together did not know the exact identification of their job. This inconsistency represented the second audit evidence to be optimized.

It can be stated that each employee was able to determine the right 3 basic work duties from their job description. But it has been found that together up to 51 jobs are incorrectly allocated to current jobs (not individually but for the same jobs selected). This evidence, as a result of the audit, was another, third element of business innovation potential.

Employees in jobs in service enterprises (small enterprises) have reciprocal substitutability determined from their senior employee mainly orally, not in their employment contract or in their job description. Substitutability in these companies is not fulfilling its function because there is a high staff turnover - more than 40%, which requires cumulating work responsibilities.

In production enterprises (medium size), substitutability is planned, in Company A there is a substitution plan, but they work mainly according to customs and experience. Employees are older, have had the opportunity to work in jobs with similar content, and have been trained in professional activities. In medium-sized enterprises, staffing seems to be a major problem. Highly skilled, more experienced employees left for companies in the Czech Republic, Germany, Holland and Austria because of higher wages. At the same time, the employees created a closed club of shareholders who don´t want to let in new employees. There is a similar situation in Company B, but there are more informal relationships and an interest in performing a job even in the absence of employees to be represented. These objective factors affect internal relationships in companies and are another potential for improvement.

After analysis of work tasks continuity at the workplaces were identified as a redundant: 13 workplaces were identified in production enterprises - Enterprise A Total 8, Enterprise B Total 5. They were identified mainly because of the required use of working time, but also because of unnecessary use of manual labour, carried out with the aid of a machine, apparatus or computer. In service enterprises, 3 jobs were identified as unjustified (Enterprise D), as 2 missing jobs (Enterprise C).

Common and different traits of businesses

Traits - evidence of auditing	Businesses			
	A	B	C	D
Number of work places	56	67	13	19
Redundant work places	8	5	0	3
Missing work places	0	0	2	0
Unknowing – workpl. name	37	45	4	6
Unknowing – workpl. name	37	45	4	6
Barriers of substitutability	Club, Seniority	Plan	Fluctuation, missing employees	Yes
Business activity	Production	Services	Business activity	Production
Business size	Middle	Small	Business size	Middle
Average age	49	34	Average age	49
Mutual substitutability	Plan, experience, custom,	Verbal, ad hoc	Mutual substitutabilit y	Plan, experience, custom,
Average experience period	23	8	Average experience period	23
Formalized goals	Yes, but obsolete	No	Formalized goals	Yes, but obsolete
No edu, experience requirements	22	17	No edu, experience requirements	22

Source: Results of own search

The current state of compliance with education, experience and job experience requirements was also verified. It has been found that the biggest mismatch exists in service enterprises. The reason is probably the already mentioned high fluctuation rate, but also the lack of supply on the labour market, the lack of applicants for this job. Employees in jobs in tourism services are remunerated by long-term low wages (minimum wage), so there is no interest in this work for young people but also for older workers. More than half of employee not trained in the sector (17; 53%) work in service enterprises, with an average of 8 years' work experience. With regard to the number of verified jobs in manufacturing companies, it is only 22 employees (19%), the average length of experience in the field is 23 years.

Conclusion

All the results of the analysis, personnel auditing in four companies, point to evidence that is not in line with the business objectives. By removing them, companies can ensure their development in a selected area.

Therefore, a set of recommendations was made to remedy the identified deficiencies, which were formalized in the final audit reports. Each company received its own final report, which included a methodology to put effective measures into practice. It is not advisable to end a personnel audit after the first audit. It is advisable to continue the repeat after the optimal time and compare the results with each other. Only with measurable better results can we talk about business development. With regard to business employees, it is considered whether the impact of technologies on production efficiency will be more positive or negative, not only on the conditions of the businesses, but especially on the social sphere.

In personnel audits, we recommend that companies review not only the structure of personnel in relation to the business activities and costs involved. It is also necessary to review the structure of other business resources and the efficiency of their using: to carry out personnel audit and audit of business resources in the context of Industry 4.0.

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FINANCIAL HEALTH PREDICTION USING DISCRIMINANT ANALYSIS

Andrea LUKAČKOVÁ – Marián SMORADA

Abstract
The high individual, economic and social costs associated with the company's bankruptcy have led to efforts to better understanding and to predict potential enterprise failure. The company's financial distress prediction pro-vides useful information to shareholders, creditors, owners and even the public. In fact, corporate bankruptcies can be caused by several factors such as incorrect investment decisions, poor investment environment, low cash flow, etc. Therefore, the techniques of current methods for predicting business failure must be constantly improved.

Keywords:
business financial health prediction, discriminant analysis, Altman Z-Score, Median test

Introduction

At the beginning of the 1960s the methods of predic-tion the enterprise failure have become one of the most important issues in corporate finance and from this period is intensely examined. The models of bankruptcy prediction can be divided into two catego-ries, namely statistical and artificial intelligence tech-niques. Beaver was an initiator in statistical methods, followed by Altman, who used multiple discriminant analysis (MDA) and also developed stochastic mod-els such as Logit and Probit.

Despite the turbulent emerging economy, where the probability of bankruptcy is predominantly detected through neural networks in the case of non-linear re-lations between the indicators observed, the methods of discriminant analysis still have and constitute an appropriate indicator of early warning of the financial difficulties of the enterprise.

1 The aim

The aim of the article is to analyse the advantages and disadvantages of using discriminant analysis in the prediction of financial distress of the enterprise and compare the differences between univariate and mul-tidimensional discriminant analysis.

Discriminant analysis is used to classify objects, en-terprises into groups. Using discriminant analysis may be determine variables, which have the highest ability to distinguish the group (prosperous or unprosperous enterprises) to which the object be-longs. Verbal expression of the using of discriminant analysis for this issue is a relatively easy and practi-cal. On the other hand, mathematic and statistical ap-paratus solutions task is a fairly difficult for users.

2 Research methodology

Relevant methods and research tools have to be se-lected to achieve the objectives of the paper. To get an overview of the current situation at home and abroad, it was necessary to study the available domestic and foreign literature. A wide range of methods can be used for a financial analysis aimed at future ("ex ante" financial analysis). Multiple methods should either unidimensional or multidimensional character.

For the comparison of the advantages and disad-vantages of unidimensional and multidimensional dis-criminant analysis, we used the comparative method.

The synthesis method, we subsequently came to con-clusions on the knowledge, knowledge and experi-ence of discriminant analysis used at the prediction of the financial health of the enterprise.

3 The results

Discriminant analysis is mathematical-statistical methods, which in comparison to the other methods are objective, omit the human or empirism of the authors and therefore are more exact.

3.1 The essence of discriminant analysis

The discriminant analysis method is one of the most frequently used methods for prediction the future financial situation of the enterprises. Based on the calculation of the synthetic variable, which is formed by financial indicators with high ability to distinguish with allocated corresponding weight we are able to assess the prosperity observed enterprise. Discriminant function formula is:

$$Z = a_0 + a_1x_1 + a_2x_2 + ... + a_nx_n, \quad (1)$$

where

x_i – represents the selected financial ratios,

a_i – represents the weights corresponding to particular indicators.

The process of creating a discriminant equation can be described in a simplified manner as follows: It is a challenging process very important to take into account several facts. At the beginning we decide on the selection of appropriate financial indicators that are able to predict the development of the financial health of enterprises. Results those indicators of prosperous and unprosperous businesses compare, and we want to find a value indicator at the which, their value from the themselves significantly vary. Statistical by examining those out-comes in the both groups enterprises we find, or these indicators have good ability to distinguish and on the basis of this, are assigned different weight significance. We are looking for an indicator value, where distance between average value of discriminant function in the group of solvent and in group of insolvent enterprises is the greatest. It is very important to find a distinguishable

character - a discriminant who optimally distinguish both groups, namely prosperous enterprises from the unprosperous.

3.2 Discriminant analysis as a tool to predict the financial health of the enterprise

The objective of discriminant analysis is to find a predicting model of warning against possible bankruptcy of the enterprise. The principle of discriminant analysis consists in the classification, inclusion of new objects (in our case enterprises) in groups (it is assessed whether it is prosperous or unprosperous, whether or not it threatens to bankrupt). New enterprises are classified into groups based on their high degree of similarity. We can say that based on their distinguishable elements are classified in groups. The groups are clearly recognizable, and each enterprise belongs unequivocally to one of them. New enterprises are included in these groups on the basis of their high degree of similarity with previously classified enterprises.

The main task of discriminant analysis is to find optimal rules that minimise the likelihood of incorrect classification and/or inclusion of enterprises in the wrong group, i.e. to minimise the median error of decision-making. The procedure begins with an analysis of the group of elements, enterprises in which the relationship to a particular group (a prosperous or unprosperous enterprise) is known and also the value of the random variables - the training set. The result of a training set analysis is to find a discriminant function that determines the likelihood of classifying a new unincorporated object - an enterprise into a particular group based on the measured values x_1, x_2... x_m of its characteristics.

The assumptions of discriminant analysis are: multivariate normal distribution, strictly defined groups of statistical units (objects-enterprises) and the importance of selected discriminant variables.

The principle of discriminant analysis consists only in examining the dependence of one qualitative variable (in our case classification of the enterprise) from several quantitative variables. According to the number of variants of the qualitative variable we can distinguish unidimensional, two-dimensional and multidimensional discriminant analysis.[1]

3.2.1 Unidimensional discriminant analysis

"For unidimensional discriminant analysis we classify enterprises as prosperous or unprosperous and we value their financial situation for the future only on the basis of a single variable."[2]

[1] Kočišová K. - Mišanková M. (2014). *Discriminant analysis as a tool for forecasting company´s financial health*. In *Contemporary Issues in Business, Management and Education*. [online]. 2014. [accessed. 21.07.2019].
[2] Zalai, K. a kol. 2010. *Finančno-ekonomická analýza podniku*. Siedme prepracované a rozšírené vydanie. Bratislava : Sprint dva, 2010. s. 129. ISBN 978-80-89393-15-2.

Beaver's unidimensional discriminant analysis

The size of the sample with which Beaver worked, contained 69 prosperous and 69 unprosperous enterprises, together 138 enterprises. He worked on the basis of a pairing selection, that means, every enterprise from a group of prosperous had his pair from a group of unprosperous enterprises according to almost the same industry and size of the company. "The enterprise was considered a set of 30 ratios. Subsequently, the author calculated from the values of these indicators simple arithmetic averages in both subsets, for each year of the five years period before the financial distress at the enterprise was observed."[3] Beaver identified indicators with good ability to distinguish and sought a discriminant (distinguishable value) for these indicators. Beaver subsequently examined their reliability of the classification of the enterprises with minimal error. Two random groups of enterprises split into two approximately equally large subgroups. The first sub-group called the estimation subgroup, the other called the verification one. The estimation subgroup used to estimate the distinguishing quantity and, according to its research, a significant difference in both subgroups exhibit the following variables: cash flow/debt; net profit/total capital; debt/total capital; net operating capital/total capital; short-term assets/short-term liabilities, that would be optimal for the prediction of the financial situation of the enterprise. The optimum values of the individual indicators identified on the estimation subgroup were used for the verification sub-groups, where it verified the number and percentage of wrongly classified enterprises:

Table 1. The percentage erroneously included enterprises

Financial indicator	Number of years to classification of the enterprises into unprosperous group				
	5	4	3	2	1
cash flow / debt	22	24	23	21	13
net profit / total capital	28	29	23	20	13
debt / total capital	28	27	34	25	19
net operating capital / total capital	41	45	33	34	24
short-term assets / short-term liabilities	45	38	36	32	20

Source: ZALAI, K. a kol. Finančno-ekonomická analýza podniku.4

It is clear from the table that the enterprise approaching the moment to go bankrupt, there is lower percentage its wrong classification into groups. Further we can observe, that in the average, the lowest percentage of wrong classification have indicators such as cash flow/debt and net profit/total capital. These two

[3] Zalai, K. a kol. 2010. *Finančno-ekonomická analýza podniku*. Siedme prepracované a rozšírené vydanie. Bratislava : Sprint dva, 2010. s. 130. ISBN 978-80-89393-15-2.
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indicators appear to be very good indicators of the financial distress at the enterprises in the long term.[5]

The application of a unidimensional model does not require any statistical knowledge. For each ratio compare the value of the ratio of the enterprise with the discriminant value and decides accordingly whether the business is prosperous or unprosperous. Although the simplicity of the unidimensional model is attractive to use, this method also has its disadvantages, which can be eliminated using multivariate discriminant analysis.

3.2.2 Multidimensional discriminant analysis

A multidimensional discriminant analysis takes into account a number of indicators to assess the future development of classified enterprises. This indicator is assigned weights of significance and their prediction ability have been verified in different types of market economies in practice.

Altman Z-Score

E. I. Altman first calculated a multidimensional discriminant function. The structure of its sample contained 66 enterprises – 33 prosperous and 33 non-prosperous enterprises. The author based on the statistical observation created the Z-Score, the so-called Altman's Index of financial health. The essence of a multidimensional discriminant analysis consists in seeking to find such a linear combination of indicators with the best ability to distinguish in order to separate the group of solvent and insolvent enterprises. The author has designed this index by integrating the five indicators that best reflect on the forecast of the financial development of businesses. He divided the enterprises examined into the following groups:

- The enterprises with publicly traded securities,
- The enterprises whose securities are not traded on the capital market,
- Non-productive business, commercial and start-ups.

The enterprises with publicly traded securities:

$$Z = 1{,}2x_1 + 1{,}4x_2 + 3{,}3x_3 + 0{,}6x_4 + 1{,}0x_5 \qquad (2)$$

where:
x_1 = net working capital/total capital,
x_2 = retained earnings/total capital,
x_3 = EBIT + interest (operating profit)/total capital,
x_4 = market value of equity/debt,
x_5 = sales/total capital.

[5] spracované podľa GRÜNWALD, R. – HOLEČKOVÁ, J. 2006. *Finanční analýza a plánovaní podniku*. Tretie vydanie. Praha : Nakladatelství Oeconomica, 2006. s. 110-111. ISBN 80-245-1108-8.

Table 2. The limits of the assessment of the financial situation of the enterprise according to Z

Score according to E. I. Altman	Likelihood to go bankrupt
1,8 and less	very high
1,9 - 2,7	high
2,8 - 2,9	likely
3,0 and more	unlikely

Source: KRÁĽOVIČ, J. – VLACHYNSKÝ, K. Finančný manažment.6

The enterprises whose securities are not traded on the capital market:

$$Z' = 0{,}717x_1 + 0{,}847x_2 + 3{,}107x_3 + 0{,}420x_4 + 0{,}998x_5 \quad (3)$$

where:
x4 = market value of equity/debt,
the other variables as in the previous case above.

The limits of the assessment of the financial situation of the enterprise according to Z′:

- $Z' > 2{,}9$ = good financial situation at the present moment and in the future,
- $1{,}2 \leq Z' \leq 2{,}9$ = grey zone of unrecorded results,
- $Z' < 1{,}2$ = the enterprises is threatened with serious financial problems.[7]

Altman also modifies its model in order to minimise interindustry specificities and therefore the model has taken the most sensitive indicator, thus

x_5 = sales/total capital.

Non-productive business, commercial and start-ups:

$$Z'' = 6{,}56x_1 + 3{,}26x_2 + 6{,}72x_3 + 1{,}05x_4 \quad (4)$$

The limits of the assessment of the financial situation of the enterprise according to Z′′:

- $Z'' > 2{,}60$ = prosperous, financially strong enterprise,
- $1{,}10 < Z'' < 2{,}60$ = grey zone, future uncertain,
- $Z'' < 1{,}10$ = enterprise will go bankrupt.[8]

Selection of variables with good ability to distinguish

"Variables that have a significantly different value in companies prosperous and unprosperous, and these differences are stable in time, have a good ability to

[6] KRÁĽOVIČ, J. – VLACHYNSKÝ, K. 2011. Finančný manažment. Tretie prepracované a doplnené vydanie. Bratislava : Iura Edition, 2011. s. 68. ISBN 978-80-8078-356-3.
[7] spracované podľa KRÁĽOVIČ, J. – VLACHYNSKÝ, K. 2011. *Finančný manažment*. Tretie prepracované a doplnené vydanie. Bratislava : Iura Edition, 2011. s. 68. ISBN 978-80-8078-356-3.
[8] spracované podľa ZALAI, K. a kol. 2010. *Finančno-ekonomická analýza podniku*. Siedme prepracované a rozšírené vydanie. Bratislava : Sprint dva, 2010. s. 137. ISBN 978-80-89393-15-2.

distinguish." [9] We can find these variables through different methods. In our article, we draw attention to the simpler test, namely the Median test where the median is discriminant that separates a set of businesses to be prosperous and unprosperous in prediction of the financial health of the enterprise.

Median test

This method is very simple. We need to quantify the median-mean value from a set of results of variables examined by prosperous and non-prosperous enterprises. ”The median is such a fair value which, in ascending order, distributes a set of observed values into two equally numerous parts. It is true that half of the observed character values are less than or equal to the median and half is greater than or equal to the median.”[10] We then analyse how many of these two enterprises are located below and above the median. The indicator with good distinguishing ability lies on one side of the median. For example, 50 prosperous and 50 bankrupt companies are available. If we tested the ability to distinguish of the ROA variable, we would arrange the quantified results according to size and determine the median. If we find that the distribution of enterprises is as shown in Figure 2 (45 P indicates the number of prosperous enterprises with a value lower than the median and 5 N the number of non-prosperous enterprises with a value lower than the median), the distinguishing ability the ROA indicator is good.

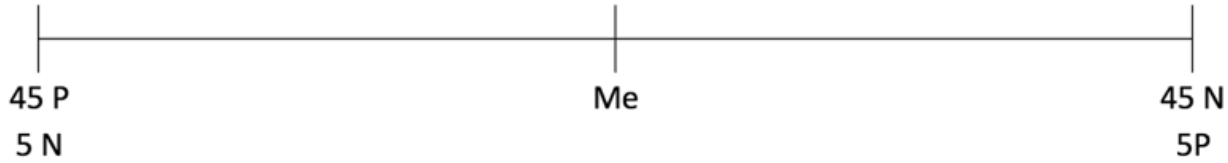

Figure 1. Variable with good ability to distinguish

Source: ZALAI, K. a kol. Finančno-ekonomická analýza podniku.11

We see that the total error-α + error β represents 10%, that is, a total of 10 enterprises are incorrectly classified. This phenomenon is acceptable and therefore the ROA has a good ability to distinguish

[9] ZALAI, K. a kol. 2010. *Finančno-ekonomická analýza podniku*. Siedme prepracované a rozšírené vydanie. Bratislava : Sprint dva, 2010. s. 124. ISBN 978-80-89393-15-2.
[10] PACÁKOVÁ, V. a kol. 2009. *Štatistické metódy pre ekonómov.* Prvé vydanie. Bratislava : Iura Edition, 2009. s. 42-43. ISBN 978-80-8078-284-9.
[11] ZALAI, K. a kol. 2010. *Finančno-ekonomická analýza podniku*. Siedme prepracované a rozšírené vydanie. Bratislava : Sprint dva, 2010. s. 124. ISBN 978-80-89393-15-2.

If the total error was in the following rage:

Figure 2. Variable with bad ability to distinguish

Source: ZALAI, K. a kol. Finančno-ekonomická analýza podniku.12

The ROA indicator can be regarded as an indicator of poor ability to distinguish and cannot therefore be used to predict the financial situation of the enterprise.

The disadvantage of this method is its static character. Nowadays, it is not correct to use the values of the summary characteristics in assessing the financial situation of the enterprise and the subsequent prediction of its development, which are used in developed economies. Different levels of transformational process in different countries are causing distortion of the variables used. It is therefore appropriate to emphasise the dynamics of the development of these variables rather than their current level.[13]

4 Discussion

The application of a unidimensional model does not require any statistical knowledge. For each ratio, compare the value of the ratio of the enterprise with the discriminant value of the variable and decide accordingly whether the enterprise is prosperous or unprosperous. Although the simplicity of the unidimensional model for use is appealing, this method also has its disadvantages which can be eliminated by using of a multidimensional discriminant analysis.

Although a multidimensional discriminant analysis is a frequented technique of modelling, the prediction of enterprise's bankruptcy has some serious disadvantages. MDA requires that relationships between indicators be linear, which means that a discriminatory score - discriminant below or above a certain value automatically signals good or bad financial health.

This rule in a multidimensional discriminant analysis contradicts the fact that multiple variables do not show a linear relationship with financial health, some of which indicate financial problems when they have very low or very high value. We should also bear in mind that discriminatory scores are only a sequential measure that allows for a relatively sequential evaluation among companies.

[12] ZALAI, K. a kol. 2010. *Finančno-ekonomická analýza podniku*. Siedme prepracované a rozšírené vydanie. Bratislava : Sprint dva, 2010. s. 124. ISBN 978-80-89393-15-2.
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Conclusion

The classification of an enterprise based on a single proportional indicator can lead to a non-uniform and confusing outcome, whether or not the enterprise will go bankrupt in the future. This problem is called an "inconsistency problem". Second, when using the financial accounting indicators in the unidimensional prediction model, it is difficult to assess the importance of any of the indicators in isolation, since most variables are highly correlated.

In the same context, the unidimensional model is contrary to the fact that the financial condition of the company is a complex, multi-dimensional concept that cannot be analysed by a single proportional indicator.

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GLOBAL ASPECTS OF SOCIAL MEDIA PERCEPTION BY Z GENERATION IN GENDER CONTEXT

Lucja MATUSIKOVÁ

Abstract
We love, need and hate social media nevertheless all of us live them daily. Social media has become one of the most important ways to reach consumers, especially the young people, i.e. the Generation Z. Main aim of this article is to find out how and why the young generation uses social media. The research concentrated on answering the following questions: how much times respondents spend on the Internet in general and why, which social networks they use and how much time they spend on social networks and why. The research was focused on the so-called Generation Z, meaning people born after the year 1991. Another goal of the paper is to find out if there is a difference in the use of social media between men and women of the group, that is, whether this behavior is influenced by gender. The Chi-square test of independence served to confirm or reject the established hypotheses.

Key words:
Z Generation, Social Media, Percepcion, Gender

1 Introduction

Generation Z is, slowly but surely, entering the labour market. So far, these people have mostly become employees. They are a completely different and currently unique generation of people than we have been used to. We are talking about individuals born after 1995, but some sources also speak about the year 1990. From their earliest age, Generation Z grows up in a technologically advanced environment, in which they can orientate themselves, move and work. The Internet is their first and often the only source of information. Social media create an integral part of their network activity. Their accessibility and openness allow them to make contacts across countries and continents. It is therefore clear that more and more researchers are focusing on this area, namely the perception of social media, in order to determine whether and how these media affect the young generation, in our case the Generation Z.

2 Definition Of Basic Terms

For the purposes of a correct interpretation of achieved results, we need to approach at least in basic dimensions the main notions that we will subsequently work with. Only the facts that are essential and more closely specifying or explaining individual concepts will be included.

2.1 Media

The Dictionary of Foreign Words (Linhart, 2008, p. 241) defines the notion Medium as “a mediation agent, environment, also as person arranging spiritistic information and, last but not least, as mass (collective) media printed (newspapers, magazines) as well as electronic (radio, television), mass medium”.

The word medium is similarly characterized also by other authors (Jirák, Köpplová, 2003, p. 16), who state that "it is of the Latin origin and means a mediator, intermediating agent, that is anything that mediates, arranges something". Subsequently, the authors develop this idea with the fact that "the branches that deal with different manifestations of interpersonal, social communication mark the notion medium/media as something that mediates some information for somebody that is the communication medium".

An analogical characteristic may be also found with other authors (Reifová, 2004, p. 139) with that in this version the medium "does not have exactly and generally accepted borders". The medium is presented here as a direct individual means of communication as well as labelling a technical means of communication. On the one hand, we encounter such characteristics as facial expressions, gestures or speech and, on the other hand, the computer network, cable television, etc. (Urban, Dubský, Murdza, 2011).

The notion mass media, whose content is more specific, forms a separate chapter. "Mass media mean means of communication and institutions that are able to produce in the large scale public notification and distribute it towards the scattered, varied and individually unidentified public." (Urban, Dubský, Murdza, 2011, p. 48)

2.2 Social Media

Definitions imply that social media are media that allow readers to react, edit, comment and otherwise become involved in the text or content of the media immediately. So social media are up-to-date (reader can respond, comment or edit content immediately), offer bulk content editing (readers interact with each other's opinions), are socially validated (users rate content to help other users focus on specific content) and share content (photo publishing, video sharing) (Bouda, 2009). According to Kaplan and Haenlein (2010), social media can be defined as a group of web-based application solutions that build on the ideological and technological basis of Web 2.0 and that allow the creation and exchange of user-generated content. According to the same authors, six types of social media can be distinguished: collaborative project (e.g. Wikipedia), blogs and microblogs (e.g. Twitter), content communities (e.g. YouTube), social networks (e.g. Facebook), virtual game worlds (e.g. World of Warcraft) and virtual social worlds (e.g. Second Life).

2.3 Generation

According to the Dictionary of Foreign Words, the notion "generation" (Linhart a kol., 2008, p. 132) has a number of meanings. The generation is characterized first, that is a set of people born and living approximately at the same time. A generation sometimes means descendants of one pair of parents. The third semantic unit makes it possible to identify a generation as a specific set

of concurrently living individuals of the same kind. A generation also means a membership of the type of technical equipment of a certain development stage.

From the viewpoint of perceiving communication media, we undoubtedly need to identify basic grounds that have had the impact on this age group of inhabitants, above all, from the sociological viewpoint. According to the Australian study of the labour market from 2007 (Bohutinská, 2008, online), currently, we may specify the following generationally differentiated groups of population:

Born before 1946	=	Pre Boomers
Born from 1947 to1960	=	Baby Boomers
Born from 1961 to1975	=	Generation X
Born between 1976 and 1990	=	Generation Y
Born between 1995 and 2020	=	Generation Z

For the purposes of presenting the results of the present research, only one generation cohort is specified in detail, that is Generation Z.

Born between 1991-2005 are marked as Generation Z (GZ). As the Grail Research study states (Grail Research a Division of Integreon, 2011), the GZ representatives include young people whose date of birth is usually determined by the middle 1990s and year 2010, whereas it should be noted that different studies e.g. Howe, Strauss (1991) freely work with this time factor, when they include the GZ into the period from 2000 to the present time.

With respect to the method of communication (they are constantly on-line via their mobile phones, they share a lot of information via You Tube etc.) and the ability of both the intensive and extensive use of the state-of-the-art technologies, they are also called the so-called "Digital Natives". Their relation to technologies may be even characterized as a certain form of addiction. They seek more and more sophisticated devices and appreciate particularly their simple and interactive design.

In spite of their currently low age in most cases, they appear to be socially more responsible than their predecessors. Owing to the sufficient amount of available information, far more intensively they are aware of the current problems, such as terrorism or climate changes.

If we summaries all the mentioned above, we may observe that the GZ is constantly on-line via a number of social networks and their decision-making processes are in many areas influenced by the ability to obtain information across the countries, cultures as well as religions.

3 Description of Used Methods

Inquiry is the most common form of receiving information from respondents. At the present time, the Internet and related social networks help this method. Currently, obtaining data is not a fundamental problem. What remains a problem

is their processing, in particular, the assessment of set hypotheses using appropriate statistical methods.

3.1 Testing hyphotesis

At this point it should be emphasized (Matusiková, Kashi and Zelinková, 2016) that in terms of practical application of statistical methods in analysing empirical data, statistical hypothesis testing represents one of the most important parts of all. One of the basic statistic methods for the assessment of set hypotheses, is the Chi-square test of independence. The test is most often performed in MS Excel via the statistical function CHITEST.

The role of hypothesis testing is to decide about the basis of information obtained from random samples, whether we accept or reject a particular hypothesis concerning the master sample. The statistical hypothesis (Marek et al., 2007) can be understood as any statement that may involve unknown parameters, set functions of the parameters, but also the shape of the distributions and other characteristics of the master sample. A decision rule by which we assign a decision on the validity or invalidity of the hypothesis is called a statistical test.

The first step in statistical testing is always a statistical hypothesis formulation, i.e. a formulation of a research question in the experiment in the form of a zero and alternative statistical hypothesis, which are asked when testing against each other.

The second step in testing statistical hypotheses consists in determining a significance level of the test (error α selected by an expert), which is the probability that the null hypothesis will be rejected, although it is valid. We should be aware of the fact that the tested hypothesis is always accepted or rejected based on the results of the random selection and therefore, the rejection as well as the non-rejection of the H0 hypothesis can be correct, but also incorrect. As Table 1 shows, in general, we can commit one of two errors (Řezánková, 2011).

Table 1 Error of type I and II

Test conclusion	**Reality H_0 is applicable**	**Reality H_0 is not applicable**
H_0 will be accepted	Correct decision	Error of type II
H_0 will be rejected	Error of type I	Correct decision

Source: Řezánková (2011)

The error of type I means the probability that the valid null hypothesis will be rejected, whereas the null hypothesis indicates that the model is accurate. The error of type II expresses the probability that the invalid null hypothesis will be accepted, which means that the inaccurate model will be accepted as accurate. There is an opposite relation between the error of type I and II. If the error of type

I is minimized, the error of type II increases and vice versa. It should be noted that the adoption of the inaccurate model, the error of type II, is much worse than the rejection of the accurate model, the error of type I, it is better to be exposed to a higher error of the type I, thereby the error of type II will decrease.

The formulation of the test conclusion is the last step in statistical hypotheses testing, which can be done in two ways, that is by comparing the calculated testing criterion with a critical value, which is determined in dependence on the selected significance level α. The p-value is used in statistical testing of the suitability of the model using different software. The p-value expresses the probability of rejecting the true null hypothesis and the error of type I. If p-value is less than the significance level α (α error), the null hypothesis H0 will be rejected. Symbolically, a conclusion can be used:

p < 0.05 statistically significant difference,

p < 0.01 statistically highly significant difference.

3.2 Concept of the Reaserch, Determination of Objectives and Hypotheses

The research activities are part of the centrally organized research projects of the universities and individual faculties as well as the lecturers' individual activities. One of them is the re-search whose results are presented here.

The optimal sample for most research is obviously the one that best fits the target group, i.e. it also takes into account other criteria such as gender structure, education, residence, etc. Unfortunately, it is increasingly difficult to get enough people to participate in a questionnaire survey. Therefore, the sample is composed of respondents who wanted to participate in the research. The only limiting factor was age. The tools used to collect the data were a face-to-face questionnaire survey and a tailor-made questionnaire through the Internet portal www.click4survey.cz. The survey, which took place at the turn of April and May 2019, was attended by 297 respondents, including 183 women and 114 men of the relevant age category.

The aim of the research was to find answers to the following research questions:

1. How much times respondents spend on the Internet in general and why?
2. Which social networks they use?
3. How much time they spend on social networks and why?

In this connection the following hypotheses were determined:

- H_0 Within the particular sample, the respondents' gender does not have impact on their responses.
- H_1 The respondents' gender have impact on their responses within the particular sample.

During the research and evaluation activities, the methods of analysis, synthesis, induction, deduction and comparison were also used. The Chi-square

test of independence in the contingency table will be used to confirm or reject the established hypotheses. The test was carried out in MS Excel via the statistical function CHITEST. Significance level is 5 %.

4 Results Of Social Media Perception By Z Generation In Gender Context

First, the respondents were supposed to answer the question of how much time they spend on the Internet every day. The results are presented in absolute values in Table 2.

Table 2 How much times do you spend on the Internet in general?

Question 1	Till one our	Till two ours	Till three ours	More than three ours
Women	18	36	48	81
Men	3	12	36	63
p-value	0,01041915		1 %	

Source: own processing

As can be seen from the Table 2 above, more than 40 % of women of this generation and more than 50 % of men spend more than three hours a day on the Internet. In contrast, only 10 % of women and 3 % of men need less than one hour a day for this activity. The Chi-squared test showed dependence of responses on the gender factor.

In justifying why women spend their time on the Internet, the answer with highest frequency was “For work / school reasons”, with more than 80 % of respondents. Approximately the same amount of 80 % reported also the “Communicate with friends” option. This was followed by reasons such as “Listen to music, watch videos” (75 %), “I visit social networks” (70 %) and the top five finished with the Internet as a source of information (47 %). The top five responses in men looked different. More than 90 % answered “Communicate with friends”, followed by “Listen to music, watch videos” with 84 % of them, 81 % chose “For free time”, 79 % admitted “I visit social networks” and 71 % assumed the Internet was their source of information. The results in absolute values are presented in the Table 3.

Table 3 Why are you spend your time on the Internet?

Question 2	Women	Men
Internet is the main source of information for me	87	81
For work / school reasons	150	57
Education and personal development	78	69
News and articles	66	60
Listen to music, watch videos	138	96
I play games on the Internet	3	27
For online purchase	30	42
For free time	33	93
I visit social networks	129	90
Communicate with friends	147	105
p-value	0	

Source: own processing

At the differences mentioned, the Chi-squared test showed dependence of responses on the gender factor.

The following three questions related to social network accounts, the time spent on them, and ultimately the reasons the respondents spend time in such a way. They were Facebook (1), YouTube (2), Instagram (3), Twitter (4), Google+ (5), LinkedIn (6), and Lide.cz (7). As can be seen from Table 4, all participants of the research had a Facebook account and all of them were using it. In terms of the order of networks used, the two groups were on the same page. They agreed also on the least popular of the offered networks. Both groups determined Lide.cz to be the "winner", followed by LinkedIn and Twitter. Individual answers are presented in absolute values in Table 4 (W – Women, M – Men).

Table 4 Do you have and use an account on these social networks?

Question 3	Yes, I used it		Yes, but I don´t used it.		I have not it.	
	Women	Men	Women	Men	Women	Men
1	183	114	0	0	0	0
2	125	85	17	14	41	15
3	120	63	11	15	52	36
4	23	12	32	47	128	55
5	65	28	53	67	65	19
6	11	10	14	23	158	81
7	2	3	17	15	164	96
p-value	0,428	43%	0,618	62%	0,071	7%

Source: own processing

Gender dependence has not been confirmed in either type of response to this question, although the answer "I do not have it" was close.

Another question asked the respondents how much time they spend on social networks. The results in absolute values are presented below (Table 5).

Table 5 How much time do you spend on social networks on weekdays?

Question 4	Till one our	Till two ours	Till three ours	More than three ours
Women	33	43	45	62
Men	24	33	21	36
p-value	0,5		50 %	

Source: own processing

The results show that more than a third of respondents are able to spend more than three hours a day on social networks. However, the number of respondents who only need an hour a day for this activity is high as well, around 20 %. The question is whether even this hour is not too much. In this case it was not possible to prove the dependence of responses on the gender factor.

The last question focused on the reasons that make the respondents spend time on social networks.

Table 6 Why do you spend time on social networks?

Question 5	Women	Men
Social networks are the main source of information for me	39	24
Contact and communication with friends	180	111
Finding new friends / dating	9	6
Fun and entertainment	42	105
Viewing photos, watching videos	96	69
Self-presentation	12	9
Playing games	3	3
p-value	0,00000001	0 %

Source: own processing

The absolute winner in both examined cohorts was the response “Contact and communication with friends”, with over 98 % in women and 97 % in men.

Further results in absolute values are presented in Table 6. The Chi-squared test showed dependence of responses on the gender factor.

5 Conclusion

Increased attention has been paid to Generation Z from the moment it has appeared in economically significant space. Once they have reached the age when they can intensively influence things around them, it has been a priority to take serious interest in them.

In the framework of the presented research it was found that the Generation Z is very active both on the Internet in general as well as on social networks, which was supposable. The findings regarding the amount of time spent on the Internet and its reasons had a gender character, which was confirmed by the Chi-squared test. As well as the reasons that led the respondents to be active on social

networks. The gender factor has not been confirmed in the case of finding out on what social networks they spend their time and how much.

Of course, the conducted research has its limitations. It would be ideal to have a chance to collect the sample according to the quota selection, but, as mentioned earlier, respondents' willingness to cooperate decreases from year to year. In addition, there is a problem with a regional focus especially regarding the face-to-face questionnaires. Yet, for comparison it is positive that all the author's research activities have a regional focus and, therefore, the data may be compared even if there is a certain time between the research projects. If we wanted to compare the research results with the similar results, we would get into a difficult situation. For comparison, the categories that may be compared need to be determined and it is also purposeful. And at this point we could identify a principal problem.

Generation Z is of interest to many, and recent studies in this area include, for example, a case study on the comparison of smart phone ownership, social media use, and other activities between Generation Z and Millennials (Curtis, Ashford, Magnuson, et al., 2019) or an article on the role of social media as an educational environment for the Generation Z (Rospigliosi 2019), and another one on the effectiveness of social network advertising campaigns for the said generation (Hanan, Wee, Aminudin, Hamid 2018) or a paper on the problems of Generation Z entering the working process (Arce 2018) or on the need for changes in marketing communication in relation to Generation Z (Vallone, Smith, Kenney, Greenberg, Hair, Cantrell, Rath, Koval 2016). And there are many others. They all emphasize the fundamental change in perceptions, responses and practices that are evident from the GZ activation in all areas analysed. As already mentioned, GZ is slowly entering the working environment. It is therefore appropriate to use their interest in social networks and target new customers, as well as new suppliers and cooperating competitors through this tool. Indeed, the development of economic indicators suggests that it is the connection with cooperating competitors that may be the only competitive advantage that companies will have in the expected turbulent period. Many companies have already decided to follow this path. The profile on social networks is only the beginning of the activity in question. The primary area in which companies have become active is Human Resources, specifically job opportunities. It is obvious that we are experiencing the early development of supplier-buyer relations through the Internet, especially through social networks which is on the rise. In particular, based on the assumption that Generation Z is just in its initial phase. The question is, however, the future of these relationships considering their security factor, because GDPR is just the beginning.

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THEORETICAL APPROACHES TO SOLVING THE GLOBAL PHENOMENON – POVERTY

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Abstract
The problem of poverty is a worldwide phenomenon and is usually defined as a state when total income is not sufficient to meet someone's basic needs. However, it is a more complex problem and has to be analysed in multi-dimensional manner. This paper considers different definitions of poverty and describes the situation in European Union and particularly in Slovakia. Then it focuses on specific factors that affect the existence of poverty such as migration, climate change, and food ejection. Numbers of migrants suffer unemployment and poverty and local authorities are often not able to provide the same social standard as to their own people. Climate change affects climate-sensitive natural resources which are existentially important for majority of poor countries. Food ejection reaches extreme amounts in developed countries while food is one of the biggest costs of households. Finally, the paper proposes some solutions how to reduce the global problem of poverty.

Keywords:
climate change, food ejection, migration, poverty, society

Introduction

Poverty is one of the world's greatest problems. Despite the fact that our planet still offers enough resources to meet the basic needs of the entire living population, this global problem cannot be solved even in the 21st century. Poverty is not only found in "poor" developing countries, where it is most pronounced, but it is also a problem for "rich" developed countries. So poverty is not only Africa, Asia or Latin America, but also Europe or the United States. The term itself has a number of meanings, and it cannot be referred to as a lack of income, hunger, malnutrition, but also as a lack of access to education, social services or tax evasion, which are a source of poverty.

There is no absolute and generally accepted definition or threshold that defines the concept of the poor. This is particularly true of the definition of poverty in economically developed countries, where the situation of basic life needs is ensured, in particular food, clothing and roof overhead. In this respect, poverty is often defined in relation to standards in the society. In the EU, the term "poverty line" is used – at risk for people whose disposable income is below 60 % of the median national equivalent income (in terms of purchasing power parity and euro).

In this paper we deal with this phenomenon and we identify its causes and look for potential solutions.

1 Definition of poverty

Poverty is considered to be a complex phenomenon of interdisciplinary nature, explored by experts from different disciplines such as economics, sociology, anthropology, psychology or statistics. It is therefore evident that there are many approaches to defining it and therefore it is not possible to determine a definition of poverty that can be generally accepted. However, most of the commonly used definitions of poverty have two common elements, namely the welfare indicator and the setting of the poverty line. Frequently used welfare indicators include income, consumption, and food consumption, the share of food expenditure in total expenditure, caloric intake, health data or basic needs. The poverty line, in turn, can be seen as a dividing point that divides individuals into the poor (the individual's well-being does not exceed the poverty line) and the poor (the poverty line is exceeded). Želinský also points to the 1902 Rowntree Poverty Definition, which at that time perceives poverty as a level of total income that is not sufficient to meet basic needs to ensure "physical performance", including food, rent and other essential items (Želinský, 2014).

Michálek (2000) views poverty in general, perceiving it as one of the greatest global problems of society, which often condition the emergence of other global problems such as malnutrition, infectious diseases or illiteracy. Dudová et al. (2018) refers to the very concept of poverty as different forms of scarcity. Overall, it refers above all to the inability to obtain different standards of welfare, both in economic and social terms, but also in other respects. According to Šipikalová (2013), scientific perception considers an individual or household to be poor just when they achieve a low standard of living and also a low income. Ordinary perception sees poverty as a deprivation of needs, so poverty represents a lack of life needs.

According to Sen (1981, 1992) poverty can be understood as a situation wherein a person faces difficulty in basic functioning because options and freedom are extremely limited. Sen also refers to the relationship between poverty and differentiation, or discrimination/social exclusion, based on the belief that "capability" is closely related to the conditions of society and social relationships.

Based on such discussions, it is becoming a mainstream understanding that poverty is defined not only from economic and material aspects but in a multi-dimensional manner, and also poverty is recognized in relation with various abilities and capability of the poor. For example, the Development Assistance Committee (DAC) of the Organization for Economic Co-operation and Development (OECD) announced the "DAC Guidelines on Poverty Reduction" in 2001. These guidelines define poverty as a "situation lacking economic, human, protective, political and socio-cultural capabilities".

Table 1 Capability in the DAC Guidelines on Poverty Reduction

Economic Capabilities	The ability to earn an income, to consume and to have assets, which are all keys to food security, material well-being and social status. These aspects are often raised by poor people, along with secure access to productive financial and physical resources: land, implements and animals, forests and fishing waters, credit and decent employment.
Human Capabilities	Based on health, education, nutrition, clean water and shelter. These are core elements of well-being as well as crucial means to improving livelihoods. Disease and illiteracy are barriers to productive work, and thus to economic and other capabilities for poverty reduction. Reading and writing facilitate communication with others, which is crucial in social and political participation. Education, especially for girls, is considered the single most effective means for defeating poverty and some of its major causal factors, for example illness—in particular AIDS—and excessive fertility.
Protective Capabilities	Insecurity and vulnerability are crucial dimensions of poverty with strong links to all other dimensions. Poor people indicate that hunger and food insecurity are core concerns along with other risks, like illness, crime, war and destitution. To a large extent, poverty is experienced intermittently in response to seasonal variations and external shocks—natural disasters, economic crises and violent conflicts. Dynamic concepts are needed because people move in and out of poverty. Today's poor are only partly the same people as yesterday's or tomorrows. Some are chronically poor or inherit their poverty; others are in temporary or transient poverty.
Political Capabilities	Deprivation of basic political freedoms or human rights is a major aspect of poverty. This includes arbitrary, unjust and even violent action by the police or other public authorities that is a serious concern of poor people. Powerlessness aggravates other dimensions of poverty. The politically weak have neither a voice in policy.
Socio-cultural Capabilities	They include human rights, a voice and some influence over public policies and political priorities. The politically weak have neither a voice in policy reforms nor secure access to resources required to rise out of poverty.

Source: Japan International Cooperation Agency, 2011.

The fact that poverty is one of the most important problems of the whole world is confirmed by the fact that the need to solve this problem is an important point in several strategic documents. Solution, respectively ending poverty is even the very first point of the UN 2030 Agenda for Sustainable Development and the current Europe 2020 strategy puts the fight against poverty and social exclusion as one of the European Union's main objectives.

2 Poverty in the European Union (EU)

The problem of poverty in the EU is not only seen as a problem of poverty, but poverty is seen as a problem related to inequality of people and their access to various social goods (Halušková, Božik, 2015). Antolova et al. (2013) refer to the broader definition of poverty under the 1984 Council of Europe, which considers poor people, families and groups of people whose resources (material, cultural and social) are so limited that they exclude them from the minimum accepted standard of living of a Member State; where they live. Resources are defined here as cash income, goods, services from public and private sources.

According to the European Union, people whose equivalent disposable income is below 60 % of the national median equivalent income, or who are materially disadvantaged, have severely reduced living conditions and are at risk of material deprivation, which means they cannot afford the least 4 out of 9 items - paying a rent, mortgage or electricity bill, keeping your home warm enough,

facing unexpected expenses, eating meat, fish and equivalent proteins every other day, weekly vacation away from home, owning a car, washing machine, phone or colour TV. The last group at risk of poverty is households with very low labour intensity (Šipikalová, 2013).

Information published by Eurostat showed that in 2017, 22.4 % of the population, or 112.974 million people, were at risk of poverty or social exclusion in the EU. The level of risk of such poverty varied between EU countries, ranging from 12.2 % (Czech Republic) to 38.9 % (Bulgaria). In Slovakia, this rate was 16.3 %, which was among the lower-level countries. In terms of gender, the risk of poverty or social exclusion in most European countries is higher (23.3 %) for women than for men (21.6 %). The manifestations of poverty that affect people, especially in developed countries such as the EU, are manifold and largely related to social exclusion.

Common manifestations of poverty include poor housing or homelessness, but poor people also suffer from poor health or limited access to health care, limited access to education, training and leisure activities, financial exclusion and excessive indebtedness, but also limited access to modern technologies such as internet.

3 Poverty in Slovakia

In our country, the problem of poverty began to be discussed only after November 1989. Until then, dealing with poverty was forbidden, because the existence of poverty was contrary to the Communist principle of equality. However, the socialist regime itself has reduced poverty by several direct and indirect instruments, such as price subsidies and regulations or wage interventions (Želinský, 2014). Halušková, Božik (2015) point to the presence of poverty and social exclusion nowadays, where poverty is widespread and affects any population group with different characteristics – poverty affects all regions, cities, but also different educational levels, age, gender or nationality.

In Slovakia, however, the concept of poverty is not legitimately defined by any comprehensive legal definition. In the context of society awareness, the terms - socially weak individuals, low-income households and people living in material need - can be considered synonymous with the poor. As such, the officially recognized definition of poverty can be considered the concept of material need, a condition where the individual's income does not reach the subsistence minimum. However, such a poverty line does not characterize all aspects of poverty, but only addresses poverty as a state of under-income (Demek, 2011). According to Arnoldová (2015), the notion of living minimum in the conditions of Slovakia is a means of monitoring poverty and social exclusion, but it also serves for international comparison or for programs that focus on poverty reduction. It is often defined as a certain poverty threshold where the citizens below it cannot live in a minimally accepted way in a given country.

This minimum fulfils two functions:

- Primary function - provides protection from material and social need in the social assistance subsystem.
- Secondary function - subsistence minimum is a criterion for the provision of benefits based on the ratio of the achieved income of the citizen and the amount of this minimum, which corresponds to the assessed. In Slovakia, while the number of the population with very high incomes is increasing, there is still a large population group whose standard of living falls below the socially acceptable limit and the so-called middle-class population is disappearing more and more (Hrebenárová, 2011). From the perspective of the regions, there are still huge differences between individual regions of Slovakia concerning aspects such as average wage, unemployment, gender equality, education and health. Many results vary significantly from region to region, especially when comparing the Bratislava region and the rest of the territory.

For example, according to the Statistical Office of the Slovak Republic (2017), the unemployment rate of the Bratislava region is 4.2 %, but in the eastern part of the country it is much higher, in the Prešov region 12.9 % and in Košice region 11.1%, where poverty is significantly more visible, and in particular localities with a high proportion of the Roma population, where poverty takes on an intergenerational dimension, meaning that elderly parents, their children but also their grandchildren are in poverty (Kontradyová, 2011).

A large proportion of people suffering from poverty in Slovakia live in gypsy areas. In the case of the gypsys, the data on poverty are striking, as the poverty rate is often up to ten times higher than the rest of the population (Šilonová, Klein, 2015). The second European Union survey on minorities and discrimination (2018) reached frightening figures for the gypsys. The survey shows that within the European Union, up to 80 % of gypsys live below the poverty threshold in their country and in Slovakia the risk of poverty among Roma is up to 87 %. As part of the analysis of poverty in Slovakia, we present data from the Statistical Office of the Slovak Republic.

In 2017, the annual poverty risk threshold set by the EU at 60 % of the median national equivalent disposable income was calculated at € 4,310 for a one-person household and € 9,051 for a household with 2 adults and 2 children. With such a measure of poverty, 12.4 % of the population in our territory were at risk of poverty, which represents about 650,000 people, so about one in eight people in our territory are at risk of poverty. Slovakia has long ranked among countries with large economic and social disparities between regions, which is also confirmed by the fact that while the risk of poverty of the Bratislava Region is at 4.6 %, the same rate is in the Prešov Region at 18.1 %. In terms of gender, the risk of poverty is almost the same, the proportion of women at risk of poverty was only 0.1 %

lower than that of men. From the age point of view, children and the elderly are at higher risk, so the 0-17 age group is among the most vulnerable with a 19.9 % risk of poverty rate. In the household category, the single-member household with a person under 65 without dependent children (25.8 %) and the household of one parent with at least one dependent child (37.3 %) are most at risk. According to the status of economic activity, inactive persons were at risk of poverty up to 2.6 times more than workers.

4 Significant factors affecting poverty

A. The impact of migration on poverty

According to Androvič (2015), in terms of humanitarian discourse, migrants are mainly represented as victims of bad conditions in their home countries, which are circumstances such as war, humanitarian disaster, political persecution, fear, but above all poverty. Recent OECD data show that some 5.3 million refugees have entered OECD countries, which is only 24 % of the estimated number of people in need of international protection. In total, around 127 million people were born abroad in OECD countries in 2017, accounting for 10 % of the total population. Other surveys by Gallup World Poll estimate that around 15 % of adults in the world (more than 750 million) want to migrate to another country if they are given the opportunity. The IOM (International Organization for Migration) report shows that almost half of migrants move from "south to north", i.e. from less economically developed countries to developed ones. This is also confirmed by World Bank figures, which point to the fact that up to 60 % of the total number of migrants is in the 10 most important countries in the world (USA, UK, Australia).

Shumba (2018) of the UNDP (United nations development program) highlights the example of Jamaica, whose government has taken a proactive approach to managing migration and has included it in a national development plan that is key to reducing poverty in the country. This is also supported by the fact that the transfers of 1.3 million Jamaican residents account for more than 16 % of Jamaica's GDP. Despite these advantages, Schweickart (2011) also takes into account the disadvantages of migration, which is especially "brain drain" in which poor countries lose a huge number of the best and most important brains - not just high-educated people, but especially young people. Although migrants often send a large part of their income to their homes, which helps their relatives to fight poverty, but on the other hand, they do not contribute their energy, intelligence or skills to solve problems in their own country. Staněk, Ivanová (2016) point to the situation in Europe after the influx of a huge number of migrants in 2015. Experience shows that there is often a large social gap between migrants and indigenous peoples. A huge proportion of migrants have been suffering long-term unemployment and poverty, as it turns out that even European

countries do not have unlimited financial resources and thus cannot provide the same social standard to these migrants as they provide to their own people.

B. The impact of climate change on poverty

Poor countries are heavily dependent on agriculture and climate-sensitive natural resources, which account for a significant proportion of the income and well-being of these countries' populations and, together with the lack of effective fulfilment of financial and technical capacities, are significantly affected by the risk of climate change. In this sense, these changes pose a serious problem in combating poverty (Skoufias, 2012).

Climate change greatly affects the flow of people who get into poverty. Many of the effects that bring people into poverty often or indirectly relate directly to the environment and climate. Andhra Pradesh research shows that a household that has been affected by drought in the past is up to 15 times more likely to fall into poverty. Another survey from Sen shows that 31 out of 94 households experiencing worsening living conditions were directly related to a natural disaster, respectively with natural changes. Looking at natural disasters and extreme events is particularly important for assessing the future impacts of climate change. The 2017 report points to the growth of poverty following natural disasters and estimates that some 26 million people fall into poverty every year because of natural disasters such as frequent floods, droughts or extreme temperatures. The increasing consequences of climate change will increase their intensity in many regions of the world, and it will be much more difficult for many people to escape poverty. This is also aided by the fact that most poor people live in high-risk areas. The constantly rising food prices are also a major problem, putting a burden on people in poor countries, as a large proportion of their income (up to 62 %) goes towards food security (Hallegatte et al., 2018).

C. Poverty and food ejection

Approximately 88 million tonnes of food are disposed of each year in the EU, which is about 179 kg per capita. This means that we waste about 20 % of all food produced. The cost of food discarding is estimated at up to € 143 billion per year. However, with such a huge amount of discarded food, almost every tenth European still cannot afford quality food (Stenmarck et al., 2016).

According to the Ministry of Agriculture and Rural Development of the Slovak Republic (2018), Slovakia also does not bypass food waste. While we throw less per person compared to the EU average, namely 111 kg per year, it is still a huge amount of food thrown away, totalling around 600 million kg. In the list of countries that are the most wasteful of food, we ranked eighth from the end, where the Netherlands comes first, and Slovenia has the least-thrown food. In Slovakia, food is wasted by the young and the middle generation at the age of 23 – 49 years, while the wastage rate in households increases with education and income. These figures illustrate the unflattering state of waste of food in Europe

and Slovakia, with food being one of the biggest costs of the household. Such food ejection also means throwing away a huge amount of money that is not high in many households. There is a paradox here, on the one hand, when we are throwing away a great deal of food that can still be used, and on the other, there are millions of people in the world who cannot afford quality food, not just in the poorest countries in the world, Europe, in places where there is enough food.

The circumstances in which food is wasted can vary but occur at every stage of the food supply chain, from initial production to food consumption itself. The reasons for wasting food vary due to their position within the supply chain. Business operators (manufacturers, processors, retailers) take decisions to maximize profit, which often means food waste, although they do not aim to generate food waste. Conversely, there are completely different causes for consumers than satisfaction, whether in meeting their nutritional needs or in other respects (quantity, surplus, price) (European Court of Auditors, 2017).

5 Proposed solutions to reduce poverty

At the end of 2018, the Ministry of Environment of the Slovak Republic within the framework of the "Envirostratégie 2030" indicated a change in legislation that should prevent the generation of food waste, but at the time of writing this change has not yet been adopted. In Environmental Policy 2030 it is stated: donate harmless food to charity. If food is no longer fit for consumption, they will be able to compost it, whether energy or not otherwise evaluate. As in other EU countries, it will be possible to sell such foods in special establishments (Ministerstvo pôdohospodárstva a rozvoja vidieka SR, 2018). As this guideline is still not approved and the reduction of food waste in large retail chains depends mainly on their willingness, the first proposed solution to waste food is the adoption of a similar law in Slovakia. The enacted law would require retail chains to conclude contracts or contracts. Agreements with various charitable organizations would be able to use safe and usable food for disposal. Large quantities of food intended for the expiration is represented by foods with an expiration date, foods with minor cosmetic defects, foods with insufficient labelling or foods with less damage to the packaging, which, although they can no longer be intended for sale but are still for use suitable and harmless to health. Charitable organizations are organizations such as food banks, charities and various associations that fight hunger and provide social services. By complying with the law thus adopted, these organizations would obtain an enormous amount of usable food that they could redistribute to people who are often in captivity. The burden of the cost of distributing these food chains would be equally borne by the retail chains and the organizations for which the food is intended. The role of management in this case would be to manage and distribute the food to be donated, but building the cooperation between chains and organizations would be an essential task. Another suggestion to address this problem is to build a place where such foods could be sold at discounted prices. This would be a combination

of elements of the social chain and a charitable organization. A food sales point would be built directly in the retail chain, thus avoiding the costs of distribution, as was the case in the first proposed solution. Another advantage of locating the equipment directly in the retail chain would be the easy transfer of food that can no longer appear on the shelves immediately to its location use. Prices for food to be thrown away would be several times lower and would represent only a fraction of their original price. These places would directly manage retail chains and access to these facilities would be restricted only to people who would prove their difficult financial situation. This measure could lead to poor households to get more food and so households could save some of their money.

The last solution proposed is to improve the quality of management in retail chains. Managers should constantly improve in the area optimization of inventory and use the latest knowledge to help eliminate waste. They should also continually improve their management style and manner of communication, so that they can influence and motivate their employees to contribute to solving the waste problem.

Conclusion

The problem of poverty is a global phenomenon and is present to some extent in almost every country. It is obvious that it is impossible to eliminate it totally, but it is still possible to understand some factors that affect it and make it even more pervasive. From this point of view there exists some solutions how to reduce it. The solutions should reflect local situation and should be based on cooperation between chains and organizations. Reducing the problem of poverty belongs to long-term priorities and should be an essential part of internal legislation in every country. Slovakia is one of the countries which have a long tradition of "social legislation".

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A CROSS-SECTIONAL VIEW OF START-UPS IN A REGIONAL DIMENSION

Štefan SLÁVIK

Abstract
Start-ups are fast-growing micro-enterprises that provide space for self-realization of the new generation of entrepreneurs. The viability of start-up depends on the quality of the business model, the monetization of business outcomes, leadership and teamwork, business strategy and external support of business making. The three-phase research on a sample of dozens of start-ups studied the transformations and maturation of these attractive but imperfect companies. The business model of start-ups is insufficiently connected with their surroundings. Start-ups know their customers, but they don't have access roads to them. They do not establish partnerships in sufficient range and quality. The monetization of the examined start-ups is thinly sophisticated, too traditional and without experimentation. The founders of the researched start-ups are eligible visionaries, but less capable managers. Start-up teams have demonstrated a high degree of internal coherence and support in critical situations, but do not master routine company operations. Business start-up strategies are ambitious and international, but so far little proven in competitive struggle. Start-ups do not trust a state support for business making, they do little to cooperate with large companies, prefer cooperation with the start-up scene and private investors. It is important for the future success of start-ups to become entrepreneurially matured.

Key words:
start-up, business model, monetization, leadership, teamwork, business strategy, public support of business making

Introduction

Start-ups are the place to realize attractive business ideas, opportunities for exponential business growth, space for self-realization, but they also provide a service to the public. Start-ups develop business ideas that would be too untrustworthy, underutilized, risky or uninteresting for established companies. Start-ups conceal the potential of enormous growth, success but also mistakes, falls and rebounds. They are a living laboratory to explore the transformation of a small starting company to a viable one.

Start-ups are also a source of job opportunities for young people and school leavers who do not want to be regular employees and they see in business making an instrument to ensure their own living. Start-ups are expected to create jobs, to increase the value of invested resources in considerable extent and improve the quality of life, if they meet unsatisfied needs or create, discover and satisfy absolutely new needs.

1 Start-up in essential traits and relations

Start-up is a very small starting company, which creation is tied to the emergence of a business idea. According to Thiel (2014, p. 10, 11), it can be concluded that start-up is a modern cultural and entrepreneurial phenomenon,

which is less formal than an ordinary enterprise. The coordinating and cohesive binder of start-up is individual self-realization. Blank and Dorf (2012, p. XVII) describe start-up more formally: "Start-up is a temporary organization to search for a scalable, repeatable and profitable business model." Scaling requires investment of external venture capital in tens of millions to saturate rapid expansion

Start-ups also attract researchers' attention. European Start-up Monitor research reports (Kollmann et. al., 2015, 2016) provide formal data on leaders, teams and business models of start-ups, but do not address their internal structure on the base of soft data or explicitly examine their impact on start-up performance. They consider them important, but without further findings and conclusions.

Start-up as an incomplete and imperfect company must carry out its business idea by creating **a business model** that contains all the elements and conditions that are necessary for the functioning of the company. The most widespread visualization of the business model is the canvas concept by Osterwalder and Pigneur (2009, pp. 15–44). Their nine block model is widely cited and described in the objectives and methods of the article. The meaning and usefulness of the business model is confirmed by Blank and Dorf (2012, pp. 8 - 18), when they write "... the only goal of start-up is to find a repeatable and scalable business model." While existing companies are using the business model, start-ups are looking for it.

The resulting functioning of the business model will be reflected in the monetization of business efforts. Monetization answers two questions according to Bednár and Tarišková (2017, p. 72): 1. What value for money does a start-up provide to whom and for how much? 2. What is the source of income in the start-up? Successful investor Dave McClure (2017) introduces five key determinants of investing in start-ups: market, product, team, customers and revenue. He claims that 99 % of start-ups need a reliable and efficient way to make money, otherwise they will end up. An efficient revenue model simply cannot be replaced by a perfect product, a functioning team, the right market and a multitude of users.

The business model and especially **the start-up team and its leader** are important investment criteria for angel investors and venture capitalists. According to Sipol (2015, p. 72), investment readiness increases the hope that start-up will become an enduring company. Miloud et al. (2012) state that the criteria of risk capitalists who evaluate start-ups are e. g. solo founder/founding team, entrepreneur/top management team, team completeness, etc.

The business strategy of start-ups has so far been studied to a very limited extent. Research studies address the survival issues of start-ups, e. g. Gartner (1985) identified four conditions, which are individuals, environment, organization and processes. Lööf and Nabavi (2014) dealt with the impact of localization on the survival, productivity and growth of a new company. Mata and Portugal (2002) directly analysed the determinants of survival of newly

established enterprises and the differences in the viability of domestic and foreign enterprises. However, the research of business strategy as a tool for achieving longer-term goals has so far been limited to the issues of cooperation between start-ups in research and development and its determinants (Okamuro et al., 2011).

Public support for start-ups focuses mainly on cooperation with universities and the creation of a suitable ecosystem. Leyden and Link (2013) found that universities need to offer an attractive program to boost start-ups' revenue faster than their R&D costs. Published studies about ecosystem come mainly from the US environment, e. g. Moore (2006), Insenberg (2010). Their findings correspond to the conditions of a developed market economy and a long tradition of entrepreneurial culture.

The current knowledge of start-ups is relatively superficial and incomplete. The aim of the research is to deepen the knowledge of start-ups to fulfil their business and social role. Start-ups as an object of research are perceived through the business model, monetization of business efforts, attributes of team, business strategy and public support. This multi-dimensional view should contribute to a deeper insight into the start-up, its action and the environment which it operates in. The source of new knowledge is field research carried out in the form of an empirical study.

2 Purpose, research sample and research methods

The aim of the research is to find out what is the content and development of the factors that fundamentally determine the viability of the start-up. The main factor is the start-up business model, because a dysfunctional business model is considered to be one of the most serious causes of start-up failures (The top 20 reasons start-ups fail). Other factors are monetization, leader/founder and his team, business strategy and external start-up support. The knowledge of these topics usually comes from the last stage of the research. The research sample in the first, second and third stage of the research included 76, 72 and 53 start-ups. The research sample mainly consists of start-ups operating in Bratislava and its surroundings, where the largest start-up community in Slovakia is concentrated.

The business model is structured according to canvas visualization (Osterwalder - Pigneur, 2009, pp. 15 - 44) into nine blocks: customer value proposition, customer relationships, customer segments, distribution channels, key resources, key activities, key partners, cost structure, revenue flows. The measure of development of the business model (individual blocks) is a five-point scale, which measures the degree of development (quality) of individual blocks.

The source of knowledge about the researched start-ups is the statement of the founders of the start-ups on the base of managed interview and structured questionnaire, additional interviews as needed, publicly available information from the start-up websites, other websites and professional books and journals.

3 Research results

Business model. In the period from 1st to 3rd stage of the research, the gap between the most developed and the least developed units was shortened. The most developed blocks are still customer value proposition and customer relationships, the least developed blocks are distribution channels and revenue sources. Partners and revenue sources recorded the greatest improvement between stage 1 and stage 3, with the least change in customer segments and key processes, but partners are still underdeveloped block. Blocks of the business model are improving approximately proportionally along the time, with no signs of accelerating growth. The business model is gradually homogenizing. The individual quality of the business model blocks is increasing, but the tightness of links between them weakens, and improvement of the model is slowing down in the last stage of research.

The business model blocks that have a statistically significant impact on start-up performance vary between stages of research, with only the customer relationship block having a relatively stable impact, which affects all three performance indicators (number of users, number of customers, revenue) in stage 2 of the research and in stage 3 affects number of customers and revenue. This block therefore has a significant impact on performance indicators over time (from stage 2 to 3). The largest number of blocks during the whole research exert influence upon the indicator number of users.

Revenue flows, measured by the number of users, the number of paying users (customers) and revenue, are not well developed compared to other business model blocks, but start-up performance continually raised from stage 1 to stage 3. The reason for not generating revenue is the product itself, because operational or production implementation and distribution are in a state of preparation. The share of this cause is gradually declining and the share of other causes is increasing, especially the distribution failure and the team failure

Monetization. Conversion from users to customers to revenue has a downward trend, but during the research from stage 1 through stage 3, this downward trend has reached a higher baseline. Start-ups with higher conversions and higher revenue have more mature business models. Many start-ups sell, but few of them, significantly less of them earn too. Some start-ups purposefully do not seek revenue streams and are dedicated to increasing the number of users to monetize them later.

Almost half of start-ups earn a revenue by standard payment when selling a product or service. Less than a third of start-ups sell a basic product or service for free, money is generated up to by sale of premium services or by other business entity than is a user of a service. So far, only 4 % of start-ups require premium payments. About 20 % of start-ups have not yet opted for a payment type. Start-ups with the highest profit offer products and payment is cashed directly at the

sale. Start-ups with the highest losses offer services and payment is made by subscription.

Leadership and teams. Leaders of the researched start-ups are capable visionaries, they achieve to create an above-average original and attractive vision, but not a top vision. Leaders are less skilful in encouraging other team members in case of problems, complications and failure. The relatively weakest feature of leaders is the development of the competence of the co-workers through further education, coaching and mentoring. The role of a leader as a visionary in the course of the start-up development is gradually decreasing.

The teams have demonstrated a high rate of internal coherence, mutual support and trust in unpleasant, unforeseen and crisis situations. Such situations include lack of money for day-to-day operations, non-payment of wages, extra work effort, personnel changes in the team. The formal division of working duties and roles in team are the least developed parameters of teamwork. Start-up teams consist mostly of versatile and self-confident individuals who, with displeasure, submit themselves to the authority of the boss and on the other hand the leaders lack managerial skills.

Business strategy. Most start-ups serve several market segments with a tendency to reduce their number. Differentiation of products is significant, up to 90 % products differ in originality at the international level (from central European to worldwide). Differentiation has a very slight tendency to decline. A significant proportion of start-ups (78 %) have costs at the same and lower level than competitors, while they slightly decreased during the research. A similar trend is observed in production prices. The exceptional competence of start-ups lies mainly in their considerable distinction from competitors, trying to do things differently, offering a different value, while differing in costs, prices and market segments only not very.

Acting/strategizing the investigated start-ups is defensive with a tendency to an offensive. They follow the pioneers in their industries and adapting to them, the dynamics and speed of their action and the sensitivity and responsiveness to external stimuli are average with a tendency to increase dynamics and sensitivity. Their action/real strategies differ from competitors' strategies on a larger scale, but it is neither a big difference nor a complete difference.

External support. The most appreciated is the support from investors, which is reflected in the help with the business model, marketing, mediation of contacts, advisory, team building and finally in the provision of finance. The investor is expected to be smart and beside the finance to provide an advice, experiences and networking too.

Start-ups receive minimal or low support from the state and public institutions, and at the same time they do not feel a trust in public support. They expect simple and transparent business conditions for companies of any size. In addition to start-ups that expect some help from outside, there are start-ups that avoid it because

they want to preserve their independence and their original concept, or will seek support only at a later stage of their development, or commitments arising from external aid are too costly for them.

4 Discussion

Start-up is an enterprise with extremely limited resources and therefore has to open its business model and complement it with external complementary assets. However, closer examination shows that start-ups are relatively closed and their model is inadequately connected with the environment. Start-ups know their customers well, but they don't know how to access them. They do not establish partnerships in sufficient scope and quality. They work with relatively high-quality resources, but they cannot fully exploit them because of less internal functional links, and therefore there is unclear link of model to start-up performance.

The monetization of the researched start-ups is lesser sophisticated, too traditional and without experimentation. Start-ups rely on the simple assumption that a functioning business model directly ensure successfully monetization too.

Founders are characterized by a visionary and enthusiasm that are gradually exhausted and are not supplemented or replaced by managing. Founders are not ready to change the content of managerial work, which is a shift from leadership to managing, from informal relationships to formal division of labour, from friendly relationships to at least a slight hierarchy, from volunteering to punctual and accurate performance of duties.

The differentiation and originality of start-ups are not very validated by the market and customer feedback, and therefore surprising business strategy corrections can be expected after the industry matures and the intensity of competition increases. Most start-ups have too much ambition at the start of their business, e.g. targeting too many segments.

Start-ups that receive external support must, however, count on the loss of independence to some extent. Resolving the discrepancy between support and independence is the key to an advance of start-ups on the base of the public interest. Support is effective only if there is mutual trust between the provider and the recipient.

Conclusion

Start-up is usually a very small and imperfect enterprise. It must manage not only the variability and unpredictability of the business environment, but also its own resource constraints. Imperfection is a natural feature of start-up. It lies in contradiction between the only key asset, which is the business idea, and the extremely limited resources. The solution resides in development of a business model that is complemented by external complementary assets. Start-up drives enthusiasm that is gradually disappearing and must therefore be replaced by

professionalism. Start-ups are thinking about business strategy, but for the time being it is an idealized idea rather than real action and should therefore strengthen the realistic perception of their position in the business environment through continuous feedback, conduct business experimentation, and in particular better know their current and future competitors. To get external support, start-ups will need to demonstrate elementary viability and obvious benefits, especially for a private investor.

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COST OPTIMALIZATION MODEL IN MINING COMPANY

Roland WEISS – Erik WEISS – Jozef ZUZIK

Abstract
The aim of the paper is to streamline business activities in the mining company. This chosen company has a significant position on the Slovak market. Individual ratios of the company are characterized, cost-cutting methods such as controlling, activiting based costing / management, outsorcing, benchmerking, reeingineering are analyzed. We define cost elements and cost types. The analysis of the company, which main activity of this company is the storing of gas in underground storages. This paper includes great emphasis put on analysis of the profitability of returns, equity, sales and profitability of assets. The article characterizes the current state of profitability of the analyzed company and consequently determines the share of costs of revenues. These calculations based on the financial statements of the mining company with have significant position on the Slovak market. Based on the evaluation of the results, measures are proposed to reduce the cost items that will result in more efficient production in the mining company.

Key words:
costs, profit, mining company, savings

Introduction

Sources of cost decreasing includes unused possibilities, which exposure and using influence decreasing of costs in total production or only certain performances, and by this way also increasing of economy of total business activity.

Savings in material consumption present saving in volume of used work, made in the past. Shortening of the production time presents increasing of the capacity. Decreased material consumption presents also saving in fuels, electric energy, lubricants, and finally also savings in transport. At the calculation of cost decreasing by using of reserves we result from calculation structure of costs. At the estimation of the cost we need to regard mutual relations.

Among basic reserves for costs decreasing belong:

- Using of current assets and speeding of its turnover,
- Using of the production capacity,
- Determination of optimal assortment.

Tools for costs decreasing include certain measurements in the practice. Mainly reserves must be determined and consequently tools must be found, through which unused possibilities could be removed.

Among typical tools for costs decreasing belong:

- improving of work organization and management activity,
- establishment of new modern technique and technology,
- increasing of employees education.

When speaking about costs decreasing, the most extensive space is provided by decreasing of direct and indirect costs.

Characteristics of increasing of activities economy by decreasing of direct costs is determined by their high rate on total costs. Necessary importance has direct material and direct labor costs. Main source for direct costs decreasing is as follows:

- decreasing of costs for material purchase,
- decreasing of total volume consumption of basic material (for example by change of the technology, decreasing of basic material volume, decreasing of material loss, etc.). [3,9]

Process of direct labor costs development should be in balance with process of work productivity development. By proper rate between direct labor costs and work productivity we can achieve the wage growth will be slowly than growth of work productivity, and consequently direct labor costs and due to their influence also total costs per unit will decrease. The higher is difference between work productivity growth and wage growth, the higher will be saving per production unit.

In indirect costs the main part present costs of maintenance, transport between working posts, depreciations, consumption of indirect material and wages of administration and management. A characteristic of indirect costs is very diverse. Due to the mentioned we must apply various tools for their decreasing. We result from general structure of indirect costs to variable and fixed costs.

At the determination of important sources for indirect costs decreasing, the base is type structure of the costs. Sequence of individual sources can be identified according individual data from change of performance volume as follows:

- decreasing of depreciation of long term tangible property,
- decreasing of labor costs for management and production operation,
- decreasing of costs for supplementary material, fuel and energy. [10]

Considerable rate on indirect costs belong to fixed costs, when their considerable rate is not changing by increasing of production volume. Costs per production unit are decreasing by this way, and since also variable costs have commonly decreasing trend, the sense itself is to increase volume of production as a tool for indirect costs decreasing per production unit. [4,8]

The ways for own costs decreasing in mining

As for the decreasing of own costs, illustrating level of organization and management of mining and production, the base for these basic sources are:

- work productivity increasing,
- decreasing of material costs,
- total using of production equipment and capacity,
- decreasing of current funds,
- removing of non-productive costs. [5,7]

Methodology

Nafta a. s., Bratislava Nafta, is company that is providing developed broad scale of skills, connected stocking and construction of underground reservoirs of earth gas in Slovakia. Presently the company has a leading position in the research and extraction of hydrocarbon. Actually the company owns disposal 2.4 milliard m3 of stocking capacity, serving for earth gas stocking in underground reservoirs. The company offers expert services, improved products and review in rapidly development sector in Europe. Nafta, a.s. has very strategic geographical position and excellent geological conditions for reservoirs position, lying near western and southern boundaries of Slovakia. Also it presents base for origin of central, important nodes of European gas net. Slovakian gas company owns 56.15% of the company shares.

The main activity of the company is stocking of earth gas in underground reservoirs. It presents almost 70% of all activities. Nafta, a.s. is permanently operating at the increasing of stocking spaces yet 40 years. [6]

Table 1 Necessary indexes for calculation of profitability in thousands Eur

	2013	2014	2015	2016	2017
Net profit	72902	81190	96491	87988	98569
Sales	177197	165098	180754	176045	1779784
Revenues	177197	165098	180754	176045	1779784
Equity	634502	741653	828429	832471	256727
Total capital (assets)	834100	984918	1101297	1131534	399240
EBT	89215	94446	109346	101609	127443
Stocks	14731	5547	3339	4870	5415
Costs	74186	73557	74358	43368	54812

Source: own processing

Table 2 Calculation of individual types of profitability and costs development

	2013	2014	2015	2016	2017
Revenue profitability	41.14	49.18	53.38	49.98	54.83
ROE	11.49	10.95	11.65	10.57	38.39
Return on sales	50.35	57.21	60.49	57.72	70.89
ROA	10.7	9.59	9.93	8.97	31.92

Source: own processing

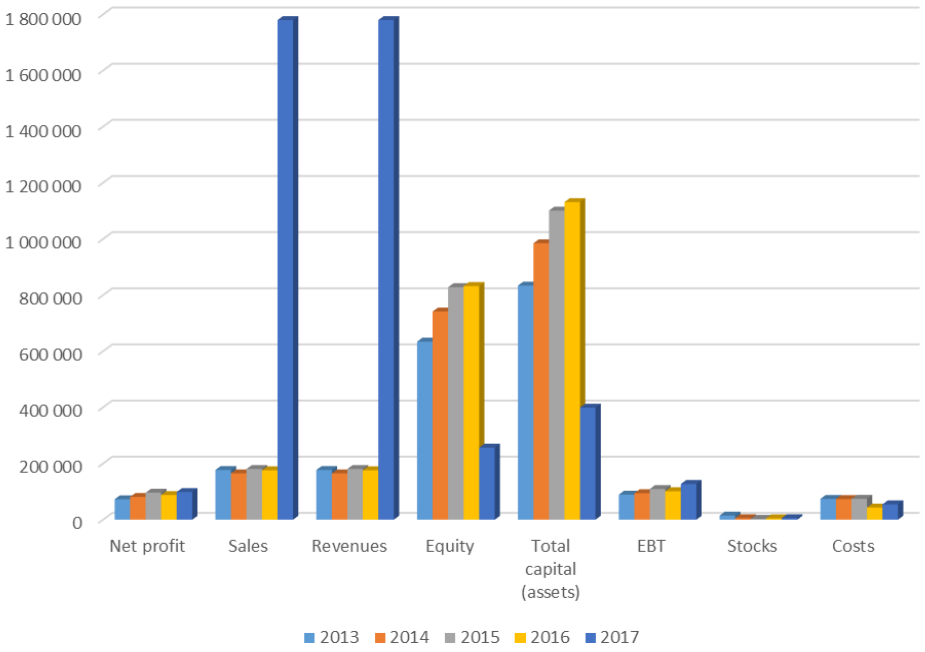

Figure 1 Necessary indexes for calculation of profitability

Source: own processing

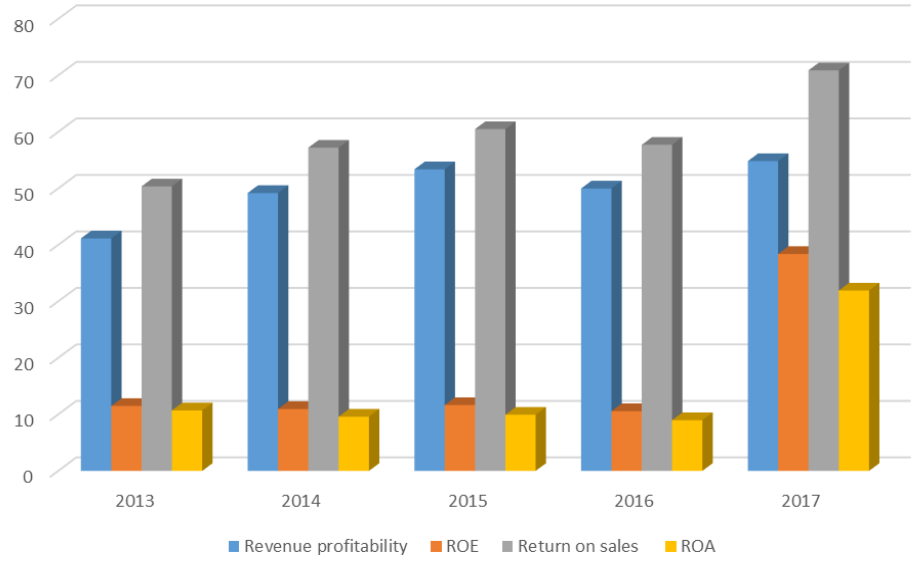

Figure 2 Individual types of profitability and costs development

Source: own processing

Table 3 Costs

	2013	2014	2015	2016	2017
Activation	-14	-26	-8.8	-15	-16
Consumption material and services	38	43	31	51	47
Personal costs	25	26.7	27	46	38
Depreciation and amortization	44	60	48	36	37
Interest costs	4.4	4	4	6.7	4.5

Source: own processing

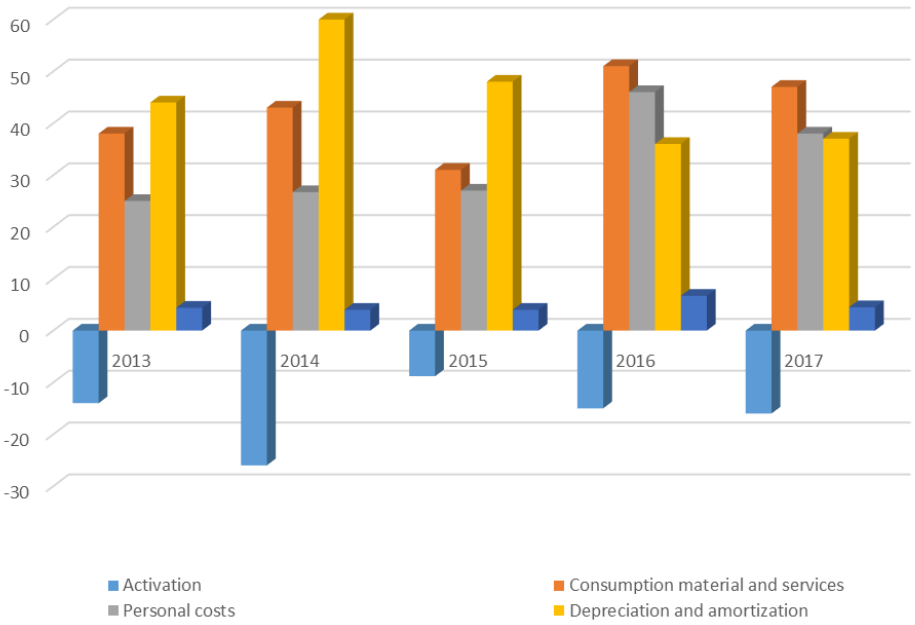

Figure 3 Costs

Source: own processing

Revenue profitability

From the graph we can see that revenue profitability is higher year by year in comparing with recommended minimum. Recommended 10 cents of the profit after taxation (EBT) per 1 EUR was more than 30 cents higher every year.

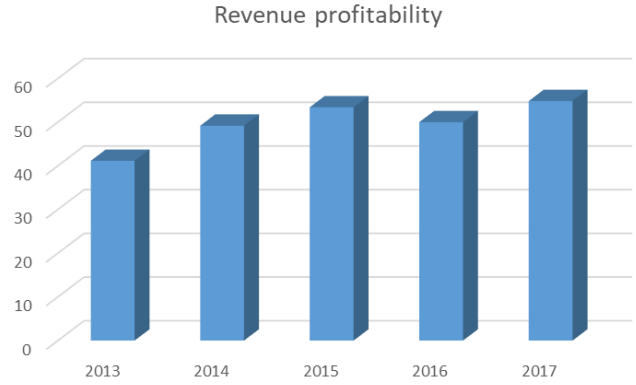

Figure 4 Revenue profitability

Source: own processing

The level of ROE is developing similarly as development of own capital, as net economic results, which can be compared with previous profitability. In this case the profitability achieved in 2015 high level, by which it is significantly different in comparing with previous years by the way that it recorded the lowest level of equity. Therefore we can say that to achieve the highest profit from equity, company must have low equity and high net profit.

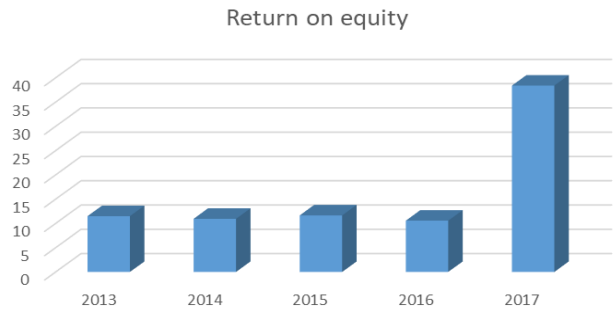

Figure 5 ROE

Source: own processing

Return on sales

Recommended level is minimal 12 cents of the economical results before taxation to one EUR of sales. Company recorded several cents higher sales in every year, which is obviously evaluated as acceptable.

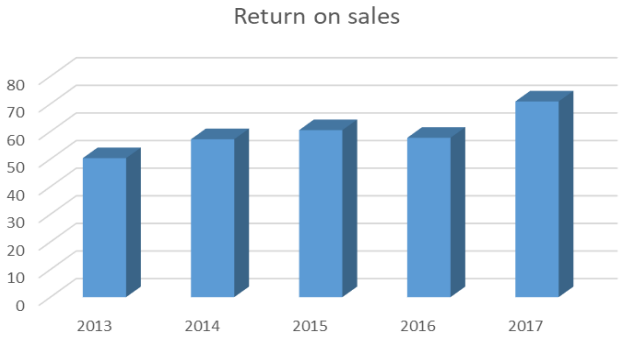

Figure 6 Return on sales

Source: own processing

Return on assets – ROA

Return on assets has increasing, but also decreasing trend. It is still around level 10 cents of profit per 1 EUR of total capital during analyzed period, mainly 2013-2017. But in 2017 there was recorded rapid growth, the value achieved level yet 31.92 cents of the profit. The higher is level of return on assets, the better situation for the company.

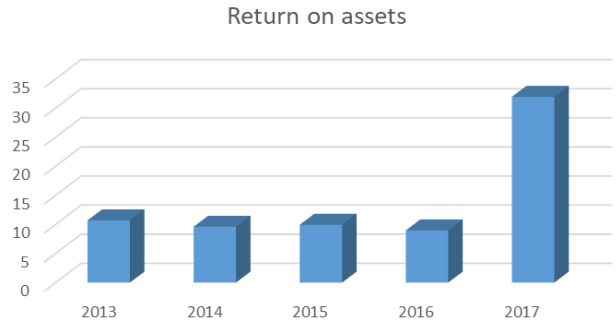

Figure 7 ROA

Source: own processing

All calculated indexes of profitability recorded acceptable values, which means, the rate of the profit to individual indexes is at good level.

The highest rate of costs belongs to consumed material and services of company activities. The second place belongs to depreciation and amortization, which have high percentage rate on total costs. Personal costs, as for example wages of employees, achieved also high rate, but not so high they must be decreased. Interest costs present the costs that company is paying for the credits, and therefore in comparing with other costs they have optimal values. [6]

Table 4 The rate of individual costs to revenues in percentage

	2013	2014	2015	2016	2017
Rate of costs on revenues	41.9	44.6	41.1	24.6	30.5

Source: own processing

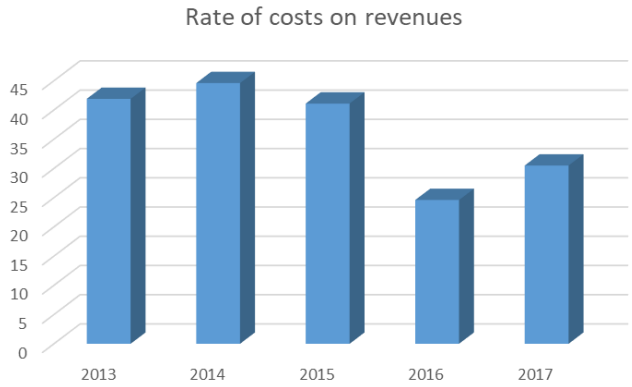

Figure 8 Rate of costs on revenues

Source: own processing

Results and discussion

The company consumed in analyzed period the least costs per one unit of revenues in 2016 (0.246 €) and the highest level was in 2014 (0.446 €). During 2015 –2017 the rate of costs on revenues was almost 1:2. In given period operation costs burdened the company due to the modernization of gas reservoirs and due to the purchase of material on stocks, as well as materials for change and repairing of pipelines. In 2016 –2017 modernization reflected in the company by significant decreasing of costs of operation of the company. Therefore the rate of costs in these years is lower. As a measurement for costs decreasing we selected worldwide famous and effective form of costs decreasing, mainly benchmarking method.

Conclusion

One of the fundamental objectives of each business is to maintain long-term financial stability. The financial stability of the company is told by individual indicators of financial analysis. One of the core objectives of businesses is to generate profit while ensuring long-term financial stability. The goal of the

contribution was to analyze the way for costs decreasing in company NAFTA, a.s. Bratislava. We resulted from the calculation, resulting from financial reports of the company. We evaluated profitability and consequently also the rate of costs on revenues. By this way we determined, which costs achieve high values and they need certain measurements for their decreasing. There is very necessary to know the structure of individual costs. Measurements for individual cost items decreasing, mentioned in the contribution, are connected decreasing of personal costs, consumed material and services, depreciation and amortization of machinery and also interest costs.

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EFFECTIVE MARKETING COMMUNICATION TOWARD CURRENT TRENDS IN CONSUMER BEHAVIOUR

Joanna WYRWISZ

Abstract
The purpose of the article is to describe current trends in consumer behaviour in the context changing in present market environment. On the one hand those changes affect searching, choosing and buying of new products and brand. On the other they refer directly to the new ways of meeting consumers' needs and desire. In both cases Internet, advance technologies and new method of marketing communication determine decision in buying processes. In particular new media, social media, content and influencer marketing are the most important and effective instruments of communication with clients and the whole attendees of market environment. The article presents the research approach based on literature and spin-off examinations. The article indicates the characteristics of the current new trends in consumer behaviour. Specify, conditioning and market implication of new attitude of customer toward marketing communication were presented

Keywords:
marketing communication, consumer behaviour, market trends

Introduction

Organizations face many problems in the area of effective communication with their customers and attracting their attention and commitment. Conveying the information on the product to the customer, who is more and more aware of their choices, requires a lot of effort and creative work. A significant factor determining consumer behaviour is wide and easy access to information. The customer actively searches for what interests them. They use other people's opinions, and share their opinions with others. They are skeptical to advertisements. The use of mobile devices with access to the Internet is gaining in popularity. The reason for introducing new solutions for communication with the customer is:

- indifference to advertisements in the media, intensification of zipping
- phenomenon of advertising blindness
- low credibility of advertising
- strengthened impact of direct recommendation
- emergence of prosumer
- increase in advertising costs
- technology development

1 Actual consumer trends

Marketing communication is an essential factor integrating all management processes in the organization and is also a significant determinant of effective functioning and creating the image of the organization and its products on offer.

The effective application of marketing communication tools must take into account changes and current trends in the environment. In particular, consumer behaviour trends regarding shopping habits, purchases of specific products, and lifestyle markers need to be observed. Trends indicate values shared by the consumers, as well as what specifically motivates them to buy particular goods and what determines their choices. Knowledge of trends allows brands to better adjust the range of products and ways to make the products available. It is also an important determinant of the ways of operation in the field of effective communication of the organization with buyers tailored to the needs and behaviour of recipients.

The modern consumer is more and more aware due to careful selection of information. Their decisions show a desire to meet their own needs, but with care for the natural environment. Acquiring new goods is accompanied by collecting experiences and adventures.

The most characteristic contemporary consumer trends include: (Pająk)

1. Eco-consciousness and clean living – the priority for consumers is the way products are made and the brand's declared care for the environment, giving way to the very quality of goods, with clear focus on what is really "eco", "bio", "natural" and "animal-friendly".
2. Minimalism and zero waste – bearing in mind the importance of environmental protection, consumers limit the number of different types of purchases. It means deriving satisfaction from the highest quality products. People following this trend are trying to reduce consumption to a minimum.
3. Borrowing instead of possessing – many consumers are convinced that not everything should be possessed. Items that are used only from time to time can be borrowed with no worries about their maintenance and storage. Moreover, the multitude of items leads to restrictions on the freedom of experience.
4. Personalization and customization – consumers expect and appreciate the personalization of products. They also care about customization and participation in the items' production. These methods allow consumers to get the desired feeling, namely that they are co-creators of their favourite brand's products maximally adapted to their needs and expectations. Therefore, the consumer becomes the co-creator who is responsible for the final product appearance.
5. Consumer-activist, that is involvement in brand activities – the manifestation of consumer involvement in brand activities is the desire not only to create personalized products but also to have a real impact on the methods of their production, as well as on the selection of brands whose vision is consistent with the consumer's worldview. Companies must keep in mind the fact that the user's feedback is becoming increasingly widespread and influential. Both

positive and negative information spreads quickly and can significantly affect companies' image, leading to customers' boycott in crisis.

6. AR, or virtual product testing – 'Zero Moment of Truth´ by Google is both product's testing and detailed check of product's reviews prior to its purchase. It is possible thanks to augmented reality (AR) applications, which are made available to customers by a greater number of brands. Due to AR applications customers can experience the brand before they even encounter the product in the real world.
7. Data mining – thanks to technology, more and more marketing and consumer behaviour decisions can be based on collected data. On the basis of received information, one can learn which marketing tools will be the most effective in a given situation.

In the context of rapid and dynamic changes, it is certainly obligatory to track consumers' behaviours. Particular attention should be paid to media consumption, tracking the purchasing process and adapting marketing tools to this process. In order to build brand value over time, the analysis of changes concerns their impact on consumers' attitudes to the brand. Not only the brand's consumers and its direct competitors but also a broad view of the market must be taken into account.

2 Effective marketing communication

Marketing communication should be based on building value for the customer, achieving economic profits for the company, as well as company key processes and resources. Furthermore, the ability to use resources and tools is more important than their possession, especially in the face of changing environmental conditions, new trends and resulting consumer attitudes. Nowadays, companies pay more attention to providing value to the customer than just to minimize costs and maximize profits, which brings measurable effects. In order for marketing activities to be effective, they should be based on relationships with the environment, its reactions, feelings and truth, never on presumptions and convictions (Gregor, Kaczorowska-Spychalska, 2016)

Forming a promotional program must include searching for and determining the most appropriate means of communication in given conditions. The integrated system of communication with the market consists of compositions of instruments that complement each other. The selection of instruments should therefore take into account the possibilities of integration and complementarity. (Wiktor, 2013) Attracting and retaining customer attention requires the preparation of a well-planned, more ingenious, and importantly, emotionally engaging message. It is necessary to create content that is interesting and useful enough to encourage the consumer to focus on it. In order to stand out from the volume of various advertising messages, it is possible to use marketing tools combining advertising and entertainment that reach the consumer and engage them more profoundly. (Armstrong, Kotler, 2012)

Contemporary conditions of marketing communication lead organizations to use integrated marketing communication. Its advantage is a strategic approach involving planning, developing and implementing communication activities using the optimal set of tools. It is a process based on the latest technologies and databases that allows for achieving integrated enterprise goals, while measuring their effectiveness. (Witczak, 2013) The features and conditions of integrated marketing communication include: (Witczak, 2013)

- permanent monitoring of market research results that determine decision making,
- identification of message recipients,
- use of advanced technologies and databases for information processing and analysis,
- special role of feedback,
- maximum use of all effective channels and forms of communication,
- interaction with the customer and creating messages as a response to the needs of the environment,
- creating relationships between communication participants.

The search for new solutions in marketing communication results mainly from the fierce competition on the market, and a significant number of messages results in information noise. At the same time, in line with current trends in consumer attitudes, communication should be individualized, and personalization of content is possible thanks to modern communication tools. The consumer, faced with the volume of messages, is very sensitive to advertising content that is inadequate to their interests. The development of new media favors the emergence and highly effective use of new marketing tools. Their key advantage is the ability to contact customers and shape this relationship over a longer period of time. Thanks to the new media, it is possible to personalize the message. The idea, content and distribution of this message in time and space takes into account the characteristic market behavior and interests of consumers. (Janiszewska, Kall, 2012) The table 1 presents the distinguishing features of modern marketing communication.

Table 1 Distinguishing features of modern marketing communication

Idea of the message	Tool structure
– need for authenticity, transparency and honesty of the message – emphasis on security and peace, law, order – growing importance and popularity of nationality and tradition – emphasis on the value of the social sphere, relationships with friends, free time – showing a world one can trust – comprehensible language – communicating "off-product" company values	– digitization of relationships, interaction and quick response – use of social media – content marketing – personalization, creating a behavioral profile – video content, images, infographics – influencer marketing – scattering of marketing activities over various spaces

Source: Own study based on (Mardosz-Grabowska, 2018; Tobota, 2018)

The modern dimension of marketing, caused by the rapid development of technology and trends, forces changes to which organizations wanting to effectively achieve their goals must adapt. The balance of power on the market has changed. Customers are put on a par with brands by giving them the opportunity to participate in product development. The way of communication has also changed from a one-sided model towards company-customer model, omni-directional model. Customers are given the possibility of providing the company with feedback, and also exchanging information with each other. Social media play a special role here as they removed communication barriers. The table 2 shows the modern customer journey model. (Wójcik)

Table 2 Customer journey mapping according to model 5A

Phase	Characteristics
Stage of getting to know the brand *conative phase*	
A1 *Aware*	Customer behavior: customer is a passive recipient of communication of many brands, recommendations of other customers, specialists, influencers and opinion forming centers Desired customer experience and attitude: I recognize the brand
Stage of brand infatuation *affective phase*	
A2 *Appeal*	Customer behavior: customer processes received information by activating short- and long-term memory, and selects several brands that they consider the most attractive Desired customer experience and attitude: I like this brand
Stage of inquiries *conative phase*	
A3 *Ask*	Customer behavior: customer is curious and actively looks for additional information about selected brands among family members, friends, internet users, in the media or directly in companies via the hotline Desired customer experience and attitude: I am convinced that the brand I selected is better than the others
Stage of purchase *behavioral phase*	
A4 *Act*	Customer behavior: based on the information collected, customer makes a decision to buy a specific brand, makes a purchase, and then uses the product or service Customer experience and attitude: I buy and evaluate the purchase
Stage of advocacy *affective-behavioral phase*	
A5 *Advocate*	Customer behavior: over time, customer becomes loyal to the brand and/or company, re-purchases and recommends the brand Desired customer experience and attitude: I am satisfied with the brand and recommend it to others, I will continue to use it

Source: (Kotler, 2017)

The answer to the changing customers' preferences in the field of marketing communication that fit in the current trends in consumer behaviour indicated in the first part of the paper are the communication tools, i.e. content marketing, inbound marketing and advertainment, which are gaining in importance. They are

based on modern information and communication technologies, building customer engagement and providing positive impressions and experiences.

3 Content marketing

Content marketing is a strategic marketing approach focusing on creating and distributing valuable, appropriate and consistent content. It involves a long-term process of planning actions which meet well-defined and special consumers' needs, at the same time, being part of the organization's marketing communication strategy. (Stawarz, 2014)

Content marketing is a strategy consisting in acquiring potential customers through publishing, sharing and distributing attractive and useful content, which is of interest for a clearly specified target group. (Tarczydło, 2014)

Content marketing is based on building long-term relationships with the customers through the interaction and engagement of both parties. Its advantage is the fact that it is one of the cheapest and most effective types of marketing. Content marketing effectiveness is related to the synergy effect, which is possible to achieve through combining content, context, and effort. (Tarczydło, 2014)

Among the most important content marketing aims are: (Stawarz, 2013)

- building customer loyalty
- gaining customer trust and engagement and authentic relationships with customers
- building brand awareness
- increasing reach in Social Media
- increasing traffic on the website and blog
- customer evangelism
- lead generation
- building a position of an expert and industry leader
- limiting spending on product advertising
- sales of products
- acquiring potential customers and leading them to make a transaction (lead nurturing)
- leading the customer to buy more expensive products (up-selling)
- sale of a product related to another purchase (cross-selling)

The successful CM project is based on high quality content that engages the recipients, encourages them to share the materials and actively co-create the content. When creating content, it should be remembered that Internet users have a completely different perception of a text in digital media compared to a text on paper. Websites are browsed rather than actually read.

4 Inbound marketing

Inbound marketing is a marketing strategy, the essence of which boils down to taking appropriate actions that will allow recipients to independently find the sender of a given advertising message and in which social networks play a significant role. (Halligan, Shah, 2010)

Inbound marketing focuses on activities aimed at providing a given company with the best visibility on all levels with which the customer can potentially have contact. The most important efforts in relation to the above should be focused on the best possible positioning, social media activity and content marketing. (Urbaniak, 2014)

Inbound marketing is in opposition to outbound marketing, which is a traditional way of communication consisting in providing product information in the form of a persuasive and intrusive advertising message to a potential customer. Outbound marketing based on aggressive advertising, such as advertising spots, billboards or pop-ups, disturbs consumers in everyday life, and its effectiveness is decreasing significantly. Breaking through the informational buzz with a message requires a change in marketing approach, focusing on a two-sided communication model and the involvement of both parties, as well as tools enabling customers to find the company themselves. (Halligan, Shah, 2010) Inbound marketing efficiently combines elements of internet marketing, engaging customers in marketing activities and thus not only increasing brand awareness, but also building loyalty to it. Hence, the basic pillars of inbound marketing are: website statistics, brand attachment, conversion and measuring effectiveness. (Zys, 2019) The table 3 includes key elements that differentiate inbound and outbound marketing.

Table 3 Inbound marketing vs outbound marketing

Inbound marketing	Outbound marketing
Engaging the customer, so that they search for the company's products themselves	Acquiring customers by building and presenting product offer through a 'push' strategy
Two-sided communication, interaction	One-sided communication
Acquiring customers through SEO and social media	Acquiring customers through television, press, mailing and outdoor advertising
Marketers provide the customers with the most cherished values	Marketers provide the customers with what they value to a limited extent or not at all
Engaging the customer through the combination of entertainment and education.	Incidental customer engagement through the combination of entertainment and education

Source: Own study based on (Powell)

5 Advertainment

The term advertainment was coined as fusion of two words: advertising and entertainment. It as advertising message conveyed through entertainment content, not always directly linked with a product. (Armstrong, Kotler, 2012) Advertainment as an innovative promotional tool, is of a highly interactive nature. Marketing communications are meant to mobilize consumers and encourage target activities and as result, induce desired persuasive impact. The concept behind it is mainly based on linking the brand name directly to an exiting moment of joy and entertainment. The goal of this form of advertising is creating a positive and relaxing impression of the brand in the mind of the recipient and to experience this feeling repeatedly in a non-standard manner. Interactivity enables an advertainment passive receiver to become an active participant of promotional efforts, yet this activity does not necessarily affect the purchase decision (Janiszewska, Kall, 2012)

Conclusion

Effective marketing communication, which leads to the planned effects, namely satisfactory sales and building the desired image, is a complex process. It is based on identifying target customers and observing their behaviour in the context of changing environmental conditions or shaping trends.

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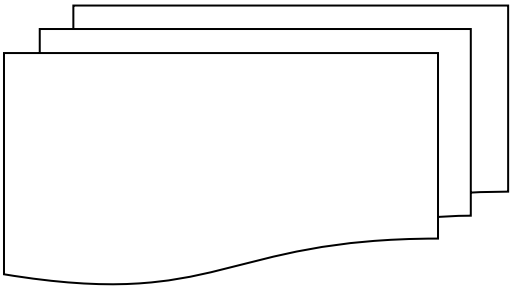

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