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*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*

Serbia, 2019

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Content

1. INTRODUCTION TO THE VISEGRAD FUND PROJECT: HOW TO PREVENT SMEs FROM FAILURE (Actions based on comparative analysis in Visegrad countries and Serbia), *Ivan Mihajlović, Isidora Milošević, Anđelka Stojanović*.....1
2. REASONS OF FAILURE OF SMES IN HUNGARY, *Melinda Majláth*.....6
3. SMEs PERFORMANCE AND THE MAJOR OBSTACLES OF SMES GROWTH IN CZECH REPUBLIC, *Gentjan Çera, Jaroslav Belás, Denisa Hrušecká*.....29
4. REASONS FOR THE BANKRUPTCY OF COMPANIES IN POLAND, *Joanna Rosak-Szyrocka*.....46
5. BARRIES AND TRENDS OF SMEs IN SLOVAKIA, *Lenka Labudová, Denisa Jánošová*.....64
6. HOW TO OVERCOME EXPORTING BARRIERS AND PREVENT SMES FAILURE: SERBIAN AND BIH PERSPECTIVE, *Aleksandar Brkić, Zorica Veljković, Vesna Spasojević Brkić*.....96
7. ASSESSING THE RISK OF SMES FAILURE USING AHP METHOD, *Jelena Velimirović, Lazar Velimirović, Petar Vranić, Aleksandar Janjić*.....131
8. APPLICATION OF STRUCTURAL EQUATION MODELING AND PROMETHEE II IN ANALYZE OF EXTERNAL NON-INDIVIDUAL FACTORS INFLUENCING SME FAILURE, *Nenad Nikolić, Ivan Mihajlović*.....154
9. THE ANALYSIS OF START UP MOTIVES AND BARRIERS FOR ENTREPRENEURSHIP IN EASTERN SERBIA, *Milica Veličković*.....171
10. SMALL AND MEDIUM ENTERPRISES AS A MEANS TO OVERCOME BARRIERS DEVELOPMENT OF RURAL AREAS IN SERBIA, *Milovan Vuković, Snežana Urošević*.....192
11. AN INTEGRATED METHOD OF ROUGH AHP, PROMETHEE AND ABC FOR RAKING SMES FAILURE FACTORS IN

FUNCTION OF PREVENTION SMES FAILURE, <i>Ivica Nikolić, Nenad Nikolić</i>	222
12. PHENOMENA THREATENING THE SECURITY OF THE ENTERPRISE IN TERMS OF PROCESSED INFORMATION AND KNOWLEDGE, <i>Justyna Żywiołek, Adam Idzikowski</i>	260
13. EXAMINING THE SATISFACTION OF ENTREPRENEURS WITH THE ACHIEVED RESULTS IN THE ZAJEČAR MUNICIPALITY, <i>Marija Panić, Danijela Voza</i>	277
14. THE CONDITION OF POLISH ENTREPRENEURSHIP IN THE CONTEXT OF ITS DEVELOPMENT, <i>Renata Stasiak-Betlejewska</i>	319
15. STRUCTURAL AND PERFORMANCE ANALYSIS OF SERBIAN SME SECTOR AT AN AGGREGATE AND INDIVIDUAL LEVEL, <i>Ivan Nikolić, Tamara Rajić</i>	339
16. RESEARCH OF PROBLEMS IN THE ESTABLISHMENT AND WORK OF SMEs IN THE MUNICIPALITY OF BOR, <i>Nevena Milikić</i>	375
17. THE INFLUENCE OF ENTREPRENEURIAL FACTORS ON MSME's INNOVATIVENESS AND PROFITABILITY IN TRANSITIONAL ECONOMY, <i>Ivan Jovanović</i>	392
18. THE CONTRIBUTION OF NEW TECHNOLOGY AND INNOVATIVENESS OF SMALL AND MEDIUM ENTERPRISES TO BUSINESS SUCCESS, <i>Isidora Milošević</i>	423
19. STUDY OF FACTORS AFFECTING INNOVATION ACTIVITY OF SMEs IN THE FURNITURE INDUSTRY IN BULGARIA (THE CASE OF "DOMINEX PRO"), <i>Svilen Kunev, Diana Antonova, Irina Kostadinova</i>	449
20. ALTERNATIVE SOLUTIONS IN THE ACTIVITIES OF POLISH MICRO-ENTERPRISES, <i>Justyna Stawicka</i>	496
21. OCCUPATIONAL SAFETY FACTORS EVALUATION IN MANUFACTURING MSMEs: THE CASE OF SERBIA, <i>Nenad Milijić</i>	514
22. CORPORATE SOCIAL RESPONSIBILITY AMONG SMEs IN SERBIA, <i>Sanela Arsić</i>	548

23. CONDITIONS OF DEVELOPMENT OF SMALL AND MEDIUM ENTERPRISES IN CLOTHING INDUSTRY, <i>Snežana Urošević, Andrea Dobrosavljević</i>	583
24. FINANCIAL DISTRESS CHARACTERISTICS: AN ANALYSIS OF FINANCIAL RATIOS FOR THREE INDUSTRIES IN ALBANIA, <i>Zhaklina Dhano, Vasilika Kume</i>	628
25. MOBILE APPLICATION MARKET, <i>Szűcs Kata Rebeka, Reicher Regina Zsuzsanna</i>	644
26. HOW TO ADDRESS AND UNDERSTAND THE FAILURE OF SMES: FRAMEWORK AND FACTORS, <i>Ivan Mihajlović, Anđelka Stojanović</i>	663
27. THE DIFFERENCES IN BUREAUCRATIC CONSTRAINTS FOR SMES DEVELOPMENT IN VISEGRAD COUNTRIES AND SERBIA, <i>Aleksandra Fedajev</i>	695

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*

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**INTRODUCTION TO THE VISEGRAD FUND
PROJECT: HOW TO PREVENT SMEs FROM
FAILURE (Actions based on comparative analysis in
Visegrad countries and Serbia)**

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International research project “**How to prevent SMEs failure (Actions based on comparative analysis in Visegrad countries and Serbia)**” is financially supported by the Visegrad Fund . The serial number of the project is 21820267.

Project description: The project is organised under leadership of the Engineering management Department – EMD (<http://emd.edu.rs>) of Technical Faculty in Bor <http://menadzment.tfbor.bg.ac.rs/english>, University of Belgrade. The project includes analysing the present situation of the failures of SMEs and their potential recovery in

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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Visegrad countries (Slovakia, Hungary, Czech Republic and Poland) and in Serbia.

In well developed countries, failure of previous businesses is usually taken as positive experience of entrepreneurs. This way, it doesn't influence the ability to receive new grants and/or credits from adequate financial institutions. In case of Balkan region, especially in Serbia, entrepreneurs who fail usually are limited in potential monetary sources for new business. Once they fail, nobody wants to invest in their future ventures. This way, they cannot learn from their own previous experiences (Nikolić et al., 2018). Realizing this fact, this project is focusing to assess the factors influencing the failure of other entrepreneurs, and based on that, to develop the measuring scale, that will help existing business to avoid potential failure. Analysis of the factors influencing SMEs failure and the possibility of their enhanced recovery has not been enough investigated in the region of Serbia. Through this project, we will analyse the reasons for SMEs failure in V4 countries, but also the potential for their recovery. Such obtained knowledge we will compare with situation in Serbia and then to developed useful model that will be of help of existing entrepreneur.

Considering that the V4 countries are included in European region, and that their market conditions are far more developed compared to Serbian, we think that they will be valuable partners. Besides this, all those countries have passed through the transition process, similar to one which is still ongoing in Serbia. Experiences from V4 countries SMEs will be good example to SMEs in Serbia, for their future development targeting future inclusion in the EU market. To be able to collect the factors influencing failure and potential recovering of SMEs in Serbia and V4 countries, there will have to be clear connection in between representatives of academic institutions and SMEs.

The main goal of project is promotion of the knowledge concerning new and original solutions existing in everyday business processes in

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*

SMEs from Visegrad countries that will be transferred to Serbian SMEs by defining the future activities of all partners and proposes solution for preventing SMEs failure.

The specific goals are: exchange of experience and knowledge in the field of entrepreneurship and SMEs business and factors that can influence the failure, including external and internal factors in Visegrad countries and Serbia; exploring the possibilities of recovery after failure of the entrepreneurial business in Visegrad countries and Serbia; learning from successful entrepreneurs and developing the business model that can be of help for new SMEs; exchange of cultural experience between partners of V4 and other countries; exchange of students experience and workshops, as potential for their future cooperation.

Partners: Official V4 partners that participated in project activities and research also that will participate in the event Round table on 24-26 of May 2019 are:

1. Tomas Bata University in Zlin, Czech Republic: www.utb.cz
2. Obuda University, Keleti Faculty of Business and Management, Hungary: www.uni-obuda.hu
3. The Managers of Quality and Production Association, Poland, www.qpij.pl
4. The University of Ss. Cyril and Methodius, Slovakia, www.ucm.sk

Planned Events of the Project:

October 2018 - The initial meeting of project participants was organized on Czech Republic. The representatives of academic institutions from all partner countries (V4 countries and Serbia) visited the Tomas Bata University in Zlín in Czech Republic. This institution is the pioneer of entrepreneurship of this region of Europe. The representatives of academic institutions from all partner countries had initial meeting in Czech Republic where they discussed and agreed on cooperation and participation in the project. Partner from Czech

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
<https://www.visegradfund.org/>

Republic explained tradition of their region in entrepreneurship and family business. Other partners presented current situation about the failure of SMEs in their countries.

November – December 2018 - After successful initial meeting in Zlin, representatives of research teams from all partner institutions started to work on development of the measuring scale that will be used to assess the reasons for SMEs failure. The initial measuring tool was prepared by representatives of Technical faculty in Bor, and was based on their previous research on this topic, organised in the frame of International Resita Network for Entrepreneurship and Innovation. The initial results of previous assessment of entrepreneurs failure of Serbian SMEs was also available in the form of the report Presentation SMEs failure Serbia. Based on this, after intensive online discussions and participation of all members of the research team, modified measuring scale was developed, which is available here: <http://media.sjm06.com/2018/12/4-1-Final-Questionnaire-2018.docx> Based on developed questionnaire, online tool was also developed, to be used to collect all the data from all research teams. The online tool is available here:

<https://docs.google.com/forms/d/e/1FAIpQLSdAMrug6I4mWcA9bJAGcFOfnDdd9m8ZPaoe8E1Y0MuWajL7dw/viewform>

After collecting the responses and forming the database, statistical analysis will be done and reports created, which will enable detection of the most important factor for SMEs failure. This factor will then be used to develop the measures to be offered to active entrepreneurial ventures, to avoid potential failure.

February – May 2019 - Final report (Monograph) is developed based on the results of the project research, reports from all V4 partners and developed measuring scale, which will be presented on the round table that will be attended by teachers, students and entrepreneurs from Czech Republic, Slovakia, Hungary, Poland and Serbia. This final round table will be organized in Serbia. Published monograph is based on examples of good practice from Visegrad countries (Czech

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
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Republic, Slovak, Polish and Hungary) and Serbia and obtained results of the conducted research on entrepreneurs. Obtained results should be summarized in the monograph that would be useful for easy practical and effective implementation of proposed business model and as well as examples of resolved business problems that have led to the failure of SMEs.

24 – 26 May 2019 - The final meeting of project participants will be organized in Serbia. The round table will be led by the project coordinator and will be attended by teachers, students and entrepreneurs from Czech Republic, Slovakia, Hungary, Poland and Serbia. Also, entrepreneurs and public representative from Serbia will be included. The motivation for organizing round table is to establish a framework for international cooperation between the representatives of academia and entrepreneurs from Serbia and Visegrad countries, with the aim of sharing knowledge and entrepreneurial experience.

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REASONS OF FAILURE OF SMES IN HUNGARY

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Abstract

Hungarian SMEs employ two-third of the workforce and they create 43 % of the added value. Despite of their importance in the economy, their survival rate is relatively low - in general, only every third new SME can survive the first 5 years of operation. However, there is significant difference of failure by sectors and by legal forms of entrepreneurship.

The EU recognized that for a healthier economy the proportion of small and medium-sized companies should be increased. With the introduction of Small Business Act, the EU promotes entrepreneurship, decreases regulatory burdens, eases the access to finance and helps SMEs in their internalization process. However, the introduction of the SBA policy framework doesn't mean immediate change and success. The continuous comparison of Hungarian SME sector's performance to the EU average explores those areas which needs more focus. Understanding the reasons behind SMEs failure is inevitable to create such an environment which can support starting new businesses and also keeping them "alive" and helping them to prosper.

Keywords: SME, Survival Rate, SBA Performance Review

1. INTRODUCTION

Small and medium sized enterprises play a significant role in every economies. Ideally, starting a business needs innovative and motivating environment, stable or improving economy, and easy access to financial capital. If these conditions are fulfilled, enterprises blossom, unemployment rate decreases and GDP increases.

SMEs are the backbone of the Hungarian economy, too. Despite the special historical background of Hungarian-based companies – namely the nationalization after 1950, and aggressive privatization after 1989-1990, number of SME's has increased significantly from the 407.152 in 1990 to 1.697.236 in 2017. (KSH, 2018 c)

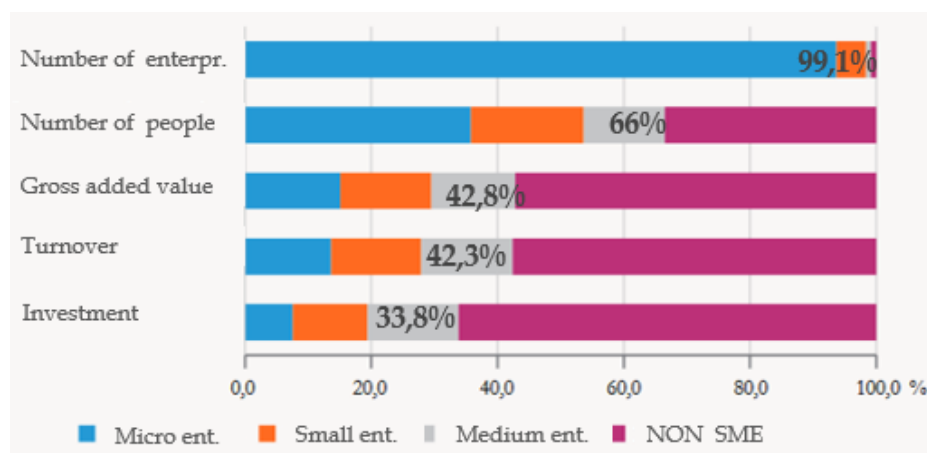


Figure 1. Proportion of operating enterprises in Hungary in different categories, 2016 (percentages show SMEs together) (KSH, 2016)

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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99.1% of enterprises operating in Hungary were micro, small and medium sized, among them 525.857 (94% of the total) were micro firms (with 0-9 employees) in 2016. (EC, 2018) Following the suggestion of EU, which defines SMEs based not only on the number of employees but also on annual turnover and/or balance sheet total, in 2016 there were 649.733 micro, 32.742 small, and 5.223 medium enterprises in Hungary. (KSH, 2018) This discrepancy in the statistical methods used by KSH (Hungarian Central Statistical Office) and by Eurostat has resulted slight difference in the numbers. (According to KSH statistics, non-profit firms can be also the part of this grouping if they fulfil the criteria, and there is also difference in how they define “non-financial business economy”.)

SMEs are responsible for 66% of the number of employees and for 42.8% of the added value. However, they contributed only to one-third of the total investments in the country. (KSH, 2016) Economic weight of medium sized companies is much bigger than their proportion among the number of enterprises. The share of medium-sized firms from the annual turnover was 34.2%, although they represent only 0.8 % of the number of SMEs.

The sectoral structure of enterprises belonging to the SME sector and outside the SME sector varies considerably. While a relatively large part of the latter, in 2016, accounted for a quarter of industrial activity, this figure was only 7.4% for small and medium-sized enterprises. Almost four-fifth of SMEs were service provider, including 19% to trade, vehicle repair, 18% to professional, scientific, technical activity sectors. For non-SMEs, the share of service providers was 12.5 percentage points lower than that of SMEs. Within the SME sector, the combined weight of agriculture, industry and the construction industry increases proportionally with the increase in the size of enterprises. (KSH, 2016)

***How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)***



International Visegrad Fund
<https://www.visegradfund.org/>

In 2016, SMEs accounted for some 27% of the national economy's total investment, and 34% of businesses'. The relatively low proportion of SME investment can be traced back to the fact that the total investment of the national economy is dominated by enterprises of foreign interest, and also by budget agencies and state-owned companies, and thirdly by the housing investments of households. The average investment per SME is 2 million HUF (6345 euro) in 2016, which is slightly lower than in the former years. (KSH, 2016)

Comparing the above proportions to the European Union, the share of the number of companies, persons employed and the added value of micro, small and medium firms are very similar to the proportion of these companies in the 28 EU countries. (EC, 2018)

Table 1. Comparison of the proportion of SMEs number, persons employed and added value in Hungary and in the EU (2017)

Enterprises by size	Number of enterprises		Number of persons employed		Added value	
	Hungary	EU	Hungary	EU	Hungary	EU
Micro	94.0	93.1	33.4	29.4	18.0	20.7
Small	5.0	5.8	19.0	20.0	17.5	17.8
Medium	0.8	0.9	16.5	17.0	18.3	18.3
SMEs	99.8	99.8	68.8	66.4	53.7	56.8
Large	0.2	0.2	31.2	33.6	46.3	43.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: EC, 2018, Summary Table – own edition

In a narrower comparison we can check the performance of the Visegrad countries, whose historical and economic background is very similar to the Hungarian ones. If we compare the net revenue and added value per SMEs, Hungarian companies are ahead of the rankings of their Czech and Slovakian counterparts, but their performance is behind the Polish companies.

Table 2. Comparison of the performance of SMEs' in V4 countries (EC, 2018 a.)

	Net revenue (1000 euro/SME)	Net added value (1000 euro/SME)	Number of employees/SME
Poland	322.1	60.0	3.68
Hungary	295.9	55.1	3.38
Czech	252.9	50.0	2.43
Slovakia	238.6	42.0	2.51

2. DETAILED ANALYSIS OF FAILURE OF SMES IN HUNGARY

2.1. Reasons Symptoms Business Failure

Business failure is more common in the early stage of business life-cycle and has higher probability for smaller firms, because they do not have the support of extra finance or resources that larger companies have, and because of their poor ability to source financing from banking institutions (Roepga, 2011) Failure can be defined on different ways: the discontinuance of a business for any reason and formal bankruptcy proceedings (Watson, 2003) It may be also look as a termination to prevent further losses.

It is also important to emphasize that “business failure is not a sudden event but a dynamic process” (Roepga, 2011). This process is complex; macro- (e.g. economic crisis) and micro level reasons (e.g. poor capability of projecting demand, inefficient decision-making processes) can play a role in it. As the business environment changes, the company has to adapt to it – or should proactively form the change (if it is a bigger player on the given market). Sometimes it means that what proved to be a successful strategy few years ago, cannot be appropriate nowadays. Those companies which have not enough flexibility cannot survive the external changes of the environment.

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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Ropega (2011) suggests differentiating the symptoms and reasons of SME failure. Reason is a factor which directly or indirectly evokes a phenomenon, but it doesn't mean that there is only one reason behind the negative process. Reasons may have internal and/or external origin. For very small firms the most important problem is the intertwined relationship between the owner and the company itself. Besides that, the lack of good management skills and/or qualified employees and the limited financial resources pave the road to a failure.

External factors may also create invincible obstacles: underdeveloped infrastructure, economic-financial crisis, and the lack of public funding could undermine even the most enthusiastic entrepreneurs' motivation and best intention.

The first most visible symptom of a threat of a business failure is a decrease in sales and profit. For some time it is possible to hide it by the higher level of debt, but it also shows that something may go wrong. Here, it is necessary to emphasize the importance of a good and realistic business plan which can prevent failure by pointing out the intervention points and the related tasks if the given measurement has reached a critical level.

Table 3. Symptoms and reasons of SME failure

Symptom: sign of a business failure for SMEs	Reason: factor which directly or indirectly evokes business failure for SMEs
Decrease in sales/profit Decrease in liquidity Decline in market share High level of debt	Internal: Strong relationship between the company and its owner Lack of expertise or information Lack of finance Environmental:

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
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Lack of business plan	General: macro environment, infrastructure, less-developed location Closest: lack of qualified employees, long duration of the proce- dures to obtain public funding.
Loss of trust in counterparties	
Lack of staff development	

Source: Ropega, 2011; own edition

2. 2. Failure Rate of SMEs in Hungary

Based on the statistics, 79% of the new Hungarian companies can survive the first year of operation, however only half of them is still on the market after 3 years, and only 37% of them exists 5 years later (Eurostat, 2015). That means, that the failure rate is 63%, so almost every two out of three have to close their businesses within the first 5 year of operation.

Examining the trend of successfully operating companies, the five-year survival rate of Hungarian companies was 48% in the middle of the first decade of this century, but it has decreased significantly after the financial and economic crises in 2008, and it has not been recovered yet. On the contrary, it seems to stabilize at the level of 37%.

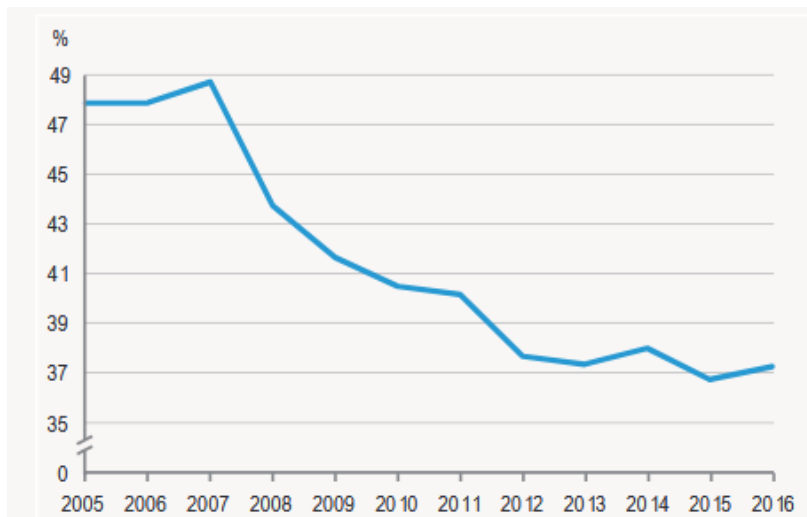


Figure 2. Evolution of 5-year survival rate of Hungarian companies between 2005-2016 (KSH, 2018 a)

Comparing the survival rate of businesses of the V4 countries (2014), Hungary shows the weakest results with its 36%, while a little higher percentage can be experienced in Poland and Slovakia (40%), and the results are the best in the Czech Republic with its 45%. (Eurostat, 2015)

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*

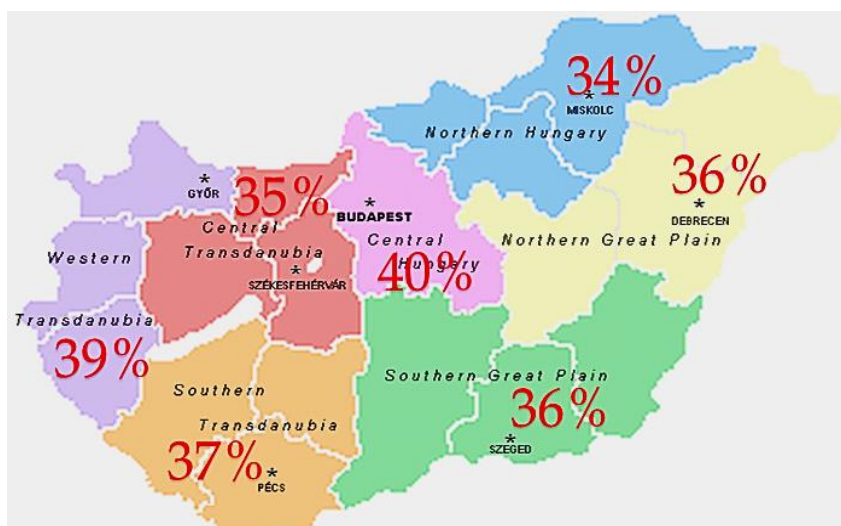


Figure 3. 5-year survival rate of newly-based Hungarian SMEs (2007-2011) – by regions (KSH, 2014)

Analyzing the survival rate of SMEs in more details in Hungary, the survival capability of small enterprises with 10-49 employees based in 2007 was the highest in all regions, but the difference was significant regionally: in Western Transdanubia more than one-sixth, while in Central Transdanubia only 36% could survive five years later. (KSH, 2014)

The company legal form also makes difference in survival: only 29% of new enterprises with individual ownership survived the first 5 years of operation, while almost half (47%) of enterprises with company form has been still operating at the beginning of 2012. The lowest level of failure was typical of limited liability companies in each regions. (KSH, 2014)

Table 4. Comparison of 5-year survival rate of new enterprises in the period of 2007-2011 and 2012-2016

	Period 2007-2011¹	Period 2012-2016
Number of new enterprises at the beginning of the period	60.968	68.804
Proportion operates 5 years later	38%	37.2%
Survival rate difference by regions:		
Central Hungary	40%	37.4%
Transdanubia	36%	36.8%
Survival rate by ownership type:		
sole proprietorship		
company form	29 %	29%
	47%	44%
Survival rate by activity:		
highest: human health-care and social care	65.2%	59%
lowest: financial services	16%	11%

Source: KSH, 2014 and KSH, 2018 a., own edition

The nature of the activity plays significant role in the survival capability of businesses. 69% of SME's revenue comes from services (majority: commerce and repair of motor vehicles), 26% from industrial activity and 5% from agriculture.

The highest survival rate can be experienced by SMEs dealing with human-healthcare and social care (65.2%); professional, scientific and technical activity (54.2%); information and communication (51.6%) and agriculture (47.7%). The least successful entrepreneurs made their

¹ In the period of 2007-2011 data relate to SMEs, in the period 2012-2016 data relate to all new enterprises – but the proportion of new large and medium sized companies is only less than 0.1%.

business in the field of financial services (16%), construction (32.6%), and accommodation service and hospitality (32%).

Added value increased the most in accommodation and hospitality service in the period 2012-2016 – thankful to the more favorable taxation for fringe benefits on „SZÉP” card (can be spent on accommodation, hospitality and programs which have already registered in the system.)

Within the 2012-2016 five year periods the survival rate of companies remained almost the same: altogether 37.2% was still active in 2016. The survival rate shows slight decrease compared to the previous 5-year period (2007-2011).

3. IDENTIFYING SMES PROBLEMS – BASED ON THE SBA PERFORMANCE ANALYSIS

“The Small Business Act (SBA) is an overarching framework for the EU policy on Small and Medium Enterprises (SMEs). It aims to improve the approach to entrepreneurship in Europe, simplify the regulatory and policy environment for SMEs, and remove the remaining barriers to their development. SME performance review is one of the main tools the Commission uses to monitor and assess countries' progress in implementing the SBA.”²

Based on 9 important dimensions it describes the actual situation of the SME sector – comparing it to the performance of the EU SME sector, and therefore highlights those areas which should and must be improved by different actions.

²https://ec.europa.eu/growth/smes/business-friendly-environment/small-business-act_en

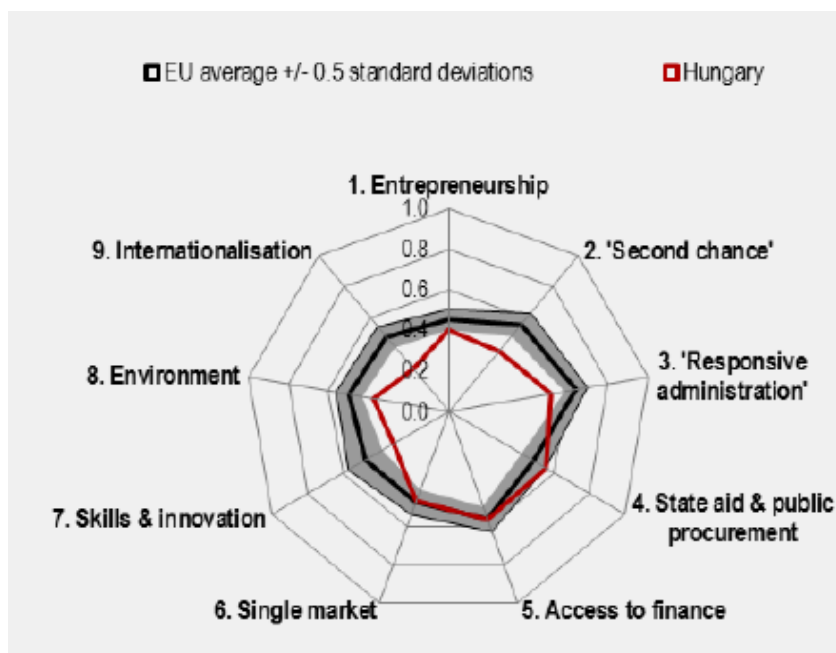


Figure 4. SBA performance review - Fact Sheet for Hungary, 2018, p.4. (European Commission, 2018b)

Hungary performs at the same level than the EU average on the areas of access to finance, the conditions of single market and is even better than the EU average in the dimension of state aid and public procurement. Hungary's good performance in the latter area is the result of the high participation of Hungarian SMEs in public procurement tenders. However, the time required to pay for tenders is slightly longer than in the EU as a whole, and the proportion of e-tendering could also be improved. The large number of unpublished and negotiated procedures and also tenders with only one applicant should be reduced. A comprehensive e-procurement strategy for transparency and efficiency should also be developed. Existence of corruption devaluates the real effect of this progress. (Béresné, 2017)

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Financial crisis started 2008 had serious negative effect on the SME sector. First, they experienced a significant loss in demand toward their products, and also the freezing of their bank loans created a difficult situation for the smaller players of the economy. According to the OECD study (OECD, 2013), the share of non-performing loans were extremely high in Hungary following the crisis - at the end of 2010 it was 15.4 percent. In addition, the sector's problems were well indicated by the fact that average interest rates were also particularly high in international comparison, with small businesses receiving an average of 12.3 percent interest rate in 2009, down to 8.99 percent by 2010. Between 2007 and 2010, the number of bankruptcies increased by 142 percent in Hungary.

Following the financial crisis, not only did the banks' willingness to lend decrease drastically, but the demand for loans also fell as a result of the unpredictability of planned developments and thus their non-implementation.

In response to these challenges, the Hungarian government announced a loan guarantee program and also provided direct support to the SME sector. The two, state-owned companies, usually made a state guarantee for corporate loans of 50-80 percent. However, SMEs faced stricter credit conditions than large companies, mainly in higher interest rates, shorter maturities and higher incremental costs. The reason for this was that banks were considered to be more risky by smaller companies because of their worse economic outlook.

Analysis of the financial situation and financial management of small and medium-sized enterprises shows that low capital adequacy, less professional management, stagnating profitability, and sensitivity to external environmental changes are serious problems (Györi, 2018).

But, financial situation of SMEs has improved a lot since the crisis. This is also reflected in the value of the SBA performance indicator, as

Hungary performed better than the community average. Still, there were sub-areas of funding that showed an unfavorable picture. One of the most significant factors is that the cost of lending in the case of a low loan amount is disproportionately high (2.5 times) compared to loans above EUR 1 million. (Béresné, 2017)

Hungary is in line with most EU countries in implementing Single Market legislation. For new and growing companies in general, one of the biggest problems is the acquisition of new markets. In Hungary, this is more difficult than in the EU, because large companies are unfairly deterring new and growing companies from entering the market. Non-transparent procurement processes are exacerbating this problem, and number of Hungarian companies dealing with online export to the EU is only 60% of the EU average. (Béresné, 2017)

In the other dimensions Hungary is lagging behind the EU average. The level of entrepreneurial activity in Hungary is very similar to the EU average.

Table 5. Number of new enterprises in 2015, 2016 and 2017 in Hungary

Year	Number of new enterprises		
	Corporations and partnerships	Sole proprietor	Total
2015	24.764	81.472	106.236
2016	26.030	86.372	112.402
2017	26.663	94.105	120.768

Source: KSH, 2018 – own calculation and edition

Although from 2012 the number of enterprises has been rising continuously, the company-form structure behind is not really favorable from the point of view of their surviving-potential. The simplicity of establishment, the amount of capital required for registration, and the degree of responsibility are crucial to starting a

business. The decline in the number of new companies started as a limited liability company can be explained by the stricter company formation legislation introduced in 2012 and the fact that with the entry into force of the new Civil Code the initial capital increased to HUF 3 million (again).

Sole proprietorship is very popular form of entrepreneurship, because it is the easiest and cheapest way to establish a business. Lower administrative and reporting burdens and the ease of discontinuance of the business also plays a role in the growing number of sole proprietorship. However, both the difficulty in raising capital and the unlimited liability are the disadvantages of this form. Sometimes starting a sole proprietorship is a must for a former employee, because firms don't want to hire employees but prefer entrepreneurial contracts instead because of different taxation and administrative burdens.

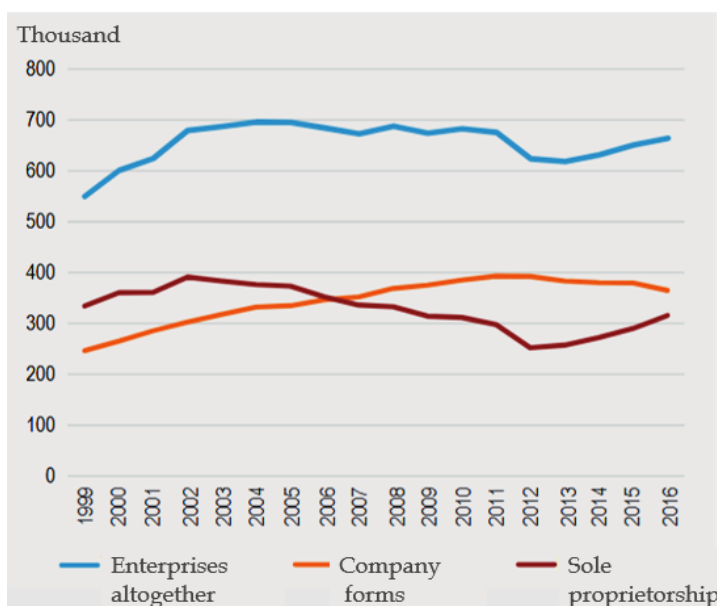


Figure 5. Number of enterprises in Hungary (1999-2016) (KSH, 2018 a)

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Despite the slightly increasing number of entrepreneurs, the social perception of entrepreneurship and intent is increasingly unfavorable, with the increasing level of corruption contributing. In addition to the programs that have been started to educate young or (Go! Nno, Dobbantó), it is necessary to start entrepreneurship education at primary and secondary level and integrate it into the school curriculum. (Béresné, 2017)

Media support for a successful business is also very low. Sharing the stories of successful Hungarian enterprises can motivate new generations to take the risk of doing a business on their own. A great series on TV called “Az első millió története“(The history of my first one million) serves this aim. The RTL TV channel started to broadcast the first episode of this series in 2013 and it is still on with new parts.

The negative attitude toward entrepreneurship has dated back to the times of privatization in the 1990’s. According to Szalai (1997) no elite group was characterized by self-restraint in the process of the change of regime in times of privatization, and self-restraint was freed by the lifting of the rules restricting economic activities, as a result of former intellectual communities and friendly networks. Szalai extends this statement to the whole society: according to her analysis, unemployment and impoverishment are just as destructive and self-liberating as the wealth of the elites. (Szalai, 1997 in Kurczi, 2011)

Nowadays, the negative perception is connected more to corruption. Media is full of news about that and according to Transparency International spread of corruption is measurable. Based on the Corruption Perception Index, Hungary slipped down seven places. “Hungary achieved the lowest score of the last six years with 48 points, and its anti-corruption performance has strikingly deteriorated in comparison to the European Union and the Central-Eastern European region”. (Transparency International, 2017) It is very dangerous, as corruption undermine the trust in business environment,

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which in turn leads to a deterioration of competitiveness and income disparities.

Economic actors rate the Hungarian government's measures against corruption as insufficient. According to the survey of the World Economic Forum, Hungary has sunk 41 places in the ranking of competitive economies since 2001, however, the perception of public institutions was even well beyond that: it has slipped down 88 places on the ranking list. Therefore, businessmen in Hungary named regulatory uncertainty and corruption as the main obstacles to running a successful business. (Transparency International, 2017)

Another important issue, how entrepreneurs are handled in the business environment after their failure. Second chance means ensuring bankrupt but honest entrepreneurs to get a second chance to start a business as soon as possible. Hungary's performance is very weak in this dimension. Insolvency proceedings take two years (it is very similar to the EU average), while insolvency costs in Hungary are almost 50 % higher than in the EU as a whole. There are no national information campaigns to mitigate the stigma of failure, nor are there any programs to support businesses in difficulty that would help avoid bankruptcy. (Béresné, 2017) Because of this stigma, higher proportion of Hungarian entrepreneurs fears from failure (43%) than in the EU (38%) (EC, 2018 b, p.9).

In 2017, the improving trend of forced cancellations and liquidations since 2015 continues - according to Bisnode Magyarország Kft.³ In addition, in the first quarter of 2017, we could see a 5.16 percent decrease in the amount of liquidation compared to the previous year. Conducting bankruptcy proceeding is still not a typical practice in Hungary. On an annual basis, the number of companies trying to

³https://piacesprofit.hu/kkv_cegblog/kicsit-csokkent-a-csodok-es-felszamosok-szama/

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attempt bankruptcy settlement is constantly decreasing. In 2014, 88 such procedures were initiated in 2015, compared to 63 in 2015, and 50 in 2017.

On the other hand, the decrease in the number of companies under liquidation is good news. The positive trend is expected to continue, especially based on the experience that in the second half of the year, fewer companies will be eliminated on the basis of an examination of the past few years.

Recently, a new law entered into force: 'Early restructuring and second chance'. The changes allow debtors to prepare restructuring plans, rather than become insolvent. Legal procedures for bankruptcy will be shorter and easier for SMEs, as the law has also introduced fixed deadlines within which juries must close the legal bankruptcy procedure. Alongside with the new e-administration platform, it will be easier for companies to handle the administrative aspects of insolvency (EC, 2018 b. p. 9).

Administration challenges can also frighten entrepreneurs to start a business or to run a business properly, so that issue also has to be examined. Since 2008, a number of measures have been adopted to reduce the administrative burden on SMEs. Now it is possible to start a business in Hungary within one day, while the EU average is 3.1 days. Starting cost in Hungary is only a third (105 euro) of the average in the EU (311 euro) (EC 2018 b.).

However, there are still some burdens that make life difficult for businesses: such as the rapidly changing legal background, the area of taxation (the number of taxes, the number of taxes to be paid in several installments and the need to pay several organizations, the time spent on paying taxes) (Béresné, 2017).

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Visegrad countries and Serbia)*

Paid-in capital in the percentage of income per capita is extremely high compared to the EU average (43,8% versus 10,14%), which makes it more difficult to handle financial assets flexibly.

For improving the competitiveness of SMEs, the development of research and innovation is vital. However, the innovation capacity of domestic SMEs has been decreasing since 2008. In the future, the effectiveness of the measures already taken should be increased by at least stopping the loss of innovation capacity and the reduction of the skill level (Béresné, 2017).

Considering the increasing concern toward the natural environment, problems, such as the weak waste management, as well as missing or inadequate water management infrastructure is a continuing problem. Floods can be serious along the Danube and the Tisza, air pollution associated with traffic jams and other factors such as residential heating is a major challenge for Budapest and mainly for Eastern part of Hungary.

Therefore it is important to highlight the environmental effort of SMEs to improve the situation. Unfortunately, Hungary is also underperforming in this area. The proportion of green public procurements is only approximately 10%.

The number of SMEs offering 'green' products is low, not to mention the fact that the share of state aid measures to produce green products has decreased. This suggests that SMEs did not fully understand the opportunities associated with eco-innovation and green technologies. It would also be necessary to promote EMAS certification and green public procurement. There is also a lack of a regular and large-scale incentive system to increase eco-efficiency (Béresné, 2017).

Internationalization is also an area which must be improved. According to the SME strategy, the share of non-EU exports should be 30% by 2020. There are encouraging signs, such as a modest increase

in the proportion of SMEs exporting and importing to non-EU countries (from 4.8% to 5.2% and 5.8% to 6.4%), however this is a very small change. One of the biggest obstacles is the lack of foreign language skills in the internationalization of Hungarian SMEs. (Béresné, 2017)

According to Reszegi-Juhász (2014), the performance level of foreign-owned companies is significantly better than that of domestic-owned companies, but the Hungarian-owned enterprises don't compose a homogeneous group: the break-line extends along the lines of their export orientation. According to the authors, since the economic crisis, the Hungarian-owned companies that have more than 50 employees and more than 25% of their revenues come from exports have grown. Their results not only show that the success of the economic policies of the government in the last few years, which has led to the development of the internal market and the support of foreign-owned companies, has proved to be extremely limited, but also that the small size of companies and the lack of presence on foreign markets inhibits the growth of the companies. (Reszegi-Juhász, 2014)

4. CONCLUSIONS

Most recently, positive and negative news have been announced about the SME sector. According to a previous study (K& H Bank, 2018) more than half of the SMEs have problem with finding skilled workers, and one-fifth of them suffers from the lack of money or lack of demand for their products and services and for 19% the lack of capacity means difficulty.

On the other hand, after the elections in the spring of 2018, trust index of SMEs has increased to its historical peak. Expectation of higher level of total revenues has been measured in each sector and each size-group of enterprises, and firms also expect lower taxes in the upcoming year (K&H Bank, 2018).

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Visegrad countries and Serbia)*



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Another issue, which must be considered is the advocacy capability of SME sector in Hungary. According to VOSZ (National Association of Entrepreneurs and Employers)⁴ the year 2017 was not particularly successful from the point of view of interest representation, as the Hungarian government did not place enough emphasis on social dialogue between institutionalized frameworks (VKF - Competition and Government Permanent Consultation Forum) in the past years. The executive power did not ask the advocacy organizations, including VOSZ, about important questions. VOSZ criticises the lack of social dialogue and the fact that the government does not involve the social partners in the preparation of legislation in a meaningful way. In these circumstances, VOSZ unfortunately only works to respond to the goal of improvement of the economic policy measures already formulated by the government, formally or informally to our alliance, but at least - in many cases, only to do so - to reduce the inevitable entrepreneurial interest.

The Ministry of National Economy defined the main areas of the development strategy of SMEs in the period of 2014-2020: (1) improving growth potential, (2) facilitating access to external financing and (3) development of corporate environment. Practically, it means the aim to increase productivity, to reflect the problem of labour shortage, encouraging digitization in accordance with Industrial Development Strategy 4.0, support for innovative start-ups and simplification of regulations, bureaucratic burdens for SMEs.

However, this period is going to come to an end soon, and the experiences of these years should be used efficiently to create new strategical direction for creating a more favourable environment for micro, small and medium sized companies.

⁴ 2018 April, report of VOSZ, <http://www.vosz.hu/dokumentumok>

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SMEs PERFORMANCE AND THE MAJOR OBSTACLES OF SMES GROWTH IN CZECH REPUBLIC

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Abstract

This paper includes a basic overview of current situation in the SME segment in Czech Republic. It concentrates especially to the reasons of SMEs failures and importance of different factors of the business environment. Paper is based on statistical data and realized surveys of official statistical offices of the European Union and Czech Republic including the Small Business Act for Europe as well as on results of studies conducted by researchers of our faculty. The main goal is to compare all results and all viewpoints and provide a complex view of current state. This study represents an important background for specifying future steps of research in the field focused on creating the model of SMEs failures prevention. Despite the fact that SME segment in Czech Republic has been slightly growing in recent years, it has not kept pace with the overall growth of large firms. Concerning the SMEs' major obstacles, our survey found that less than half of entrepreneurs reflected high scores (agree and totally agree) in macroeconomic environment, monetary policy, and access to finance, whereas more than half of them perceived high levels in population

consumption, changes in income and the structure of consumer expenditure.

Keywords: Entrepreneurship, Obstacles, Economic Factors; Czech Republic

1. INTRODUCTION

In general, the segment of SME (Small and Medium Enterprises) is considered to be a main driver of economic growth regardless the degree of economic maturity of a country (Kozubíková, 2017; Pavelková et al., 2009). On the other hand, the degree of SMEs survival is the lowest among all types of enterprises, especially during the early stage of business. As Thornhill and Amit (2003) state, the main cause of SMEs problems is the absence of strategic management and ability to react quickly to changing business environment. In comparison to other EU countries, the number of SMEs per one thousand inhabitants in the non-financial sector is the highest. In Czech Republic, it represents 115 SMEs per thousands of inhabitants, while the EU average value is 57 (European Commission, 2018b). Therefore, there is a case for paying a high attention to this business segment.

European Union focuses on supporting SMEs through its flagship policy initiative called Small Business Act for Europe (SBA). The initiative annually publishes so-called SBA fact sheets aimed to improving the understanding of new trends, national policies and other factors influencing SMEs. It also monitors and assesses the progress of EU countries in implementing the SBA on a yearly basis. It combines several policy dimensions to the key performance indicators and national policies (European Commission, 2018a). It is positive that the resurgence of the EU segment of SMEs has continued during the last several years. According to the statistics of European Commission, the gross value added in SMEs segment generated by EU-28 increased by more than 14% (European Commission, 2018b).

Because of the reasons described above, our research activities focus on better understanding of the main factors causing SMEs failures and answer the question how to prevent SMEs failures.

2. SMEs SEGMENT PERFORMANCE AND BUSINESS ENVIRONMENT

2. 1. European SMEs Business Environment

Macroeconomic environment, monetary policy, access to finance, and consumption affect business environment. An unfavorable business climate indicated by weak and low economic growth, poor monetary policy, high constrains related to access to finance and low levels of population consumption might lead to crucial problems firms should face. Facing with such obstacles may cause an unbearable financial condition for firms forcing them to bankrupts.

A study administrated in Hungary by Kadocsa and Francsovcics (2011) claimed that activities performed by business organizations are strongly related to the economic conditions where they operate. Another paper studied the determinants of small and medium-sized enterprises' performance and concluded that economic environment impacts firm growth (Ipinnaiye et al., 2017).

Thai and Tirkina's (2014) research was anchored at the eclectic theory of entrepreneurship. They found that a rise in Gross Domestic Product per capita lead to low levels of informal entrepreneurial activity and, surprisingly, not to encouragement of formal entrepreneurship. The latter findings is consistent to Rusu and Roman's (2017) results. Therefore, an economic advancement indirectly implies a reduction of informal entrepreneurship. In the same lines, concerning informal and formal entrepreneurial activity, Autio and Fu's (2015) study drew light on the relationship between start-up activity and economic institutions. According to their study, economic institutions negatively influence informal entrepreneurship and positively formal ones.

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More recently, Grilli, et al. (2018) argued that a positive economic growth lead to high levels of entrepreneurial activity. As a result, entrepreneurship, measured as activity related to venture capital, can be stimulated by a robust economic growth. Similar results are reported even by another study emphasizing the positive influence of GDP per head on entrepreneurship (Dvouletý, 2017).

Scholars have investigated even the effect of entrepreneurship on economic growth. Hence, Bosma et al., (2018) studied this relationship among European countries and found that high levels in entrepreneurship, measured as total entrepreneurial activity, increases GDP per capita growth. This finding is in the same line to Acs et al. (2018) research results. Based on the above discussion, it can be postulated that macroeconomic environment influence entrepreneurial activity.

As indicated earlier, entrepreneurship can be impacted by monetary policies. According to Bosma et al. (2018), a crucial factor that affect entrepreneurial activity is financial stability in an economy. They argued that if a country reflects stability in terms of financial components, then entrepreneurial rates get higher. A study administrated in Hungary aimed to explore which micro and macro factors constrain entrepreneurial activity for small and medium-size enterprises (Kadocsa & Francsovcics, 2011). According to this paper, monetary policy is a factor that has a high influence on business operations, since above 60% of the SMEs identified it as major obstacle. Consequently, applying a proper monetary policy can stimulate the business activities.

As was previously indicated, the low level of easiness that firms access financial resources may expose them to failure. A cross-country analyze administrated by Ardic et al., (2012), found that access to finance was a major problem for small and medium-sized enterprises. Krejčí et al., (2015) investigated the determinants of SMEs' success

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operating in the Czech Republic. Their research underscores the fact that both financial and non-financial indicator are important for the SMEs' success. On the other hand, a study conducted among 18 member countries within the EU, including Hungary, reported surprisingly findings that the ease of access to bank loans negatively influences entrepreneurial activity (Rusu & Roman, 2017). Nevertheless, in a broader perspective, Chowdhury et al., (2018) explored the relationship between entrepreneurship and institutions among advanced and developing economies in a sample of 70 countries across the world. Their analysis emphasized the fact that domestic credit to private sector issued by banks positively influences the quality of entrepreneurship. Therefore, credit rate is a significant determinant of business performance. Conversely, according to Yang's (2017) investigation, business profit is reduced by a growth in credit or loaning rate.

In a wider perspective, Lim et al., (2010) study the relationship between entrepreneurial cognitions and entrepreneurial activity. According to them, above all formal and informal institutions that influence on entrepreneur's behavior, financial system has an important role on venture arrangements and willingness. On the whole, financial system of a country has a significant impact on entrepreneurial activity.

As has been earlier noted, low levels of households' consumption, changes in income and structure of consumer expenditure may expose enterprises to servers problems. Autio and Fu (2015) shed light on the relationship between population and entrepreneurship. They included in their analysis the growth of population variable and found a positive impact of it on start-up activity. As a result, a growth in population of a country is positively correlated to start-up firms. In addition, a negative (positive) association between purchasing power parity and formal (informal) entrepreneurship is reported. Hence, an association between entrepreneurial activity and purchasing power parity can be hypothesized. Similar to the latter study, Chowdhury et al. (2018)

involved country population as an independent variable to predict the quality of entrepreneurship, and found a negative relationship between them.

Additionally, scholars have paid attention to other factors, which affect business performance such as households' income level, individual's behavior and age distributions of the population. Shane (1996) and Grosanu and Bota-Avram (2015) argued that age distribution and income level impact business activities. In this lines, Kadocsa and Francsovcics (2011) found that good relationship with households is identified as a good promotor of business operations. Hence, households' income level, individual's behavior and age distributions of the population influence entrepreneurship.

2. 2. Czech SMEs Business Environment

In Czech Republic, the share of SMEs segment is very important, but it is in line with other EU countries and EU average. SMEs represents more than 99%, while 96% of them are micro enterprises. The situation in the whole EU is very similar. What is different, is the number of SMEs per one thousands of inhabitants which is double in comparison to EU average. However, the overall growth of SME value added is lower than in case of large enterprises. In SME segment, the value added grew by 9.5 % in 2012-2016, while in case of large enterprises, the overall growth was 16.4 % over the same period. The same trend was noticed in case of employment rate, which remained at around the same level over the period 2012-2016 (European Commission, 2018a).

According to the SBA Fact Sheets of the year 2017 (European Commission, 2018a), the SBA performance of Czech Republic is solid and in line with EU average. Just in case of entrepreneurship, responsive administration and internationalization, it is below the EU average. In all other areas, it is above or in line with the EU average (Figure 1).

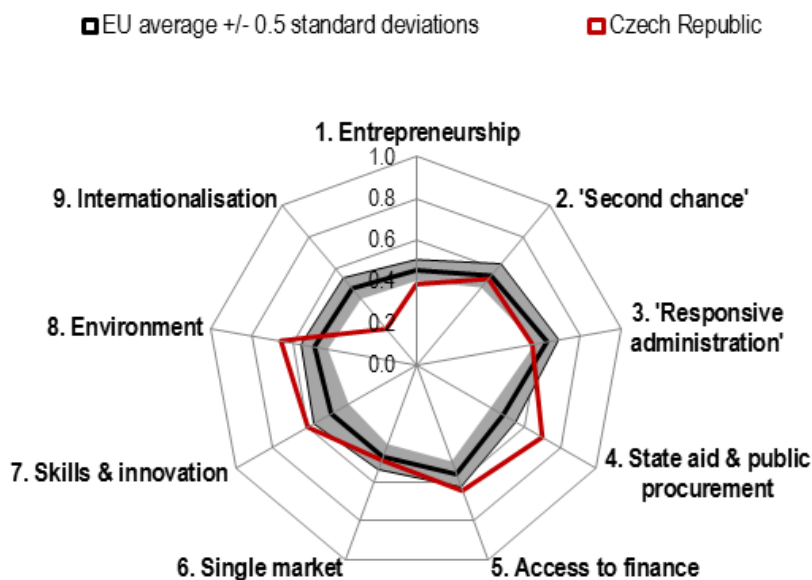


Figure 1. The Czech Republic's SBA performance versus EU average (European Commission, 2018a)

3. AIM, METHODOLOGY AND DATA

The main goal of this paper is to provide some kind of theoretical background to our future research activities and examine the current state of business environment and basic economic factors that influence its quality.

In regards to the defined aim, a survey-based research was conducted with enterprises operating in the SME segment. 312 enterprises in CR were approached during this research in 2018. The method of random choice using the “Randbetween“ mathematical function was used to

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select enterprises from the “Albertína“ database comprising enterprises in the Czech Republic.

The enterprises were approached via email asking them to fill out the online questionnaire. The questionnaire was intended for business owners or top management (hereinafter entrepreneurs). The response rate in the Czech Republic was approximately 4 % (out of over 7800 enterprises). The structure of respondents within the Czech Republic (312 enterprises) was the following: by county: Zlínský kraj 49 enterprises, Ustecký kraj 27 enterprises, Stredočeský kraj 14 enterprises, Plzeňský kraj 22 enterprises, Pardubický kraj 17 enterprises, Olomoucký kraj 26 enterprises, Moravskoslezský kraj 17 enterprises, Liberecký kraj 28 enterprises, Královéhradecký kraj 17 enterprises, Kraj Vysočina 25 enterprises, Karlovarský kraj 15 enterprises, Jihomoravský kraj 22 enterprises, Jihočeský kraj 16 enterprises, and Hlavné mesto Praha 17 enterprises. Business area: services 109 enterprises, retail 73 enterprises, manufacturing 53 enterprises, construction 29 enterprises, agriculture 9 enterprises, transportation 19 enterprises, other business area 23 enterprises. Time period of operating a business: 56 enterprises 1 – 5 years, 48 enterprises 5 – 10 years, 208 enterprises more than 10 years. Size of business: 258 micro-enterprises (up to 10 employees), 43 small enterprises (up to 50 employees), and 11 medium-sized enterprises (up to 250 employees). Highest attained education level of the entrepreneur: 50 high school without diploma, 135 high school with diploma, and 127 college educations. Gender of entrepreneurs: 236 men, 76 women.

In accordance with the approach by Conorto et al. (2014), individual constructs were defined using the following statements that are also the factors influencing university students’ propensity for entrepreneurship:

Economic factors: (EF)

EF1: Macroeconomic environment:

EF11: I consider the macroeconomic environment of my country to be favorable for doing business.

EF12: The state of macroeconomic environment of my country supports starting a business.

EF13: The present macroeconomic environment supports enterprises' innovation activities.

EF14: The present level of basic macroeconomic factors (GDP, employment, inflation) supports business and creates interesting business opportunities.

EF2: Monetary policy and interest rates

EF21: The Central Bank's monetary policy has a positive impact on the business environment.

EF22: Banks' interest rates have a positive impact on the business environment.

EF23: Banks' interest rates have a positive impact on enterprises' innovation activities.

EF24: The Central Bank's monetary policy stabilizes the business environment.

EF3: Financing enterprises

EF31: Enterprises have easy access to bank loans.

EF32: Banks' credit conditions for entrepreneurs are acceptable.

EF33: The cost of loans for enterprises is acceptable.

EF34: Banks have a positive impact on the quality of the business environment.

EF4 Population consumption, changes in income and the structure of consumer expenditure

EF41: The growing consumer consumption positively influences the quality of the business environment.

EF42: People can afford to buy more products and services.

EF43: The growing consumer consumption positively influences my business.

EF44: People purchase more, compared to the past.

When developing this paper, four scientific hypotheses were established:

H1: The index of EF1 (positive responses) will be lower than 0.500.

H2: The index of EF2 will be lower than 0.500.

H3: The index of EF3 will be lower than 0.500.

H4: The index of EF4 will be lower than 0.500.

4. RESULTS

To address our main aim, an index was calculated as the mean of the share of entrepreneurs who selected *Agree* and *Totally agree* per each indicator. Then, this index is compared to the threshold equal to 0.5 as indicated by the hypotheses.

The research results are listed in the tables below.

Our first hypothesis was confirmed because Index EF1 was just 0.287 (refer to Table 1). Based on the data from the survey the “Macroeconomic environment” index scored 0.287 (see Table 1). This index is composed by four different macroeconomic factors and the most evaluated one is EF11 (0.324) which states, “I consider the macroeconomic environment of my country to be favorable for doing business.” The results show that almost one out of three businesses agreed or totally agreed (positive response) with this statement. About 31.7% of the entrepreneurs evaluate the EF14 factor above the middle of the scale. Concerning the EF12 and EF13 factor, the survey shows that entrepreneurs have a less positive perception compared to other two macroeconomic environment factors (0.247 and 0.260 respectively).

Table 1. Index of EF1 – Macroeconomic environment

Indicator	Index value
EF11 I consider the macroeconomic environment of my country to be favorable for doing business	0.324
EF12 The state of macroeconomic environment of my country supports starting a business	0.247
EF13 The present macroeconomic environment supports enterprises' innovation activities	0.260
EF14 The present level of basic macroeconomic factors (GDP, employment, inflation) supports business and creates interesting business opportunities	0.317
Index EF1	0.287

Table 2. Index of EF2 – Monetary policy and interest rates

Indicator	Index value
EF21 The Central Bank's monetary policy has a positive impact on the business environment	0.247
EF22 Banks' interest rates have a positive impact on the business environment	0.343
EF23 Banks' interest rates have a positive impact on enterprises' innovation activities	0.269
EF24 The Central Bank's monetary policy stabilizes the business environment	0.240
Index EF2	0.275

Concerning the “monetary policy and interest rates” factor, the respondents scored a 0.275 (see Table 2). The most evaluated monetary policy factor is “*Banks' interest rates have a positive impact on the business environment*” (0.343). The entrepreneurs declared almost the same evaluation regarding other three components of this factor (0.247, 0.269 and 0.24). Worth mentioning is that all

components scored a lower level than the hypothesis limit (0.5). Therefore, we cannot reject the second hypothesis, which states that the value of EF2 index will be lower than 0.50.

The data show that about 35.3% of businesses in Czech Republic express a positive feeling towards “access to finance” factor (refer to Table 3). The least component they agreed upon is “banks have a positive impact on the quality of the business environment” – only 24% of them agreed or totally agreed with the statement. On the other hand, almost one in two entrepreneurs (45.2%) share the same opinion for “Enterprises have easy access to bank loans”. Same as in case of previous factors, the “access to finance” factor scores below the limit of the hypothesis. As a result, we found evidence that support the third hypothesis, which postulated that the index of EF2 will be lower than 0.50.

Table 3. Index of EF3 – Access to finance

	Indicator	Index value
EF31	Enterprises have easy access to bank loans	0.452
EF32	Banks’ credit conditions for entrepreneurs are acceptable	0.356
EF33	The cost of loans for enterprises is acceptable	0.365
EF34	Banks have a positive impact on the quality of the business environment	0.240
	Index EF3	0.353

Concerning the last factor under economic factors, the results indicate that entrepreneurs have a more favorable opinion towards the indicators as the index scores 0.732 (see Table 4). Going in details, the respondents share a more positive opinion concerning the statement “people can afford to buy more products and services” (82.7%) compare to other indicators. On the other hand, the least evaluated component is “the growing consumer consumption positively impacts

my business” (63.1%), according to the survey findings. Hence, the fourth hypothesis is rejected.

Table 4. Index of EF4 – Population consumption, changes in income and the structure of consumer expenditure

	Indicator	Index value
EF41	The growing consumer consumption positively influences the quality of the business environment	0.660
EF42	People can afford to buy more products and services	0.827
EF43	The growing consumer consumption positively impacts my business	0.631
EF44	People purchase more, compared to the past	0.808
	Index EF4	0.732

To summarize, the highest scored factor is EF4 (population consumption, changes in income and the structure of consumer expenditure) which equals to 0.732 (refer to Figure 2). This result is above the limit of the hypothesis (0.5) and, consequently, rejects the hypothesis. In the case of consumer expenditure factor, all components are evaluated more than 50%, which means that there are more than half of respondents who declare a positive opinion. On the other hand, macroeconomic environment, monetary policy and access to finance factors are evaluated under the limit of 0.50. Moreover, there is no indicator or component which scores higher than the limit of the hypothesis (threshold equal to 0.50).

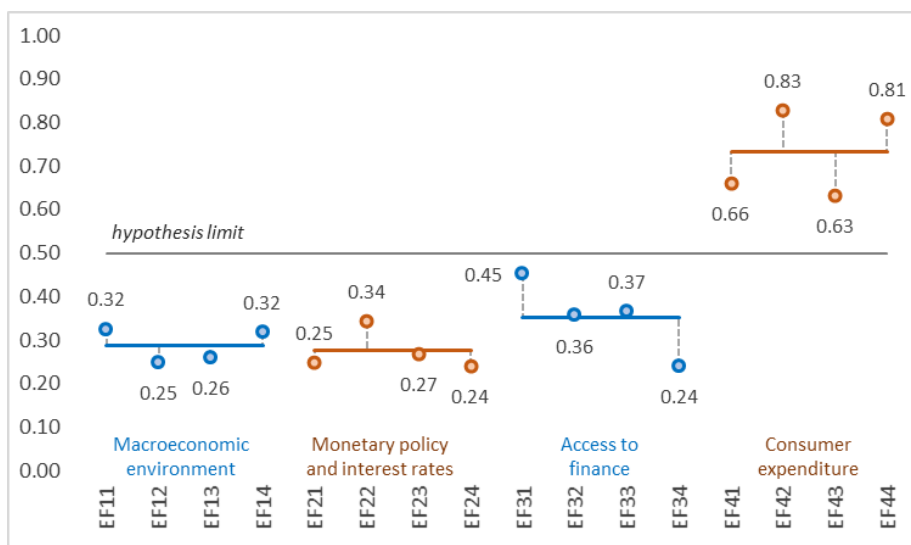


Figure 2. Results illustration of index value per each factor along with their indicators

5. DISCUSSION AND CONCLUDING REMARKS

Results concerning the macroeconomic environment index are in the same line with Kadocsa and Francsovcics (2011) research conducted in Hungary, who reported that business operations are related with macroeconomic environment where firms operate. Therefore, entrepreneurs from Hungary and Czech Republic share almost the same views regarding the effect of economic environment on business activities. In addition, as mentioned in the literature review section, entrepreneurship is affected by GDP per capita (Dvouletý, 2017).

Regarding monetary policy and interest rates factor, results emphasize the fact that business operations are affected by such indicators pointing at monetary policy. This is consistent with what scholars have found in other contexts (Bosma et al., 2018; Yang, 2017).

Concerning the access to finance index, our survey demonstrate that less than 50% of entrepreneurs declared their agreement to four indicators measuring the ease to access financial resources. Previous studies underscored the same results as our survey (Ardic et al., 2012; Krejčí et al., 2015).

As it is noticed earlier, only the index referred to Population consumption, changes in income and the structure of consumer expenditure, reflected higher score than the threshold equal to 0.50. This finding suggest that Czech entrepreneurs consider all those indicators important to their business operations. Moreover, this is consistent to previous scholars' results referring to the effect of both population (Autio & Fu, 2015; Chowdhury et al., 2018) and level of households' income (Grosanu & Bota-Avram, 2015; Kadocsa & Francsovcis, 2011).

Although our study has reached its aims, there are limitations in research. First, our findings are limited to one country, which might share the same regional, economic, institutional and political environments with only a limited number of countries. Therefore, our findings can be generalized only for developing countries. Second, the use of a rigor methodological approach might lead to more robust results. The latter can be considering even as a future research. Investigating the effect of different factors on business activities may explore or give extra insights into SMEs failure operating in Czech Republic and in other Visegrad countries sharing the almost the same business environment.

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REASONS FOR THE BANKRUPTCY OF COMPANIES IN POLAND

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Abstract

The article analyzes the issue of bankruptcy of enterprises in Poland. The number of enterprises that have collapsed, the reasons for bankruptcy in selected years and the bankruptcy of companies due to the industry have been analyzed. It was found that the bankruptcy of companies does not happen overnight. Enterprises receive symptoms that indicate that action should be taken to prevent this type of situation. Unfortunately, in most cases, the problems relate to the financial side, which causes inability to deal with problems.

Keywords: Bankruptcy, Enterprise, Functioning.

1. INTRODUCTION

Bankruptcy is an interesting object of research, being habitually perceived as a shocking and scandalous event, tarnishing management reputation, stigmatizing its owners, and regularly leading to a dishonourable death of the company, leaving outstanding debts in legacy (Nowak & Domagoj, 2007).

New small and medium enterprises (SMEs) are an important vehicle to address the challenges of job creation, sustainable economic growth, equitable distribution of income and the overall stimulation of economic development (Fatoki, 2014). SMEs are widely defined in terms of their characteristics, which include the size of capital

investment, the number of employees, the turnover, the management style, the location, and the market share. For developing countries, small-scale enterprises would generally mean enterprises with less than 50 workers and medium size enterprises would usually mean those that have 50-99 workers. According to the United Nations Environment Programme (UNEP) (2007), the SME sector is one of the principal driving forces for economic growth and job creation (Chirwa E. 2012).

In economic practice, failure is considered natural and inscribed in the ongoing market changes. Economic setbacks should be treated as a process, a set of events that can result in liquidation of the business (Ropega J. 2010). SMEs are playing an important role in the socio-economic development of the different countries of the world. However, there are also very high failure rates of SMEs in the world and performing less compared to bigger firms.

2. GENERAL CHARACTERISTICS BANKRUPTCY IN POLAND

The first bankruptcies appeared in Poland in 1991 and were the consequence of liberalization of the regulations governing the conduct on the one hand economic activity, and on the other hand - free play of market forces, leading to the elimination of inefficient enterprises. The largest increase in the number of entrepreneurs starting a business activity was recorded in Poland in a year 1990, and therefore almost immediately after the introduction of the principles of the economy Market. The number of bankruptcies filed in the Polish industry has been increasing since 2008. Only in the first half of 2012 almost 400 companies announced bankruptcies. The main causes for bankruptcies are considered to be the increasing number of overdue payments, decreasing demand, limited investment opportunities and difficulties in obtaining new credits. In practice, negative equity and losses exceeding 50% of capital are considered to be early warning signs of a bankruptcy. Industries characterized by persistent problems in meeting due payments, such as construction, food, transport and cosmetics²,

are especially endangered. The competition that can be observed in these industries can lead companies to participate in calls for bids with unprofitable offers, which can in turn cause bottlenecks in payment streams (Appenzeller D. 1998, Lemańska-Majdzik A., Sipa M. 2015, Turek I. 2018).

Enterprises are showing signs of an impending crisis long before, before bankruptcy occurs. They are usually characterized by: stagnation, unused resources, ineffective management. To identify the symptoms of bankruptcy, access to reliable data about the enterprise, such as reporting, is necessary. The reasons for the bankruptcy of enterprises can be divided into two groups. The first group are financial and non-financial reasons. The second group there are economic reasons like microeconomic (endogenous) and macroeconomic (exogenous) reasons. There are five general types of failure trajectory, referring to small and medium-sized enterprises (Figure 1).

Type 1 describes the typical failure process of start-ups. These are companies that already at the start, they have no chance of surviving due to management errors committed during the start-up and start-up of the company. Improper management and company policy lead to a lack controls and serious operating deficiencies that they carry out to loss of liquidity due to too high costs and low level sales. In general, such companies start with low initial capital, and the subsequent financial situation does not allow the use of a bank loan. In the absence of adequate knowledge and skills of owners-managers, this leads to the collapse of the company. Companies of this kind often never they generate profit.

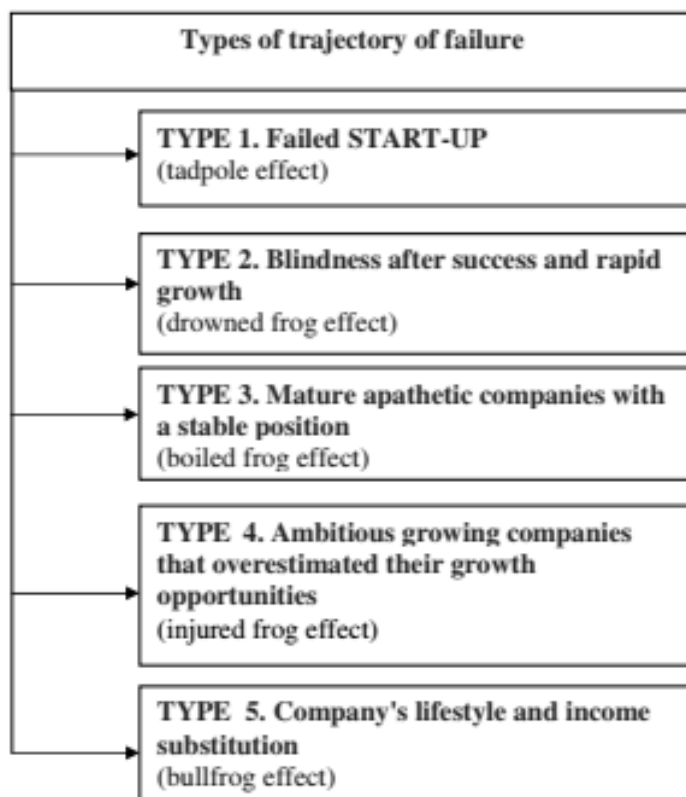


Figure 1. Types of trajectory of failure

Type 2 companies following this path successfully operate through several years. Unlike the previous group of companies, these have a better situation financial. They are characterized by the presence of a very ambitious, charismatic and active owner / manager with an outstanding personality. Business has successfully introduced a new innovative product or process, has increased turnovers and profits. The initiation of the failure process in this case is reaction of leading the company to its first success. Blinding occurs and overly optimistic managers who do not notice certain changes and they do not adapt their decisions and organizational structure to them. This leads to loss

of control and unconsciousness of possible problems, which can affect the effectiveness of the company's operations. In the long run this situation leads to a loss of good financial condition, and negative signals are ignored and interpreted as a result of external momentary factors. When a company has serious problems with insolvency, it is usually too late to effectively restructure.

Type 3 there are companies that have successfully operated for several years or decades. A lack is typical of such a company motivation and commitment on the part of business leaders and relying on strategies that were effective in the past. The company is also characterized by not noticing changes in the environment, which results in the loss of a competitive position. If there are any key changes in the environment, no there is no reaction to this phenomenon. This state of affairs continues until the company's capital structure is seriously undermined.

Type 4 the leaders of these companies (owners or managers) aim to bring companies to dominate in their industry. These people are highly prone to risk, some of them also have exaggerated optimism. They do not attach importance to long-term plans. A shortcoming initiating the process failure is a large overestimation of the demand for the company's products, which may be a consequence of excessive optimism or incorrect information about the size of the market, or customer preferences. As a result of such a situation turnover is not enough to cover expenses, there is a large overproduction, which is associated with loss of liquidity and solvency problems.

Type 5 in such companies there is an owner who shows off his wealth, uses the company's resources to pursue his private ideas and to improve his social position through external signs. It presents its short-term needs to the needs of the company. Often uses creative accounting to hide its behavior and fraud. It is characteristic that the financial symptoms precede the fall such companies appear very late. Studies carried out by Ropeęa (Ropeęa J. 2010) showed that there can

be distinguished factors warning small enterprises signs. Among the groups of reasons for failure, one can distinguish the general division into those coming from the environment and from within the organization (Baldwin et al. 1997, Koksal, Arditi 2004). Among the factors coming from the interior of the organization that influence on its functioning, the following are mentioned:

- **company's resources** (Liao 2004, Crutzen, Van Caillie 2007), both tangible: technical and financial, as well as skills and knowledge and the quality of relations with the environment (Crutzen, Van Caillie 2007);
- **individual characteristics of the entrepreneur** (Liao 2004, Ooghe, De Prijcker 2006, Crutzen, Van Caillie 2007);
- **company strategy** (Liao 2004, Ooghe, De Prijcker 2006); and the company's characteristics - age, size, sector, phase of life cycle (Mellahi, Wilkinson 2004, Ooghe, De Prijcker 2006, Crutzen, Van Caillie 2007).

Companies need to continuously adapt to changes. Businesses that are unable to adapt are threatened with bankruptcy

Among many sources of information, accounting and financial analysis can be indicated his activities (Nowak E. 2008).

Among the financial factors that indicate a declining financial condition of the company one can distinguish among others:

- a systematic decrease in sales revenues,
- the creation and increase of a net loss or a significant decrease in the amount of net profit,
- declining financial liquidity and the related increase in non-recoverable receivables and / or excessive accumulation of liabilities,
- increasing demand for loans and loans (usually short-term) and disruptions in their repayment,
- raising funds for financing current operations by discounting invoices and promissory notes,
- increase in work-in-progress and stock of hard-tradable products,

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- occurrence of overdue material inventory and defective structure,
- sale of assets fixed at a price below the book value, continuing negative cash flows from operating activities.

Among the non-financial symptoms of continuing operations by the entity, one can distinguish among others:

- loss of basic outlets or a major supplier,
- staffing difficulties,
- technological changes,
- lawsuits against the entity,
- lack of insurance against the effects of risk or fortuitous events,
- adverse legislative changes (e.g. in the field of tax law).

The microeconomic reasons lie in the enterprise itself, and hence its organizational structure, in the management system and in the economic information system. Management has an influence on them in contrast to macroeconomic reasons, which are independent from the company (Nowak E. 2008). The exogenous reasons for the bankruptcy of enterprises can be divided into three groups:

- 1) related to the situation in the industry (e.g. strong competition in the industry)
- 2) resulting from the domestic environment of the enterprise (e.g. recession in the economy,
- 3) large changes in exchange rates of interest rates, changes in commercial law and tax system);
- 4) resulting from the world situation (eg economic and political changes in others countries).

Table 1 presents the most common causes of enterprise failures.

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Table 1. Reasons of companies failure

Kind of failure	Percentage participation
Too much debt	26 %
Bad capital management	25.6%
The growing lack of cash for current operations company	14.3%
Profit decrease	
Sales decrease in relation to costs business	14%
Ability to settle short-term liabilities	13.99%
Unwillingness to introduce new solutions	13.9%
Outdated technology in comparison with competition	35.29%
Unreliability of machines and devices	33.4%
Lowering the quality of products / services	30.55%
Increasing operating costs	34.45%
Extension execution time of orders / services	32.89%
	32.21%

Table 2 shows the number of liquidations of economic entities or the number of bankruptcies.

Table 2. The number of liquidations of economic entities or the number of bankruptcies

Year	The number of bankruptcies
2001	1 674
2002	1 863
2003	1 798
2004	1 116
2005	793
2006	576
2007	447
2008	411
2009	691
2010	655
2011	723
2012	877
2013	883
2014	823

The presented data in table 2 clearly indicate a small share of bankruptcy in the total number of liquidations of companies in the SME sector. Particularly concerned it's a group of small businesses. In 2017, the number of bankruptcies and restructuring of Polish companies was 885, or 16 percent. more than in 2016 (as per December 28, 2017). Among the types of proceedings, the most were declared bankrupt (537, i.e. 61 per cent) (Raport roczny COFACE: restrukturyzacja firm w Polsce w 2017 r.)

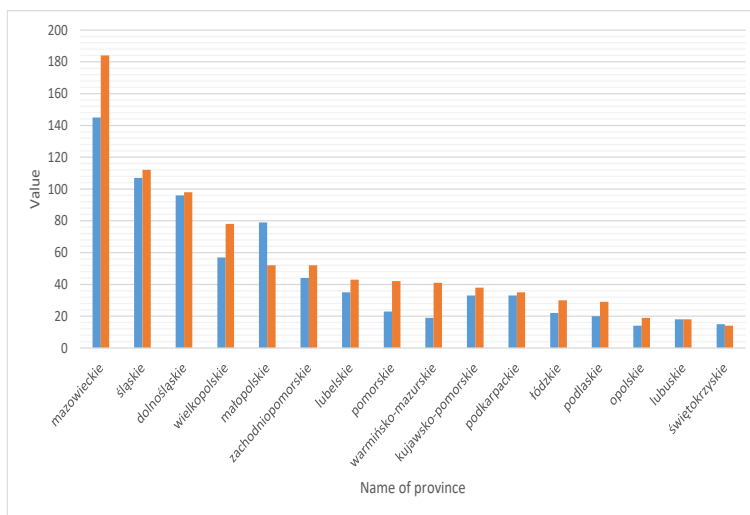


Figure 2. Bankruptcy and restructuring by region

The analysis of Figure 2 shows that in 2016-2017 the most bankruptcy and restructuring occurred in the Mazowieckie Voivodeship, the least bankruptcy and restructuring occurred in the Świętokrzyskie Province. In the last 18 years, more companies went bankrupt in Lower Silesia (accounting for 8.56% of the total companies operating in the country)³ than in Mazowieckie (which accounts for 18.78% of all companies operating in the country). The two regions, Warmińsko-Mazurskie (2.91%) and Zachodniopomorskie (5.18%), rank second and third. On the other hand, the most rarely occurring bankruptcies were recorded in Pomorskie (6.82%), Łódzkie (5.71%) and Małopolskie¹ (8.82%). Based on the results, it cannot be said that most bankruptcies occur in the provinces with the largest number of registered companies, as the Coface report declares. It is worth adding that the specific nature of the region influences the number of bankruptcies of enterprises in a given voivodeship (Tomczak S. K. 2018).

By the end of June 2018, Court and Business Monitor 314 was declared bankrupt analyzes carried out by the Central Economic

Information Center. It means that they will be in around 2018, not much more than 600, or similarly me in 2017 when there were 591 and in 2016 when it was their 606. If we compare this number with the number of bankruptcies with the corresponding period of the previous ones we will notice a downward trend (https://www.coig.com.pl/files/pliki/Raporty/coig_upadlosci_firm_2018_czerwiec.pdf, https://www.coig.com.pl/nowe-firmy-w-krs-2018_czerwiec.php).

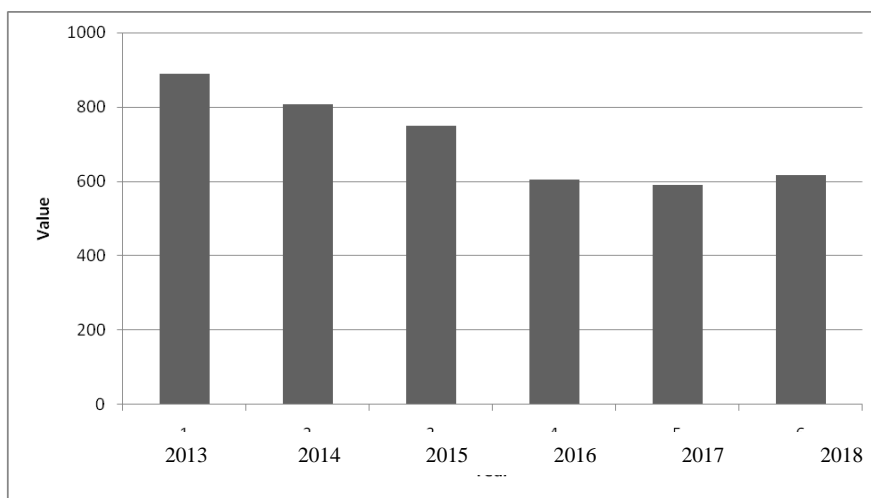


Figure 3. Bankruptcy of companies in 2018

The dynamics of the bankruptcy processes in Poland were linked, among others, with the rate of economic development. The increase in the number of bankruptcies occurred as a rule during the decreasing GDP growth rate, the improvement in the economic situation resulted reducing the number of bankruptcies. In selected countries of the world (e.g. USA, Canada, Japan, France, the Netherlands, Denmark, Sweden, Finland), a 1% decrease in GDP leads to an increase in the number of bankruptcies from 3 to 10% 10.

Table 3. The number of liquidations depending on the industry

Industry	The number of bankruptcies
Wholesale and retail trade, repair of vehicles, including motorcycles	25.57
Industrial processing	22.64
construction	16.94
Transport and storehouse management	5.7
Professional, scientific and technical activities	4.72
Activities related to property market operations	4.4
Administration services and supporting activities	3.58
Information and communication	3.26
Financial and insurance activity	2.28
Health care and social help	2.12
Activities related to accommodation and gastronomic services	1.63
Activities related to culture, entertainment and recreation	1.47
Remaining service activity	0.97
Mining and quarrying	0.98
Production and supply for electric energy, gas, aqua, hot water and air for air conditioning systems	0.98
Agriculture, forestry, hunting and fishing	0.65
Water supply; sewage and waste management and recruitment activity	0.65
Education	0.65

In 2006, the number of bankruptcies in Poland decreased significantly compared to 2002. In 2006, the largest number bankruptcy took place in the production sector. In this sector the largest number of companies dealing in the production of food and beverages as well as footwear and clothing went bankrupt (Fig. 4).

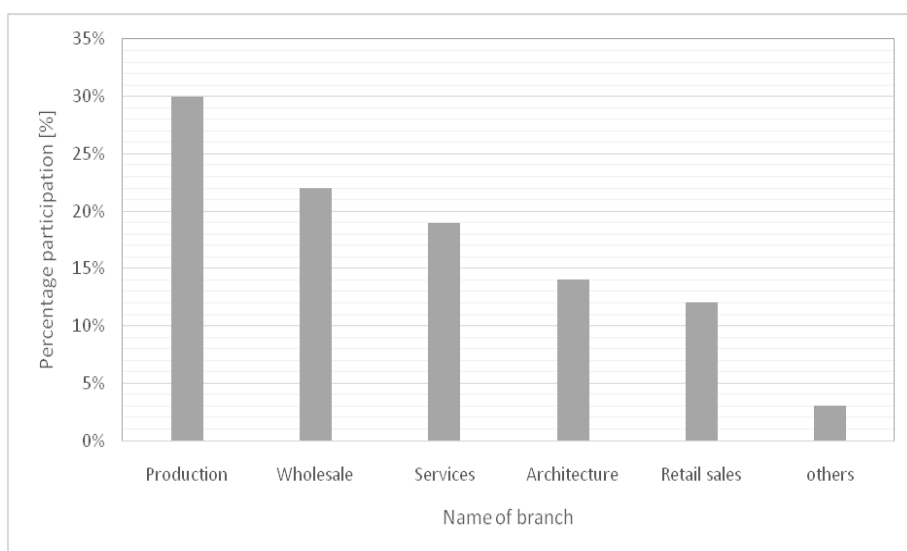


Figure 4. Bankruptcies of enterprises in 2006 by industries

Source: A. Walczak: Bankructwa firm w Polsce 2006, <http://www.egospodarka.pl/20001, Bankructwafirm-w-Polsce-2006,2,39,1.html>, 2007

SUMMARY

Small business owners, though, face enormous challenges in the coming years, and policymakers will need to wrestle with these issues after this year's election. First and foremost, we need to revitalize our nation's economy, which has struggled for much of this year. Americans are worried about the state of the economy, and in addition to greater economic volatility in general, small businesses must now

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contend with lower sales, higher input prices, and increased global competition. Reducing such anxieties and strengthening the economic picture will go a long way toward getting these firms back to what they do best—expanding their businesses, hiring new workers, and investing in new technologies to find their niche. Other long-term challenges are equally important to resolve. For instance, small businesses are eager for a business tax and regulatory environment that allows them to prosper without being overly burdensome, and they worry about maintaining and attracting a quality workforce.

The future for small business in the United States is very bright. Leadership from both political parties embrace policies that stimulate entrepreneurship and its contributions to our economy and to our competitive strength in the global marketplace. This paper has outlined some of the opportunities and challenges that await small business owners.

There are many others that I could have highlighted, as well. Americans will head to the polls in a matter of weeks. Many of us will be looking to our leaders for solutions to the challenges confronting small businesses across the country. Putting in place policies that promote economic growth and stability will allow entrepreneurs to more easily exploit the opportunities that confront them. A large number of bankruptcies also occurred among enterprises dealing with wholesale sales, as well as Services (Boratyńska K. 2009).

The Most Important Reasons For The Bankruptcy Of Manufacturing Enterprises In Poland In 2006 there are following (M. Czeszejko-Sochacki 2007, Mączyńska E. 2004):

- excessive debt,
- a sharp drop in sales prices for the company's products,
- the company's excessive production base,
- in relation to the level of sales,
- no reduction of employment in a timely manner,
- wrong company strategy,
- difficulties in obtaining receivables or lack of payment,

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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- inadequate financing structure of company assets,
 - loss of financial liquidity,
 - inexorable management of an enterprise,
 - no new recipients of products.

The most important reasons for the bankruptcy of construction companies in Poland in 2006 there are following (M. Czeszejko-Sochacki 2007, Mączyńska E., Zawadzki M. 2006, Mączyńska E. 2009, Nowak B., Domagoj S. 2007):

- loss of financial liquidity,
- too high tax loads,
- bad company strategy,
- decrease in the profitability of the core business,
- excessive debt,
- difficulties in obtaining receivables or no payment,
- high labor costs,
- no experience, low qualifications,
- managerial staff,
- no reduction of employment in a timely manner,
- inevitable management of the enterprise.

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BARRIERS AND TRENDS OF SMEs IN SLOVAKIA

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Abstract

As in all developed countries, even in Slovakia, small and medium enterprises are the most widespread form of business. Small and medium-sized enterprises are the main basis for the social and economic development of the regions. They help reduce unemployment and increase the living standards of the population. At present, they represent a significant part of all businesses in Slovakia. Over the last few years, small and medium-sized enterprises have become an integral part of developed countries, so it is important to provide assistance that will be available and usable. The essential importance of small and medium-sized businesses in Slovakia and in Europe is that they help people learn how to use their entrepreneurial skills. They also make a significant contribution to creating new products and services, shaping the gross domestic product and increasing the competitiveness of the countryside. Their function is indispensable in the economies of advanced countries due to their ability to adapt more quickly to changing market economy conditions and effective ability to meet specific customer requirements. For this reason, the EU countries, as well as other developed countries, pay attention to the state of small and medium-sized enterprises and to constantly support their development.

Keywords: *Business, Entrepreneurship, Small and medium entrepreneurship, Barriers in entrepreneurship, Trends in entrepreneurship*

1. INTRODUCTION

The dynamic development of small and medium enterprises is one of the basic prerequisites for healthy economic development of the country. SMEs in Slovakia make up 99.9% of the total number of businesses, provide the business economy jobs for almost three quarters (73.8%) of the active workforce and contribute more than half (53.6%) in the creation of VAT. 96.9% of small and medium-sized businesses are micro-enterprises employing fewer than 10 employees. More than three-quarters of SMEs are active in sectors such as business services, trade, construction and industry.

In 2017, the sector of small and medium-sized enterprises evolved in terms of increasing performance of the Slovak economy. Positive developments seen almost all the main indicators characterizing the development of SMEs. Compared to 2017, the SMEs employment increased (by 1.4%), value added (by 8.9%), and generated profits (7.5%), the achieved value added growth in the SME sector was the most significant for the last seven years. In the foreign trade area, by contrast, SMEs could not see improvements. According to preliminary results, the Export SME YOY almost unchanged share of SMEs in total exports actually declined.

The competitiveness of Slovak enterprises is essentially determined by the environment in which they develop their activities. Changes in the business environment with a certain delay reflected in the quantitative characteristics of the small and medium-sized enterprises. The material is presented assessment of the state of the small and medium enterprises in 2017 on the basis of statistical information in the context of its development over the last few years and comparison of the available data on small and medium enterprises in Slovakia and the EU. Evaluated the statistics relating to SMEs, depending on the legal form, size categories, the sectorial breakdown and regional affiliation.

Although significant regional differences pose a long-term problem for the Slovak economy is beginning to have in the context of a strong recovery. Slovakia has currently one of the fastest growing economies

in the EU, the total inflow of foreign direct investment is increasing. Unemployment is the result of moving to the lowest figures in the modern history of Slovakia and the company began to experience a shortage of skilled and unskilled labor. Due to the significant regional differences, however, there was disproportionate situation. Regions in western Slovakia broke the limit of the natural rate of unemployment and the company were to maintain and further expansion of production forced the record high to reach for labor from abroad. Unemployment also fell significantly and in Central and Eastern Slovakia. Banská Bystrica, Košice and Prešov, compared to the Bratislava region still have a threefold rate of registered unemployment. Despite the extremely favorable macroeconomic conditions thus employers in these regions are still unable to participate in the labor market.

2. DEFINITION OF SME IN SLOVAKIA

By definition, the European Commission is undertaking means any entity engaged in an economic activity, regardless of its legal form. Among the businesses that can include self-employed persons and family businesses engaged in craft or other activities, companies, partnerships or associations regularly engaged in economic activity. Sizing categorization of firms used in this document is based on the recommendations of the European Commission no. 2003/361 / EC of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises. According to this recommendation, the category of SMEs established on the basis of the following quantitative criteria specified size:

- number of employees;
- annual turnover;
- annual balance sheet total.

The most important volume criterion that must be fulfilled is the criterion of employment respectively. The criterion of the number of workers, however, is accompanied by two other financial size criteria, of which the company must meet at least one of them. When reverse

business among SMEs that compares one of the following possible combinations of evaluation:

- number of employees and annual turnover;
- number of employees and total annual balance sheet total.

Guest sized enterprise typology as recommended by the European Commission, allows you to capture the true extent, the performance of the enterprise and its position compared to competitors in various areas of economic activity. Height reached size criteria is largely dependent on the nature of the business. Business enterprises generally achieve higher sales than production. On the contrary, manufacturing enterprises are characterized by a higher value of total annual balance sheet total. If SMEs comply with one of the two financial criteria of size (annual turnover or annual balance sheet total), the company shall retain the status of SMEs.

Based on this definition of small and medium-sized enterprises (as recommended by the European Commission) are classified into groups of SME businesses that employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million and / or annual balance sheet total not exceeding EUR 43 million. Within the category of small and medium-sized enterprises we can distinguish three types:

- **microenterprise** as an enterprise which employs fewer than 10 persons and whose annual turnover and / or annual balance sheet total does not exceed EUR 2 million;
- **small business** as an enterprise which employs fewer than 50 persons and whose annual turnover and / Or annual balance sheet total not exceeding EUR 10 million;
- **medium** as an enterprise which employs fewer than 250 persons and whose annual turnover does not exceed EUR 50 million and / or annual balance sheet total not exceeding EUR 43 million.

Staff headcount and financial criteria limits for individual companies according to the recommendations of the European Commission shows the table 1:

Table 1. Staff headcount and financial thresholds determining enterprise size categories

Enterprise category	Criterion of employment	Financial criteria of size	
	Number of employees	Annual turnover	Annual balance sheet the amount
Microenterprise	<10	≤ 2 million. Eur	≤ 2 million. Eur
Small business	<50	≤ 10 million. Eur	≤ 10 million. Eur
Medium busines	<250	≤ 50 million. Eur	≤ 43 million. Eur

Source: European Commission recommendation no. 2003/361

2.1. Environmental Factors Affecting the Profitability of SME

The profitability of small and medium-sized enterprises affected by the external environment. Every country is different and every country has its own specifics. It is caused for example by various economic, legal, social, political conditions. To form the external environment and the relationships that are created in it, has in recent years a great influence degree of openness of the economy. Open economy is a broader and more challenging external environment. The quality of the outside influences a large extent on the performance of the company. Quality external environment means good conditions for free enterprise - the maximum possible scope for free enterprise and private initiative.

Humlová, et al. (2005) defined the external environment as a summary of significant influences acting as an entrepreneur, as well as business and entrepreneurship. External environment includes all the influences that affect continuous operation carried entrepreneurs or businesses in their own name and on its own responsibility in order to assess the business potential, for example in the form of profit.

The external environment in its broadest sense reflects the quality of economic conditions and prerequisites for economic activities of businesses. Quality external environment creating conditions for achieving long-term sustainable economic growth is a prerequisite for

business development (including SMEs) and increasing the competitiveness of the Slovak Republic internationally.

Some authors divide the external environment on the international environment, the macro environment and microenvironment. Other distinguished world, both general and specific environment. In literature we meet the terms of the broader external environment, industry environment and tighter external environment. Markova (1998) distinguishes between internal (internal) and outside (external) environments. Kassay (2006) member about the company into four levels: external (global) environment, general environment (macro environment, higher sphere), sectoral environment (lower sphere: market competition) and the company itself with its immediate collaborators (suppliers, customers) and competitors.

In our work we divide environmental factors on the broader external environment factors and factors narrower external environment.

Factors broader external environment

Broader external environment includes factors that exist regardless of the situation of the company, away from the action. Their actions are objective and independent of the will of the owner or "top" management company, the consequences of their existence can not be eliminated by choice. The intensity of the impact of various factors on the development of profitability of the company is changed due to changes in the external environment. At present, the external environment under the influence of factors that are triggered many changes. This is especially the ever deepening globalization, financial, economic and debt crisis, the development of technology and innovation.

In defining the critical factors affecting the profitability trend can be based on the breakdown PEST analysis. Factors can be divided into five basic groups. It is a political and legislative factors, economic, socio-cultural, scientific-technical and ecological.

Political and legislative factors

"The political and legislative factors are fundamental factors affecting the business before the business, but also for their business. These are the factors that determine whether a natural or legal person decides to do business in the country in which the segment and in what form of business "(Jakubíková, 2012).

It is a system of laws, decrees and regulations, which include the impact of government and political authorities and trade unions. They are defined by certain economic, environmental, safety, health and other requirements. As reported Kozel (2006), the state protects these rules society-wide interests of consumers, but also producers. In certain areas (segments) carry out the work in addition to components of local government and various interest groups and unions that carry the essential requirements of the company.

Kotler and Keller (2007) argue that political and legislative environment affecting most marketing decisions. Indeed, the company must follow the established laws, which, like government agencies and interest groups limit their activity. But not all new laws are bad. Some may mean for businesses new opportunities. Marketing's conduct is influenced primarily via tightened business legislation and the growing number of interest groups. According to the authors monitored the business legislation three main purposes:

- protect businesses from unfair competition (eg. through antitrust laws, or laws protecting competition)
- protect consumers against rogue and unscrupulous business practices (civil and commercial law prohibiting businesses to produce low-quality products, placing false information in advertisements)
- protect society from the soulless business behavior (this includes laws protecting society by requiring undertakings to take responsibility for the social costs of its production and products).

Kotler, Wong, Saunders and Armstrong (2007) reported in its publication is one more important factor in the political and regulatory

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
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environment, and the increased emphasis on ethical behavior and social responsibility. Enterprises seek by ethical codes of conduct, corporate policies and procedures to protect the best of their customers and the environment.

Zamazalová (2010) coincides with the above authors that the political and legislative factors significantly influence the marketing of each company. Political and legislative environment describes as follows: "It is mainly about the legal framework concerning the existence of companies and markets, protecting consumers, the environment, but also law enforcement. In terms of political and legislative approach is important for government administration and enterprise markets, the structure of government expenditure and taxation, but also the level of corruption and economic and other security companies. It also includes the risk of wars, revolutions or perhaps even nationalization. "

Political and legislative factors define the legal conditions and regulate the environment in which it operates. The basic factors include commercial law, employment law, tax and social legislation. Commercial law regulates the status of entrepreneurs in the market. Labor law addresses inter alia forms of employment, working hours, rights and obligations of employees and employers. Tax policy related to the comprehensive tax burden, ie the tax burden on employers, but also the workforce. Social legislation affects mainly the levies.

Some of the laws are essentially restrictive and potentially reduce corporate profits, others have a protective function. Factors that to the greatest extent affect profitability, we may include changes in tax burden, high bureaucracy for administrative offices, ambiguity and opacity accepted changes in the laws, frequent changes to the Labor Code, frequent changes in tax policy, promotion of foreign trade, law enforcement, functionality courts. Among the laws that have a protective function, include, for example. government support and subsidies, research grants, licensing and permissions to perform certain activities (Jakubíková, 2012).

Economic factors

Economic factors resulting from the economy of the state in which it operates. In its business the company is significantly influenced by macroeconomic trends in the economy. The basic economic factors that the company must monitor include the rate of economic growth, interest rates, inflation, fiscal policy and the exchange rate.

If the economy is showing economic growth, indicates that the company new opportunities for further growth, the company has the ability to expand production, expand business, penetrate new markets, while also creating new threats from growing competition. Higher interest rates affect the availability and cost of capital for further business development. Similarly it affects business, and thus the development of profitability, low inflation rate, which indicates the stability of the economy and its future development. Economic factors are based on the economic situation of the country and the state economic policy. For businesses it is important to know the total purchasing power, which depends on many factors, for example. economic conditions of individuals and businesses.

Unemployment is one of the factors that affects the purchasing power significantly. With rising unemployment, declining purchasing power, because people do not have enough money. Changing the percentage of each item of expenditure, for example. with rising incomes, the percentage of expenditure on food per household remains the same and the percentage is increasing the percentage of expenditure on clothing or travel. Kozel (2006) states that the amount of income population, and therefore its impact on the purchasing power of the average wage increase in the subsistence minimum, state social support benefits, as well as the minimum wage. If the domestic economy is in a phase of economic growth are influenced by the opportunities and threats that face enterprise. Due to growing demand and increased consumption enterprises better withstand competitive pressure and can thus expand its presence in the market. Conversely, the economic downturn reduces power consumption, increases the tension between competition and

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*

enterprise, businesses can achieve lower profits and hence lower profitability.

Another economic factor is inflation. "When inflation is rising faster than income, purchasing power is ultimately decreases and vice versa. The low level of inflation is more stable financial and economic environment "(Kozel, 2006). Inflation acts not only on the prices of factors of production, but also on demand and purchasing power of customers and consumers. The increase in inflation causes slower economic growth, high interest rates and variable exchange rate. There is uncertainty in the forecasts of the future development of the economy and thus businesses are more cautious in planning their investments. An important economic factor is the exchange rate, which affects international trade.

The interest rate is also among the economic factors affecting the profitability of the company. Affects the use of funds (own or external resources), determines the cost of capital, thereby affecting the investment activities of the company. The lower level of interest rates is an opportunity for the realization of investment plans of the company.

These factors extends Synek and Kislingerová (2010) the availability and prices of production factors and tax burdens on businesses. Factors of production namely through the development of logistics and new technologies lose its dominant position. As regards the tax burden on business, decided that the amount and structure of taxes. Tax natural and legal persons directly affects the motivation of businesses to business, the VAT and excise duties affect the behavior of the end consumer, and thus the demand for products and services offered. Like Synek and Kislingerová (2010), as well as Kozel (2006), consider tax issues as a factor, which is the economic and political environment. The tax issue affects business and downstream (in the recruitment of taxes) and the inlet (for the change in cost).

In assessing the impact of economic factors on the development of profitability of the enterprise should take into account the fact that throughout the economy, individual sectors and segments may develop differently.

Socio-cultural factors

Sociocultural factors include everything that affects the value systems and consumer activity. These include for example. demographic trends, lengthening life expectancy, rising living standards, incomes of the population, level of education, better health care, lifestyle change, free movement of people, changing work values, ethical standards.

As reported Dedouchová (2001), this group includes factors that are connected with attitudes people life population and structure. Changes the demographic structure creates space for individual businesses. Lifestyle of the population is reflected in the way of leisure, style of dress etc. In connection with the growing interest in higher quality of personal life companies often offering flexible working hours, shorter weekly work load and not just salary increases. Enterprises are forced to alter their products and technological processes. All factors influencing the decision-making enterprise in the socio-cultural field are the result of cultural, economic, demographic, religious, educational and ethical conditions of human life and are in constant evolution. This development results from the efforts of individuals to fulfil their desires and needs. Knowing the trends in this area leads clearly to gain competitive advantage in the battle for the customer.

Scientific and technical factors

Foresight development direction of technology development can make a significant factor in business success. The key to successful anticipation in this area is to accurately predict future skills and likely impacts. A pooled analysis of the effects of technical and technological changes is studying the expected impact of new technologies on the state of environment, but also the competitive position. The enterprise should monitor technological changes that may affect the industry in

which it operates. Technological change is a business opportunity to open up new, previously undiscovered markets, which would mean the company a competitive advantage, which the company managed to increase sales.

The fact that today some of the products that we take for granted a few years ago did not exist, according to Kotler and Keller (2007) proof of how the fast pace of change. Thanks to new technologies arise other markets and businesses can benefit from new opportunities. But it can be the case that companies ignore new products and continue to continue to selling outdated products. People's interest in these products is declining over time, which the company ultimately means the deterioration of the economic situation.

Environmental factors

Environmental challenges are closely linked to the development of new and cleaner production technologies. The amount of pollution, the emergence of new diseases, pollution basic needs such as water, air and land forces many businesses to change existing ways of doing things. The main polluters of the environment are coming under significant pressure consumers and legislation of individual countries. The result of the measures in this area may be limiting or stopping production, reduce production capacity, the need for changes in technology or other requirements for investment. Such measures are in ultimately reflected in lower effectiveness or increasing demands on financial resources.

As reported Synek and Kislingerová (2010), ecology is a factor that has increasingly come into focus. For businesses, this means respecting ecology and adapting their business behavior. This adaptation, however, is a considerable economic burden due to barriers that environmental laws mean for many business segments. Environmental factors significantly affect production technology enterprises deploying production units causing bans on certain types of production and so on. We can say that mainly due to environmental factors or

depletion of existing natural resources, has in recent decades developed effective pressure to rationalize energy consumption and use of natural resources.

Based on the above we can conclude that the main factors of the broader external environment affecting the profitability trend include:

- political and legislative - liberalization, state intervention, fund contributions - changes in fund contributions, the high bureaucracy in offices, frequent changes in laws, tax policy - tax burden, employment policy, government support and subsidies.
- economic - economic growth, inflation, availability of funds, the interest rate as the cost of capital, exchange rate, changes in demand,
- socio-cultural - customs, traditions, attitudes, preferences, fashion trends, demographic trends, standard of living, level of education, skilled workforce, lifestyle changes, changes in employment levels,
- Science and Technology - the development of science, education, access to technologies, business incubators,
- environmental - protection standards, the pressure of public opinion.

In addition to the aforementioned external factors affecting business environment development in profitability broken down by fists, still we distinguish the following external factors:

- geographic - location, distribution of resources, customers,
- global environment - join the European Union.

Factors narrower external environment

Closer external environment consists of industry in which a company operates. The attractiveness of the sector generally affect two main groups of external factors affecting the development of the profitability of the business. They are aggregated market factors and industry factors. All factors narrower external environment influence the

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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development of corporate profits indirectly. The factors restricted the outside comprises:

- aggregated market factors - market size, market growth, phase of the product life cycle, volatility of sales, seasonality,
- sector-specific factors - threat of entry of new competitors, the purchasing power of customers, purchasing power suppliers, rivalry within the industry, pressure from substitute products, industry capacity.

Strength of the industry as a whole determines the final profit enterprises in the industry. When analyzing individual factors narrower external environment affecting profitability, we will follow the model of the five levers, authored by Michael E. Porter. Five dynamics are competing undertakings operating in the industry, customers, suppliers, substitutes and potential new entrants to the industry. These five factors determine the profitability of the sector. Overall corporate profitability, which is based on profit, the sector decreases when competition becomes more active.

Subscribers influence the situation in the sector, and thus the development of profitable business in particular, their ability to negotiate. The decision of customers to purchase, respectively. not to buy goods or services from the company affect the amount of revenue the company. Ability to negotiate may depend on several factors. Among those that increase the bargaining power of customers are undoubtedly (Porter, 1993):

- shoppers concentration compared to the concentration of undertakings - the higher the concentration of the buyer companies vs. concentration, the more preferred position of the buyers.
- volume purchasing - with the size of the purchase increases the bargaining power of buyers, many companies offer at a higher volume purchase quantity discount.
- "Switchingcosts" for shoppers (costs of transition to competition) - lower cost of transition is increasing bargaining

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*

power, businesses often provide additional services to buyers in order to retain them.

- awareness of buyers,
- availability of substitutes,
- ability to assert your own.

Bargaining power of suppliers We understand their ability to negotiate in the sector better conditions. Suppliers influence largely input costs of the company. Factors that increase the bargaining power of suppliers, for example (Keřkovský & Vykypěl, 2003)

- size vendor - if the supplier is great, so we can assume a limited number of its competitors, its negotiating position is strong (one might say that this is definitely a reflection of market imperfections, which allows the supplier to cut into the consumer surplus)
- the importance of the volume of deliveries for the vendor - If the vendor is not a significant customer, the bargaining power is stronger,
- differentiation - supplier of highly differentiated product important for the customer is in a better position
- price elasticity of demand - the demand is priced neelastickejší, the supplier is in a better position.

The threat of entry of new competitors into the industry It is also an important factor affecting the profitability trend. The entry of new competitors into the industry for the enterprise can mean losing customers and thus reduce revenue or increase costs to maintain customers. The magnitude of this threat affect these factors (Keřkovský & Vykypěl, 2003)

- fixed costs of entry into the industry - they are high, enter the sector is difficult.
- natural monopoly - if the sector character of a natural monopoly, the entry of new competitors also difficult or impossible.
- economies of scale - a new company can achieve savings at the same level as an established company,

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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- experience - established companies have cost advantages due to experience in a given market.
- access to distribution channels - if limited distribution channels, new businesses have difficulty accessing them,
- level of regulation industry - more regulated sectors are less open.

The threat of new substitutes It is minimized especially when the product is sufficiently differentiated and no close substitutes. However, if there are substitutes, the threat of new substitutes lowered if (Keřkovský & Vykypěl, 2003)

- companies offering substitutes produced at a higher cost.
- companies offering substitutes do not increase the offer.
- the price of the product - if it is sufficiently attractive, the threat is also reduced.

The last, but not least important factor structure of the sector, which affects the profitability trend, the intensity of competition in the sector. Factors that affect intensity are (Porter, 1993):

- industry growth - in perspective, emerging industry is more competition than stagnating, respectively. declining.
- excess capacity - if the industry occasionally or consistently present available resources, rivalry is high,
- fixed (storage costs) - if they are high, businesses are forced to maximize capacity utilization,
- differentiation of production - if the products are relatively close substitutes, the competition is great.
- barriers to exit from the sector - if the cost of departure from the high, the competition is also high (resp. higher).

The external environment of the company, respectively. elements and factors covered can have the operation, development, and therefore the profitability of small and medium-sized enterprises stimulating, destimulačný and indifferent effect. Stimulatory effect are those environmental factors that encourage undertaking the activity, the

search for new possibilities and opportunities in the market, not holding back, but create space for its development. Stopping factors nemotivujúce to further action, even causing the extinction of the business entity is a manifestation destimulačného range of environments. Indifferent impact those factors have business environment that businesses are not perceived as a threat, even as new challenges and opportunities for development and are largely indifferent to them.

2.2 Trends in SME

Based on the processed data of the Statistical Office was in 2017 recorded an annual increase of active SMEs. The data summarized in Table. 2 shows that the number compared to 2016 increased by 1.8%. In conjunction with the growth in the period between 2016 and 2015 (+ 4.9%) so we can talk about continuing positive trend.

In terms of absolute numbers, the number of active small and medium-sized enterprises in 2017 rose to 567,131, which summary is an increase of 10,009 businesses. When analyzing a longer time series can come to a realization that number represents the total maximum value of active SMEs since the establishment of independent Slovakia. For an increase in frequency it stands in particular to increase the number of SMEs - legal entities by 4.1%. The number of individuals - entrepreneurs annually rose only marginally by 0.4%.

When detailed view of the various size categories of enterprises (Table no. 2), possibly in 2017 to follow a marked increase especially in the category of small enterprises (10-49). Ten-year amounted to 11.8%. In the period under review also increased the number of medium-sized enterprises (50-249) by 7.8%. Annual growth numbers of small businesses was the most significant for the last four years and even medium-sized companies for 13 years. The lowest annual growth of active business entities was recorded for micro-enterprises (0-9, including those with an unknown number of employees), reaching a level of 1.5%. The above results relate to employment growth among SMEs in the last two years.

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Of the total number of active businesses accounted for 97.0% micro- (Abs. 550 016), 2.5% of small (abs. 14,159) and a 0.5% businesses (abs. 2956). Similar trends were recorded in 2017 and for large enterprises with annual growth of 4.1%. The share of large enterprises in the total number of active business entities amounted to 0.1%, which in absolute terms is 662 subjects.

Table 2: Active business entities by legal form and size category as at 21. 12. 2017

Size categories / legal forms	Enterprises	Freelancers	Free jobs	SHR	Together		index 2017/2016
					Abs.	Proportion in %	
Micro (0-9)	203 092	322580	19098	5246	550016	96,9%	101.5
Small enterprises (10-49)	12813	1312	25	9	14159	2,5%	111.8
Medium-sized enterprises (50-249)	2900	55	1	0	2956	0,5%	107.8
Large enterprises (250 and more)	661	1	0	0	662	0,1%	104.1
Together SMEs (0-249)	218805	323947	19124	5255	567131	99,9%	101.8
Total business bodies	219466	323948	19124	5255	567793	100.0%	101.8

Source: Register of Statistical Office of the Slovak Republic, processed SBA

The long-term trend in numbers of SMEs by size categories from 2008 to the present day presents Figure 1. In the monitored period of time there was a slight growth of micro, which is particularly marked in 2010. After 2010, the development of micro stabilized and now oscillates at the limit of 97% of the total number of businesses. The opposite development trend was recorded in the category of small enterprises. In 2017 it fell representation of small enterprises compared to 2008 by more than half. The most dynamic year decline by (3.2 percentage points) occurred between 2009 and 2010. For other size

categories of companies can be seen stable development without significant fluctuations.

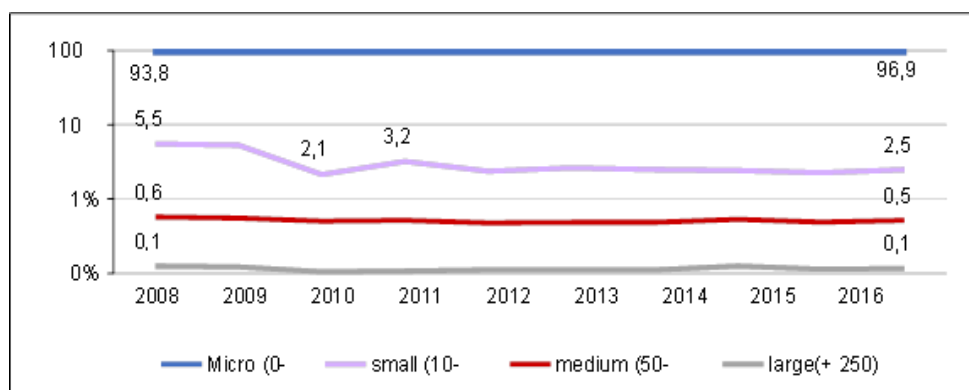


Figure 1. Structure of SMEs by size class of enterprises (**Source:** Statistical Office, SBA processed. Share values are shown on a logarithmic scale)

Based on the data processed in the Table. 3 the frequency of MPS by sectors recorded different trends year by year. In the first group number of the sector of small and medium-sized enterprises has increased year on year. The most significant increase was reflected in the SME sector, transport, information and communication activities with a growth rate of 7.6%, and in commercial services with annual growth of 7.4%. A positive indicator of the development of the business environment and economic growth in Slovakia in 2017 and increase the number of SMEs in sectors such as industry (growth by 4.3%) and construction (3.1%). In addition, a continued trend increase in the number of SMEs in other services, down by 5.1%.

Table 3: Frequency of SME's by sectors

Sector NACE	2016	2017	Annual change Abs.	index
agriculture	25112	25057	-55	99.8
industry	72208	75344	3136	104.3
construction	91824	94678	2854	103.1
the shop			-10,860	91.7
accommodation and meals	19787	19601	-186	99.1
transport, information business	41588	44739	3151	107.6
services			9811	107.4
other services	42654	44812	2158	105.1
Together	557122	567131	10009	101.8

Source: Statistical Office, prepared SBA

The opposite trend, ie on-year decline in numbers of SMEs in 2017 was recorded mainly in trade (-8.3%). To that decline SMEs operating in the trade stands and methodological adjustment in the register of legal entities. businesses and public authorities Statistical Office SR1. Compared to 2016, the statistics were recorded moderate annual decline and in hotels and restaurants by 0.9% and agriculture by 0.2%. (Statistical Office)

3 IDENTIFYING BARRIERS IN PROMOTING SME BUSINESSS IN THE REGIONS OF SLOVAKIA

Bratislava Region

Due to the dynamic development of the local economy it is one of the biggest obstacles to business noticeable lack of available labor. This problem is also associated with high costs for business - both in terms of average labor costs and real estate prices. Mentioned costs also have a stable growth pattern. This may be disproportionately greater

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obstacle to business right in the segment of SMEs that are at prices considerably more sensitive than the segment of large companies. To maintain its competitiveness in the existing business environment, SMEs are therefore forced to lay high emphasis on increasing its productivity and also to innovations in technology and in business alone. Although research and development base in the region and also the total amount of expenditure on research and development in the Bratislava region are the highest values among all Slovak regions, by European standards local SMEs investing in this regard is still relatively low. Specific constraints of the capital region is also significant 'prehustenost' local transport infrastructure. Investments in the improvement and expansion do not comply with the migration rate of population growth, from which the local economy depends on current and prospectively.

Trnava region

The concentration of significant industrial activities, mainly in central and northern parts of the region and the concentration of agricultural and food production mostly in the southern part of the region is indeed given to local geographical conditions, but creates a noticeable intra-regional disparities. The business environment in every part of the region are facing specific obstacles. Mostly agricultural south oriented, although it can benefit from the proximity of the capital region, business activities and jobs linked to the local economy, however, characterized by a relatively lower volume of investment and lower productivity. Industrially oriented part of the region, particularly the very county seat, facing the most significant labor shortages among all regions of Slovakia. Local production is increasingly dependent on the migration of workers from other parts of Slovakia and abroad. Specific obstacles to developing the quality of the business environment in the Trnava region is the fact that despite the presence of major foreign investors are to subcontracting production chain involved largely foreign enterprises. Home businesses are at a competitive disadvantage to weaker capital Used and also virtually absent, research and development base in key sectors in the region. This is even more

highlighted noticeable discrepancy between the focus of local educational institutions and the needs of the local labor market. In addition Trnava region lacks a developed network of support for innovation and entrepreneurship in general.

Nitra region

Because Nitra region undergoing significant structural changes in its sectoral focus, one of the main obstacles to improving the quality of the business environment is the low level of specialization of local business and labor on new fast growing industry. This is closely related to the imminent mismatch between the current focus of educational institutions in the region and emerging labor market needs. For local employers in the medium term may mean increased costs for retraining and education of its employees. In the context of increasing business activity in the region is an obstacle to improving the quality of the business environment is beginning to show absent, a network of institutions and support mechanisms for start-ups and small and medium-sized enterprises, which provide advisory services and entrepreneurial education.

Trenčín region

Trencin has yet certain provisions regarding the availability of workforce. With continued growth of local production and the economy in the coming years, however, it can run into the problem of the shortage as well as the remaining regions of western Slovakia. Potential for further development of the region and also to improve the local business environment, therefore, lies in the promotion of innovation and innovative business that would bring to the region activities with higher added value and competitiveness. Despite the very strong industrial base Trencin region, however, the local business activity generally weak. And while companies operating in the region are investing above average in research and development, this mostly is not connected with the local university research. In Trenčín region for the existent cooperation not enjoy environment which usually creates a space for the emergence of new innovative business ideas that

address directly the needs of local businesses. The Trenčín region also noticeably absent general infrastructure for business support, which would be aimed at the counseling and enhancing entrepreneurial skills.

Žilina region

A potential barrier to the continued stable development of the region and its business environment are long delays in the construction of the D1 motorway between Bratislava and Košice as well as the D3 motorway between Zilina and Poland. The result is on the one hand high 'prehustenost' main roads in the region and the regional capital itself in terms of transit traffic. On the other hand, it is the result of a slower development of the northern part of the Žilina region and reduced mobility of the local workforce. Another major obstacle to the development of the local business environment is the fact that despite a significant increase in business activity region has an underdeveloped infrastructure for business support. In the regional capital, there is a solid base of research and development in the key areas of the local economy.

Banská Bystrica Region

The region is characterized by significant internal disparities in the economic and social development. While the Northwestern part has quality infrastructure and industry concentration and quality educational institutions in the Southeast are concentrated least developed districts with high levels of long term unemployment. For this it is also characterized by low labor mobility, which further complicates initiatives to improve the local business environment. Measures in the field of business support for SMEs should therefore be significantly different to those sub-regions targeted separately. Dominant industries that are concentrated in the northwestern part of the region belong to the lower level of technology and the creation of added value. So do not provide essential space for the development of innovation and innovative business as the industry with high added value, which are concentrated in the regions of the west Slovakia. The

result is a weaker assumption for wage growth and standard of living of the Banska Bystrica Region at the western Slovakia.

Košice region

The Košice region is generally relatively economically developed regions and competitive, attracting increased foreign investment. It is characterized, however, significant intra-regional disparities. In connection with this fluctuates significantly the quality of the business environment. Region economically dominated the county seat, which is one of the most powerful and economically most developed in Slovakia, while the peripheral part of the region is lagging behind significantly. In the Košice region are concentrated least developed districts, which are experiencing high unemployment rates with a significant proportion of jobseekers in records figuring the long term. The low educational level of the population in these areas also means that the unemployed in the labor market can be difficult and / or costly. Another major obstacle to business development in the region is the lack of a network of road transport at all levels. The county town still lacks a continuous motorway connection with Bratislava, Hungary and eastern parts of the region towards the border with Ukraine. Insufficient level roads downgraded characterized by the peripheral part of the region, which hampers their development and complicates mobility of the local workforce.

Prešov region

Prešov region is economic in terms of development and living standards for most significantly lagging regions of Slovakia. Exhibits low productivity, concentration of the least developed districts and long one of the highest levels of registered unemployment in the country. Despite the fact that in terms of growth of average wages and the regional gross value added achieved in recent years, above average, wages and living standards of Western Regions caught only very slowly. In this regard, an important factor in the absence of a significant volume of production in sectors with high added value, which would have pushed to increase productivity and stimulate innovation. Industry in the region is characterized by low-technology.

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While it is diversified, but it is strongly oriented either to any specific industry. What also complicates focus supportive framework for improving the business environment. Regional development hampers the weak link of the education system to the actual needs of the local labor market, which exacerbated the problem of graduate unemployment in the region. Development of the region also significantly hampered uncompleted highway infrastructure and low quality roads downgraded.

Bratislava Region

One of the basic prerequisites for prospective improvement in business conditions in the Bratislava region to boost investment in the expansion of capacity of roads. In addition to widening the highway D1 towards Senec, building of R7 towards the Danube Wednesday and building a motorway bypass of the capital D4, which are currently under construction, it should act on the expansion of road capacity linking Bratislava with surrounding villages and towns. Precisely those among the busiest conveyor section with respect to the need for a large population commute daily to work in the capital. Concurrent action in the field of transport should also increase the capacity of an integrated public transport and related infrastructure, in particular the detention of parking. Due to the fact, the local business environment creates the high pressure businesses to increase productivity within the support mechanisms is critical and systematic promotion of innovation. The focus of that should be placed in particular encourage SMEs to own research and development activities, where the rate is still low by European standards. In terms of mechanisms available it has a high potential support for the establishment and operation of business centers, business incubators and technology and also the systematic linking academic research with practical needs of local businesses. Such cooperation has in the Bratislava region's greatest potential in the segments ICT, technology, engineering and chemical industries. The competitiveness of SMEs in the Bratislava region could also increase support for internationalization especially the expansion of business activities to other markets within the EU. Capital Region is in this

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respect a unique advantage, because here the highest volume flows of foreign direct investment among all regions of Slovakia.

Trnava region

The potential of the Trnava region is the internal diversity of core economic activities in the various parts varies greatly. Mostly agricultural facing south could benefit from support for investment in innovation and also support the internationalization of local SMEs. Thus targeted support could increase productivity and added value of local production. mostly industrially oriented parts of the region could benefit in the first place of support entrepreneurial activity that between regions SR indeed belongs to the above, but still lags far behind the capital region. This objective could Helping support the establishment and operation of business centers focused on counseling, entrepreneurial training and providing coworking spaces. To prove local businesses involved in the subcontracting segment successfully compete with foreign investors is also important support internationalization, involvement in transnational supply chains and last but not least, support for research and development activities, in the Trnava region significantly lagging behind. The region also lacks the capacity to support and finance risky innovative ideas in business that may in the longer term in the local economy to create the highest value added.

Nitra region

Nitra region now has a high concentration of industrial production in technically oriented segments with high competitiveness and added value. At the same time, however, it faces an inappropriate mix of skills of the local workforce. One of the key measures to improve the quality of the local business environment should therefore be systematically linking the local education system at all levels of practice. Development of entrepreneurial activities in the region and the success of local SMEs to engage in new supply chains could significantly Helping establishment of infrastructures designed to promote entrepreneurship. Potential for support in the areas of business displays and agri-food segment of local production. Support programs

should aim to increase cooperation with local agroproducentov local university research to support their export activities as well as the commercialization of research itself. These measures may help to maintain the competitiveness of local agricultural and food production.

Trenčín region

The region has a low level of entrepreneurial activity while lacking infrastructure aimed at supporting entrepreneurship. One of the key measures to improve conditions for business in the region could therefore be support for the establishment and operation of business centers. As in other regions, because the most important obstacles faced by local people interested in business, is the low level of entrepreneurial education and skills. Other core activities in the context of improving business conditions should be a systematic linking university research with existing research and development in local factories. Trenčín is in terms of inflow of foreign investment attractive. But it also has a low level of exports. The reason is that foreign investment is directed to subcontracting chains for export production in other regions of Slovakia. This situation, however, also creates an opportunity to promote internationalization and export activities of local SMEs, which can also benefit from favorable geographical location and advanced transport infrastructure of the region.

Žilina region

In the context of continued solid growth of the economy of the Žilina region, there is a risk that local businesses in the coming years, encounter problems with the availability of workforce - like regions in western Slovakia. As part of improving the quality of the local business environment is therefore appropriate to emphasize the promotion of productivity and innovation in local production. This could be achieved by systematically linking of already established research and development institutions in the region with the business activities of local companies. Scope for improving the business environment also lies in the extension of a network of incubators and

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business centers focused on entrepreneurial education, entrepreneurial skills and counseling. Local businesses could especially benefit from the advice and active support for export activities and internationalization. Due to the proximity of industrial zones in Poland and the Czech Republic are open to local SMEs the opportunity for their own development. Yet not fully exploited the potential of the region are also important natural and cultural monuments in the region. Advice on doing business in this segment, along with the active support of tourism could contribute to an appropriate diversification of business opportunities and economic focus of the region.

Banská Bystrica Region

Overcoming significant social and economic disparities in the Banská Bystrica region will likely require the completion of at least part of the planned superior road infrastructure, as well as active labor market measures. Occupation high number of jobseekers, which appears in the records of unemployed long term, however, can be difficult and may require increased expenditure on their training and retraining. As Banská Bystrica Region is characterized by a low level of entrepreneurial activity in the context of measures to improve conditions for business development there is space to build a network of business centers aimed at improving business skills, business training and advising local SMEs. Particularly high concentration of natural and cultural heritage, and winter sports centers for SMEs is important and hitherto poorly used opportunity for tourism development. Systematic support quality linking university research with the needs of local businesses with the support of the commercialization of this research also represents an opportunity to increase the innovative capacity of the region.

Košice region

Measures to improve the business environment in the Košice region is due to the significant internal disparities of the region needed to target individually into a powerful economic center and separate the lagging periphery. The county seat is in view of the stagnation of the dominant

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Visegrad countries and Serbia)*



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steel industry in the diversification of economics. Development of record especially the ICT sector, which has a high added value. In the future also it has the potential to attract increased foreign investment and become a new economic engine of the regional capital. This sector should be supported actively by strengthening the existing network of business incubators, broadening the supply of equity funding and support internationalization of enterprises. Within the long-term ICT sector should be within the region and introduced new courses, which will be linked with the new requirements of the labor market. Innovation capacity of the region could significantly strengthen and link existing quality of university research and development needs of local companies in the key sectors in the context of smart specialization. The successful development of peripheral areas of the Košice region may largely depend on the completion of under construction and planned toll roads and strengthening the capacity of roads downgraded. In terms of business support offered by the peripheral area of business opportunities in tourism, agro-tourism and agriculture, especially wine.

Prešov region

Low levels of entrepreneurial activity in the region creates an opportunity to increase its support by strengthening the network of business centers. Active support for entrepreneurship has the potential to indirectly stimulate the creation of new jobs, especially since the SME segment is a key employer in regions that are of little interest by foreign investors. The most significant opportunities for business and job creation offers the further development of international tourism, especially in the High Tatras. Opportunity can also support the internationalization of SMEs in the context of business cooperation with the neighboring Polish market. This goal, and also the relief of local roads by transit freight traffic would significantly helped complete the expressway R4.

4. CONCLUSION

The causes of such significant disparities in the degree of regional development mainly lie in historically and geographically of the baseline conditions that shaped the regional economy and the business environment. The main is traditionally high cohesion of regional economies in the specific structure of industry in connection with the subsequent decline in production and employment in these sectors. For example, it is a significant decline in production and employment in heavy industry, which greatly touched Košice, Žilina and Trenčín region, and also a decline in production and jobs in the textile and footwear production, which hit Presov and Trencin and job cuts in agriculture which traditionally constituted an important part of the economies of sub-mountain areas and lowlands

especially in Banska Bystrica, Kosice and Nitra. Despite the economic orientation of enterprises - and the related structure of jobs - in all regions at different pace adapt to new conditions, there are other factors that slow down the process. In particular, it is the distance the regions from major trading partners among EU countries as well as European transport corridors. This problem deepens uncompleted transport infrastructure in the central, southern and eastern Slovakia.

In a broader context, however, the current development is a challenge for the entire present economic model, which was built on growth of the Slovak economy. Thanks to extensive reforms at the turn of the millennium and the subsequent entry into the EU in 2004, the Slovak economy was able to draw a very fast growth rate. This growth was based on massive inflows of foreign investment combined with relatively inexpensive, educated and available workforce. Record lows in unemployment, however, brought a challenge not only to the availability of labor, but also create pressure on the rapid growth of wages. On the positive side wiping wage differences and living standards between Slovak - especially Bratislava region - and the countries of Western Europe. It also means, however, that the present model of economic growth hit the limits of its potential. Due to the

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strong orientation of the Slovak economy to the productive sectors - particularly the automotive industry - there is a risk that wages will in the longer term to grow faster than labor productivity. It might then discourage foreign investors from placing large investments in production in Slovakia.

In the medium term as a solution Nuka just support economic activity in the less developed regions, which still have a sufficient labor force and relatively low-cost labor. A precondition for accelerated development of these regions, thereby at least partially wiping regional disparities, it is especially the completion of the long-term lack of transport infrastructure, business support, investment and active labor market measures.

In the long run, however, even these measures do not improve the prospects of sustainability of the prior growth model of the Slovak economy. Due to the long-term prospects shortage of domestic labor force combined with the trend of rapidly rising wages will need to place emphasis on increasing productivity, competitiveness and innovation potential of the Slovak economy. Pillar of this effort must necessarily be small and medium-sized enterprises. According to the latest data of the European Commission in 2016 they accounted for 99.9 percent of all enterprises in Slovakia, created 72.1 percent of all jobs and 54.4 percent of the value added created in the economy. The importance of SMEs is even more pronounced in regions where foreign investment flow in the lower level. Here are the main source of jobs, local capital and are the driving force of economic development of regions.

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HOW TO OVERCOME EXPORTING BARRIERS AND PREVENT SMES FAILURE: SERBIAN AND BIH PERSPECTIVE

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Abstract

Today's globalization trends, internationalization and fast technological changes point out that all companies which want to act in sustainable way have to adapt to participate on the global, international market. Scholars have carried out numerous studies on the perception of barriers to exporting, and, although it is well known that exporting prevents SMEs failure, till now little consensus exists on the topic. Metal industry products are important sector of each economy. However, Serbia and Bosnia and Herzegovina have small shares in export to the EU. As a response to this need, the aim of this paper is to survey the formal requirements and barriers to export products of metal industry in Serbia and Bosnia and Herzegovina to the EU market and to compare the practices and results in both countries' metal sector companies. A total of 116 companies have participated in survey. Collected data are undergone to different statistical tests. In accordance with survey results, recommendations are given to Serbian and BIH companies, how to overcome barriers and expand to the EU market. The findings from this study have important implications for both Serbian and BIH entrepreneurs and policy makers. Our results may

help managers and entrepreneurs to assess more accurately their chance of success in international markets before they decide to go abroad. Also, policy makers should not only devote resources to the creation of new exporters but also need to care about the survival of new exporters especially in their starting period in order to sustain export growth.

Keywords: *Barriers, Export, Metal Industry, Serbia, Bosnia and Herzegovina*

1. INTRODUCTION

Today's globalization trends, internationalization of business and fast technological changes point out that all companies which want to act in sustainable way have to adapt to new commercial reality and to participate on the global, international market (Araujo et al., 2016; Balabanis et al., 2004; Freeman et al., 2012). Exporting is extremely important for the small and medium sized companies (SMEs) settled in developing countries since it strengthens competitive capacities, gives an opportunity to gain higher profit, shares business risks on multiple markets, generates more funds for future investments, enables higher wages, fosters further internal market development, increases domestic employment levels and, finally, leads to higher standards of living in developing countries (Lee & Griffith, 2004; Leonidou et al., 2007; Leonidou et al., 2010). When expanding to foreign markets, the SMEs also have the possibility to use their idle production capacities, find further possibilities to improve the manufacturing processes and, accordingly, improve production efficiency and technological, quality, and service standards on industry level (Alvarez & Lopez, 2005; Cvjetković et al., 2017; Leonidou, 2000). The importance of SMEs for job creation, technological innovation and economic rejuvenation is well recognized among both scientists and practitioners and it is well known that exporting companies face a significantly lower probability of failure compared to non-exporters (Freeman et al., 2012; Westhead et al., 2004). Even more, exporting enables SMEs further growth and

development, that consequently influences the growth on the country level (Love & Roper, 2015; Paul et al., 2017). Anyhow, it is not easy for SMEs to compete with large, multinational companies in era of globalization.

This chapter aims to give recommendations on SMEs to expand on foreign market and prevent their failure in that manner.

2. PREVIOUS RESEARCH

An exporting is the favoured mode of international market entry for SMEs all over the world. In the early stages of internationalization, governments usually support SME exports through export promotion policies, due to importance of SMEs in employment creation on the county level. However, in spite of this policy focus, in most countries, the proportional involvement of SMEs in exporting remains low, which raises an important question as to what factors are inhibiting firms to succeed in that area (Tan et al.,2018).

Namely, SMEs need to pay attention to different factors that are influencing the internationalization and their export and growth and it is not surprising that despite possible benefits, a large number of SMEs refrain from exporting and prefer to concentrate business only on the domestic market.

Accordingly, in export-related research, there is given priority to analyze the factors that affect export performance of SMEs (Freeman et al., 2012). The majority of studies that investigated the export barriers for SMEs is done within a developed-country context. Hence, it is essential to redirect future research to the barriers encountered by the developing country-based exporters (Westhead et al., 2004). The largest part of studies in the export field was done in the USA context (Katsikeas et al., 1997). Lee and Griffith (2004) also point out the fact that the issues of exporters in developing economies are not enough surveyed. Leonidou et al. (2010) have done systematic analysis on 821

export business-related articles published in 75 academic journals during the period of almost 50 years and noticed that only 17.8% of them cover more than one country and make comparison, while only 12.2% of surveys were targeting business practitioners point of view. Even 30 years ago, the situation was similar, and Kaynak and Kothari (1984) have noticed that comparative export studies were missing. It can be concluded that the surveys in the field of at least two countries from developing economies targeted to business practitioners' point of view are still missing today and due to that fact this survey aims to fill the noticed literature gap. Also, national culture is an influential factor for export performance (Karlíček et al., 2014) and it would be interesting to check the differences between two countries that have belonged to the same country few decades ago. Serbia and Bosnia and Herzegovina (BIH) are the parts of former Yugoslavia.

Metal processing industry is very often the basis for growth development on the country level and further economic globalization (Chang et al., 2015), so special focus has to be paid on metal industry product export.

Authors in (Hånell et al., 2018; Huong & Lim 2016; Kiss et al., 2018; Paul et al., 2017) review of the literature on the exporting challenges and problems of SMEs in this era of globalization and find export as an important survival factor on the company level. In that aim, export deserves special attention and Serbian and BIH exporting companies are expected to have higher survival rates comparing to those that are not oriented to export.

3. SERBIAN AND BOSNIA AND HERZEGOVINA METAL INDUSTRY PRODUCTS EXPORT TO THE EU MARKET

Metal industry products are a very important in the EU economy since they drive companies' growth and propel further technological and innovation development (Jakopin & Bajec, 2009).

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It is evident that SMEs in Eastern Europe countries are characterized by less-advanced manufacturing activities compared to those settled in Western Europe (Demeter & Szász, 2016). Special emphasis should be given on the Southeast Europe region, as the least developed territory in Europe that has to adapt process of globalization as soon as possible (Rodrik, 2006). Balkan countries have an extremely small share in world exports and imports (Karić, 2012), and Slovenia is the only former Yugoslav republic that was successfully transformed from a socially planned economy to market economy by the year 2000 (De Loecker, 2007; Stanojević et al., 2016; Trif, 2008). Serbia and Bosnia and Herzegovina (BIH) have not been successfully transformed to market economy and are still in the process of harmonization of domestic legislation with the EU regulations.

Serbia has underdeveloped industrial base (Klarin et al., 2016). Serbian industrial output in 2008 amounted only 52.00% of the industrial output of 1990, when transition process has started (Milikić et al., 2012). It seems that Serbian industry has structural discrepancies, obsolete technology, a low level of investments, high production costs, the social function, inefficiency, and incompatibility with the EU standards. In Serbia, metal industry products account for 95.00% of the total exports, out of which almost 60.00% is realized on the European Union market (Jakopin & Bajec, 2009).

Serbia initiated the voluntary application of the Transition agreement in February 2010 which means that there is prescribed asymmetric trading liberalization in Serbia's favour. In that manner the European Union will remove all limitations related to customs and the imported amount of all industrial and agricultural products, with the exception of several agricultural products which fall under the preferential price quota regime and increase the competitiveness of Serbian industry. It also encourages potential investors and manufacturers to increase their export capacities. Serbia's traditional key partner has been the European Union, with total import and export which increase on an annual level. However, the import is significantly greater than the

export (export covers around 70.00% of import). Today, Serbia is the 79th largest export economy in the world, while metal industry products account for 20% of the Serbian exports today (Simoes et al., 2016).

BIH realizes a deficit of foreign trade in goods with all major foreign trade partners (Marić, 2011). Its export is predominantly based on the export of raw materials (wood, aluminium, iron and energy). The main reason for the enormous and continuous deficit of foreign trade in goods is the lack of competitiveness of the economy of BIH. BIH imports mostly consist of final consumption goods (food and beverages, chemical products, cars, etc.) (Marić, 2011), and these account for around 53% of the import (Spasojević-Brkić et al. 2014; Spasojević-Brkić et al. 2015). The metal sector represents around 40% of total import in Bosnia and Herzegovina (Spasojević-Brkić et al. 2014). Privatization in BIH has not brought fundamental transformation of the economy in the efficient market, and as a result, it records constant deficits and low competitiveness, similarly to Serbia.

BIH was one of the poorest republics of the old Yugoslav federation, but it had well developed production capacities in different sectors such as defence industries, automotive industry, steel, textiles, tobacco products, wooden furniture, domestic appliances, and oil refining industry. Although BIH exports still remain relatively low in comparison with other Balkan economies, there has been a significant change in their composition recently, indicating a growing presence of more processed manufactures and the participation of local firms in global networks of production and distribution, most frequently as independent suppliers (Ng & Kaminski, 2010). Today, BIH is the 111th largest export economy in the world and the 41st most complex economy according to the Economic Complexity Index (Simoes et al., 2016).

4. RESEARCH FRAMEWORK

Researchers till now have carried out numerous studies on the perception of barriers to exporting, but still little consensus exists on the topic (Richardson, 2012; Rocha et al., 2008). As the consequence, it is evident that on the practical side there are numerous barriers and obstacles preventing entrant companies from being established and successful in the EU market (Pehrsson, 2009).

Bearing in mind these facts, the research framework herein analyzes barriers to export products of metal industry from two former neighbouring Yugoslav countries, Serbia and BIH, to the EU market. Fulfilling the requirements for export to the EU market is a difficult challenge for metal industry companies in Serbia and BIH, although both countries share a strong commitment towards EU integration. Serbia was granted the EU candidate status in 2012, while BIH aims to EU integration starting from 2008 (Alujevic-Vesnic, 2012).

A new model of economic development for Serbia and BIH should be based on inter-related, export-oriented small and medium-sized enterprises of the real sector, as proposed in (Aničić et al., 2016; Hisrich et al., 2016; Umihanić et al., 2016). Accordingly, it is important to survey problems and issues that Serbian and BIH companies face when they are aimed to export.

In that aim we have conducted a survey to analyze the barriers for export to the EU and to evident problems in fulfilling formal requirements on the sample of Serbian and BIH metal industry. The data were collected by means of the e-mail query, using Google docs (https://docs.google.com/forms/d/e/1FAIpQLSeyxw9XobyxJMcwa2uNQhVr2t_1QEIES2Le5JUbmV EipmSIvw/viewform). The survey questionnaire was developed after a review of the literature, in-depth interviews and pre-testing, using the knowledge of 25 experts in the field. The 16-pages long questionnaire took participants approximately half an hour to complete. The variables in the survey were taken from

the literature sources (Leonidou, 2000; Leonidou, 2004; Su; rez-Ortega, 2003; Ortiz et al., 2012; Uner et al., 2013), as shown in Table 1, but were also added by experts that have checked questionnaire in preliminary phase of research. Apart from gathering of basic information on company demographics, the survey involved Likert scale 1-5, as a psychometric scale commonly involved in research that employs questionnaires and questions with multiple choices, too.

The database of examined companies contained 400 companies from each of the territories – Serbia and BIH, a total of 800 companies of the metal complex. A total of 116 companies were willing to participate in this survey. There were 76 companies from Serbia and 40 from Bosnia and Herzegovina that have participated in this survey, with the employee number statistics as given in Table 2.

Different aspects such as globalization, the dilution of trade barriers or the significant increase in economic-business transactions in the euro zone have prompted Serbian and BIH companies to consider international development as a core component of their managerial strategy. In that aim requirements for export to EU that Serbian and BIH companies that should be fulfilled are given in Table 1.

Table 1. Requirements for metal industry products export to EU (Leonidou, 2000; Leonidou, 2004; Su; rez-Ortega, 2003; Ortiz et al., 2012; Uner et al., 2013)

LEGAL REQUIREMENTS (mandatory)

1. Essential directive demands

1.1 Essential New Approach Directive demands

- Evaluation of compliance
 - Harmonized European standards utilization
 - Assumption of compliance
 - CE marking
 - European technical approval
-

1.2 Essential Old Approach Directive demands (for motor vehicles)

2. Law/directive for general product safety

- Obligatory placement of only safe products in the market
 - Manufacturer's responsibility for their products
-

MARKETING REQUIREMENTS (voluntary)

1. Special marketing requirements:

- International social requirements - ILO (MOR) Conventions
 - International system of social management SA 8000
-

2. Marketing requirements regarding environmental protection:

- International system for environmental management (Standard series ISO 14000 EMS)
-

3. Marketing requirements regarding quality

- Quality management system in accordance with ISO 9001:2008/2015
-

4. Marketing requirements regarding occupational health and safety

- Management system in accordance with OHSAS 18001:2008
-

REQUIREMENTS REGARDING OCCUPATIONAL HEALTH AND SAFETY

- | | |
|------------------------|--------------------------------|
| • Dust | • Moral aspects |
| • Noise and vibrations | • Economical/financial aspects |
| • Physical strain | • Legal aspects (89/391/EC) |
| • Machine safety | |
| • Chemical safety | |
-

REQUIREMENTS REGARDING ECOLOGICAL PRODUCTION

- Monitoring of evaporative organic compounds emission
 - Selection of materials
 - Eco-design
 - Recycling options
 - Clean manufacturing options
-

Table 2. Descriptive statistics for employees' numbers in companies per each examined country

	<i>N</i>	Mean	Median	<i>SD</i>	<i>c_v</i> (%)
Serbia	76	99.848	25.0	142.22	176.65
BIH	40	59.250	55.0	77.38	77.64

Due to data characteristics, we have used the Man-Whitney test to check if there are significant differences in the size of the surveyed companies in Serbia and BIH and it is proved that there are no significant differences in terms of size. This means that the selection of the size of the surveyed companies is evenly distributed across the examined regions.

A total of 72% of the respondents belonged to the top management, while 28% of participants in survey were marketing managers. Persons that have participated in this survey had 10.6 years of experience in average. The number of employees, financial state and product type were examined across early versus late respondents (as proposed in (Green, 1991)) and there were no significant differences found ($p < 0.05$). Accordingly, the non-response bias is not considered as a problem in this survey.

5. RESULTS

This part presents process of data collecting, analysis and discussion of formal requirements and barriers in order to export products of Serbian and BIH metal industry to the EU markets.

5.1. Data Collected

Data collected in the survey are given in Table 3.

Table 3. Data collected in the survey

	SRB	BIH
Metal industry subsector		
in (%) Machines and devices manufacturing	37.78	20.83
in (%) Manufacturing of standard metal products	35.56	classified in others category
in (%) Metals and base metals	13.33	62.50
in (%) Other	13.33	16.67
Certification according to ISO management standards		
in (%) ISO 9001	86.96	79.17
in (%) Without ISO 9001	13.04	20.83
in (%) ISO 14001,18000...	50.00	25.00
in (%) Without ISO 14001, 18000...	50.00	75.00
Reasons for not implementing ISO management standards		
av. score Lack of need	3.67	2.67
av. score Standard requirements to excessive	3.67	2.00
av. score Lack of resources	3.00	2.17
av. score Lack of information about benefits	3.00	2.33
av. score Lack of interests	3.00	2.00
av. score Other	2.35	1.33
Financial state		
in (%) Poorly situated (mark 1 of 1-5)	2.18	4.17
in (%) Situated (mark 2 of 1-5)	6.52	4.17
in (%) Well situated (mark 3 of 1-5)	65.21	62.50

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in (%) Very well situated (mark 4 of 1-5)	26.09	16.66
in (%) Excellently situated (mark 5 of 1-5)	0	12.50
Investment in employee training		
in (%) Investment	84.80	66.67
in (%) Without investments	15.20	33.33
Major product characteristics that are influencing export		
av. score Quality	4.71	4.57
av. score Price	4.33	4.22
av. score Safety	4.27	4.04
av. score Functionality	4.22	4.17
av. score Products technological level	4.20	4.04
av. score Adequate marketing	3.96	3.52
Exporting state		
in (%) In preparation phase to export to the EU	50.00	25.00
in (%) Exports to the EU	47.83	66.67
in (%) Has no intentions to export to the EU	2.17	8.33
Data gathering on the EU markets for export		
in (%) Non regularly	28.26	33.33
in (%) Regularly	60.87	50.00
in (%) Do not gather data	10.87	16.67
Source of data gathering on the EU markets for export^a		
in (%) Internet	69.56	62.25
in (%) Chamber of Commerce	36.96	58.33
in (%) Government and	21.74	29.17

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State agencies		
Criterion for the selection of the country to export to		
in (%) Demand trends	91.11	83.33
in (%) Distribution channels	48.89	45.83
in (%) Miscellaneous	40.00	51.17
in (%) Shipping costs	33.33	33.33
in (%) Standards and specification trends	31.11	29.17
Exporting to the certain country		
av. score Germany	2.39	1.94
av. score Italy	1.49	2.08
av. score Austria	1.84	1.87
av. score Slovenia	1.85	1.89
av. score Croatia	1.80	2.39
av. score Romania	1.59	1.40
av. score Bulgaria	1.44	1.50
av. score Greece	1.53	1.54
av. score Other	2.22	1.89
Share of enterprises that can export with current resources		
in (%) Germany	82.61	75.00
in (%) Italy	80.43	54.17
in (%) Austria	80.43	62.50
in (%) Slovenia	84.78	75.00
in (%) Croatia	86.95	75.00
in (%) Romania	80.43	41.67
in (%) Bulgaria	80.78	33.33
in (%) Greece	78.26	45.83
in (%) Other	89.13	79.17
Number of exported products		
in (%) One	8.70	0.00
in (%) More than one	86.96	91.67
in (%) None	4.34	8.33
CE mark		

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in (%) Have or in the process of obtaining	63.04	50.00
in (%) Do not have CE mark	36.96	50.00
Directives applied		
in (%) New Approach	19.00	33.00
in (%) Old Approach	4.00	13.00
in (%) Machine Directive	28.57	8.33
in (%) Low voltage Directive	28.57	8.33
in (%) General product safety Directive	17.39	33.33
in (%) Construction products Directive	4.35	27.27
in (%) Defective product responsibility Directive	2.17	11.11
Enterprises applying directives		
in (%) Yes	21.74	33.33
in (%) No or do not know	78.26	66.67
Compliance evaluation^a		
in (%) Authorized/Notified body for market surveillance	54.34	33.33
in (%) Product manufacturer or their appointed representative	39.13	50.00
in (%) Authorized body for market surveillance	6.52	12.50
in (%) Do not know	15.22	16.67
Product compliance documents^a		
in (%) Compliance reports	28.57	38.64

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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in (%) Certificates	28.57	11.36
in (%) Declaration	26.53	29.54
in (%) Other	16.33	20.45
in (%) Do not know	13.04	8.33
<hr/>		
Compliance of supplier components with the EU legislation		
in (%) Complying products	36.96	41.67
in (%) Partially comply	28.26	29.17
in (%) Components do not comply	2.17	4.16
in (%) Did not know the answer	32.61	25.00
<hr/>		
Tracking new regulations		
in (%) Continuously	52.17	33.33
in (%) Occasionally	21.74	37.50
in (%) Rarely or do not keep track	26.09	29.17
<hr/>		
Modules for determining of compliance with directives (conformity-assessment procedures are referred to as modules)		
in (%) A - internal production control	60.86	70.83
in (%) B - Testing (examination) of types	28.26	16.67
in (%) C - Type compatibility	19.56	12.50
in (%) D - Quality of production	41.30	41.67
in (%) E - Product quality	39.13	41.67
in (%) F - Product verification during production	26.09	20.83
in (%) G - Verification of single product	21.74	12.50

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in (%) H - Complete quality assurance	28.26	29.17
in (%) Neither	26.09	29.17
Harmonized and similar standards usage		
in (%) Yes	13.04	16.17
in (%) No	86.96	83.83
Difficulties in meeting formal requirements		
av. score Identification of legislations	3.05	2.83
av. score Obtaining regulations	2.83	2.88
av. score Self or external laboratory evaluation	2.65	3.11
av. score Finding adequate authorization body	2.88	2.67
av. score Obtaining proper technical documentation	2.55	2.78
av. score Funding export	3.32	3.79
Usage of consulting services		
in (%) Yes	65.21	58.33
in (%) No	34.79	41.67
Institutions which evaluate compliance of the product^a		
in (%) Laboratories (yes)	45.65	33.33
in (%) Laboratories (no, do not know)	54.35	66.67
in (%) Authorized bodies (yes)	43.48	50.00
in (%) Authorized bodies (no, do not know)	56.52	50.00
in (%) Institutions for assistance (yes)	15.22	29.17
in (%) Institutions for	84.78	70.83

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assistance (no, do not know)			
Investing resources for the fulfilment of requirements worthwhile			
in (%)	Yes	43.48	41.67
in (%)	No, do not know	56.52	53.33
Export barriers to the EU markets			
av. score	Competition	3.61	3.75
av. score	Adequate price	3.20	3.50
av. score	Worsening economical conditions in EU	3.11	2.75
av. score	Lack of assistance support for export	4.26	4.17
av. score	Lack of information for analysis and identification of target markets	3.59	3.29
av. score	High political risks and instability in EU countries	1.98	1.75
av. score	High business risks and costs	2.72	2.50
av. score	Lack of capital for exporting	3.78	3.67
av. score	Tariff and nontariff barriers	2.93	2.63
av. score	Problems with transport	2.28	2.79
av. score	Ignorance of export regulative	2.74	2.79
av. score	Customers' cultural and habit differences	2.43	2.54
av. score	Adverse exchange	3.04	1.50

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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	rates		
av. score	Inadequate employees for export work	2.43	2.58
av. score	Ignorance of business practices	2.72	2.38
av. score	Incapability of additional services after sales	2.74	2.50
av. score	Marketing and product presentation	3.24	3.12
av. score	Custom problems	2.83	2.42
av. score	Lack of information about the EU markets	3.43	2.92
av. score	Storage problems during export	2.50	2.29
av. score	Export requires changes in our products	2.41	1.92
av. score	Lack of a reliable representative abroad	3.61	2.71
av. score	Problems with marking and packaging of the products	2.11	1.88
av. score	Requirements for testing and certification for exporting	2.80	2.71
av. score	Barriers within domestic business surroundings	3.17	3.08
av. score	Ignorance of	1.83	1.75

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	cultural behaviours and foreign languages Lack of interest of top management or owners	1.78	1.54
Additional advantages for adjustment to the EU requirements			
av. score	Competitive advantages	3.61	3.67
av. score	Company image is increased	3.93	3.92
av. score	Build-up in quality levels	3.91	4.29
av. score	Increase in the number of customers	3.96	4.04
av. score	Sale increase	4.09	4.08
av. score	Decrease in number of product complaints	3.28	3.46
av. score	Decrease in number of penalties	2.89	2.92
av. score	Risk of survival decrease	3.43	3.54

5.2. Analysis of Formal Requirements and Barriers to Export Products of Serbian Metal Industry to the EU Market

Analysis of formal requirements and barriers to export products of Serbian metal industry to the EU market has shown the following:

- Most of the surveyed metal industry companies in Serbia belongs to the “Machine and devices manufacturing” sector (37.78%), followed by “Manufacturing of standard metal

products” (35.56%). The remainder belongs to other sectors that have larger diversity than in BIH (26.66%);

- Most of the surveyed companies in Serbia have y implemented the ISO 9001 standard. Interest in other management standards (14001, 18001, etc.) is significantly lower than the ISO 9000 standard series;
- When it comes to the reasons behind not introducing management standards, it is shown that the lack of need and excessive standard demands figure as very important reasons, whereas the lack of resources, interests and knowledge about the potential benefits belong to the important information group;
- The results related to the financial state of companies indicate that the majority of the companies (65.21%) are well financially situated, whereas 26.09% of companies are very well financially situated. None of the companies that were surveyed was excellently well financially situated.
- The companies recognize the importance of employee training, as the number of those who do not invest in it (15.20%) is significantly lower than the number of those who do (84.80%);
- The most important factors that affect export include the necessary quality and a competitive price.
- For companies that are interested in exporting, management inertness towards export is somewhat more expressed than in the case of the companies that are already exporting;
- The majority of the companies gather data about the EU markets for the purpose of exporting, but almost 30% of them do not do so on regular basis;
- The Internet is used as a source of information by 69.56% of the surveyed companies, followed by the Chamber of Commerce (36.96%) and Government and State agencies (21.74%). It is common to gather information from several sources;

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- When it comes to selecting a country for export, the companies typically choose based on one or two criteria, according to the following order: demand trends come first (91.11%), followed by distribution channels (48.89%), miscellaneous (40.00%), shipping costs (33.33%) and standards and specifications trends (31.11%);
- Germany is the country where the largest portion of Serbian products is exported, and the amount exported there is equal to the total amount exported to the “all other” countries;
- Most of the surveyed companies export/are interested to export more than one type of product on the foreign markets;
- The number of the surveyed companies whose products are CE marked (are in process of obtaining the CE marking or are in the process of obtaining one) is higher than the number of those that do not have CE marking;
- The responses regarding the New Approach Directives in Serbia were given by only 19.00% of the surveyed companies, whereas 77.00% of the companies did not know which approach they were using;
- The Old Approach is used by only 4.00% of the companies (motor vehicles). The most frequently used directives are the Machine Directive and Low voltage equipment Directive (28.57% of companies for both directives);
- Furthermore, 17.39% of companies also apply the General product safety Directive, whereas one of these uses the Defective product responsibility Directive;
- The Authorized/Notified body for market surveillance for the purpose of compliance evaluation is used by 54.34% of the companies. In the case of 39.13% of companies, compliance evaluation is performed by the product manufacturer or their appointed representative. The remaining percentage of companies (6.52%) use evaluations made by the Authorized body for market surveillance. About 15% of companies did not know the answer to this question;

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- In terms of product compliance documents, Compliance reports and Certifications are the most used (28.57% each), followed by the Declaration (26.53%);
- Company responses related to the compliance of supplier components with the EU legislation show that 36.96% of the companies have complying products, while 28.26% have a certain number of products that comply, which suggests that the number of companies with such suppliers is statistically significantly greater than the number of the surveyed companies that have subcontractors whose components do not comply with EU legislations (2.17%), or the number of those who do not have this information (32.61%);
- The number of companies which keep occasional or continuous track of new regulations and are informed about them and their changes and supplements is statistically far greater than the number of companies that do not keep track or do it rarely;
- In terms of modules for determining the compliance with directives, the most frequently used module is A – internal production control (60.86%), followed by module D – Quality of production (41.30%) and module E – Product quality (39.13%);
- Only 13.04% of the companies use harmonized and similar standards;
- As the biggest difficulty in the procedure for meeting formal requirements, companies cite issues related to funding of export (with an average rating of 3.32), followed by issues related to the identification of legislation which need to be complied with when exporting (with an average rating of 3.05);
- Companies consider that in order to fulfil formal requirements, it is necessary to use consulting services;
- Less than half of the companies believe that there is a sufficient number of laboratories and authorized bodies, whereas the majority were of the opinion that there is an inadequate number of institutions that would support exporters (84.78%);

- A considerable number of companies esteem that investing resources into fulfilling of formal export requirements is worthwhile;
- The biggest barrier to exporting is the lack of assistance support for exporting to the EU countries, followed by the lack of capital for exporting. The least significant factor is related to the lack of interest of top management or owners;
- The biggest additional advantage which comes from adjusting to the EU requirements is an increase in sales, followed by an increase in the number of customers and company image, where as the reduced number of penalties is observed as the smallest advantage.

5.3. Discussion on Formal Requirements and Barriers to Export Products of BIH Metal Industry to the EU Market

Analysis of formal requirements and barriers to export products of BIH metal industry to the EU market has shown the following:

- The largest part of the metal industry in BIH belongs to the “Metals and base metals” (62.50%), followed by “Machines and devices manufacturing” (20.83%);
- Most of the surveyed companies in BIH have already implemented the ISO 9001:2008. The interest for other management standards (14001, 18001, etc.) is significantly lower than for the ISO 9000:2008 standard series;
- Data related to the reasons for not introducing management standards indicate that the dominant reasons are the lack of need and information about benefits;
- Financial situation results show that the majority of the companies (62.50%) are well financially situated;
- The companies do not sufficiently recognize the significance of employee training, and hence the investment in employee training in BIH is 66.67%;

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- The most important factor which influences export is the quality, although, in the case of most companies, other factors have mean values above 4, with the exception of adequate marketing;
- In most companies, the management is focused on export. More than half of the surveyed companies from BIH consider the exporting of their products as one of their priorities;
- Most companies gather their information about the EU market related to export, but 33.33% not quite regularly;
- The Internet is used as the source of information by 62.25% of the surveyed companies, followed by the Chamber of Commerce (58.33%) and the Government and State agencies (29.17%);
- Companies choose the country for exporting based on a different number of criteria. The most common election criteria are related to demand trends. These are followed, to a much lesser extent, by miscellaneous;
- Manufacturers from BIH export their products mostly to Croatia, followed by Italy and Germany. The country to which they export least is Romania;
- Most of the surveyed companies export/want to export more than one type of product;
- About half of the surveyed companies in BIH have or are in the process of obtaining the CE marking;
- The responses received about the New Approach Directive in BIH were given by 33.00% of surveyed companies, whereas 54.00% did not know which approach they used. The Old approach is used by 13.00% of the companies (motor vehicles). Construction products directive is the most commonly used one (27.27%). General product safety directive is also applied by the 33.33% of the surveyed companies, whereas only 11.11% companies use the Defective product responsibility Directive;
- In the case of 50.00% of companies, compliance evaluation is performed by the product manufacturer or their appointed

representative. In 33.33% of companies, compliance evaluation is performed by the Authorized/Notified body, while 16.67% of companies did not know the answer to this question. The remaining percentage of companies used evaluations made by the Authorized body for market surveillance. In terms of product compliance documentation, the Compliance reports are the most frequently used (38.64%), followed by the Declaration (29.54%);

- There are 41.67% of the suppliers whose products comply with the EU legislation while the percentage of those whose products partially comply is 29.17%. These two categories are far more numerous than those whose products do not comply (4.16%), as well as those who did not know the answer (25.00%);
- The number of companies that keep occasional or continuous track of new regulations and are informed of their changes and supplements is statistically significantly greater than the number of companies that do it rarely or do not keep track;
- In terms of modules for determining of compliance with the directive, module A – internal production control is applied in most companies (70.83), followed by D – quality of production, and E – product quality (41.67%, each), whereas 29.17% did not know which module they used;
- Only 16.17% of companies use harmonized and similar standards;
- The biggest difficulty related to the process of meeting the formal requirements is related to funding the export, followed by compliance evaluation – in the case of self-evaluations performed on-site or in specialized domestic laboratories;
- In terms of the need to use consulting services, most of the surveyed companies in BIH (58.33%) considered that such services should be used, whereas others thought that there was no need for such services;

- In the case of questions related to the adequate number of laboratories, the survey has shown that less than 40.00% of the companies believe that there is a sufficient number of laboratories and about half believe that there is a sufficient number of Authorized bodies. The majority of the surveyed companies were of the opinion that there is an inadequate number of institutions that would support exporters (70.83%);
- A significant number of companies do not know if investing resources in the fulfilling of formal export requirements is worthwhile;
- Lack of assistance in support for export is identified as a main obstacle for exporting, followed by competition and lack of capital for exporting, whereas the least influential factors are adverse exchange rates and the poor management interest;
- The biggest additional advantage which comes from adjusting to the EU requirements is an increase in quality levels, sales increase, and increase in the number of customers, whereas the smallest advantage is reflected in the reduced number of penalties.

6. A COMPARISON OF RESULTS FROM SERBIA AND BOSNIA AND HERZEGOVINA

A comparison of results from Serbia and BIH is done using test of difference, Mann-Whitney U and Test of proportions. In Table 4 only significant differences are shown.

As can be seen there is similar situation regarding many factors in Serbia and BIH and differences are found only regarding:

- Type of criteria for election of EU countries for export;
- Type of New Approach Directive that is used;
- Institutions which evaluate compliance of the product;
- Certificates needed on product compliance;
- Modules which are used in enterprises and

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*

- Business risks and costs in certain EU country as entry barrier.

The higher significance have criteria for election of EU countries for export, institutions which evaluate compliance of the product and certificates and modules needed in that aim than type of directive that is used and possible risks and costs in chosen country for export.

Comparative analysis on companies in two cross-border areas – Zlatibor and Sarajevo region, could be also done. There are 10 companies in each region that have participated in survey. It is expected that employees in two cross-border regions have similar organizational culture and accordingly it is interesting to examine those two regions. Man-Whitney tests are used to check the differences and they indicate that there are no differences in the size of the surveyed companies between Serbia and Bosnia and Herzegovina, between companies in the Zlatibor region or in the rest of Serbia, between companies located in the Sarajevo district or in the rest of Bosnia and Herzegovina, between companies that are in Zlatibor or Sarajevo district. This means that the selection of the size of the surveyed companies is evenly distributed across the examined regions.

When considering how the surveyed companies financially stand, it is shown that the situation in the Zlatibor district is slightly better than in Sarajevo. Companies from the Sarajevo District are significantly exporting from companies from Zlatibor district. With regard to the application of directives and the modules for establishing compliance with the directive in the Zlatibor region, the use of module A and module E is large, i.e. it is used by half of the company. In the case of the Sarajevo district, modules A, D and E use 50.00% of enterprises, while module C does not use any one. Results on all significant differences on examined parameters, as given in Table 2, but for cross-border area, are shown in Table 5. It can be seen that there are even less differences compared to the country level examination.

In that sense, could be concluded that both Serbia and BIH need to pay more attention to export policies and that they can follow the similar instructions.

Table 4. Serbia vs. Bosnia and Herzegovina test of difference, Mann-Whitney U

Variable	z^* score	Significance
Type of criteria for election of EU countries for export	-4.844	$p < 0.001$
Type of New Approach Directive that is used	-2.021	$p < 0.05$
Institutions which evaluate compliance of the product	-4.028	$p < 0.001$
Certificates of product compliance	-5.059	$p < 0.001$
Modules which are used in enterprises	-4.911	$p < 0.001$
Business risks and costs in the EU country	-2.008	$p < 0.05$

Table 5. Zlatibor and Sarajevo regions test of differences, Mann-Whitney U*

Variable	Comparison			Significance
Financial status	ZL	>	SA	$p < 0.05$
Exporting state	ZL	<<	SA	$p < 0.01$
Directives applied	ZL	<<	SA	$p < 0.01$

7. CONCLUSIONS

Statistically significant differences in terms of the selection of EU countries for exporting, the New Approach type of directive used, the institutions which evaluate the product compliance (shown in the table provided at the end of the paper), product compliance documentation, compliance evaluation modules and export related barriers indicate that BIH exports a wider range of products, while achieving similar effects to Serbian export, wherein their companies utilize a more unified approach.

Thus, Fig. 1 contains the diagram/flow-chart that is suggesting the range of activities which are necessary to apply in order for the companies involved in metal industry to fulfil the formal requirements for exporting products to the EU and in that manner to overcome barriers to export on the EU market. As the final result, higher rate of SMEs survival could be expected.

Companies involved in exporting activities face significantly lower probability of failure than non-exporters and this paper in that aim gives recommendations for both Serbian and BIH companies to overcome barriers and export on the EU market. It is therefore important to understand not only the determinants of export but also the factors which make new exports possible as companies survival effect that is important not only on the firm level but also on the country level.

The findings from this study have important implications for both Serbian and BIH entrepreneurs and policy makers. The first, our results may help managers and entrepreneurs to assess more accurately their chance of success in international markets before they decide to go abroad. The second, policy makers should not only devote resources to the creation of new exporters but also need to care about the survival of new exporters especially in their starting period in order to sustain export growth. If new exporters exit shortly, economic and social costs may be high. Policies should be targeted at improving access to foreign markets and providing export infrastructure in order to reduce firms' persistence cost in foreign markets.

Finally, we should acknowledge limitations of the conducted study. This research is based on voluntary participation in the survey and accordingly analysed samples are not very large. Further researches are expected to overcome this shortcoming and to include analysis that uses larger portion of companies' population.

How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)

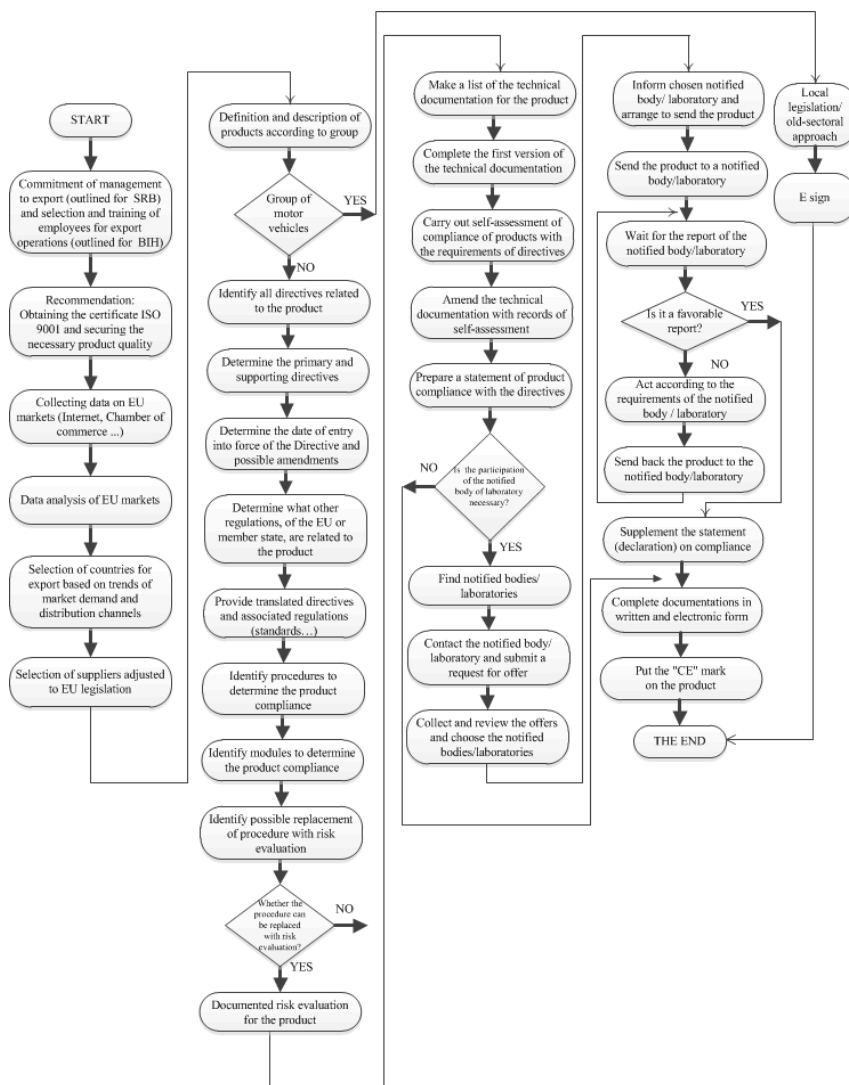


Figure 1. The flow-chart of activities necessary for the companies involved in the metal industry in order to overcome barriers for exporting products to the EU

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*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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ASSESSING THE RISK OF SMES FAILURE USING AHP METHOD

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Abstract

The authors of this paper proposed a Multi Criteria Decision Making (MCDM) methodology to assess risks of SMEs failure. Based on the available SMEs data in the case of Serbia, the authors used Analytic Hierarchy Process (AHP) to create a model and perform analysis. The problem's criteria are related to entrepreneurial factors, such as demography and professional experience, and available data on failed SMEs in Serbia. The obtained results show which alternatives have the greatest impact on a firm's failure.

Keywords: *AHP, SME, Risk, Failure, Success*

1. INTRODUCTION

There is no official definition of small and medium-sized enterprises (SMEs). They are defined in relation to the size of the domestic economy, and often categorized as a micro, small or medium (OECD, 2018). The SMEs are one of the main sources of jobs, and boosters of entrepreneurship, thus, many authors see them as incubators for employment, growth, and a key element that greatly contributes to the

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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economic development, diversification and resilience of many countries (Altman & Sabato, 2007; Kalak & Hudson, 2016; OECD 2018). The estimation shows that about 80% of world economic growth is generated by SME's (Sadeghi et al., 2012). They are increasingly recognized as an important player when it comes to innovation domain (Bayarçelik, 2014). For example, they approximately contribute with 20% of biotechnology-related patents (Eurostat, 2014). Furthermore, opening up opportunities for a wide spectrum of labor profiles and skill development, they are seen as an important agent for poverty reduction and channel for inclusive economic growth that enhances upward mobility (OECD, 2009). SMEs have an essential role in a wider system of firms, especially when it comes to young firms and start-ups that often fall into the category of micro or small firms (OECD, 2018).

For instance, in OECD countries, the SMEs generate about 70% of all jobs on average and are positioned as a prevalent enterprise form with a share of 99% in general firm structure, while in the emerging economies they are responsible for up to 45% of total employment (OECD, 2016; IFC, 2010). According to the Annual Report on European SMEs 2017/2018, their number raised up for almost 14% over the last 10 years in the EU-28 area. During the same period, SMEs contributed with 52% of the increase of employment and 47% of total added value and recorded 36.1% of all exported goods from the EU-28 representing 88.3% of all EU-28 enterprises exporting goods (Muller et al., 2018). The projections for 2019 expect the continuation of this trend.

In case of Serbia, the SME sector has a share 99.8% of all enterprises and contributes with 64.3% of turnover, 64.9% of employees, and 54.1% of the Gross Value Added (Sertić & Ignjatović, 2014). Among the common challenges within the SMEs, as the most important one is seen access to financial sources (57%) (NARD, 2013). Serbia is ranked as 121st out of 144 countries regarding the ease to access loans (World Economic Forum, 2014). Besides the financial aspects, Babović (2012)

found that SMEs owned by men have a lower default rate SMEs (38%) in comparison with the SMEs owned by women (47%).

In the rapidly transforming market in the post-2007-08 global crisis and its extended effects, markets with a highly competitive environment, shorter product and technology lifecycles the success/survival of SMEs is challenged in many respects including one on trade, innovation, finance, digitalization, competency and development, knowledge transfer, etc. The number of defaulting firms, or a failure rate, is vital to the health of the economy of every country (Zopounidis & Dimitras, 1998). Regardless of their crucial economic role bankruptcy remains an important issue affecting SMEs, especially lately when bankruptcy rates are on the rise (Gordini, 2014). Taking into account the role of SMEs in a country economy and the fact that most of them either fail in the first years or remains in the category of micro or small (OECD, 2016), the need for timely prediction of their approaching failure is obvious.

Different default prediction approaches have been suggested in past decades focusing mainly on medium and large firms (e.g. Altman, 2004; Altman & Sabato, 2005; Altman et al., 2005; Berger, 2006; Berger & Frame, 2007). For instance, some of them that are based on the identification and representation of non-parametric relationships and non-linear relationships include case-based reasoning (Jo et al., 1997; Park & Han, 2002), soft computing techniques and artificial intelligence (Ciampi & Gordini, 2013; Odom & Sharda, 1990; Zhang et al., 1999), or support vector machine (Van Gestel et al., 2003; Min & Lee, 2005; Kim & Sohn, 2010; Shin et al., 2005; Härdle et al., 2005). Some of the early approaches in default prediction used the univariate and multivariate analysis (Altman, 1968; Beaver, 1966; Ohlson, 1980).

On the other hand, a number of studies pointed out that SMEs requires distinct models for the prediction of risk of failure (e.g. Saurina & Trucharte, 2004; Carter & Van Auken, 2006; Behr & Güttler, 2007;

Ciampi & Gordini, 2009). In line with this argument, Altman and Sabato (2007) suggest that creating a specific model for SMEs can prominently improve prediction power comparing with generic corporate prediction models.

As Tobbacka et al. (2014) highlight, a large number of prediction models are based on dense structured financial data as performance indicators. For instance different financial ratios, e.g. the stock market, current ratio and the Return on Assets ratio (Bellovary et al., 2007), or macroeconomic variables (Tinoco, 2013). Other examples include small loans, indicators of profitability, coverage, leverage and cash flow, business cycle dummy variables or industrial production index growth (Altman et al., 2010; Glennon & Nigro, 2005; Filipe et al., 2016; Jacobson et al., 2013; Laerkholm-Jensen et al., 2015).

However, as Watson and Everett (1996) point out that successful enterprises might decide to back down from the market due to the reasons other than a financial, e.g. change of ownership or personal decisions, or as Altman et al. (2010) suggest lack of strategic planning and insufficient capitalization. On the other hand, Carter and Auken (2006) relate the main reason of failure to the lack of knowledge, debt financing, and economic environment while the secondary role play factors such as self-employment, self-esteem, etc.

Two theoretical concepts can be useful in selecting indicators and framing the default prediction approaches, the resource-based view and the concept of dynamic capabilities. The first one is highly relevant to SMEs due to its higher failure rate in comparison to larger enterprises since it explains its different capabilities to overcome market challenges and survive at the edge of the economy tapping into its social and personal capital (Arregle et al., 2007; Edwards & Ram, 2006; Sirmon & Hitt, 2003). The second concept is defined as the capacity of a firm to reconfigure its competences in order to adapt to a fast changing environment (Teece et al., 1997), and includes heterogeneity of human capital that allows different means of firm's

expansion and capacity to enable the organizational learning and knowledge exchange (Malik & Kotabe, 2009; Zahra et al., 2006). This capability is specifically important SMEs faced with uncertain customer market.

Along with this line, Altman et al. (2010) suggest incorporation of non-financial information into prediction models and found out that the type of variables such as the age of the firm, sector, size, operational risks, etc. add to the predictive capability of the models. When it comes to SMEs where a structured reliable database of financial data is often missing, prediction models can capitalize on such variables (Filipe et al., 2016). In general, as Heilbrunn et al. (2011) conclude often SMEs use fewer financial performance indicators, due to limited human resources both for establishing data collection routine and a set of relevant performance indicators. Some recent studies use relational data for the default prediction focusing directors on and manager's role in the failure process. For example, Ooghe and De Prijcker (2008) propose variables such as a lack of motivation or competences, personal characteristics such as attitude towards risk, haste or over-optimism. In their study Tobback et al. (2014) developed a network model between SMEs who share the same director or manager applying weighted-vote relational classifier for transforming relations between SMEs into failure prediction scores. Kalak and Hudson (2016) developed four discrete-time duration-dependent hazard models for SMEs, micro, small, and medium enterprises, investigating the role of the size for failure probability of SMEs, and suggested that each type should be looked separately in this regard. They confirmed Altman's argument (Altman et al., 2010) that non-financial relational data should be considered in default prediction models.

In addition to failure prediction, some recent studies employed multicriteria decision analysis technics for the prioritization of the specific sets of indicators important for the performance of the SMEs, and found them useful in highlighting critical performance elements. Sekhar et al. (2015) suggest Delphi-AHP-TOPSIS framework for the

identification of critical indicators of intellectual capital and its implication on SMEs performance. Similarly, Sadeghi et al. (2012) applied fuzzy AHP and TOPSIS to prioritize the factors affecting the success of High-Tech SME's in Iran. In his other study, Sadeghi (2018) used fuzzy analytic network process (FANP) and fuzzy TOPSIS to evaluate the performance of high-tech SMEs. Hsu et al. (2017) analyses key performance indicators for sustainability integrating quality function deployment approach and fuzzy multiple attribute decision making (MADM) methods.

There is a vast number of potential indicators and their combinations in failure prediction or prioritization of crucial ones for the company's performance. Some studies that look at what factors entrepreneurs recognize as obstructing for their SMEs performance identified two main categories internal ones that are explicitly linked to the entrepreneur (e.g. management activities and marketing or personal characteristics) and external, which are beyond his/her control (e.g. policy framework, environmental factor, technological change etc.) (Rogoff et al., 2004). However, the approaches taken for prediction and prioritization can vary, and thus the set of indicators. For example Croucher et al. (2013) look at the working condition indicators such as wage, working time, formal and informal training, etc., and their influence on SMEs performance. On the other hand, there are sector-specific indicators that should be considered in particular cases. In the case of high-tech SME's aspects like R&D as well as a share of engineers or collaboration with scientists will be more relevant than some other indicators (Sadeghi et al., 2012).

In line with above discussion, it will be beyond the practical means to talk about the one-size-fits-all model for the risk of SMEs failure evaluation. Thus, the attempt of this paper is to propose a methodology which can be used to assess SMEs critical success factors in order to avoid potential SMEs problems and issues, therefore prevent a business failure and extend its success.

2. CRITICAL SUCCESS FACTORS FOR SMEs

The topic of success and failure of SMEs has been widely explored in literature (Smallbone et al., 2010; Unger et al., 2011). The concept of success has often been referred to as financial performance of a company. However, there is no universally accepted definition of success and, therefore, business success has been interpreted in many different ways (Rogoff et al., 2004). In literature, the term success refers to continued business operations and has more forms, such as profit, survival, sales growth, reputation, etc. (Simpson et al., 2004).

There are several definitions of business failure as well, i.e. bankruptcy, liquidation, closure and exit (Storey, 1998). Some authors claim that every entrepreneur/business manager has his/her own vision of business success. Furthermore, the entrepreneur is seen as a central figure whose goals and expectations define firm's success or failure. (Simpson et al. 2004; Walker & Brown, 2004).

In order to explore SMEs success and avoid failure, SMEs critical success factors (CSFs) should be investigated. CSFs are key areas of performance which are crucial for the success of one organization. According to Rockart & Bullpen (1981), CSFs can be defined as areas which satisfactory results are crucial for the success of a company. Based on the extent literature, Lampadarios (2015, 2017) developed a framework which incorporated all relevant factors that contribute to business success and failure.

According to this framework, SMEs Success Factors can be classified into one of three categories: entrepreneurial (personal) factors, enterprise factors, and business environment factors. The entrepreneurial factors include those variables which are specifically related to the owner of the SME - gender, age, educational level, etc.

The enterprise factors are factors affecting the business, such as marketing, strategic planning, business networks, human capital, and the use of technology.

The business environment factors are external factors which include political, economic, ecological elements and so on.

2.1. A Brief Discussion on Entrepreneurial Factors

As mentioned above, factors related to the business owner or manager are called entrepreneurial or personal factors. Each characteristic influences the overall success of a business to a certain extent.

- Gender

Males take business risks more than females. Moreover, females are less founded to start a new business, which means that males have higher entrepreneurial intentions than their counterparts.

- Age of Owner

Age of business owners varies from young to old, but typical owner is older and educated. Usually these individuals have certain professional experience in their fields of work before deciding to open up their own business, therefore the age of owner could affect greatly the overall success of a business. The most entrepreneurially active are persons from 25 to 44 years old.

- Education Level

There are business owners who are well educated and extremely successful, on the other side there are equally successful business owners who are less educated.

Higher entrepreneur's education level brings new business chances and opportunities, such as new projects, ventures, and variety of new products. Lately entrepreneurs with business and technical educational backgrounds are considered to be in better positions to solve modern real-life business issues which include the use of new technologies.

- Work Experience

Prior to becoming a business owner, most entrepreneurs were involved in different fields of work where they gained professional experience. Usually they start business in the most comfortable business area that may come from the previous job or from a long term hobby. Developed skills and connections increase the likelihood of success. On the other side, there are individuals with no experience in a given field who start businesses in that area which is considered risky and eventually lead to failure. Firms led by experienced entrepreneurs operate continue to work longer and earn more profit. Lack of experience in running a business is one of the most common reasons for failure, whereas rich professional background could be crucial for success.

Due to the heterogeneous nature of these factors, a consistent methodology of analytical hierarchy processes that combines multiple inputs to a consolidated outcome is used in this paper. AHP is considered to be one of the most powerful and efficient Multi Criteria Decision Making (MCDM) tool used in various decision-making environments, i.e. health, communication, energy, education, etc. (Alver et al., 2018; Özcan et al., 2017).

3. METHODOLOGY

The Analytic Hierarchy Process (AHP) was developed by Saaty (Saaty, 1980). This technique is based on the paired comparisons and give decision makers the ability to analyse complex problems, turn

them into simple hierarchical structure, and assess and study its criteria and alternatives (Saaty, 1990).

AHP decision modeling is consisted of three steps:

- Defining the problem and identifying criteria and alternatives

The hierarchical structure consisted of 3 or more levels is formed –the problem is broken into a goal, criteria, sub-criteria if required, and alternatives.

- Deriving weights for the criteria and preferences for the alternatives

The importance weights for the criteria are determined by pairwise comparisons. After the comparison is done, the Saaty’s scale, which values are given in Table 1, is used (Saaty, 1980).

Table 1. Table of relative scores. (Saaty, 1980)

Intensity of importance	Definition	Explanation
1	Equal importance	Two activities contribute equally to the objective(s)
3	Weak importance	Experience and judgment slightly favor one activity over another
5	Essential or strong importance	Experience and judgment strongly favor one activity over another
7	Demonstrated importance	An activity is strongly favored and its dominance demonstrated in practice
9	Absolute importance	The evidence favoring one activity over another is of the highest possible order of affirmation
2, 4, 6, 8	Intermediate values between the two adjacent judgments	Where compromise is needed

In order to calculate the criteria weights, the matrices should be normalized- each column value is divided by the column sum. Then

the average of each sequence value is taken and this is how the importance weights of each criterion are obtained. After obtaining the weights, the consistency of the comparison matrix should be calculated. If the comparison matrix is not consistent, the obtained weights cannot be used.

- Model synthesis

Model synthesis refers to calculating the overall priority for each alternative; that is, priorities that take into account not only our preference of alternatives for each criterion but also the fact that each criterion has a different weight. This is done by simple weighted summation after which the decision can be made.

To sum up, the AHP method determines the weights coefficients of the decision elements at all levels of the hierarchy. AHP treats the initial coefficients as local weights and ultimately synthesizes them to get the weight of the elements at the lowest hierarchical level (alternatives). Weight coefficients are calculated for each element at a given hierarchical level and then used to determine the so-called composite relative weight coefficients of elements at lower levels. Finally, an alternative with the highest composite weight coefficient is chosen.

4. RESULTS AND DISCUSSION

Data used in this analysis are given in (Mihajlovic et al., 2018). AHP method is used to obtain results of risk of SMEs failure. Figure 1 shows the hierarchical structure of the problem.

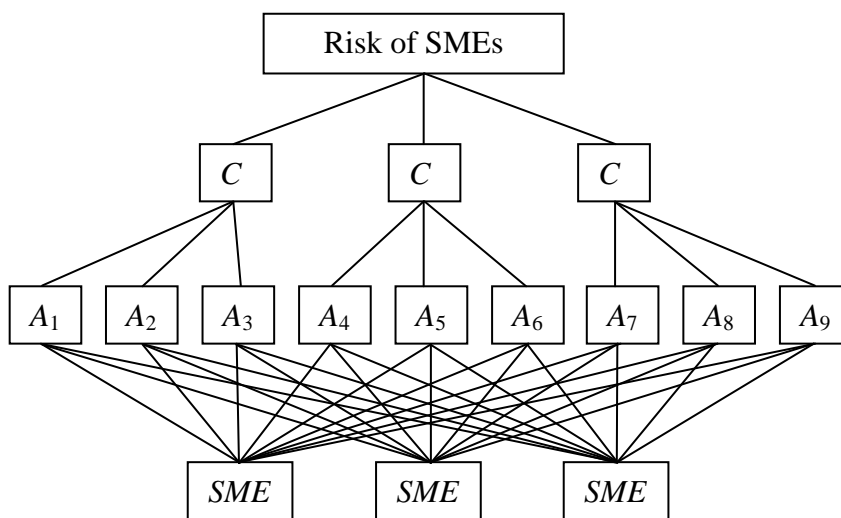


Figure 1. Hierarchical structure for selection of SMEs with the highest risk of failure

where:

C_1 - Demography

C_2 - Professional experience

C_3 - Failed SMEs

A_1 - Age

A_2 - Gender

A_3 - Level of education

A_4 - Field of education

A_5 - Previous experience in related sector

A_6 - Previous entrepreneurial experience

A_7 - The sector of the previous business

A_8 - Business age in time of failure

A_9 - Business life cycle in time of failure

Each of the above alternatives is estimated based on the collected data shown in (Mihajlovic et al., 2018). All the weights are shown in the Table 2.

Based on the results given in Table 2, the following can be noticed:

- If we observe from the Demography criterion angle, the highest weight has the alternative Level of education. Based on the calculated weights, the highest impact on a firm's failure have males who are 33-44 years old with B.Sc. level of education.
- From the Professional experience criterion viewing angle, the highest risk of a firm's failure has the alternative Previous experience in related sector. If the Previous experience in related sector is less than 5 years old, the obtained weight has 5 times the value than in the case where Previous experience in related is longer than 10 years.
- Failed SMEs criterion shows that the highest weight has the alternative The sector of the previous business.
- Considering only the criteria, the Professional experience criterion has the biggest impact on the company's risk of failure. This criterion is 5 times more influential than Demography and 2.5 times than Failed SMEs.

Table 2. Weights of all key factors in the decision-making process

Criteria	Weights (w)	Alternatives I	Weights (w)	Alternatives I	Weights (w)		
Demography	0.1047	Age	0.2493	< 29	0.1223		
				33-44	0.4236		
				45-54	0.2270		
				> 55	0.2270		
		Gender	0.1571	Level of education	0.5936	Male	0.75
						Female	0.25
						B.Sc.	0.8182
Professional experience	0.6370	Field of education	0.1634	M.Sc.	0.0909		
				Ph.D.	0.0909		
				Technical-technological	0.50		
				Legal-economics	0.25		
				Social-humanistic	0.25		

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		Previous experience in related sector	0.5396	< 5	0.6483
				6-10	0.2297
				> 10	0.1220
		Previous entrepreneurial experience	0.2970	< 5	0.2970
				5-10	0.1634
				> 10	0.5396
		The sector of the previous business	0.5396	Manufacturing	0.2172
				Service	0.7171
				Agriculture	0.0658
		Business age in time of failure	0.2970	< 3	0.2402
				3-5	0.2098
				> 5	0.5499
Failed SMEs	0.2583	Business life cycle in time of failure	0.1634	Establishment	0.1044
				Growth	0.1205
				Stagnation	0.3875
				Decline	0.3875

Methodology for the risk assessment of SME failure will be illustrated on three SMEs with simulated input parameters. Values of the alternatives for all three SMEs considered in this paper are given in Table 3.

Table 3. Input factors in the considered SMEs

	SME 1	SME 2	SME 3
Age	41	27	34
Gender	M	M	F
Level of education	Ph.D.	B.Sc.	B.Sc.
Field of education	Technical-technological	Legal-economics	Social-humanistic
Previous experience in related sector	4	8	12
Previous entrepreneurial experience	2	4	6
The sector of the previous business	Manufacturing	Service	Agriculture
Business age in time of failure	2	12	5
Business life cycle in time of failure	Establishment	Growth	Stagnation

Based on the available data, the matrices are created and pair wise comparison with respect to considered criteria is performed.

The overall alternative priority with respect to Demography is:

$$[W_D] = \begin{bmatrix} 0.4444 & 0.4286 & 0.0526 \\ 0.1111 & 0.4286 & 0.4737 \\ 0.4444 & 0.1429 & 0.4737 \end{bmatrix} \cdot \begin{bmatrix} 0.2493 \\ 0.1571 \\ 0.5936 \end{bmatrix} = \begin{bmatrix} 0.2093 \\ 0.3762 \\ 0.4144 \end{bmatrix} \quad (1)$$

The overall alternative priority with respect to Professional experience is:

$$[W_{PE}] = \begin{bmatrix} 0.5000 & 0.6483 & 0.4000 \\ 0.2500 & 0.2297 & 0.4000 \\ 0.2500 & 0.1220 & 0.4000 \end{bmatrix} \cdot \begin{bmatrix} 0.1634 \\ 0.5396 \\ 0.2970 \end{bmatrix} = \begin{bmatrix} 0.5503 \\ 0.2835 \\ 0.1660 \end{bmatrix} \quad (2)$$

The overall alternative priority with respect to Failed SMEs experience is:

$$[W_F] = \begin{bmatrix} 0.2790 & 0.2000 & 0.1667 \\ 0.6491 & 0.6000 & 0.1667 \\ 0.0719 & 0.2000 & 0.6667 \end{bmatrix} \cdot \begin{bmatrix} 0.5396 \\ 0.2970 \\ 0.1634 \end{bmatrix} = \begin{bmatrix} 0.2371 \\ 0.5556 \\ 0.2071 \end{bmatrix} \quad (3)$$

The overall alternative priority with respect to the goal (selection of the first priority alternative) is:

$$[W_C] = \begin{bmatrix} 0.2093 & 0.5503 & 0.2371 \\ 0.3762 & 0.2835 & 0.5556 \\ 0.4144 & 0.166 & 0.2071 \end{bmatrix} \cdot \begin{bmatrix} 0.1047 \\ 0.6370 \\ 0.2583 \end{bmatrix} = \begin{bmatrix} 0.4336 \\ 0.3634 \\ 0.2026 \end{bmatrix} \quad (4)$$

The obtained results show that the highest risk of SMEs failure has SME_1 . Regardless of the level of education, lack of previous

experience in related sector and previous entrepreneurial experience have greatly influenced the considered firm to have the highest risk of failure.

5. CONCLUSION

This papers focuses on AHP methodology and its application in SMEs decision making environment. Due to its simple nature, AHP is an efficient tool for preventing and avoiding complex problems and issues. The results of this paper show which alternatives are the most influential in SMEs failure – lack of previous experience and previous entrepreneurial experience are the factors that should be well considered in preventing SMEs from failure in Serbia.

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**APPLICATION OF STRUCTURAL EQUATION
MODELING AND PROMETHEE II IN ANALYZE OF
EXTERNAL NON-INDIVIDUAL FACTORS
INFLUENCING SME FAILURE**

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Abstract

This paper presents the results of application of structural equation modelling (SEM) and Preference Ranking Organization Method for Enrichment Evaluation (PROMETHEE) II method in analyze of external non-individual factors influencing failure of small and medium-sized enterprises (SMEs). The purpose of this paper is to evaluate the main external non-individual factors that are mostly expressed as the reason of failure of Serbian SMEs. In this research methodology of questionnaire was used. The survey was conducted in Serbia and included entrepreneurs, managers and owners of failed SMEs or SMEs that have changed their business activity. In the survey 520 correctly filled questionnaires were collected and used for further analysis. The results of this study revealed that according to responses the most negative factor is economic issues. Furthermore, results showed that group of factors which included political, economic and social issues have the highest impact on level of recovery after failure. Therefore, policy makers need to pay attention to addressing barriers facing SMEs and eliminate the most prominent factors constraining the development of SME sector.

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Keywords: Structural Equation Modeling, SEM, PROMETHEE II, External non-individual factors, SME Failure

1. INTRODUCTION

Researchers from around the world pointed out that SMEs have significant contribution to economic development of a country (Curran, 2007). Therefore, it is very important to identify all potential factors that can endanger operation of SMEs. Identifying the factors causing bad performance of SMEs is the first step in solving problems of SMEs and improving their position. This kind of investigation is very important for the developing countries such as Serbia, because the research conclusions could be useful for the economic development planners as well as to individual entrepreneurs in the countries concerned (Mahrouq, 2010; Ensari & Karabay, 2014; Reuber & Fischer, 1997).

Numerous factors, which can cause failure of SMEs, can be classified into two categories: (1) individual and (2) non-individual factors. The first category refers to those factors that are related to characteristics of entrepreneurs, owners or managers of SMEs. All others factors can be classified into second category. Factors that belong to second category, can be further classified into internal and external non-individual factors. Group of internal non-individual factors includes factors that depend on characteristics of SME, as well as, decisions made within SME. On the other hand, group of external non-individual factors includes impacts coming from environment in which SME operates (Nikolić et al., 2015).

The purpose of this paper is to identify the main external non-individual factors and to estimate their influence. As a matter of fact, merely identifying of factors is not enough. It is necessary to assess influence of each factor, since not all factors have the same impact. In this paper after identification of the most important external non-individual factors, their impact on level of recovery after SME failure will be analyzed using structural equation modelling. Also, method of

multicriteria decision analysis (MCDA) will be included in order to gain insight to different attitudes of entrepreneurs, owners and managers of SMEs about the importance of influence of particular factors.

2. LITERATURE REVIEW

As it is mentioned before, external non-individual factors concern to those factors on which SME does not have any impact. Numerous authors tried to recognize external non-individual factors influencing SME failure. For instance, Jasra et al. (2011) mention that government support, financial resources and technological resources are some of the most important factors for success of SME. They also mention that SMEs that use latest technology tends to captures its customers more than its competitors. However, in developing countries most of the SMEs are not able to install new technology due to its higher cost, although technology is one of critical factor for business success (Cartsson, 2008; Jasra et al., 2011). Irjayanti and Azis (2012) found more than 30 factors that became barriers of SME development such as: inadequate infrastructure, political barriers, financial access, raw material, limitation of sales, limitation of buyer, price of energy, transportation, high labor cost, low capability and legal barriers. Bouazza, Ardjouman, and Abada (2015) concluded that policy makers should strengthen the legislative and regulatory framework for the creation and development of SMEs by designing rules according to the “Think Small First” principle. Location is also one of important factor (Williams, 2014).

As there are numerous external non-individual factors affecting SME failure, following factors can be considered as the most important: political issues, economic issues, social issues, technological issues, legislative issues, ecological issues, and infrastructural issues. As the most important infrastructural issues appear following factors: transportation system, the supply of electricity, enough qualified work force, possibility of increasing capacity, existence of markets for

products/services and availability of suppliers. Therefore, further analysis will be based on these factors (Nikolić et al., 2015).

3 METHODOLOGY

3.1. Questionnaire

In order to collect data about influence of certain factors, methodology of questionnaire was used. Questionnaire was developed in accordance to questionnaires that were used in similar researches. Developing of the questionnaire was presented in Nikolić et al. (2015), while evaluation of the internal consistence of the whole questionnaire and for groups of questions was presented in Mihajlović et al. (2015). Questionnaire had two sections. The first section includes 18 questions for describing demographical characteristic of entrepreneurs and SMEs. The second section includes 36 questions for determine the influence of particular factor on SME failure. In the questionnaire besides external non-individual factors, also included and others factors that can cause SME failure. In the survey entrepreneurs, owners and manager of failed SMEs or SMEs that change their business activity were asked to rate the influence of factors using 5 points Likert scale (graded from 1 lowest to 5 highest influence). Survey was conducted in Republic of Serbia and 600 questionnaires were collected. From 600 collected questionnaires, 520 questionnaires were correctly filled and used for further analysis.

3.2. Data Analysis

The first step in data analysis was to determine whether is justified to use linear statistical analysis for data analysis. Thus, correlation analysis was performed on obtained data. Results of correlation analysis are presented in Mihajlović et al. (2015). Considering the fact that there are numerous statistically significant correlations among variables, application of linear statistical method is justified. Thus, for further analysis structural equation modelling is chosen. However, in

order to successfully develop SEM model, it is necessary to determine the relationships among factors and groups of factors. For this purpose, we used factor analysis. Final groups of factors obtained by factor analysis are shown in Mihajlović et al. (2015). Authors have chosen SEM method because unlike other multivariate techniques, SEM can examine multiple relationships among dependent and independent variables at a time. Consequently, SEM enables researchers to test entire theory. Furthermore, SEM includes and measurement error which occurs due to inaccurate responses (Hair et al., 2010). SEM can be viewed as a combination of factor analysis and regression analysis or path analysis (Hox & Bechger 1998). One of advantage of this method is that it enables testing of causal relationships among observed and unobserved (latent) variables (Ari & Yilmaz, 2016). Latent variable is theoretical concept which cannot be measured directly such as motivation, intelligence etc. This variable can be measured by observed variables (Hair et al., 2010). SEM model consists of two models: (1) a measurement model and (2) a structural model. The measurement model assesses latent variables as linear functions of observed variables, while the structural model shows the direction and strengths of the relationships of the latent variables (Ari & Yilmaz 2016). In this research for preforming the data analysis, software SPSS 18 and LISREL 8.8 were used.

3.3. PROMETHEE II

In order to estimate influence of particular factors on SME failure from responders' perspective, Preference Ranking Organization Method for Enrichment Evaluation (PROMETHEE) II method was conducted. The PROMETHEE is a multi-criteria decision analysis method introduced by Jean-Pierre Brans (1982) and further developed by Brans and Vincke (1985). There are different variants of PROMETHEE method: PROMETHEE I-VI, GDSS, TRI and CLUSTER (Behzadian et al., 2010). In this research PROMETHEE II was used. PROMETHEE II provides complete ranking of the finite set of alternatives based on preferences of decision maker. The first step of the method consists of

computing differences among every pair of alternatives on all criteria (Bagherikahvarin & Smet 2016). In the second step the decision maker selects the preference function. There are six available preference functions (Usual, U-shape, V-shape, Level, Linear and Gaussian), which covers almost all the possible criteria. Next step includes calculation of global preference index which indicates the preference degree of alternative a over alternative b . After calculating the preference index, positive (Φ^+) and negative (Φ^-) outranking flow are calculating. The positive outranking flow represents how an alternative is outranking all other alternatives, while negative outranking flow indicates how an alternative is outranked by all other alternatives. Final step of PROMETHEE II procedure includes calculation of net flows defined as $\Phi = \Phi^+ - \Phi^-$. The higher the net flow is, the better the alternative will be (Behzadian et al., 2010; Kabir & Sumi, 2014; Zhao et al., 2013, Brans, 1982; Brans & Mareschal, 1994; Brans & Vincke, 1985)

One of main advantages of PROMETHEE method is its graphical representation of results using GAIA (Geometrical Analysis for Interactive Aid) plane method and existence of a very user-friendly softwares such as Decision Lab 2000 which was used in this research (Milijić et al., 2014).

4. RESULTS AND DISCUSSION

Data obtained in survey were processed using methods of descriptive statistics, MCDA and structural equation modelling technique. Table 1 shows results of descriptive statistics of demographical characteristics of responders and characteristic of their SMEs. In Appendix A are given mean values of questions that refer to factors included in survey.

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Table 1. 1: Profiles of analysed SMEs and respondents (Mihajlović et al., 2015).

Characteristics		Percent	
Failed SMEs (N=520)	Previous business sector	Manufacturing	19.2
		Service	76.2
		Agriculture	4.6
	Business age at the time of failure	<3	24.6
		3-5	22.3
		>5	53.1
	Business life cycle at the time of failure	Establishment	9.2
		Growth	13.1
		Stagnation	40
		Decline	37.7
Number of employees in the SMEs that suffered from failure	<10	83.8	
	11-50	14.6	
	51-100	0	
	101-250	1.5	
Newly established SMEs after the failure or new entrepreneurial activity (N=340)	The sector of the current SME business	Manufacturing	28.2
		Service	60
		Agriculture	11.8
	Number of employees in the current SMEs	<10	72.9
		11-50	22.4
		51-100	2.4
		101-250	2.4
Respondent (N=520)	Age	<29	14.6
		30-44	33.1
		45-54	24.6
		>55	27.7
	Gender	M	73.8
		F	26.2
	Age at the time of failure	<25	20
		25-45	54.6
		>45	25.4
	Previous experience in the related sector	<5	65.4
6-10		20.0	
>10		14.6	
Previous entrepreneurial experience	<5	32.3	
	5-10	24.6	

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	>5	43.1
Level of education	High school diploma and under	64.6
	B. Sc.	23.8
	M. Sc.	1.5
	Ph. D.	1.5
	Other	8.5
Field of education	Technical-technological	53.1
	Legal-economics	23.1
	Social-humanistic	23.8
Marital status	Single	23.1
	Married	65.4
	Divorced	11.5
Hours spent at work, weekly	<40	6.2
	40-50	50
	>50	43.8
Hours spent in solving strategic problems/decision making/addressing the operational challenges, weekly:	<20	71.5
	20-30	13.1
	>30	15.4
Hours spent in administrative work, weekly:	<20	80.8
	20-30	10
	>30	9.2

All factors influencing SME failure are grouped in six groups, but only groups E1 and E2 refer to external non-individual factors which are subject of this article. According to results of factor analysis, groups E1 and E2 should be divided in two subgroups as follow:

- E1a (E1aQ1 - Political issues, E1aQ2 – Economic issues and E1aQ3 – Social issues);
- E1b (E1bQ1 – Technological issues, E1bQ2 – Environmental issues, E1bQ3 – Legislative issues);

- E2a (E2aQ1 – Transportation system, E2aQ2 – The supply of electricity, E2aQ3 – Enough qualified work force);
- E2b (E2bQ1 – Possibility of increasing capacity, E2bQ2 – Existence of markets for products/services, E2bQ3 – Availability of suppliers for the necessary production materials) (Mihajlović et al., 2015).

In order to assess influences of each external non-individual factor on level of recovery structural equation model was developed (Figure 1).

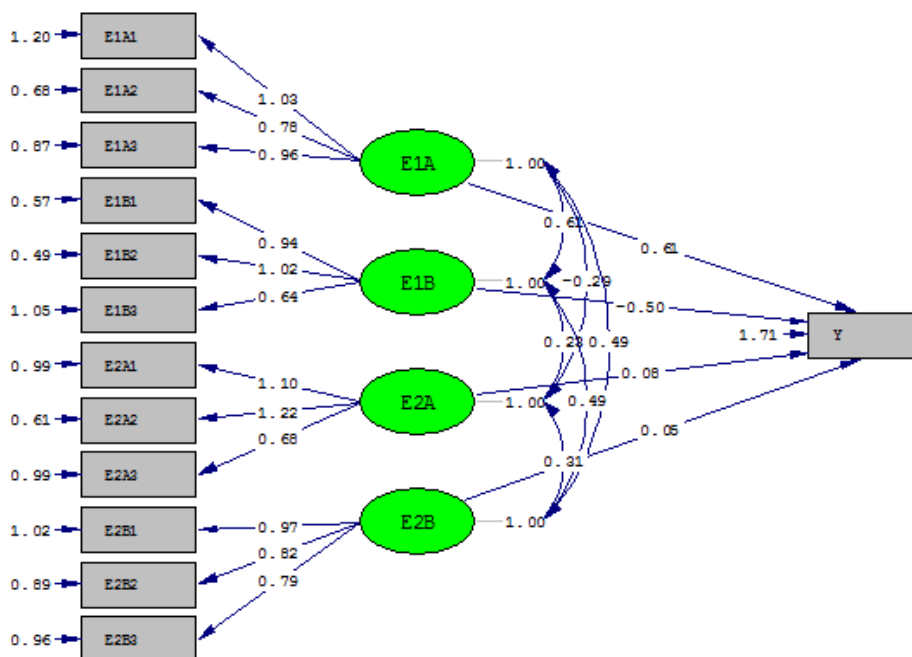


Figure 1. SEM model showing the influence of external non-individual factors on SME recovery rate.

Results of SEM model indicate that:

- Group E1a has the most significant impact on level of recovery (represented as variable Y) of SEMs after failure in the model

- with regression coefficient being 0.61. Positive value of regression coefficient means that respondents who rate question from group E1a with higher rate, have higher level of recovery compare to the ones who gave lower rates.
- Group E1b has also significant impact on level of recovery, but with negative regression coefficient being -0.5. Consequently, high ratings given to the questions from group E1b bring to lower level of recovery.
 - Both groups E2a and E2b have low positive regression coefficients with variable Y. This means that higher rate will bring to higher level of recovery but the impact of these groups of factors is not high.

In order to gain insight to different attitudes of respondents about influence of external non-individual factors on level of recovery, PROMETHEE II method sustained with GAIA plane representation has been performed. During performing of PROMETHEE II method, authors chosen level preference function with preference threshold being 1.5 and indifference threshold being 0.5. This preference function was chosen since the data are qualitative essentially, and in the analysis their quantitative analogue was used (five-degree scale from one “bad” to five “excellent”). The values of thresholds correspond to the factors from very bad to excellent (Vego et al., 2008; Milijić et al., 2014).

Result of PROMETHEE II complete rating is presented in figure 2, while GAIA plant is given in figure 3. Factors are ranked from the best to the worst.

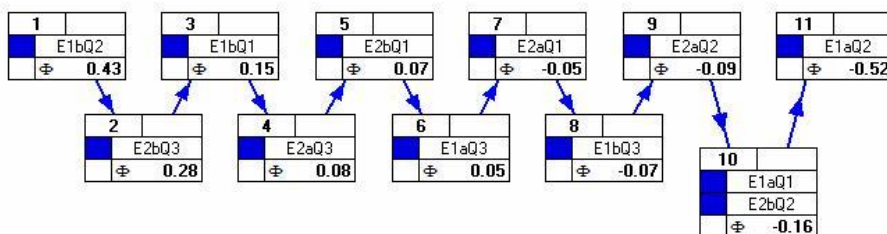


Figure 2. Results for PROMETHEE II Complete ranking of the external non-individual factor according to level of recovery

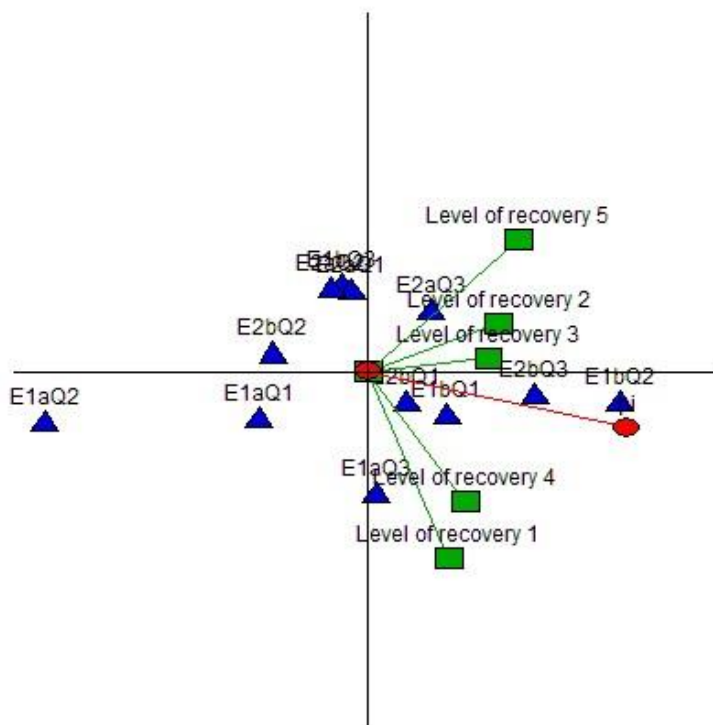


Figure 3. GAIA Planes presentation of ranking of external non-individual factor according to level of recovery.

As shown in figure 2, the most negative effect has the factor E1aQ2 i.e. economic issues. Also, high negative effect on level of recovery have factors E1aQ1 (political issues) and E2bQ2 (existence of markets for products/services). On the other hand, best ranked factors are: E1bQ2 (environmental issues), E2bQ3 (availability of suppliers for the necessary production materials), and E1bQ3 (technological issues).

According to the results presented in Figure 3, it can be noticed that respondents with the highest level of recovery (marked as 5) ranked as the most negative factor “political issues” (E1aQ1), whereas the best ranked factor is E2aQ3 (enough qualified work). Respondents with the level of recovery equal to 1 indicated that factor “legislative issues” (E1bQ3) cause main problems in operation of SME, while SMEs don’t have problems with social issues (E1aQ3).

5. CONCLUSIONS

Considering the fact that SMEs play an important role in economy of a country, recognition of factors causing the failure of SMEs and their analysis is of great significance, especially for developing strategy for improving of SME sector. Aim of this manuscript is to evaluate the external non-individual factors that are mostly expressed as the reason for failure of Serbian small and medium-sized enterprises by using structural equation modelling and PROMETHEE II.

SEM model shows that the highest influence on SMEs have group of factors that included political, economic and social issues, while the influence of infrastructural factors is significant lower. Results of MCDA based on PROMETHEE II indicated that entrepreneurs pointed out economic issues, political issues and existence of markets for products/services as the most negative factors. Policy makers should take these results in account when they are developing strategy for improving SME sector. Also, they should eliminate economic barriers for further development of SME sector.

Appendix A

Table A. The questions from the survey which refer to external non-individual factors

External non-individual factors / PESTEL analysis	E1a	E1aQ1	3.3	Political issues, as an external factor, can affect SME operation.
	E1a	E1aQ2	3.9	Economic issues, as an external factor, can affect SME operation.
	E1a	E1aQ3	3.0	Social issues, as an external factor, can affect SME operation.
	E1b	E1bQ1	2.9	Technological issues, as an external factor, can affect SME operation.
	E1b	E1bQ2	2.3	Environmental issues, as an external factor, can affect SME operation.
	E1b	E1bQ3	3.4	Legislative issues, as an external factor, can affect SME operation.
External non-individual factors / Infrastructural issues	E2a	E2aQ1	3.3	Transportation system is an important infrastructural issue of the region in which my SME suffered from failure.
	E2a	E2aQ2	3.5	The supply of electricity is an important infrastructural issue of the region in which my

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				SME suffered from failure.
	E2a	E2aQ3	3.2	Enough qualified work force is an important infrastructural issue of the region in which my SME suffered from failure.
	E2b	E2bQ1	3.0	Possibility of increasing capacity is an important infrastructural issue of the region in which my SME suffered from failure.
	E2b	E2bQ2	3.5	Existence of markets for products/services is an important infrastructural issue of region in which my SME suffered from failure.
	E2b	E2bQ3	2.6	Availability of suppliers for the necessary production materials is an important infrastructural issue of the region in which my SME suffered from failure.

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THE ANALYSIS OF START UP MOTIVES AND BARRIERS FOR ENTREPRENEURSHIP IN EASTERN SERBIA

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Abstract

Serbia was mainly characterized by planned and mono-structural economy until 2000. and has very short history of entrepreneurship. As it is in almost all transition countries, entrepreneurship in Serbia is still developing due to economic and political conditions, as well as the national culture, which is not inherently risk-taking. The aim of this paper was to analyse the start-up motivation factors and business challenges for entrepreneurship in Eastern Serbia. The data were gathered from a survey of 63 entrepreneurs and business owners in the region. The results have shown that dominant motives for starting business in this case were money and additional income. Unfortunately, that confirmed that in less developed countries unsatisfied existential need are still the main drivers of all human activities.

Keywords: *Entrepreneurship, Motives, Challenge, ANOVA*

1. INTRODUCTION

Small firms are not homogeneous entities, and everything that is thought differently is very dangerous and naive. By their very nature, these firms are different and each one has special characteristics, business context, goals and quality (Schoar, 2010). On the other hand, all businesses, whether large or small, can experience failure, which can cause catastrophic consequences for all stakeholders. There are many reasons for business failure, but in the case of small businesses, especially those who operate for less than three years, the issue of finance, bad management decisions, and capitalization at the beginning are one of the key challenges they face (Gupta & Gregoriou, 2018; Fedajev et al., 2019). If the decision to start his or her own business is only the desperate response of an individual to unemployment, rather than being based on strong principles and faith in success, persistence and commitment to the idea, then it is inevitable that such a company will soon face with failure. Also, very often owners or entrepreneurs can consciously destroy their business by misusing their authority or by misusing the power and privileges that their position provides them. Perhaps, sometimes the vulnerability of a new business could be explained not only by factors that are related to the individual, but also by bad luck, bad timing, inadequate training. Greiner (1998) and Scott and Bruce (1987) found that the inability of companies and owners to adapt to a series of crises emerged rapidly as a result of business' growth, is one of the main reasons of companies' failure.

People have different motives to become entrepreneurs (Ramos-Rodriguez et al., 2012; Chen & Elston, 2013). The primary task of the theory of motivation was to sort the factors into push and pull (Dann, 1977; Schjoedt & Shaver, 2007). The push factors are being looked as something negative, factors that forced the individual to start his own business (notice, divorce, feeling of being reject in the current organization). On the other hand, pull factors are those that attract people to start jobs - such as spotting a chance, personal satisfaction. In general, it was discovered that pull factors prevail over push, which is

very important given that according to some research, jobs started under the effect of push factors are much less successful compared to those of pull.

Starting a new job presents a great challenge and for many even a mental torture (Hazudin et al., 2015). However, getting to know the main motivation for starting up and the barriers that future entrepreneurs face can help them to make some changes and be more successful. The aim of this paper was to examine the main motives for starting a business in Eastern Serbia, but also to detect problems that most entrepreneurs are encountering.

1.1. Literature Preview

Despite the fact that the concepts of entrepreneurship and self-employment are not considered as identically equal, the majority of research work that has been conducted in the past has equated them (Batsakis, 2014; Parker, 2004). Therefore, this research treats entrepreneurs and business owners as equal, although not identical concepts. Entrepreneurship is related to small and medium-sized enterprises, which are the main drivers of development, not only in transition countries, but also in developed market economies. A growing expansion of entrepreneurship in many countries has initiated scientific discussions concerning factors that encourage its development. Understanding of motivation factors can be very useful for entrepreneurs in order to realize successful ventures in this area. The terms push and pull indicate entrepreneurs in terms of their initial motivation to start a business. Push entrepreneurs are forced to engage in entrepreneurial activity because they are not satisfied with the current job or someone has influenced them. Pull entrepreneurs turn to entrepreneurship because of the challenges that this activity provides and the achievement of potential success related to their business.

Studies on what impacts an individual's decision to engage in entrepreneurial activities yield different results (Rocha, 2012). A large

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number of researchers focused on the psychological characteristics that describe and define future entrepreneurs, such as internal locus of control, high level of self-confidence, self-efficacy, risk taking, innovation (Shane et al., 2003, Locke and Baum 2007, Brandstatter, 2011, Ferreira et al. , 2012). As for many more objective factors, such as gender, age, education, the results show that it is more realistic to expect men to start their business in relation to women (Langowitz & Minniti, 2007), that the largest percentage of those who are starting up are in the age group between 30 and 40 years old (Caliendo & Kritikos, 2010) and that in most cases they are highly educated individuals (Hinz & Jungbauer-Gans, 1999). In addition to individual characteristics, which are very important, given that certain personal and biographical characteristics provide predispositions for dealing with entrepreneurial activities, external factors are also very important, and they equally influence the entrepreneurial decision (Dawson & Henley, 2012).

Most of the studies on factors that determine future entrepreneurial behavior and success in business have been carried out in developed and western countries (Verheul et al., 2002; Henriquez et al., 2002, Parker, 2004). Interest in transition countries started just 20 years ago, when some changes in their political and economic scene occurred and when their economy moved from centralized to a market-oriented. The results showed that in transition countries individuals are less likely to start a business due to the unstable environment, the informal connections that exist, the bureaucracy and the pessimistic attitude of individuals towards entrepreneurship, especially in Southeast Europe (Batsakis, 2014). When it comes to underdeveloped countries, motivation for entrepreneurship is associated with bad financial conditions, in many cases even with poverty (Eijdenberg et al., 2015). In such situations, motivation for entrepreneurship comes less as respond to the observed chances or increased demand in the market, and more to meet the basic existential needs. (Morris et al., 2006).

1.2. The State of Entrepreneurship in Serbia

Although the Government of the Republic of Serbia declared 2016 as the year of entrepreneurship, these business entities still operate in insufficient supportive environment. Unfortunately, the overall economic environment for entrepreneurship in Serbia is unfavorable (Fedajev et al., 2019). Serbia's economic system is burdened with structural disparities, outdated technology, high production costs, inefficiency, low level of investment and small-scale exports. Under such conditions, the entrepreneurial climate in Serbia is deteriorating. Business entities' operations are additionally burdened with high tax liabilities. Bank loans for starting a business are too expensive and government financial support is insufficient.

On the other hand, Serbia has a much more favorable position in relation to countries at the same level of development, regarding the knowledge of beginners in business and the implementation of new technologies. However, the biggest weakness is still reflected in a relatively bad business environment, inadequate opportunities for starting a business, relatively low level of female entrepreneurship, unqualified labor, lack of financial support and low level of innovativeness (Jovanović et al., 2018). Most of the entrepreneurs in Serbia begun a new job to secure their existence, and much smaller number of those ones who wanted to use current market situation. Also, a very small number of entrepreneurs have education necessary to conduct business, and even the workforce generally does not have the necessary qualifications.

Statistics on business demography are structural indicators used to assess progress in the development of entrepreneurship, the dynamics in the creation of new business entities, and the growth of the SME sector.

Table 1. The survival rate of business entities in Serbia (Source: Ministry of Economy)

Year	Enterprise			Entrepreneurs		
	Established	Closed	Survival rate %	Established	Closed	Survival rate %
2008	11248	3068	91,3	43375	34572	59,9
2009	10013	3598	89,9	39365	36444	58,8
2010	9469	9388	91,7	35296	37165	54,1
2011	8470	13581	87,6	32236	35288	57,7
2012	8648	7355	86,5	30200	32853	51,8
2013	8735	2557	93,2	30931	36520	56,3
2014	8209	2601	89,5	29102	27068	57
2015	8180	2383	89	33434	32733	62
2016	8429	2458	90	33615	22270	65,5

Based on data on the number of newly established companies in the period 2008-2016. (Table 1) can be concluded that:

- about 65% of new business entities survive the first two years of operation,
- enterprises have a higher survival rate (about 90%) compared to entrepreneurs (58%).

2. METHODOLOGY

The research, which results are presented in this paper, was conducted in the period August-September 2016 at the territory of the municipalities of Bor and Majdanpek. The research involved the owners of micro and small enterprises. The aim of the research was to examine the most common motives for starting new venture, as well as the challenges and problems that future entrepreneurs in Eastern Serbia are facing.

For the assessment of the answers, a five-point Likert scale, was used, where 1 means ‘very unimportant; 3, ‘neutral’ and 5, ‘very important’ (Likert, 1955). The questionnaire is made up of two parts (Appendix); and it was developed by Ahmad et al. (2014). Questionnaire was translated and fully adapted to satisfy basic tasks related to testing entrepreneurial motives.

The first part of questionnaire consists of 6 questions which lead to the socio-demographic data of the respondents and business entities’ profile. The other part consists of 25 questions, divided into two groups. The first group (18 questions) examines the most common motives of respondents to start their own business, while the remaining 7 questions analyse the challenges and problems that the respondents faced during starting period. A total of 63 owners were interviewed and all questionnaires were filled in correctly. Table 2 shows the socio-demographic data of the respondents.

Table 2. Socio-demographic characteristics of the sample and their business profile

Category	N	Percentage
<i>Gender</i>		
Male	35	55,6
Female	28	44,4
<i>Education</i>		
Primary school	1	1,6
High school	51	81
Vocational school or Faculty	11	17,4
<i>Age</i>		
< 30 years	9	14,3
30-39	16	25,4
40-49	22	34,9
> 50	16	25,4
<i>Previous experience in small business</i>		
No experience	30	47,6

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Less than 5 years	12	19
5-10 years	6	9,6
More than 10 years	15	23,8
<i>Years in operation</i>		
Less than 5 years	16	25,4
5-10 years	19	30,2
More than 10 years	28	44,4
<i>Number of employees</i>		
Less than 5	54	85,7
5-10 employees	9	14,3
More than 10	0	0

Note: N=63

The demographic profile of the N=63 small business owners indicated that (see Table 2):

- a. As it can be seen, most of entrepreneurs were male (55,6 per cent) and the remaining were female (44,4 per cent). Terjersen (2005) concluded in his research that women are starting their own business in smaller numbers because they have less managerial experience than men, which is also the case in this study.
- b. More than 80 per cent had received primary and secondary education. About 17 per cent of respondents stated their highest qualification was a Bachelor's degree.
- c. The majority of respondents (60 per cent) are more than 40 years old, and about 14 per cent are those younger than 30. Large percentage of business owners older than 40 shows that they still have the energy and passion to deal with entrepreneurial activities.
- d. The majority of the respondents (47 per cent) had no previous working experience in managing small businesses. On the other hand about 23 per cent has more than 10 years in managing small businesses.

3. RESULTS

Table 3 presents the main motivational factors that the respondents marked as very important for starting their own business. Motivation factors are ranked by decreasing order of importance. The mean value shows the importance given to the factor by entrepreneurs.

Table 3. Push and pull motivational factors of entrepreneurs to start businesses.

Push/Pull	Motivational factors of entrepreneurs to start businesses	Mean value	Std. Deviation
Pull	Desire to generate additional income	4,56	0,71
Push	Family encouragement to start business	4,25	0,98
Pull	Desire for independence	4,21	0,94
Pull	Flexibility of lifestyle	4,19	0,89
Pull	Ability to make own decisions	4,17	0,96
Push	To apply experience, knowledge and expertise in the field	4,02	1,09
Pull	Very high market demand	3,98	0,96
Pull	To achieve something and get recognition in this business	3,98	1,09
Push	Personal satisfaction	3,94	1,12
Pull	To work for myself	3,79	1,25
Push	Previous job experience in similar business	3,60	1,17
Push	Unemployment	3,60	1,45
Pull	Preparing for retirement	3,33	1,54
Push	Community members' support	3,14	1,29
Push	Job insecurity	3,00	1,32
Push	Inspired by friends' success in the business	2,89	1,49

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Push	Dissatisfaction with previous job	2,84	1,33
Pull	Continuation of family businesses	2,70	1,53

Notes. All items used a five-point rating scale, where 5 = extremely important; 4 = very important; 3 = mildly important; 2 = not very important; 1 = unimportant.

A large number of studies have shown that most entrepreneurs start a business for strong economic reasons, so in most papers additional income is rated as the strongest motivator (Dahles, 2000). The results of the current study have shown precisely the same, that money is also the biggest driver in this case. The reason can be found in social circumstances, because in the previous period public enterprises had very bad financial results, where in some cases salary did not provide even a minimum of existence, so entrepreneurs then estimated that in this way they would make a lot more money and in that way provide better life to themselves and their family. Also, a high grade was given to the family support factor ($M = 4.25$). The family plays a very important role in the life of an entrepreneur. Many entrepreneurs run their business with the help of family and friends, who in most cases provide them emotional stability. The family and the support of members is particularly important for members of the collectivist culture to which Serbian culture belongs, so that such results do not surprise.

The variable "desire for independence" ($M = 4.21$) is also an important factor in starting your own business. Then follows the "flexibility of lifestyle" ($M = 4.19$), "ability to make own decisions" ($M = 4.17$) and the "ability to apply experience, knowledge and expertise in the field" ($M = 4.02$). Based on these results, it can be concluded that majority of the respondents do not like having superiors who will tell him/her what and how to work, but wants to make decisions on his/her own, as well as to organize his/her time. A significant percentage of respondents indicated that one of the main reasons for becoming entrepreneur is "very high market demand" ($M = 3.98$), and that they wanted to "achieve something and be recognized" ($M = 3.98$). In addition, personal satisfaction is also very important ($M = 3.94$).

Internal factors: unemployment ($M = 3.60$), the uncertainty of the previous job ($M = 3.00$) and dissatisfaction in the previous job ($M = 2.84$) do not have such a high grade, but during the conversation with respondents, many of them, especially those from the older age group, stressed that they were encouraged to start their own business after they lost their job in public company. They are aware that all employers are looking for young workers who are fast, full of knowledge and energy, and that because of their age they will not want to hire them. Also, there is significant number of those who after they finished their school could not find job and had to find a way to support themselves and their families. These results are in contrast to previous researches, in which unemployment and frustration in previous work are designated as the main drivers (Alstete, 2003; Orhan & Scott, 2001). Being pushed into entrepreneurship due to unemployment bears the risk of not being well prepared before engaging in entrepreneurial activities (Andersson & Wadensjo, 2007; Pfeiffer & Reize 2000).

The continuation of the family business as a factor is not greatly expressed among the entrepreneurs ($M = 2.70$). The undeveloped entrepreneurial tradition in this region has contributed to the fact that entrepreneurs emphasize this as the least important factor.

Table 4. Most common issues and challenges encountered by entrepreneurs in Eastern Serbia

Issues and challenges	Mean	Std. Deviation
Poor purchasing power of citizens	4,52	0,86
Complicated procedures	4,37	0,94
Insufficient government support	4,32	0,99
Bad credit conditions	4,09	1,13
Lack of personal finances	3,87	1,18
Lack of qualified staff	3,09	1,56
Competition	3,05	1,37

It is not uncommon for future entrepreneurs to face numerous challenges and problems, which make it difficult for them to function normally before they established business or during their business operations. Based on the results shown in Table 4, it can be seen that the respondents identified the Poor purchasing power of citizens ($M = 4.52$), Complicated procedures ($M = 4.37$), Insufficient government support ($M = 4.32$) and Bad credit conditions ($M = 4.09$) as main issues. These four problems have the same effect in the starting process, but also during the business itself. The decline in purchasing power is affected by unemployment, low living standards and high prices of goods and services in relation to household income. In order to improve the situation, the legal framework need to be improved, which should create conditions for reducing unemployment, increasing salaries, improving standards and strengthening the purchasing power of citizens. Although in Serbia it is very difficult to find decent job and the unemployment rate is high, it is paradoxal that only a few are ready to enter the adventure of starting their own business. The most common reasons for this are complicated procedures, too high risk, unsatisfactory government support and high operational costs. In an interview with respondents, they claimed that survival of any business is uncertain, that it requires a competitive spirit and full commitment, but they are also aware of the opportunities that entrepreneurship offers. They say that the lack of ideas and start-up capital are the main reasons why they are avoiding entrepreneurship. They also believe that government financial support is insufficient, that there should be larger funds and more frequent programs by the employment office, for people who are just starting a business.

3.1. Results of One-Way ANOVA

This part of the paper examines the influence of several demographic factors, such as gender, age, education, to the motives of respondents to become business owners. One-way ANOVA test was used to analyse the data collected. ANOVA is an extension of the independent t-test. It is used when researchers are interested in whether the means

from several (> 2) independent groups differ (Ho, 2006). Assumptions (Molugaram & Rao, 2017):

1. The samples are independently drawn.
2. The populations are normally distributed with common variance.
3. They occur at random and independent of each other in the groups.
4. The effects of various components are additive.
5. Variances of populations are equal.

Since the ANOVA test examines the accuracy of the null hypothesis, in this case it is: H_0 : *There is no difference in the responses of entrepreneurs to the questionnaire, in relation to their demographic characteristics.*

The impact of each of the demographic characteristics to the entrepreneurs'/owners' responses was examined, to determine where statistical significance exists.

The influence of gender on the respondents' motivation to start own business

In relation to gender statistically significant difference ($p < 0.05$) exists only in response to the questions Q1, Q4, Q10 and Q13. Comparative mean values are given in Table 5.

Table 5. Comparative mean values for variables between male and female

		N	Mean	Std. Deviation
Q1	male	35	3.6857	1.25491
	female	28	4.2500	.84437
Q4	male	35	3.9714	1.01419
	female	28	4.4643	.63725

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Q10	male	35	2.9429	1.51352
	female	28	3.8214	1.46701
Q13	male	35	3.7143	1.17752
	female	28	4.3929	.83174

Based on the results presented in Table 5, it can be concluded that for women's motivation is dominant personal satisfaction, as well as the flexible working time, which is not surprising due to the numerous family obligations that women have (Maes et al., 2013). Both women and men did not see retirement as a good reason for launching something new, while a little more women saw their current knowledge as a good way to successfully manage a job.

The influence of education on the respondents' motivation to start own business

In relation to education level statistically significant difference ($p < 0.01$) exists only in response to the question Q12. Comparative mean values are given in Table 6.

Table 6. Comparative mean values for variables between different education

		N	Mean	Std. Deviation
Q12	Primary school	1	5,00	
	High school	51	2,61	1,42938
	Faculty	11	4,00	1,18322

According to the results shown in the Table 6, it can be concluded that the main motivation to start a job for individuals with only primary education was the success of a friend in the business. These results, however, should be taken with the reserve, bearing in mind that only

one respondent was from this group, and all the conditions required for using the One-Way ANOVA test were not met.

The impact of the age of respondents on their answers from the questionnaire was also examined. The assumption was that there was a difference in the responses of younger and older respondents regarding their motivation to start business. However, the results showed that there was no statistically significant difference in their responses.

4. DISCUSSION AND CONCLUSION

Entrepreneurship as one of the phenomena cannot be studied and analyzed without basic psychological and sociological knowledge. One should be focus on the basic social, political, economic and cultural factors that influence the entrepreneurship, where a certain social environment can greatly affect the success or failure of entrepreneurial activity.

The aim of this research was to determine why individuals start their own business. In particular, it provides an insight into what motivates an individual to work independently. The motive to start a business is an important tool that serves to identify and explore the various reasons that motivate entrepreneurs to start their own business. According to the conducted survey, entrepreneurs in the territory of Majdanpek and Bor municipality, mostly responded that the main motive for their interest and inclusion in the business was desire to generate additional income. Such results suggest that the largest number of active entrepreneurs in this area started their business primarily due to existential needs, which question their real potential in relation to the strict requirements of running a business in very difficult business conditions. In addition to this motive, the other three motives seemed also relatively important to respondents when they made decision to start business: family encouragement to start business, desire for independence, flexibility of lifestyle. Interesting results were found with respect to personal satisfaction, where obtained results have

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shown that women are more motivated than men by this factor. Preparation for retirement was not a motivator for both men and women. Results also have shown that there are no significant differences regarding age and previous experience of the respondents.

Very important fact obtained in this study was that push factors were not so significant as motive for starting new venture. Job dissatisfaction, unemployment and job insecurity were found to be not so important to the entrepreneurs in this research. However, in countries where the level of entrepreneurship is not so high, like Serbia, this may not be common situation. In these countries and cultures, it may be that there are fewer factors that pull a person into entrepreneurship, and more factors that push them.

Based on interviews with entrepreneurs, it can be concluded that in Serbia, starting a business is very difficult and unfavorable, due to the decrease in the purchasing power of the population. Before joining the business venture, the business idea and its justification should be analyzed. Also, it is necessary to consult family and friends and seek support from them. Beside the idea for starting a business, very important issue are finances.

As with any research, this is also faced with certain limitations, bearing in mind that collected data relate only to a part of Eastern Serbia and as such cannot be generalized. It is recommended that future researches include other regions in Serbia, so that the obtained results can be compared. The second limitation lies in the fact that people in Serbia are afraid to sincerely respond to these types of questionnaires. Although most surveys of this type are anonymous, most people with a certain dose of reserve give answer to questions. The answer to this challenge would be to raise awareness among citizens and business people about the necessity of such research, if there is a sincere desire to change the situation to be better in the future.

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Appendix

Please indicate how strong each motive was in your case, using the following scale: 1, unimportant: 2, not very important: 3, midly important: 4, important: 5, extremely important.

- Q1. Personal satisfaction
- Q2. Desire to generate additional income
- Q3. Family encouragement to start business
- Q4. Flexibility of lifestyle
- Q5. Community members' support
- Q6. To work for myself
- Q7. Ability to make own decisions
- Q8. Desire for independence
- Q9. Continuation of family businesses
- Q10. Preparing for retirement
- Q11. Very high market demand
- Q12. Inspired by friends' success in the business
- Q13. To apply experience, knowledge and expertise in the field
- Q14. Previous job experience in similar business

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- Q15. To achieve something and get recognition in this business
- Q16. Dissatisfaction with previous job
- Q17. Unemployment
- Q18. Job insecurity

Please indicate how strong each problem was in your case, using the following scale: 1, unimportant: 2, not very important: 3, midly important: 4, important: 5, extremely important.

1. Lack of qualified
2. Lack of personal finances
3. Insufficient government support
4. Complicated procedures
5. Poor purchasing power of citizens
6. Bad credit conditions
7. Competition

SMALL AND MEDIUM ENTERPRISES AS A MEANS TO OVERCOME BARRIERS DEVELOPMENT OF RURAL AREAS IN SERBIA

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Abstract

The study offers a comprehensive review of rural entrepreneurship and suggests the agenda for future theoretical and empirical research in the field. Rurality is viewed as a territorially specific entrepreneurial milieu shaped by physical, social and economic characteristics. This paper examines success factors and motivation of entrepreneurs in the rural areas as well. Various entrepreneurial factors – location, natural resources and the landscape, social capital, rural governance, business and social networks, infrastructure conditions – are analyzed on the basis of small and medium enterprises' activities in Eastern Serbia (the Zaječar District). The weak economy, the depopulation process and the lack of financial sources are identified as problems, while the hard work and the quality of the products (services) are crucial success factors.

Keywords: *Rural entrepreneurship, Serbian rural areas, success, entrepreneurial milieu, Eastern Serbia.*

1. INTRODUCTION

Entrepreneurship represents a significant element of the economic development (Schumpeter 1935). It can be defined as “a proactive and innovative economic activity carried out by an individual or a group of

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individuals connected by a binding contract” (Maksimović et al. 2016). The issue of rural development became an inevitable part of the agenda of several governments and international institutions (for instance, EC, OECD, FAO, UN), where entrepreneurship, along with rural entrepreneurship, has emerged as a key enhancing factor (Ferrão & Lopes, 2003).

The European Union (EU) gives a strong support to the idea of the rural entrepreneurship and, consequently, provides sustainability of the rural development. In line with this, significant changes have been noticed in the rural areas of the European Union, and, they mostly relate to “agricultural policy reforms, the reform of the EU Structural Funds and the strengthening of rural development policies, international trade liberalisation, and (more generally) the processes of globalisation, technological change and localisation” (Stathopoulou et al. 2004, 404). The key objective is to provide an economically efficient and environmentally sustainable agriculture, on one side, and to stimulate the economic diversification and the integrated development of rural regions, on the other side.

Rural areas in European Union account for 57% of the land and almost a quarter of the population (24%) (EC 2012). Rural areas face, however, significant challenges in comparison to other regions, especially in the so-called peripheral, borderlands or mountain regions (López-i-Gelats et al. 2009). In general, the most important problems in these regions stem from a rapid decline in employment in a supposedly dominant agricultural sector, a poor socioeconomic environment, a low density, ageing population and also from distance to markets and services (OECD, 2006).

The realization of the entrepreneurial initiative, that has urged more even and more complete development that, of course, has involved the development of the rural areas, too, has been started in the states of the European Union even two decades before (European Commission, 1997). There has emerged the need for the redefinition of the very

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concept 'rural' as well as the need for discovering the new development patterns that could be suitable to the different rural areas (Marsden 1998; Saxena 2012; Paull & Sharma 2013). There is a need, following Marsden's recommendation given two decades ago, to "explore the degree to which different rural areas are developing contrasting strategies of adjustment and compromise with both the stated and with wider economy" (1998, 107). Rural entrepreneurship does not imply only traditional agricultural production but also new economic activities.

Entrepreneurship in rural areas is finding a unique blend of resources, either inside or outside of agriculture. This can be achieved by widening the base of a farm business to include all the non-agricultural uses that available resources can be put to or through any major changes in land use or level of production other than those related solely to agriculture. Thus, a rural entrepreneur is someone who is prepared to stay in the rural area and contribute to the creation of local wealth (Paull & Sharma 2013, 320).

The entrepreneurship has thus become the focus of the interest of the authors who do the research on the different phenomena that have related to the rural areas (Stathopoulou et al. 2004; Klein et al. 2010). There are several relevant journals for this subject such as: *Entrepreneurship and Regional Development*, *International Journal of Entrepreneurship and Small Businesses* and *Journal of Rural Studies*. Most studies of the kind, reported in aforementioned journals, has been done on the territory of the United States of America, and, when we talk about Europe, most studies have been done on the territory of the states of Great Britain, Spain and Poland that set a good example (Teixeira 2011). In fact, rural entrepreneurship, which has become a separate sub-field of research during the 1980s, remains an essentially 'European' concern.

Based on 181 articles published in journals indexed in Scopus (until March 2013), Pato and Teixeira found that "within the

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entrepreneurship literature, ‘rural entrepreneurship’ has been largely overlooked and has gradually lost momentum” (2013, 1). In recent years, a considerable attention has been paid to the subjects like ‘Organization-related characteristics’, ‘Policy measures’ and ‘Institutional frameworks and Governance’.

In contrast, ‘Theory building’ has not attracted much research over the period in analysis, which suggests that the theoretical body of rural entrepreneurship is still incipient, hindering the establishment of its boundaries and of a suitable research agenda. The absence of an axiomatic and theoretical corpus prevents the full use of causality and hypotheses testing methodologies and explains to some extent the predominance of more qualitative types of research (Pato & Teixeira 2013, 1).

Unfortunately, the field of entrepreneurship (including rural entrepreneurship) lacks a clear conceptual framework. Rather than “explaining and predicting a unique set of empirical phenomena”, as Pato & Teixeira contend, entrepreneurship has become a broadly defined concept which includes a wide range of issues (2013, 20).

Labrianidis (2016) has perceived the entrepreneurship as a means for overcoming the barriers of the development of the rural and peripheral districts in Europe, and specially when we talk about the conditions of the lengthy economy crisis (Leković & Marić 2016). Labrianidis has also pointed out what have been the three ways that could help us comprehend the aspects of the rural areas. First of all, the rural area has presented the space community that relies on the definite economy activities (for example, agriculture and forestry) or it may be the fixed open space (for example, the mountain area). Secondary, one could define the rural area by the numerous social and spatial features; for example, the population density and how distant from the town or the city the rural area is. Finally, the meaning of the term ‘rural’ currently often means the social portrait of the reality in the sense of inventing the ideal share of the social organisation on the rural territory. We

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obviously cannot lead the term 'rural' down to only agriculture and the use of the nature sources but to the development of the different economic fields. The focus of the discussion of the research of the rural territory should, consequently, be given to the social context and the spatial context. Both of these factors have had an impact on the type and the results of the entrepreneurship activities that relate to the different fields. In a word, there is a need of establishing the relation between the entrepreneurship and the space (Trettin & Welter 2011).

Significant changes on the countryside have been recently influenced by various processes such as globalization, the strengthening of free market economy, the liberalization of international trade, a shift of governance to mass participation and partnerships as well as changes in cultural values. Also, the emergence of environmentalism and new uses of rural space have been noticed. These processes, according to Labrianidis, have led to an externalized and consumerized countryside, one, which exhibits a wide range of external relationships and is subject to wide-ranging demands. Rapid advances in information and communication technologies (ICTs) offer rural localities a combination of opportunities and threats that is qualitatively different from earlier historical precedents and has led, among other things, to what has been termed a "shrinkage of space" (2016, 4).

In the process of studying the entrepreneurship on the certain space, the attention is mostly directed at the three key questions, that is: (1) the factors that facilitate the entrepreneurship success, (2) the motives for starting the entrepreneurship, and (3) the challenges, that is the problems that follow the work of an entrepreneur (Zimmerman & Chu 2013). Stathopoulou et al., for instance, assembled the factors of rurality affecting the entrepreneurial process into three major groups: (1) factors influenced by the physical environment (location, natural resources and lands); (2) factors determined by the dynamics of social structures (social capital, governance, and cultural heritage); and, (3) factors influenced by economic structures – infrastructure, the existence and operation of business networks and the level of

information and communication technologies operating in the area (2004).

The impact of the relevant factors upon the entrepreneurship in the rural areas will be explored within this work. Here presented research question will be studied using the example of the border municipality such as the town of Zaječar as its capital. This administrative region is made up of the three municipalities (Boljevac, Sokobanja and Knjaževac) as well as the town of Zaječar. In spite of the fact that there has been a lot of research work on the different aspects of entrepreneurship in The Republic of Serbia (Vukmirovic 2005; Sajfert et al. 2008; Zivkovic & Zivkovic 2009; Bobera et al.2014; Bobera et al. 2015; Lekovic & Maric 2016), the success factors and motivation that are necessary for the entrepreneurship development in the rural regions and the border regions, have not been sufficiently researched.

2. SERBIA AND ITS DEMOGRAPHIC TRENDS

There have been significant changes, (in particular, the demography ones), on the territory of the Republic of Serbia during the recent decades. The number of people who live in the rural areas, (63 persons per a square kilometer), is three times lesser when it is compared to the number of the people who live on the territory of the Republic of Serbia (Table 1). The number of people who live in the rural areas that is, relatively speaking, stabile, if we talk in terms of the period 1991–2002, has decreased for more than 2,5% when it is compared to the average number of people who live in the rural areas of The Republic Serbia. The significant changes have been noticed in regard to the movement of the people from the rural areas to the big towns in the search for work and better life conditions, when we compare the current tendency to the earlier one during the previous decade. There has been put an end to the migratory processes, or has, at least, been made slower the movement of the people who live in the rural areas into towns and cities. This migratory process has created an important reduction of the number of people who live in the rural areas, as well

as the demography changes in some regions on the territory of The Republic Serbia during the second half of the twentieth century.

Table 1. Socio-economic characteristics of rural area in Serbia
(Bogdanov, 2007)

	Serbia	Urban area	Rural area
1. Space			
Area, km ² (without Kosovo and Metohija Province)	77,508	11,556	65,952
Number of settlements, 2004.	4,715	811	3,904
2. Population			
Broj stanovnika (Popis 2002.)	7,498,001	3,336,341	4,161,660
% Population change 2002/1991	98.96	102.42	96.35
Population density	97	289	63.10
Migration rate	1.48	3.63	-0.14
Age structure (%):			
• % Younger than 15 years	15.69	15.10	16.17
• % Older than 65 years	16.54	15.36	17.49
Aging rate	1.05	1.02	1.08
3. Employment			
Total number of employees	2,642,987	1,170,962	1,472,025
• % Primary sector	23.36	11.25	32.98
• % Secondary sector	30.08	29.32	30.69
• % Tertiary sector	43.76	56.74	33.44
• % Unknown	2.80	2.69	2.89

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The reverse migratory processes – the movement of the people who live in the towns and cities into the rural areas – has also been present and noticed in The Republic Serbia as well. These migratory processes are primarily explained as being the consequence of the very deep economics crisis that has been created by the process of closing of the big systems of the industry branches. The process is particularly visible in the suburban and the rural areas near the bigger towns and cities that are the biggest administrative centers. What is the very essence of these processes is the process of closing the working positions as well as the lessening of the possibility to find a working position in towns and cities .

The process of the restitution of the land during the period of transition that has taken place in The Republic Serbia has not had a significant impact on the proces that could have made possible the process of people coming back home into the rural areas. In a certain number of Euroasian states people have immigrated from towns and cities into the rural areas where they have previously lived (Yalcin & Kapu, 2008; Smallbone et al. 2010). The external migratory processes, that is the ones that have involved the process of leaving the state one has been born in and in which one has lived up to the moment, has been the major feature of the people who have graduated from the colleges in Serbia and who have started working here. This process has not had any particular impact upon the people who have lived in a certain number of the states in the west of the Balkan Peninsula, for example, Albania. On the other hand, the internal migratory processes concerning the people who represent the cheap and the seasonal agriculture labour, it not being a developed branch in the south of Serbia, but that is a highly developed branch in the north of Serbia, has been created due to the process of neglecting Kosovo and Metohija as far as economics and social life of Serbia is concerned. The substitute for this kind of deficiency represents the cheaper labour population from Romania, as well as the people who live in the northern part of Serbia – Vojvodina, near the border that separates Serbia and Hungary.

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The Serbian rural areas' economics structure has to a great degree been dependant on the state primary sector and, above all, has relied on the use of the natural resources. The state has been dominated by the traditional, monofunctional agriculture, this grouping of Serbia into the states that have developed agriculture more than any other state in Europe. The heterogenous natural resources, the existence of the land private property, as well as the presence of the experience in making good business links, are some of the basic preconditions relating to the diversification and rural economics development. However, these have not been used enough. The highly developed agriculture, the food processing industry, mining, as well as the energy processing and use, the less developed tertiary sector (especially tourism), that have been present in the economics society degree that has been achieved represents the major Serbian rural areas business features.

The economics growth that the state has achieved per capita, relating to the people who live in the rural areas of Serbia, has been for a quarter lower than the national average growth has been. The fact indicates that the significant lack in the state economics growth has been present. The differences concerning the work efficiency and the economics structure have been equal, when we compare the rural areas to the urban areas, as well as in between a number of regions that are the rural and the urban regions. The differences have also been noticed among various rural areas troughout the country (Fig. 1). Apart from the developing potentialities, the Serbian rural areas do not significantly keep pace with the structural adaptation to the European solutions and practice.

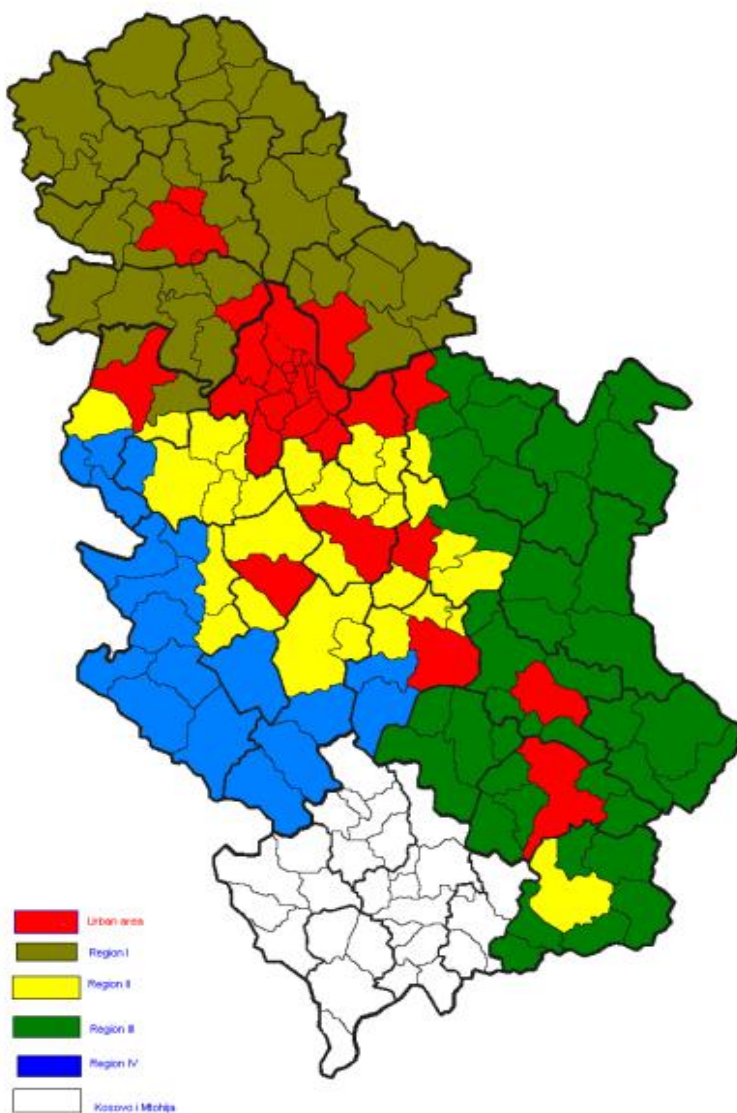


Figure 1. Rural areas in Serbia (RS 2009, 10)

In spite of the negative demography tendencies that have been described, many inhabitants (a significant percentage of population, 43%), do still settle the rural areas – about 70% of the territory of the Republic of Serbia has been rural according to its features (Cvijanovic 2012). In accordance with these facts, one cannot say that the number of people (especially the younger people) who still live in the countryside, should not be neglected. That means that the countryside population, both the younger people and the older people, do represent an important element that is necessary if we want to make the countryside have the same significance that they have had in the earlier periods. What has become very important for the researchers have been the following elements: the youth perception, both the young people who have expressed the wish to continue living in the countryside and the young people who have expressed the wish to find their settlements in the towns and cities, the opinion that the youth have concerning living in the rural regions, the advantages and disadvantages relating to the living in the rural communities.

3. SUCESS FACTORS OF ENTREPRENUERS

The entrepreneurship success factors have usually been studied and discussed with the use of three variables, such as:

- (1) the external milieu influence (for example, the level of the industry development);
- (2) the manager's abilities and training (for example, the bussiness plan creation); and
- (3) the psychological and personal qualities of the entrepreneurs.

Among the entrepreneurship success factors, that have been most frequently investigated it the following ones should be mentioned: the manager's abilities, the manager's education, the manager's or the entrepreneur's previous experience and training, the manager's or the entrepreneurs' psychology features and qualities, the net of social contacts and the milieu conditions (Benzing et al. 2009). In regard to the factors mentioned above – starting from the lowest level up to the

highest level of the social organisation – the crucial influence have had the personal qualities, the life styles, as well as the environment uniqueness. The vast majority of authors agrees about the factors that lead to the success. However, on the other hand, there has been no general agreement about what people have in mind when they describe 'success' of any entrepreneurial project. Nevertheless, the duration of the entrepreneur's work has been considered the most important criterion for the success estimation (Rogoff et al. 2004).

3.1. Psychological and Personal Traits

The question on the personal traits has been raised with the meaning whether the entrepreneurs own the personal traits and the experience that makes the entrepreneurs stand out from the other professions, including the managers as well. Numerous studies of these phenomena have indicated that, if the research focus is directed at the person, one's experience and other personal traits, is possible to successfully explain the noticeable difference that has been present in the entrepreneur's spirit when we talk about the people who belong to the different social milieus (Chu & Katsioloudes 2001). It has been known for a long time that the entrepreneurs have a strong desire for the achievement. This very specific need is an important element of the entrepreneur's success, as well as the taking on oneself one's personal responsibility that will make possible to achieve the goal. What makes the entrepreneurs stand out from the managers is the high tolerance of the uncertainty, so that they can continue with the efficient work even in the crisis circumstances as well. The very entrepreneurship process involves the starting of the new projects, what is often followed by the high degree of uncertainty (Frese et al. 2002).

The research on the family milieus – when we talk about the entrepreneur's childhood have gone the following direction – the birth of a child and the parent's occupation. The conclusion has been made that the only children as well as the first – born children have the higher predispositions and affinities for the entrepreneurship due to the

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higher attention of their parents that has impact upon the higher self – confidence, that could urge the entrepreneurship. The research has shown that the entrepreneurs have at least one parent, and some of them have even both parents who are entrepreneurs.

The entrepreneur’s educational level also presents the significant variable that could explain the entrepreneur’s success. In earlier times people have accepted the general attitude that has stated that the entrepreneurs are less educated than the other people. However, during the previous decades, the situation has changed in favour of the entrepreneur’s benefit. Nowadays, the entrepreneurs are more and more educated, whereas the women entrepreneurs set a good example, when we talk about the process of acquiring of the higher education. Education, however, presents only one component of the so-called humane funds. The second component has related to the entrepreneur’s previous experiences (Fischer & Pullock 2014). Otherwise, the human funds – the individual knowledge and the entrepreneur’s skill – are useful when we want to recognize the opportunities for the entrepreneurs undertaking, problem solving, adaptation to the changes and the application of the new technologies (Shrader & Siegel 2007).

The age, to a great extent, has explained the entrepreneurship activities. The period in our lives when most people become entrepreneurs are the ages in between 25 and 40. Currently, the period when it is most likely that some of us might become entrepreneurs has somewhat changed and these are the years when some of us are in between 22 and 55 years old. Although the data that we can find have shown that a certain number of people are likely to become entrepreneurs even before they are 22 years old, situations like this one have been very rare because of the following elements: the lack of education, the lack of experience, as well as the lack of the financial resources. On the other hand, the period in our lives when we are more than 55 years old are the ages in our lives when we may have less energy and when we may have more physical problems. However, this

does not necessarily mean that some people are likely to lack the entrepreneurship potentialities.

The work experience has presented a very important element when we talk about the process of starting the new entrepreneurship. What the researchers have found out is the fact that when people talk about starting the new entrepreneurship, at least one of the entrepreneurs, does own the previous experience relating to the entrepreneurship, for example, the new job.

Reynolds, for example, has thought that the social context does have the impact upon the entrepreneurship. According to the author what is the most important is the following: (1) the social nets, (2) the entrepreneur's age, (3) the ethnic identification and (4) the degree of ecology conscience of the population (Reynolds 1991). For example, the innovative entrepreneurs and the entrepreneurs who have the orientation towards the growth, when we talk about the starting of the small bussiness, are usually the unemployed people or the minority members. They are likely to distinguish, to a great degree from the other categories by the character features, motivation, expectation, aims and plans.

3.2. The Circumstances Relating to the Life Cycle

Whether a person will become the entrepreneur is influenced by the circumstances of somebody's life cycle. For example, when a person is not satisfied with the work milieu, it may lead to the circumstances of a business situation that could make a person abandon his or her job and, therefore, it might make him or her start a new entrepreneurship. The process of control has represented one of the usual factors as well as the lack of joy at the work that could lead up to one's lack of satisfaction with the work milieu. The second factor that might also be present in this kind of situation might be the act of the supervisor's refusal to give the award to the people who have the innovative ideas.

The negative experience has related to the different situations that one could be involved in, and the experience that could cause big changes in the life of a person. These situations for somebody may be, for instance: to be given the notice, to get divorced, the death of the wife or the husband, the middle age, or the emigration to the other country.

The circumstances that relate to the career development mostly relate to one's events in life, such as: the graduation from the college, the completion of the military service, the abandoning of the parental home, the completion of the big project. People, such as the managers, investors, or possible partners, have the positive effect upon the entrepreneur to start the bussiness.

The circumstances of the life cycle mostly influence the owning of the social funds as well as the reputation finance (Pirolo & Presutti 2010). The social funds do not represent only the net connection degree of a person inside the social nets, what is often thought of, but also the acceptance of the norms and values of the group that the person belongs to (Putnam 1995). The reputation funds have relate to the acknowledged social status of the individuals and the organisations, what is, in fact, the basis of their reputation. The good reputation – a friendly relationship and the good service – have shown to be the most important value during the research of Turkish entrepreneur's success factors (Benzing et al. 2009).

3.3. The Milieu Factors

There are a number of factors that have urge the entrepreneurship. A group is made of the elementary demands for leading the bussiness that means: the adequate financing, the accessibility of the person who supplies us with the goods, or the market that has also supplied us with the products, the labour force who are technically speaking capable of doing the job, the land availability, the accessibility and the net of factories, hospitals, schools, and other institutions, as well as the roads or the transport accessibility. The second group is made of the indirect

factors such as: the presence of the experienced entrepreneurs, the government influence, the population attitude and the life conditions. The approach to the financial capital has mostly been emphasized as the most important success factor that belongs to this group. Anyway, the success probability grows when the four capital forms have been used together – human, social, reputational and financial capital (Zimmerman & Jiang 2009).

4. FACTORS MOTIVATING ENTREPRENEURS

The main theme in the entrepreneurship field has related to the factors of motivation that make people do the entrepreneur's job. It has been thought that the motivation link between the intention and the work of the entrepreneur (Carsrud & Brannback 2011). Motives, in fact, reveal, 'basic reasons for somebody being ready to change and orient his/her attitudes, intentions and activities what is, in any case, valid with entrepreneurs' (Bobera et al. 2015, 85). Thus, it has been no surprise that a big number of the done empiric research and the motivation models that have been realized and that have related to the entrepreneurship activities both in the countries in the world (Naffziger et al. 1994; Kuratko et al. 1997; Robichaud et al. 2001; McMullin et al. 2008), and in Serbia (Živković et al. 2009; Stefanović et al. 2010).

Kuratko et al. (1997) classified entrepreneurial motivations into four distinct categories: extrinsic rewards, independence/autonomy, intrinsic rewards and family security. These factors determine "the motivation level of entrepreneurs which in turn affects their business success" (Stefanović et al. 2010, 253). Yalcin and Kapu (2008) also suggested four categories of motives: financial, recognition, freedom and family tradition – the willingness to continue family business and to imitate family members. These authors further differentiated among the so-called *push* and *pull* factors. The former relates to 'the need to increase family income, dissatisfaction with a salary-based job, problem with finding an appropriate job and the need for flexibility for family responsibilities', and the latter includes 'the need for

independence, self/actualization, increased status quo and reputation in society' (Yalcin & Kapu 2008, 188-189).

Bobera et al. (2015) differentiate two basic kinds of entrepreneurs, depending on what is the motive for starting the entrepreneurial project – necessity and opportunity. While necessity entrepreneurs start the entrepreneurial projects for necessity, opportunity entrepreneurs tend to profitably use noticed chances. It is clear that the necessity entrepreneurs possess less human and financial capital.

5. RURALITY AS AN ENTREPRENEURIAL MILIEU

The SME sector in Serbia represents a significant economic segment of the national economy, primarily because of its entrepreneurial activity, and consequently because of the contribution that raises the overall level of competitiveness of the national economy, which consequently positively reflects on all spheres of social life. Observed from the point of view of the economic space of Serbia, the SME sector represents the dominant form of business entities according to the number of enterprises, according to the number of employees and according to the gross realized value in relation to large enterprises and significantly exceeds them (Krstić et al., 2016).

At the moment of intensified urbanization and globalization, specific and indigenous settlements, which faithfully reflect the spirit and tradition of past times, increasingly gain a certain cultural significance and attractiveness (Muhi, 2010). Rurality represents an entrepreneurial milieu in which rural enterprises may flourish and prosper or become inhibited.

The creation of a stimulating environment by the state for the development of small and medium enterprises and entrepreneurship in rural areas (tax reliefs, subsidies, loans under favorable conditions, etc.) contributes to the diversification of rural economy and the retention of young people in the countryside, in agricultural and non-

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agricultural professions (Ristić, 2013). Also, Ristic (2013) concludes that comprehensive and continuous work on reconstruction and development of rural areas is necessary in accordance with the principles of sustainable development, with significant investments, education, initiatives and activities of all key actors of development at national, regional and local level, including and agricultural producers.

This section examines the dynamic linkages between the rural milieu and entrepreneurship in some parts of Eastern Serbia – the Zaječar District. This administrative region is made up of the three municipalities (Boljevac, Sokobanja and Knjaževac) as well as the town of Zaječar.

The migratory processes in the region nearby the River Timok after The Second World War has had two tendencies. The population has, first of all, continually increased in the time period 1948-1961, later to come down to the big of population. The depopulation process has also started in the Zaječar district at the beginning of the 1960's. There has been a big depopulation process that has had a huge impact upon the Zaječar district between the two last censuses 2002-2011 when the number of the population has decreased for 19,266 persons or 14%. If we make a comparison between the town of Zaječar and the other municipalities that make up the Zaječar district, we could see that the Town of Zaječar has set a good example with the smallest depopulation -11,3%.

The entrepreneurship on the territory of the Zaječar district has for decades been in the shadow of the big bussiness systems, that has resulted in the dependence of the entrepreneurship development of the big companies. Their disappearance and the process of leaving the 'shadow' of the big firms has had as a consequence the opening of the micro companies. The small firms as well as the middle-sized firms, the basis of the entrepreneurship have made, first of all, place the micro firms.

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Recently, an empirical research (using the questionnaire dealing with the different factors influencing on the entrepreneurship development in the rural areas) has been conducted in the Zaječar District (Vuković et al. 2018). This field research has involved 14 villages in the district, seven of them being on the territory of the town of Zaječar and seven villages being on the territory of the Municipality of Knjaževac. The results have shown that mostly men decide to do the research projects, and when we talk about the entrepreneurs people who are between 31 and 45 years old have prevailed. The vast majority of entrepreneurs has graduated from the high school, whereas the time period that they do the job has mostly been up to 10 years, the trade being the dominant business branch. If we have in mind that the 17 factors of the entrepreneurship success have been studied in this research, the most highly valued factors of the entrepreneurs' success have been the hard work and the good service quality, whereas the involvement into the political life has been valued the lowest value if we have in mind the entrepreneurs who have participated in the questionnaire. The research for starting the entrepreneurship has presented the process of providing the safe job, which is the process of providing the work for their family members for most entrepreneurs who have participated in the process that has related to giving the answers to the questions in the questionnaire. It seems, therefore, that the promotion of entrepreneurship and self-employment for poor people living in rural areas is vital (Monsen et al. 2012).

Unlike some other rural areas in Serbia (for instance, Western Serbia), the field research has also indicated a slight interest in newer rural entrepreneurship initiatives such as tourism, expropriation of former mining sites, the use of cultural heritage etc. This is an unexpected result in terms of frequently reported richness in natural resources, offering development of various branches of tourism (Vuković et al. 2011; Voza & Vuković 2012; Maksimović et al. 2016; Urošević et al. 2018a). It seems that a general public opinion about Eastern Serbia is significantly shaped by widely spread perceptions of pollution of the environment caused by mining and metallurgical activities (Urošević et al. 2018b).

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However, this industrial heritage can be used in an innovative entrepreneurial way.

Real changes in the environment represent a chance for a long-term tourism development strategy, and an important element of the competitiveness of a tourist destination is the ability to adapt to global change (Dwyer et al., 2012). The visible influence of tourism demand on other economic activities, especially those that are less relevant to this activity, has encouraged the organized development of tourism. Good positioning of tourism can be successfully used as a powerful tool for the economic development of communities in rural areas and for improving their well-being (Andreson, 2013; Mbaiwa, 2005).

Eastern Serbia has real resources, which the Republic of Serbia has to recognize and put into function of its long-term tourism development. A large number of natural as well as anthropogenic resources that are of great importance for tourism are linked to this region. In addition, this area implies a dose of mysticism, mystery, special philosophy and beliefs that interpret life, and in this part of Serbia, the reality and legends are mixed.

Agriculture, especially the production of healthy food and organic food production, as rural tourism should be the pillars of further economic development of Eastern Serbia and the main source of its competitiveness on the domestic and world market.

Entrepreneurship in the agro-food sector through the development of small and medium-sized enterprises can be an important factor in the development of primary agricultural production. By developing entrepreneurship in the food industry, improvements in processing technology, growth in the quality of production and products are improving, which significantly increases their efficiency and competitiveness in the world market. Also, small and medium enterprises that are established in the field of craft processing of agricultural products should through the development of

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entrepreneurship to increase the level of finalization of their own products (processed from cereals, fruits and vegetables, meat, medicinal herbs, etc.). Their development should be cooperative with the food industry, ecological production and tourism development (Stefanović et al. 2012).

Given that the representation of SMEs in the field of organic agricultural production in Serbia is just over, and the export potential of producers of organic products is practically unlimited, organic agriculture is a great opportunity. In particular, this is a feature of hilly-mountainous areas that are mostly economically lagging behind and where agriculture is the only activity in the countryside. The perspectives of the development of organic agriculture in this area are remarkable, due to very favorable natural conditions and unpolluted environment, as well as the employment of a large number of unemployed, because it is labor intensive production. for the development of SMEs in this sector of agriculture (Popović, 2016).

The family farm in agriculture in Serbia has not yet been recognized as a special form of entrepreneurship - which is of great importance for rural development. It is neglected to treat this farm within the agro-rural economy as a complex that provides significant employment opportunities (Zakić et al., 2014).

It is important that the state, with the help of professional people, institutions and people living in the rural area who are best acquainted with the problems and opportunities, makes undeveloped areas attractive through special benefits for small and medium-sized enterprises that would have the need to invest in them. Accelerated economic development of underdeveloped areas would reduce migration and increase the quality of people's lives (Maletić, et al. 2011).

The problems of rural communities, which are mostly economic and social in nature, significantly reduce the quality of life and the

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motivation of people to stay in the villages, further stimulating new migration movements, mostly the most vital population, and thus, in the long run, the already expressed poverty of these areas (Vujičić et al., 2012, Vujičić et al., 2013).

East Serbia has good conditions for the development of rural tourism thanks to its good geographical position, diverse landscape, gastronomy, foliar, multinationality and rich cultural heritage. A great cultural value also includes the products of old crafts and handicrafts through which the rich heritage of the peoples of this country is realized (Urošević et al., 2018).

Rural tourism has potential both through new employment and entrepreneurial opportunities of the local population, as well as supporting other economic activities in rural areas (Butts and Breidenhann, 2006). The development of rural tourism is a result of: increasing local employment, increasing income, stimulating and diversifying the local economy, encouraging local production, contributing to the preservation of natural and cultural heritage, supporting research and development of good environmental habits, supporting environmental education of tourists and the local population, etc. (Cvetković & Đorđević, 2011).

The development of rural tourism is a complex but also a long-term job. Development activities, with a quality and professional program for the development of rural tourism, can contribute to the development of rural areas.

Although there is a Development Strategy for Competitive and Innovative Small and Medium Enterprises, it is important to educate and inform hosts and household members to deal with this activity.

However, in addition to the very favorable development aspects of rural tourism in Eastern Serbia, there is a great opportunity for the development of mining tourism. In countries with developed tutorial

offer, increasing attention is paid to the development of mining tourism, which today is one of the important components of the development of not only tourism, but also the integral and sustainable development of the region as a whole (Maksimović et al. 2016).

6. CONCLUSIONS

The development of rural areas is more than ever related to entrepreneurship. Today, entrepreneurship is considered an important factor in strategic development, which could speed up the development process of rural areas. The opening of enterprises in rural areas is urgently needed, because entrepreneurship in the rural area is considered to be high potential for employment, and women are offered the possibility of employment near the home, which enables independence, independence and reduces the need for social assistance. From this we can conclude that entrepreneurship is the driver for improving the quality of life of an individual, family and community. In order to accelerate economic development in rural areas, it is necessary to increase the number of entrepreneurs who will take the risk and engage in an uncertain environment to create new opportunities.

Recently conducted studies on entrepreneurship and innovation mainly focus on urban areas, neglecting the rural ones. Yet, rural entrepreneurship has gradually drawn attention from researchers in the last thirty years. The evolution of the relative weight of both the theoretical and empirical studies on rural entrepreneurship has lagged behind those relating to general entrepreneurship. On the basis of evidence presented in this paper, one can conclude that more strategic and coordinated approaches to building the entrepreneurial capacity of rural areas (including peripheral regions) should be adopted on different governmental scales.

Further studies of this phenomenon should highlight the differences between the context of urban and rural regions in order to explain the

specific effects of these contexts on economic life. Apart from theory building efforts, several main topics deserve to be studied in the sub-field of rural entrepreneurship: demographic traits, entrepreneurial psychological traits, economic growth, regional development, policy measures, and institutional frameworks. They, obviously, cover the full range of significant factors – from micro to macro perspectives.

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**AN INTEGRATED METHOD OF ROUGH AHP,
PROMETHEE AND ABC FOR RAKING SMEs
FAILURE FACTORS IN FUNCTION OF
PREVENTION SMEs FAILURE**

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Abstract

In this paper rough analytical hierarchy process (AHP), Preference Ranking Organization Method for Enrichment Evaluation (PROMETHEE) and ABC method were combined in order to develop an integrated method to separate a group of the most influential SMEs failure factors. Firstly, by using rough AHP method, importance of each observed criteria is determined. Next, based on obtained weight coefficients for each observed criterion, raking of SMEs failure factors is performed using PROMETHEE II method. Finally, the group of the most influential SMEs failure factors is separated using ABC method. This group includes: Economic issues, The supply of electricity, Political issues, Legislative issues, Existence of markets for products/services and Transportation system.

Keywords: *SMEs, Failure factors, Rough AHP, PROMETHEE*

1. INTRODUCTION

It is widely agreed that SMEs have an important role in economy of a country. According to Annual report on European SMEs 2017/2018 published by European Commission (2018), SMEs in the EU-28 non-financial business sector represents 99.8% of all enterprises, 66.4% of all employed people and 56.8% of the value added. However, the fact that each new SME that survived over the period 2012-2015 required the birth of 9 SMEs that did not, indicates that there are numerous factors that deteriorating performance of SMEs and cause failure of SMEs (European Commission, 2018). For this reason, it is very important to develop a strategy to prevent SMEs failure. The first step in developing such strategy is recognition of potential reasons of SMEs failure. As each reason does not have same impact on SMEs failure, it is very important to separate a group of the most influential factors. By separating the group of the most influential factors, efforts and resources for prevention of SMEs failure will be properly allocated. All this imposes a need for prioritization of SMEs failure factors. Procedure of prioritization of SMEs failure factors is as following:

- Step 1: Identification of SMEs failure factors.
- Step 2: Rating of the impact of the SMEs failure factors.
- Step 3: Development of RAHP-PROMETHEE model.
- Step 4: Determination of the group of the most influential SMEs failure factors.

In order to prioritize SMEs failure factors, it is necessary to identify potential factors which have negative impact on SME operations. Nikolić et al. (2015) identified two groups of SMEs failure factors: individual and non-individual factors. Group of non-individual factors consists of two subgroups: internal and external non-individual factors. Individual factors refer to the characteristics of an SME owner/entrepreneur such as demographic characteristics, start-up motivation and personal characteristics. While factors that are not related to the characteristics of SME owner/entrepreneur were marked

as non-individual. Group of internal non-individual factors includes factors that are under the control of entrepreneur/owner of an SME such as the SME organization, the decision-making process, as other factors origin from the characteristics of SMEs. On the other hand, group of external non-individual factors comprises factor that are not under control of entrepreneur/owner of an SME such as taxes, competition, government, economic environment and so on. Based on a statistical analysis of survey of 520 entrepreneur/owner of an SME, who had closed or changed the business activity of their SMEs in the previous years, Nikolić et al. (2018) recognized 30 important factors that influence the failure of SMEs in the Republic of Serbia (Appendix A). The rating of the influence of certain factors was performed using a five-point Likert scale on which one denotes the weakest and five the strongest influence. In this research ranking of SMEs failure factors recognized by Nikolić et al. (2018) will be carried out.

This paper is organized as follows. In the second section, a brief literature review is presented. In the third section, methodology is decrypted by explaining Rough AHP, PROMETHEE II and ABC method. The fourth section describes the application of the integrated method of rough AHP, PROMETHEE and ABC method. In the fifth section the results of an application of the method are reviewed. Finally, conclusions are drawn in the sixth section.

To the authors' knowledge the using the integrated method of rough AHP, PROMETHEE and ABC method is a unique approach to the problem.

2. LITERATURE REVIEW

Although it seems that a number of studies have focused on SMEs success but not on SMEs failure, number of articles regarding failure of SMEs is not negligible. However, studies of SMEs failure can be classified in three groups. The first group includes studies which aiming to analyse the impact of certain factors on SMEs performance.

For instance, Khoshnodifar et al. (2016) have researched the influence of various communication channels on the success of SMEs. Gupta and Gregoriou (2018) examined the influence of market-based finance on SMEs failure. Acosta et al. (2018) analysed the influence of international market orientation, network capability, and international entrepreneurial orientation on the international performance of SMEs. Results obtained from their analysis show that the international performance of SMEs is favourably influenced by their network capability and international entrepreneurial orientation, but not by their international market orientation. Similarly, it is verified that interdependence relations exist among the explanatory variables of international performance of SMEs, where positive impact of international entrepreneurial orientation is observed on network capability and the international market orientation of SMEs. Khan et al. (2018) researched impact of dominant logic and competitive intensity on SMEs performance and found that highly competitive environment facilitates the impact of dominant logic on SMEs performance. They also found that there is a significant mediating role of dominant logic between dynamic managerial capabilities and SMEs performance. Maté-Sánchez-Val et al. (2018) examined the impact of the geographical location of external economic agents on the probability of SMEs business failure. Their study shown that probabilities of business failure for geographically close SMEs are correlated.

In the second group are researches which authors endeavoured to develop a model for prediction of SMEs failure. In this group research carried out by Kalak and Hudson (2016) can be included. They investigated the extent to which the size affects the SME probabilities of bankruptcy. Tobbacka et al. (2017) developed a prediction model in which beside traditional variables such as financial figures, stock market data and firm specific variables, data on the company's directors and managers are included. Li and Sun (2009) employed Gaussian case-based reasoning for business failure prediction with empirical data in China.

The third group comprises researches aiming to determine the factors leading to SME failure. These factors were often associated with entrepreneurial characteristics as well as the relationship between an SME and the environment in which it operates. In most cases, the effects of these factors have been studied in isolation, whereas only a small number of researchers have studied their combined effect on SME failure (Nikolić et al. 2018). For example, Arasti et al. (2012) investigated the influence of individual factors that affect the failure of new established SMEs in Iran's industrial sector. They found out that lack of crisis management and marketing, financial and human resource management skills were main individual factors affected SMEs. Berryman (1983) found that poor management, personality traits of an owner/manager of SMEs and external factors together cause SMEs failure. In his research Tushabomwe-Kazooba (2006) recognized following individual factors: low levels of technical and management skills, poor linkages and limited knowledge of business opportunities and marketing, unable to separate their business and family/domestic situations, lack of management experience and lack of planning.

In most of these studies, factors are only listed but not ranked. Since each factor does not have same impact on SME failure, it is important to carry out the ranking of the SMEs failure factors. Among the rare studies that have been conducted ranking of SMEs failure factors is research carried out by Karpak and Topcu (2010). They used the analytic network process in order to prioritize factors affecting the success of Turkish SMEs in the manufacturing sector.

3. METHODOLOGY

As it is stated before, it is not enough only to list factors that influence the SMEs failure, but it is necessary to rank them. Human brain can capture the first, eventually second level of influence. Therefore, it is necessary to develop systemic approach to capture second or higher

level of influence (Karpak & Topcu, 2010). Taking this in account, authors of this paper developed integrated RAHP-PROMETHEE-ABC model in order to prioritizing SMEs failure factors according to level of their influence. Brief overview of the applied MCDM methods in this study is presented in the following sections.

3. 1. Rough AHP

The AHP method is well-known MCDM method developed by Saaty (1980). This method is distinguished by usability, great flexibility and simplicity. Owing to these characteristic AHP have been used in numerous researches.

However, most of the information in evaluation of alternatives comes from experts' subjective judgments, which are imprecise, vague or even inconsistent (Zhu, et al., 2015). That is why traditional AHP cannot truly reflect the human style of thinking (Kahraman et al., 2003). In order to eliminate vagueness and uncertainty in decision making process, some author introduced fuzzy AHP. In fuzzy AHP, crisp numbers are transformed into fuzzy ones with the aid of membership function to deal with the vagueness. However, the selection of membership function in fuzzy sets is mainly depending on subjective judgment and the boundary of fuzzy set is difficult to determine accurately (Zhu et al., 2015). Consider the mentioned deficiency of fuzzy AHP, some researchers used interval number to represent decision information such as rough number. Rough number is first proposed by Zhai et al. (2008) with the purpose of handling subjective judgments of decision makers and then determining the boundary intervals. Rough number is based on rough set theory introduced by Pawlak (1982) as a novel mathematical tool to handle imprecise, vague and uncertain data. It overlaps, to some extent, with many other theories dealing with uncertainty and vagueness, especially with fuzzy set theory (Zhai et al., 2008). Rough number, containing lower limit, upper limit and the rough boundary interval, depends only on given data and does not require any auxiliary information to capture

the experts' real perception and to improve the objectivity of the decision-making (Roy et al., 2017).

In this study, AHP based on rough number is used to determine the weight of each evaluation criterion. Zhu et al. (2015) presented the procedure of the rough AHP method as follows:

Step 1: Identify the evaluation objective, criteria and alternatives. Construct a hierarchical structure with the evaluation objective at the top layer, criteria in the middle and alternatives at the bottom.

Step 2: Conduct AHP survey and construct a group of pair-wise comparison matrices. The pair-wise comparison matrix of the e th expert is described as:

$$B_e = \begin{bmatrix} 1 & x_{12}^e & \cdots & x_{1m}^e \\ x_{21}^e & 1 & \cdots & x_{2m}^e \\ \vdots & \vdots & \ddots & \vdots \\ x_{m1}^e & x_{m2}^e & \cdots & 1 \end{bmatrix}$$

where $x_{gh}^e (1 \leq g \leq m, 1 \leq h \leq m, 1 \leq e \leq s)$ is the relative importance of criterion g on criterion h given by expert e , m is the number of criteria, s is the number of experts.

Calculate the maximum eigenvalue λ_{max}^e of B_e , then compute the consistency index $CI = (\lambda_{max}^e - m)/(m - 1)$.

Determine the random consistency index (RI) in Table 1 according to m . Compute the consistency ratio $CR = CI/RI$.

Table 1. Value of random index depending on the rank of matrix (Saaty & Vargas, 2012)

<i>n</i>	1	2	3	4	5	6	7	8	9	10
<i>RI</i>	0.00	0.00	0.52	0.89	1.11	1.25	1.35	1.40	1.45	1.49

Conduct consistency test. If $CR < 0.1$, the comparison matrix is acceptable. Otherwise, experts' judgments should be adjusted until $CR < 0.1$.

Then the integrated comparison matrix \tilde{B} is built as:

$$\tilde{B} = \begin{bmatrix} 1 & \tilde{x}_{12} & \dots & \tilde{x}_{1m} \\ \tilde{x}_{21} & 1 & \dots & \tilde{x}_{2m} \\ \vdots & \vdots & \ddots & \vdots \\ \tilde{x}_{m1} & \tilde{x}_{m2} & \dots & 1 \end{bmatrix}$$

where $\tilde{x}_{gh} = \{x_{gh}^1, x_{gh}^2, \dots, x_{gh}^s\}$, \tilde{x}_{gh} is the sequence of relative importance of criterion g on criterion h .

Step 3: Construct a rough comparison matrix. Translate the element x_{gh}^s in \tilde{B} into rough number $RN(\tilde{x}_{gh})$ using following equations (1-6):

$$\underline{Apr}(G_q) = \bigcup \{Y \in U/R(Y) \leq G_q\} \tag{1}$$

$$\overline{Apr}(G_q) = \bigcup \{Y \in U/R(Y) \geq G_q\} \tag{2}$$

$$Bnd(G_q) = \bigcup \{Y \in U/R(Y) \neq G_q\} = \{Y \in U/R(Y) > G_q\} \tag{3}$$

where U is the universe which contains all the objects, Y is an arbitrary object of U , R is a set of t classes (G_1, G_2, \dots, G_t) that cover all the object in $U, R = \{G_1, G_2, \dots, G_t\}$. If these classes are ordered as $G_1 < G_2 < \dots < G_t$, then $\forall Y \in U, G_q \in R, 1 \leq q \leq t$, the lower approximation is $\underline{Apr}(G_q)$, upper approximation is $\overline{Apr}(G_q)$ and boundary region of class G_q is $Bnd(G_q)$.

$$\underline{Lim}(G_q) = \frac{1}{M_L} \sum R(Y) | Y \in \underline{Apr}(G_q) \quad (4)$$

$$\overline{Lim}(G_q) = \frac{1}{M_U} \sum R(Y) | Y \in \overline{Apr}(G_q) \quad (5)$$

$$RN(G_q) = [\underline{Lim}(G_q), \overline{Lim}(G_q)] \quad (6)$$

where (G_q) is represented by a rough number $RN(G_q)$, which is determined by its corresponding lower limit $\underline{Lim}(G_q)$ and its upper limit $\overline{Lim}(G_q)$. M_L and M_U are the number of objects that contained in $\underline{Apr}(G_q)$ and $\overline{Apr}(G_q)$, respectively.

After applying equations (1)-(6), element x_{gh}^e in \tilde{B} is translated as rough number $RN(x_{gh}^e) = [x_{gh}^{eL}, x_{gh}^{eU}]$ where x_{gh}^{eL} is its lower limit and x_{gh}^{eU} its upper limit.

Applying rules of rough arithmetic, rough number is translated into an average rough number $RN(x_{gh}) = [x_{gh}^L, x_{gh}^U]$ where x_{gh}^L represents

lower limit of $RN(x_{gh})$ and x_{gh}^U represents upper limit of $RN(x_{gh})$.
 x_{gh}^L and x_{gh}^U are calculate as follows:

$$x_{gh}^L = \frac{x_{gh}^{1L} + x_{gh}^{2L} + \dots + x_{gh}^{sL}}{s}$$

(7)

$$x_{gh}^U = \frac{x_{gh}^{1U} + x_{gh}^{2U} + \dots + x_{gh}^{sU}}{s}$$

(8)

Then rough comparison matrix M is formed as:

$$M = \begin{bmatrix} [1,1] & [x_{12}^L, x_{12}^U] & \dots & [x_{1m}^L, x_{1m}^U] \\ [x_{21}^L, x_{21}^U] & [1,1] & \dots & [x_{2m}^L, x_{2m}^U] \\ \vdots & \vdots & \ddots & \vdots \\ [x_{m1}^L, x_{m1}^U] & [x_{m2}^L, x_{m2}^U] & \dots & [1,1] \end{bmatrix}$$

(9)

Step 4: Calculate the rough weight w_g of each criterion:

$$w_g = \left[\sqrt[m]{\prod_{h=1}^m x_{gh}^L}, \sqrt[m]{\prod_{h=1}^m x_{gh}^U} \right]$$

(10)

$$w_g' = w_g / \max(w_g^U)$$

(11)

where w_g' is the normalization form. Finally, the criteria weights are obtained.

3. 2. PROMETHEE II

Other well-known and often used MCDM method is PROMETHEE method. Since the first introduction of this method by Jean-Pierre Brans (1982) up to now, various variants of PROMETHEE methods have been developed, each of which is adapted for solving various problems. Hence, PROMETHEE method includes PROMETHEE I-VI, GDSS, TRI and CLUSTER analysis. PROMETHEE II provides a complete ranking of alternatives from the best to the worst one. Thus, in this study PROMETHEE II is used for ranking of the factors influencing SMEs failure.

Behzadian et al. (2010) presented procedure in five steps as in Figure1.

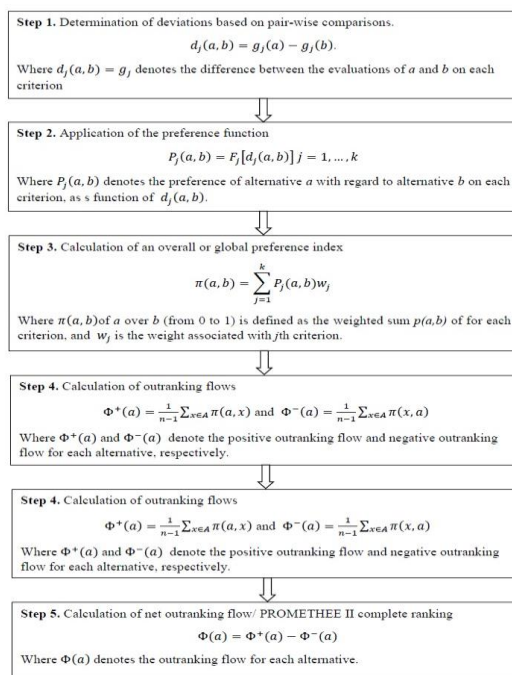


Figure 1. Stepwise procedure for PROMETHEE II (Behzadian et al., 2010; Nikolić et al., 2019)

The first step is determination of deviations based on pair-wise comparisons. In this step a pair-wise comparison of alternatives along each recognized criterion is conducted. The implementation of the PROMETHEE II requires two additional types of information: (1) information on the relative importance (i.e. the weights) of the criteria considered and (2) information on the decision-makers' preference function. PROMETHEE does not provide specific guidelines for determining these weights, but assumes that the decision-maker is able to weigh the criteria appropriately, at least when the number of criteria is not too large (Behzadian et al., 2010; Macharis et al., 2004). However, many authors stated that not providing any formal guidelines on how weights can be elicited and difficulties in defining preference functions are one of main limitations of PROMETHEE method (Kabir & Sumi, 2014; Moradpour et al., 2011). Vincke and Brans (1985) proposed six types of preference functions that are commonly used in practice (Figure 2):

- (1) Usual criterion,
- (2) U-shape criterion,
- (3) V-shape criterion,
- (4) Level criterion,
- (5) V-shape with indifference criterion and
- (6) Gaussian criterion.

How to prevent SMEs failure
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<p>Type 1: Usual criterion</p>		$P(d) = \begin{cases} 0 & d \leq 0 \\ 1 & d > 0 \end{cases}$
<p>Type 2: U- shape criterion,</p>		$P(d) = \begin{cases} 0 & d \leq q \\ 1 & d > q \end{cases}$
<p>Type 3: V- shape criterion</p>		$P(d) = \begin{cases} 0 & d \leq 0 \\ d/p & 0 < d \leq p \\ 1 & d > p \end{cases}$
<p>Type 4: Level criterion</p>		$P(d) = \begin{cases} 0 & d \leq q \\ 1/2 & q < d \leq p \\ 1 & d > p \end{cases}$
<p>Type 5: V- shape with indifference criterion</p>		$P(d) = \begin{cases} 0 & d \leq q \\ \frac{d-q}{p-q} & q < d \leq p \\ 1 & d > p \end{cases}$

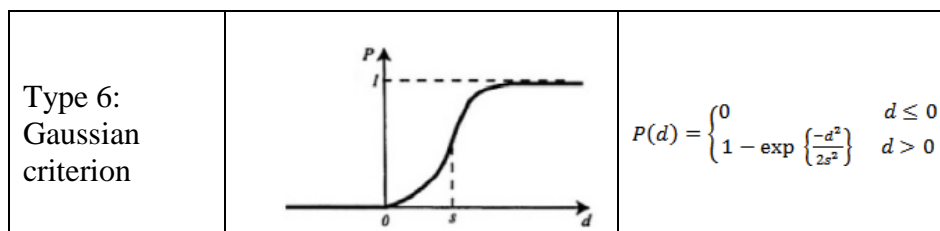


Figure 2. Types of preference function. (Gervasio & Da Silva, 2012)

Application of the preference function is the second step. In this step decision-maker must to determine at most two out of three following preferential parameters: indifference threshold (q), preference threshold (p) and Gaussian threshold (s). Indifference threshold (q) is the largest deviation which is considered as negligible by the decision maker. It is a small value with respect to the scale of measurement. Preference threshold (p) is the smallest deviation to consider decisive in the preference of one alternative over another. It is a large value with respect to the scale of measurement. Gaussian threshold (s) is only used with the Gaussian preference function. It is usually fixed as an intermediate value between indifference and a preference threshold (Dağdeviren, 2008). The preference function translates the difference between the evaluations of two alternatives (*a* and *b*) in terms of a particular criterion, into a preference degree ranging from 0 to 1. (Dağdeviren, 2008).

Next step in PROMETHEE procedure is calculation of an overall or global preference index. The global preference index $\pi(a,b)$ expresses with which degree *a* is preferred to *b* over all the criteria, while $\pi(b,a)$ indicates how *b* is preferred to *a*. $\pi(a,b) \approx 1$, implies a strong global preference of *a* over *b*, while, $\pi(a,b) \approx 0$, implies a weak global preference of *a* over *b* (Kabir & Sumi, 2014).

The fourth step is calculation of outranking flows for each when compared with other alternatives. A positive outranking flow (Φ^+) of alternative *a* indicates the overall outranking degree of this alternative,

which indicates the extent to which this alternative dominates all other alternatives. Similarly, a negative outranking flow (Φ^-) of alternative a indicates the extent to which this alternative is dominated by all other alternatives (Abedi et al., 2012).

In the finale step, calculation of the net flow (Φ) as the difference between the positive and negative outranking flow is carry out. This enables PROMETHEE II to carry out the ranking of the alternatives. The higher the net flow, the better the alternative.

One of main advantage of PROMETHEE II method is the ability to graphically present results using the Geometrical Analysis for Interactive Aid (GAIA) plane. GAIA plane not only provides presentation of results of overall ranking, but also provides to view ranking according to a certain criterion. In addition, there are software packages such as Decision Lab 2000 and Visual PROMETHEE which application of PROMETHEE method make easier. In this research Decision Lab 2000 was used. Moradpour et al. (2011) stated that by using Decision Lab, decision makers can improve the quality and reliability of the decision making processes, because of the structured procedure, accompanied by computational help, and the analytical aids.

3.3. ABC Method

ABC is categorization technique for determining which items should get priority. It is based on Pareto principle that a small portion of an entity will account for a large portion of results. This is also known as the 80/20 rule. ABC method divides the items into the three classes: A – very important, B – important, and C – least important. In class A are approximately 20% of high-usage-value items which account for around 80% of the total usage value. Class B includes medium usage value items, usually the next 30% of items which often account for around 10 per cent of the total usage value. Finally, class C includes

rest 50% of items which have low-usage-value. Although, class C comprising around 50% of the total items, probably only account for around 10% of the total usage value (Rouse, 2011; Slack et al., 2010).

4. APPLICATION OF THE PROPOSED METHODOLOGY

In order to prioritizing SMEs failure factors, the RAHP-PROMETHEE-ABC method is proposed. The proposed methodology can be divided into five main stages as shown in Figure 3.

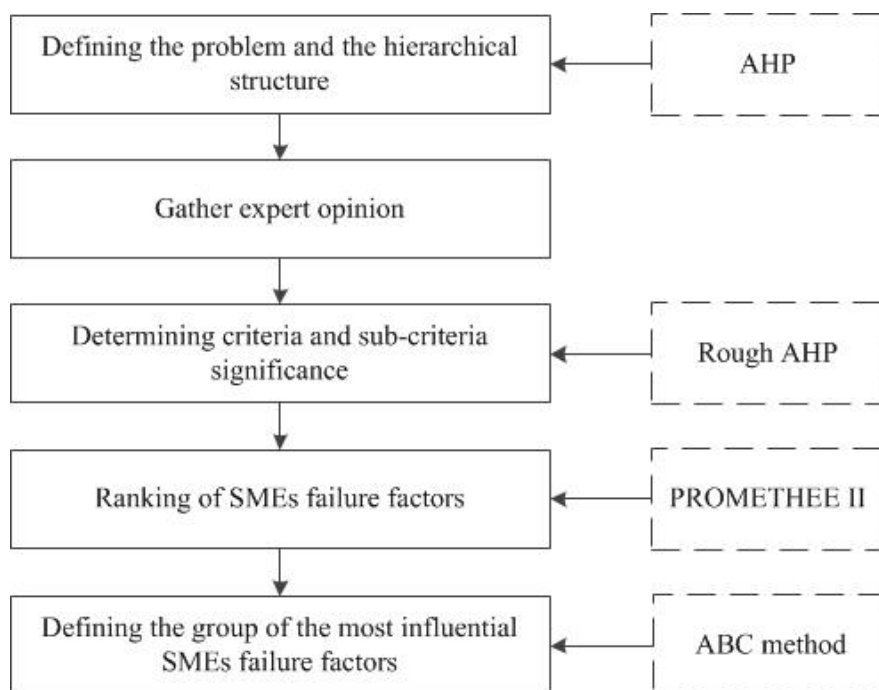


Figure 3. Proposed approach

The first stage is definition of the problem and the hierarchical structure of the problem. The hierarchical structure is shown in Figure 4.

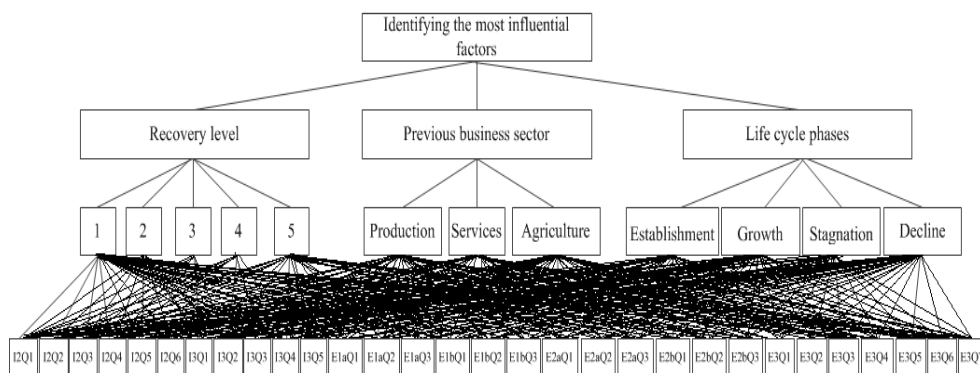


Figure 4. Hierarchical structure of the problem

The hierarchical AHP structure was constructed by the researchers consisting of a goal, criteria, and sub-criteria. The goal of problem solving is placed at the top of the hierarchical structure. In this research, the goal is to identify the group of the most influential SMEs failure factors. In the second level of the hierarchical structure there are criteria used in the ranking of SMEs failure factors. Nikolić et al. (2018) conducted ranking of certain factors within the defined groups of factors (I2, I3, E1, E2, E3 – Appendix A) according to level of recovery, business life cycle stage and previous business sector. However, in Nikolić et al. (2018) ranking of all identified factors was not carry out and also they did not use all three criteria simultaneously. Therefore, in this research entire ranking of the identified factors according level of recovery, business life cycle stage and previous business sector will be performed. At the third level there are sub-criteria within the criteria. At the bottom of hierarchical structure there are identified factors. In the next stage, AHP survey is conducted and group of pair-wise comparison matrices are constructed. Values of pair-wise comparison matrices are assigned based on Saaty’s pairwise comparison scale shown in Table 2.

Table 2. Saaty’s pairwise comparison scale (Mu & Pereyra-Rojas, 2017)

Verbal judgment	Numeric value
Extremely important	9
	8
Very Strongly more important	7
	6
Strongly more important	5
	4
Moderately more important	3
	2
Equally important	1

The individual pair-wise comparison matrices with consistency ratio (CR) are as follows:

Table 3. Filled pair-wise comparison matrices for criteria by expert 1.

	Level of recovery	Previous business sector	Business life cycle stage
Level of recovery	1	1/5	1/3
Previous business sector	5	1	2
Business life cycle stage	3	1/2	1

CR=0.003

Table 4. Filled pair-wise comparison matrices for criteria by expert 2.

	Level of recovery	Previous business sector	Business life cycle stage
Level of recovery	1	5	3
Previous business sector	1/5	1	1
Business life cycle stage	1/3	1	1

CR=0.025

Table 5. Filled pair-wise comparison matrices for criteria by expert 3.

	Level of recovery	Previous business sector	Business life cycle stage
Level of recovery	1	7	9
Previous business sector	1/7	1	1
Business life cycle stage	1/9	1	1

CR=0.006

Table 6. Filled pair-wise comparison matrices sub-criterion recovery level by expert 1.

Level of recovery	1	2	3	4	5
1	1	1/2	1/3	1/5	1/7
2	2	1	1/2	1/5	1/6
3	3	2	1	1/2	1/4
4	5	5	2	1	1/3
5	7	6	4	3	1

CR=0.026

Table 7. Filled pair-wise comparison matrices sub-criterion recovery level by expert 2.

Level of recovery	1	2	3	4	5
1	1	1/3	1/5	1/7	1/9
2	3	1	1/3	1/5	1/7
3	5	3	1	1/3	1/5
4	7	5	3	1	1/3
5	9	7	5	3	1

CR=0.054

Table 8. Filled pair-wise comparison matrices sub-criterion recovery level by expert 3.

Level of recovery	1	2	3	4	5
1	1	1/2	1/3	1/5	1/7
2	2	1	1/2	1/5	1/6
3	3	2	1	1/2	1/4
4	5	5	2	1	1/3
5	7	6	4	3	1

CR=0.026

Table 9. Filled pair-wise comparison matrices sub-criterion of previous business sector by expert 1.

Previous business sector	Production	Agriculture	Services
Production	1	1/3	1/5
Agriculture	3	1	1/3
Services	5	3	1

CR=0.033

Table 10. Filled pair-wise comparison matrices sub-criterion of previous business sector by expert 2.

Previous business sector	Production	Agriculture	Services
Production	1	5	3
Agriculture	1/5	1	1
Services	1/3	1	1

CR=0.025

Table 11. Filled pair-wise comparison matrices sub-criterion of previous business sector by expert 3.

Previous business sector	Production	Agriculture	Services
Production	1	1/3	1/2
Agriculture	3	1	1
Services	2	1	1

CR=0.016

Table 12. Filled pair-wise comparison matrices sub-criterion of life cycle phases by expert 1.

Business life cycle stage	Establishment	Growth	Stagnation	Decline
Establishment	1	3	4	5
Growth	1/3	1	1	3
Stagnation	1/4	1	1	3
Decline	1/5	1/3	1/3	1

CR=0.028

Table 13. Filled pair-wise comparison matrices sub-criterion of life cycle phases by expert 2.

Business life cycle stage	Establishment	Growth	Stagnation	Decline
Establishment	1	9	7	5
Growth	1/9	1	3	1
Stagnation	1/7	1/3	1	1
Decline	1/5	1	1	1

CR=0.087

Table 14. Filled pair-wise comparison matrices sub-criterion of life cycle phases by expert 3.

Business life cycle stage	Establishment	Growth	Stagnation	Decline
Establishment	1	1/3	1/5	1/7
Growth	3	1	1/3	1/5
Stagnation	5	3	1	1/3
Decline	7	5	3	1

CR=0.044

Since $CR < 0.1$ all the comparison matrices are acceptable. Integrated comparison matrix \tilde{B} generated by combining with the previous individual comparison matrices are as follows.

Integrated comparison matrix for criteria is:

$$\tilde{B}_1 = \begin{bmatrix} 1,1,1 & 1/5,5,7 & 1/3,3,9 \\ 5,1/5,1/7 & 1,1,1 & 2,1,1 \\ 3,1/3,1/9 & 1/2,1,1 & 1,1,1 \end{bmatrix}$$

Integrated comparison matrix for sub-criterion recovery level is:

$$\tilde{B}_2 = \begin{bmatrix} 1,1,1 & 1/2,1/3,1/2 & 1/3,1/5,1/3 & 1/5,1/7,1/5 & 1/7,1/9,1/7 \\ 2,3,2 & 1,1,1 & 1/2,1/3,1/2 & 1/5,1/5,1/5 & 1/6,1/7,1/6 \\ 3,5,3 & 2,3,2 & 1,1,1 & 1/2,1/3,1/2 & 1/4,1/5,1/4 \\ 5,7,5 & 5,5,5 & 2,3,2 & 1,1,1 & 1/3,1/3,1/3 \\ 7,9,7 & 6,7,6 & 4,5,4 & 3,3,3 & 1,1,1 \end{bmatrix}$$

Integrated comparison matrix for sub-criterion of previous business sector is:

$$\tilde{B}_3 = \begin{bmatrix} 1,1,1 & 1/3,5,1/3 & 1/5,3,1/2 \\ 3,1/5,3 & 1,1,1 & 1/3,1,1 \\ 5,1/3,2 & 3,1,1 & 1,1,1 \end{bmatrix}$$

Integrated comparison matrix for sub-criterion of life cycle phases is:

$$\tilde{B}_4 = \begin{bmatrix} 1,1,1 & 3,9,1/3 & 4,7,1/5 & 5,5,1/7 \\ 1/3,1/9,3 & 1,1,1 & 1,3,1/3 & 3,1,1/5 \\ 1/4,1/7,5 & 1,1/3,3 & 1,1,1 & 3,1,1/3 \\ 1/5,1/5,7 & 1/3,1,5 & 1/3,1,3 & 1,1,1 \end{bmatrix}$$

In order to obtain rough comparison matrix, elements of integrated comparison matrixes are transformed into a rough number. Obtained rough comparison matrixes are as follows:

Rough comparison matrix for criteria is:

$$M_1 = \begin{bmatrix} [1.00; 1.00] & [2.29; 4.89] & [2.04; 6.37] \\ [0.70; 3.13] & [1.00; 1.00] & [1.11; 1.55] \\ [0.49; 1.94] & [0.72; 0.94] & [1.00; 1.00] \end{bmatrix}$$

Rough comparison matrix for sub-criterion recovery level is:

$$M_2 = \begin{bmatrix} [1.00; 1.00] & [0.40; 0.48] & [0.26; 0.32] & [0.17; 0.19] & [0.12; 0.14] \\ [2.11; 2.55] & [1.00; 1.00] & [0.40; 0.48] & [0.20; 0.20] & [0.15; 0.17] \\ [3.22; 4.11] & [2.11; 2.55] & [1.00; 1.00] & [0.40; 0.48] & [0.22; 0.24] \\ [5.22; 6.11] & [5.00; 5.00] & [2.11; 2.55] & [1.00; 1.00] & [0.33; 0.33] \\ [7.22; 8.08] & [6.11; 6.55] & [4.11; 4.55] & [3.00; 3.00] & [1.00; 1.00] \end{bmatrix}$$

Rough comparison matrix for sub-criterion of previous business sector is:

$$M_3 = \begin{bmatrix} [1.00; 1.00] & [0.85; 2.96] & [0.59; 1.99] \\ [1.45; 2.69] & [1.00; 1.00] & [0.63; 0.93] \\ [1.31; 3.65] & [1.22; 2.11] & [1.00; 1.00] \end{bmatrix}$$

Rough comparison matrix for sub-criterion of life cycle phases is:

$$M_4 = \begin{bmatrix} [1.00; 1.00] & [2.04; 6.37] & [2.01; 5.41] & [2.3; 4.46] \\ [0.49; 1.94] & [1.00; 1.00] & [0.81; 2.15] & [0.73; 2.13] \\ [0.71; 3.14] & [0.81; 2.15] & [1.00; 1.00] & [0.81; 2.15] \\ [0.96; 3.98] & [1.04; 3.37] & [0.81; 2.15] & [1.00; 1.00] \end{bmatrix}$$

Based on rough comparison matrices (M_1 – M_4) using equations (10) and (11), rough weights of the criteria are calculated and presented in Table 15.

Table 15. Rough weights coefficients of the evaluation criteria

Criterion	Criteria significance	Sub-criterion	Sub-criteria significance	Rough weight
Recovery level	[0.53;1.00]	1	[0.08;0.09]	[0.04;0.09]
		2	[0.13;0.14]	[0.07;0.14]
		3	[0.24;0.28]	[0.13;0.28]
		4	[0.48;0.51]	[0.25;0.51]
		5	[0.94;1.00]	[0.50;1.00]
Previous business sector	[0.29;0.54]	Production	[0.40;0.91]	[0.12;0.49]
		Agriculture	[0.49;0.69]	[0.14;0.37]
		Services	[0.59;1.00]	[0.17;0.54]
Business life cycle stage	[0.22;0.39]	Establishment	[0.50;1.00]	[0.11;0.39]
		Growth	[0.21;0.49]	[0.05;0.19]
		Stagnation	[0.23;0.55]	[0.05;0.22]
		Decline	[0.27;0.66]	[0.06;0.26]

Since crisp values are used in PROMETHEE II method, in next step the rough values will be converted in crisp values using equations (12)-(14).

$$\begin{aligned}
 RN(\hat{R}_i) &= [\underline{Lim}(\hat{R}_i), \overline{Lim}(\hat{R}_i)] \\
 &= \begin{cases} \underline{Lim}(\hat{R}_i) = \frac{\underline{Lim}(R_i) - \min_i \{\underline{Lim}(R_i)\}}{\max_i \{\overline{Lim}(R_i)\} - \min_i \{\underline{Lim}(R_i)\}} \\ \overline{Lim}(\hat{R}_i) = \frac{\overline{Lim}(R_i) - \min_i \{\underline{Lim}(R_i)\}}{\max_i \{\overline{Lim}(R_i)\} - \min_i \{\underline{Lim}(R_i)\}} \end{cases}
 \end{aligned}
 \tag{12}$$

where $\underline{Lim}(R_i)$ and $\overline{Lim}(R_i)$ represent the lower limit and upper limit of the rough number $RN(R_i)$, respectively; $\underline{Lim}(\hat{R}_i)$ and $\overline{Lim}(\hat{R}_i)$ are the normalized forms of $\underline{Lim}(R_i)$ and $\overline{Lim}(R_i)$.

After normalization, total normalized crisp value is:

$$\beta_i = \frac{\underline{Lim}(\hat{R}_i) \cdot \{1 - \underline{Lim}(\hat{R}_i)\} + \overline{Lim}(\hat{R}_i) \cdot \overline{Lim}(\hat{R}_i)}{1 - \underline{Lim}(\hat{R}_i) + \overline{Lim}(\hat{R}_i)} \quad (13)$$

Finally, crisp form R_i^{crisp} for $RN(R_i)$ is obtained by applying equation (16):

$$R_i^{crisp} = \min\{\underline{Lim}(R_i)\} + \beta_i \cdot [\max\{\overline{Lim}(R_i)\} - \min\{\underline{Lim}(R_i)\}] \quad (14)$$

Crisp values of weight coefficients are shown in Table 16.

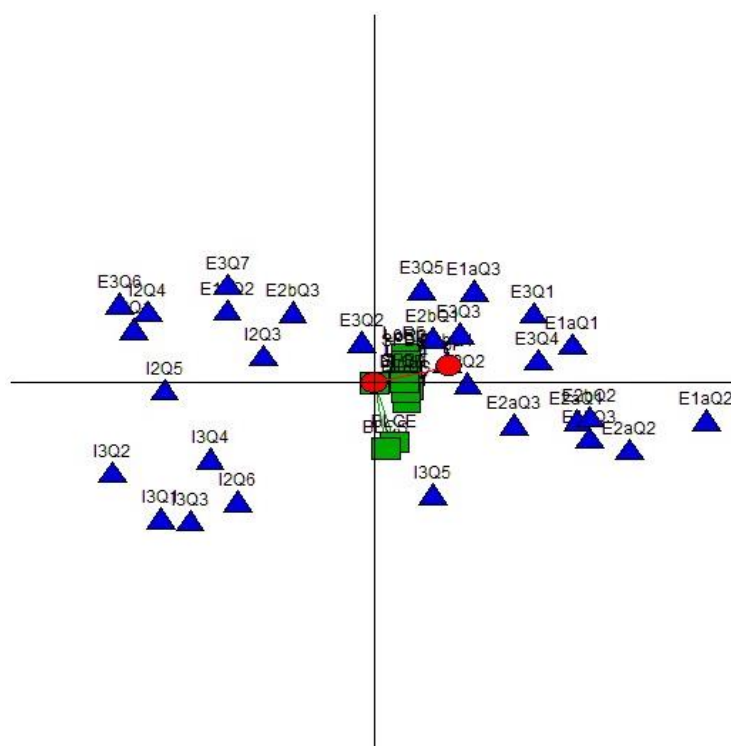
Table 16. Weight coefficients of the evaluation criteria

Criterion	Sub-criterion	Weight
Recovery level	1	0.0425
	2	0.0768
	3	0.1624
	4	0.3502
	5	0.8288
Previous business sector	Production	0.2452
	Agriculture	0.2038
	Services	0.3091
Business life cycle stage	Establishment	0.1890
	Growth	0.0691
	Stagnation	0.0771

Decline

0.0979

In order to rank SMEs failure factors, weight coefficients obtained using Rough AHP method are applied in PROMETHEE II method. Results of PROMETHEE II are presented in Figure 5 and 6. In Figure 6 is also presented and result of ABC method.



$\Delta = 83.09\%$

Figure 5. GAIA plane presentation of SMEs failure factors ranking

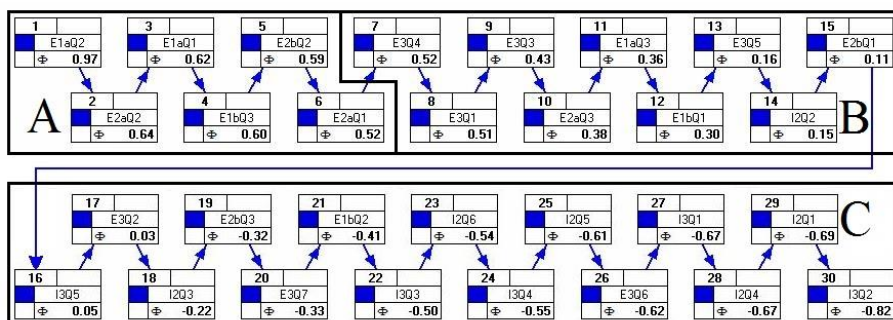


Figure 6. Results of PROMETHEE II complete ranking and ABC method.

5. RESULTS AND DISCUSSION

Results of this study were presented in Figure 5 and 6. Results in the Figure 5 are presented using GAIA plane. In the interpretation of GAIA plane results it is necessary to pay attention to a measure of the quantity of information being preserved using GAIA plane, which is denoted by Δ and expressed in percentages. In this case, Δ is 83.09%, which represents a high reliability of information obtained by GAIA plane (Brans & Mareschal, 1994). In the Figure 6, PROMETHEE II complete ranking of SMEs failure factors along with results of ABC method are shown. Due to greater readability of results, the summary of results is given in Table 17.

Table 17. Table presentation of the results of applied RAHP-PROMETHEE-ABC method

Rank	Description of factor	Abbrev.	ABC group
1.	Economic issues	E1aQ2	A
2.	The supply of electricity	E2aQ2	
3.	Political issues	E1aQ1	
4.	Legislative issues	E1bQ3	
5.	Existence of markets for products/services	E2bQ2	
6.	Transportation system	E2aQ1	
7.	Difficulties in obtaining new technologies	E3Q4	B
8.	Management of receivables/payables	E3Q1	

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9.	Drop in motivation	E3Q3	
10.	Enough qualified work force	E2aQ3	
11.	Social issues	E1aQ3	
12.	Technological issues	E1bQ1	
13.	Inability to find new potential shareholders/partners	E3Q5	
14.	The need of achievement	I2Q2	
15.	Possibility of increasing capacity	E2bQ1	
16.	Good business connections as a start-up motive	I3Q5	
17.	Delays in loan repayments	E3Q2	
18.	Risk taking	I2Q3	
19.	Availability of suppliers for the necessary production materials	E2bQ3	
20.	The level of clearing/barter transaction	E3Q7	
21.	Environmental issues	E1bQ2	
22.	Job satisfaction as a start-up motive.	I3Q3	
23.	Independence	I2Q6	C
24.	Self-fulfilment as a start-up motive.	I3Q4	
25.	Internal locus of control	I2Q5	
26.	The level of unencumbered fixed assets	E3Q6	
27.	Desire to be independent as a start-up motive.	I3Q1	
28.	Creativity	I2Q4	
29.	Self-confidence	I2Q1	
30.	Finance as a start-up motive.	I3Q2	

The results, shown in Table 17, obtained by using the RANP-PROMETHEE-ABC methodology for prioritizing the SMEs failure factors, indicate that the group of the most influential factors includes following factors: Economic issues, The supply of electricity, Political issues, Legislative issues, Existence of markets for products/services and Transportation system.

Serbia is a country in transition. Therefore, many entrepreneurs/owners of SMEs are facing with economic and political issues. According to the most recent Report on SMEs and Entrepreneurship for 2017 (2018), compare to 2008, the number of employees in SME sector dropped by 7% although the number of SMEs increased by 17.72%. In addition, gross value added of SME sector is also below the level in

2008 (Ministry of Economy of the Republic of Serbia, 2018). This indicates that business environment for SMEs must be improved.

One of the main problems encountered by entrepreneurs/owners of SMEs is also and the supply of electricity. Moreover, according to World Bank report (2019), rank of Serbia according to criterion “getting electricity” is declining in previous four years as shown in Table 18.

Table 18. Ranking of Serbia on Doing business list according to criteria “getting electricity”

Year	Rank
2016	63
2017	92
2018	96
2019	104

Drop according to this criterion is considered to be the main reason for decline of Serbia to 48th place on the World Bank’s Ease of Doing Business List, in comparison to previous year, when Serbia ranked 43rd. Entrepreneurs/owners of SMEs are faced with high price of electricity for commercial customers, costly, time-consuming and complex procedures for obtaining electricity. Therefore, required number of steps for obtaining electricity as well as time to obtain electricity, which now it is 125 days, should be reduced.

Legislative issues present one of main obstacle for success of SMEs. This is also pointed out by European Commission (2017) in Small Business Act Fact Sheet report for 2017. According to this report, there are numerous administrative obstacles encountered by SMEs such as: the number of tax payments per year, the time it takes to pay taxes and the cost of enforcing contracts. In order to improve performance of SMEs it is necessary to remove these obstacles.

Nikolić et al. (2018) stated that due to insufficient entrepreneurial and marketing knowledge, entrepreneurs/owners of SMEs often do not take into consideration the needs of the market first but start from the product instead. Therefore, it is not surprising that their main problem is finding the market for their products. Consequently, it is necessary to provide training to entrepreneurs/owners of SMEs in order to improve their entrepreneurial and marketing skills.

The sixth most influential factor is transportation system. Transport infrastructure in Serbia is underdeveloped, inconsistent and represent an obstacle to economic growth because it is uncompetitive and not harmonized with the EU regulations. Quality of roads in Serbia is low and that influences not only the competitiveness of the economy, but also safety of Serbia's citizen. Moreover, Serbia is not a part of the transport network of corridors of the EU (Mihajlović, 2017). According to the Logistic Performance Index (LPI) for 2018, Serbia is ranked 65th (The World Bank, 2019). LPI was first published in 2007 and measure the efficiency of logistics supply chains based on survey feedback from export companies (Luisa et al., 2017). Furthermore, Serbian railways with average speed of 40 km/h are also underdeveloped. There is also and long average waiting time at borders. For passenger transport at crossings is 45-80 minutes, and for cargo 160-500 minutes. This cause decrease in competitiveness and problems in the economy of not only Serbia, but also to the border countries (Mihajlović, 2017). These considerations imply that infrastructure in Serbia also have to be improved.

6. CONCLUSION

Scientists claim that SMEs play a significant role in the economic development for a country. Therefore, it is very important to remove all obstacles that prevents their further development and can cause bankruptcy of SMEs. All these imply a need to develop strategy to prevent SMEs failure. The first step in this process is recognition of negative influence that deteriorate performance of SMEs. As there are

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numerous factors that can cause failure of SMEs, it is of major importance to separate the group of the most influential factors. For this purpose, an integrated approach of RAHP, PROMETHEE and ABC has been proposed, in which the strengths of all methodologies are combined in a single MCDM tool. RAHP has been used to determine criterion weights and hence represent trade-offs between criteria in PROMETHEE, which did not provide any formal guidelines for weighing up. The GAIA plane enables a graphical representation of the alternatives and criteria and helps to explore the strong and weak points of the alternatives. ABC enable to separate the group of the most influential factors. This group includes following factors: Economic issues, The supply of electricity, Political issues, Legislative issues, Existence of markets for products/services and Transportation system. Results of this paper can provide guidelines to develop strategy for improvement of business conditions for SMEs in Serbia. This strategy will also help to reduce the number of failed SMEs. Moreover, proposed approach can be applied in other countries to determine the most influential factors on SMEs performance. Proposed method can also be applied to other decision making problems. Additionally, this study contributes to literature on factors that influence SMEs performance and to literature on MCDA.

APPENDIX

Table A. The questions from the survey, classified into groups of factors

	Group	Abbrev.	Mean value	Question
Individual factors / private time activities	I1	I1Q1	4.3	If I had more time for private activities I would spend it with my family.
	I1	I1Q2	3.8	If I had more time for private activities I would spend it with my friends.
	I1	I1Q3	3.3	If I had more time for private activities I would spend it on my hobby.
	I1	I1Q4	3.9	If I had more time for private activities I would spend it going on vacation.
	I1	I1Q5	2.3	If I had more time for private activities I would spend it on voluntary work.
	I1	I1Q6	2.7	If I had more time for private activities I would spend it doing socially responsible work.
Individual factors / Personal characteristics of entrepreneur and owner of SME	I2	I2Q1	3.9	Self-confidence is the most important personal characteristic of an entrepreneur for SME success.
	I2	I2Q2	3.0	The need of achievement is the most important personal characteristic of an entrepreneur for SME success.
	I2	I2Q3	3.6	Risk taking is the most important personal characteristic of an entrepreneur for SME success.
	I2	I2Q4	4.0	Creativity is the most important personal characteristic of an entrepreneur for SME success.
	I2	I2Q5	3.9	Internal locus of control is the most important personal characteristic of an entrepreneur for SME success.
	I2	I2Q6	3.8	Independence is the most important personal characteristic of an entrepreneur for SME success.
Individual factors / Motivation for SME startup	I3	I3Q1	3.9	My motivation for SME startup was a desire to be independent.
	I3	I3Q2	4.1	My motivation for SME startup was of financial nature.
	I3	I3Q3	3.8	My motivation for SME startup was job satisfaction.
	I3	I3Q4	3.8	My motivation for SME startup was self-

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				fulfillment.
	I3	I3Q5	3.1	My motivation for SME startup was based on good business connections.
External non-individual factors / PESTEL analysis	E1a	E1aQ1	3.3	Political issues, as an external factor, can affect SME operation.
	E1a	E1aQ2	3.9	Economic issues, as an external factor, can affect SME operation.
	E1a	E1aQ3	3.0	Social issues, as an external factor, can affect SME operation.
	E1b	E1bQ1	2.9	Technological issues, as an external factor, can affect SME operation.
	E1b	E1bQ2	2.3	Environmental issues, as an external factor, can affect SME operation.
	E1b	E1bQ3	3.4	Legislative issues, as an external factor, can affect SME operation.
External non-individual factors / Infrastructural issues	E2a	E2aQ1	3.3	Transportation system is an important infrastructural issue of the region in which my SME suffered from failure.
	E2a	E2aQ2	3.5	The supply of electricity is an important infrastructural issue of the region in which my SME suffered from failure.
	E2a	E2aQ3	3.2	Enough qualified work force is an important infrastructural issue of the region in which my SME suffered from failure.
	E2b	E2bQ1	3.0	Possibility of increasing capacity is an important infrastructural issue of the region in which my SME suffered from failure.
	E2b	E2bQ2	3.5	Existence of markets for products/services is an important infrastructural issue of region in which my SME suffered from failure.
	E2b	E2bQ3	2.6	Availability of suppliers for the necessary production materials is an important infrastructural issue of the region in which my SME suffered from failure.
Internal non-individual factors	E3	E3Q1	3.2	Management of receivables/payables as an internal factor can affect SME operation.
	E3	E3Q2	2.7	Delays in loan repayments as an internal factor can affect SME operation.
	E3	E3Q3	2.9	Drop in motivation as an internal factor can affect SME operation.
	E3	E3Q4	3.1	Difficulties in obtaining new technologies as an internal factor, can affect SME operation.
	E3	E3Q5	2.8	Inability to find new potential shareholders/partners as an internal factor can affect SME operation.

	E3	E3Q6	2.0	The level of unencumbered fixed assets as an internal factor can affect SME operation.
	E3	E3Q7	2.3	The level of clearing/barter transaction as an internal factor can affect SME operation.

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PHENOMENA THREATENING THE SECURITY OF THE ENTERPRISE IN TERMS OF PROCESSED INFORMATION AND KNOWLEDGE

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Abstract

Contemporary organizations operate in environment difficult to anticipate. The author of the article considers the issue of present threats to organizations. The threats that emerge from use of ICT were emphasized. The article presents the results of the analysis showing the phenomenon of cyberslacking and the risks that may occur in the enterprise in relation to information and knowledge.

Keywords: Cyberslacking, Information and knowledge security, Enterprise security

1. INTRODUCTION

Modern organizations operate in an extremely turbulent and unpredictable environment, which means that they are exposed to various dangers much more than in previous years. In addition to the classic threats resulting from the nature and form of conducting business, market and competition, besides conventional threats, threats emerging resulting from the widespread use of information and communication technologies. The conditions of the organization's functioning, irrespective of their size and level of organization as well as the sector of activity, require flexible adaptation to market needs and to a large extent depend on the speed and the ability to use information.

The medium that has been the most influential in changing behavior, including doing business, is the Internet. There are over two billion Internet users in the world.

In European Union countries, over 91% of corporations and 69% of small and medium enterprises have websites, almost 30% of households are connected to the Internet via fast broadband connections.

According to the Internet World Status statistics, there are 22.5 million Internet users in Poland (Stewart, 2009). Since 2017, in the next three years, the index of enterprises using computers has increased slightly and amounts to 97%, also the rate of enterprises having access to the Internet in the whole country has grown, reaching in 2018, 96% 3. More and more enterprises (65.5%) have websites websites, as well as websites designed to service e-commerce (Kotulski, 2002). It brings undoubted benefits due to the increased possibility of reaching consumers from all over the world, which translates into increased market share and increased brand awareness of products, which in turn promotes escalation of revenues in the company. The LAN network infrastructure, also intranet, extranet, was widely used for communication within the enterprise, and in communication with the environment (supplier, recipient) was used electronic data exchange (e-mail) and automatic data exchange (Dorodolu, 2016).

2. EVOLUTION OF EMPLOYEE AND ENTERPRISE

Over a quarter of a century ago, such phenomena as: the emergence and development of transnational corporations appeared mainly in economic practice (Colwill, 2009); development of automation of production processes; development of communication systems and information technologies (Madejski, 2005). Recently, the Millennium generation is a great challenge for entrepreneurs, they have a completely different attitude towards computers, mobile phones and the Internet. The result of these processes, which significantly

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influenced the shape of modern organizations and management, became globalization, information society, as a result of social diffusion of innovations in the field of information technologies (ICT) and "new economy" (e-business) growing due to growing resources knowledge and the use of global ICT infrastructure (Internet) (Fischer, 2000) . It enlarged the area of complexity, increasing it dynamics of running activities and competitiveness, at the same time causing an increase in the unpredictability of the environment and an increase in threats. Accepting the diversity, complexity and uncertainty of the environment in which modern organizations operate has resulted in the evolution and emergence of new organizational structures and management models, which is reflected, inter alia, in new management practices, organizational ties and organizational climate (Tallinn et al 2006). The evolution of management can be seen as a movement "from the advantage of formalization to the predominance of spontaneity. System structures are subject to the process of organizational changes, evolving from classical structures to structures adequate to changing goals and missions as well as dynamics and technological changes in the environment. Modern organizations become network organizations, and the virtualization of inter- and intrasystem relations is one of the current strategies of social, individual and group development (Żywiołek, 2018). The formation of virtual organizations, being a temporary network of independent organizations (enterprises - suppliers, recipients and even consumers), sharing costs, skills and mutual access to the market, to be a sustainable development trend (Tutton, 2010). The basic features characterizing network organizations are: temporariness, geographical spread, customer focus, intensity of IT use, as well as the ability to use key competences of virtual organization participants (Łunarski, 2010).

Such an organization, using the advantages of the ICT network, can create the most flexible possibilities of using basic skills (core competences), which give a competitive advantage in a given configuration. However, some real dangers are associated with the virtual organization (Dennen et al, 2011):

- the organization loses control over the functions transferred to the partners by joining the network,
- there is an increase in information threats (limited control over information resources),
- there is a need to build trust with external partners ("trust management").

3. PHENOMENA THREATENING THE SECURITY OF INFORMATION AND KNOWLEDGE IN THE ENTERPRISE

In 2018, the most common type of attack was computer fraud, the second in terms of numbers were forbidden content, while in the third position there was an illegal gathering of information. In the last case, the number of attacks decreased by 57% within 5 years. According to CERT Polska (Computer Emergency Response Team Poland), the number of attacks is increasing from year to year, and more than half of aggressors are commercial companies (58.8%) (Kifner, 2008). As many as 18.5% of attackers remain unknown, which puts new challenges before security organizations. CERT is often unable to identify the real source of the attack, because the attacker is hiding behind a proxy server, botnet or a compromised machine (eg a computer) of an unconscious victim (Kolbusz, 2003). The companies that provide links, physical and virtual servers, where illegal content is placed, have also appeared and disseminated on the border, these companies protect their clients by providing them with anonymity.

The oldest technique aiming at deriving data from an enterprise is collecting information about the company by searching the garbage. This technique is on the edge of external and internal threats (Mottord et al, 2006). It poses a real threat to such organizations as banks, financial and insurance institutions, companies developing and implementing new technologies, for whom confidentiality of contacts with clients is the basis for gaining market share (Polaczek, 2006). Meanwhile, the following statements appear in the literature on the

subject: "the popularity of this technique is determined not only by the ease with which such data can be obtained, but also - in the case of detention - impunity."

It is important that employees are aware of the potential security breach of the system of threats to which the company is exposed. The definition of information vulnerability is also associated with the threat, understood as a defect or a gap in the enterprise, which can be used to cause damage (Łuczak, 2010). Although the existence of vulnerability does not cause losses, it becomes a condition that allows system damage or disruption of operations. If susceptibility is conducive to the threat then there is a risk. The analysis of the surveyed company allowed to show what threats the company is exposed to (Figure 1).

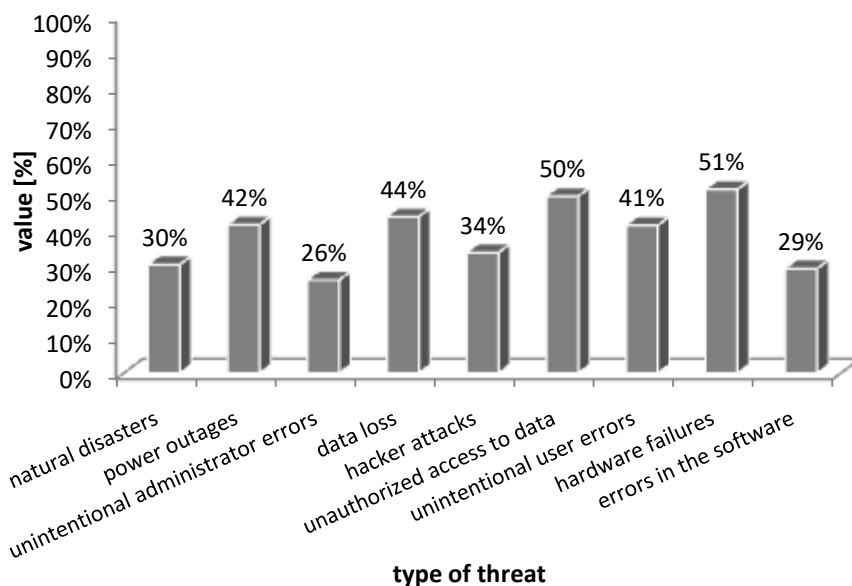


Figure 1. Threats to which a company is exposed

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Employees recognize the problem of hardware failure and software errors. The surveyed enterprises consist of many departments, each of them has its own specificity, has its own software. Enterprises in their structure also have separate departments: accounting, human resources, logistics, trade, which also have the software needed to perform specific tasks. Specifically, the threats will be described during the risk analysis. Employees also notice the possibility of unauthorized access to data, and are aware of the danger of losing them. The structure of employees' responses regarding company threats taking into account their employees' seniority is presented in Figure 2.

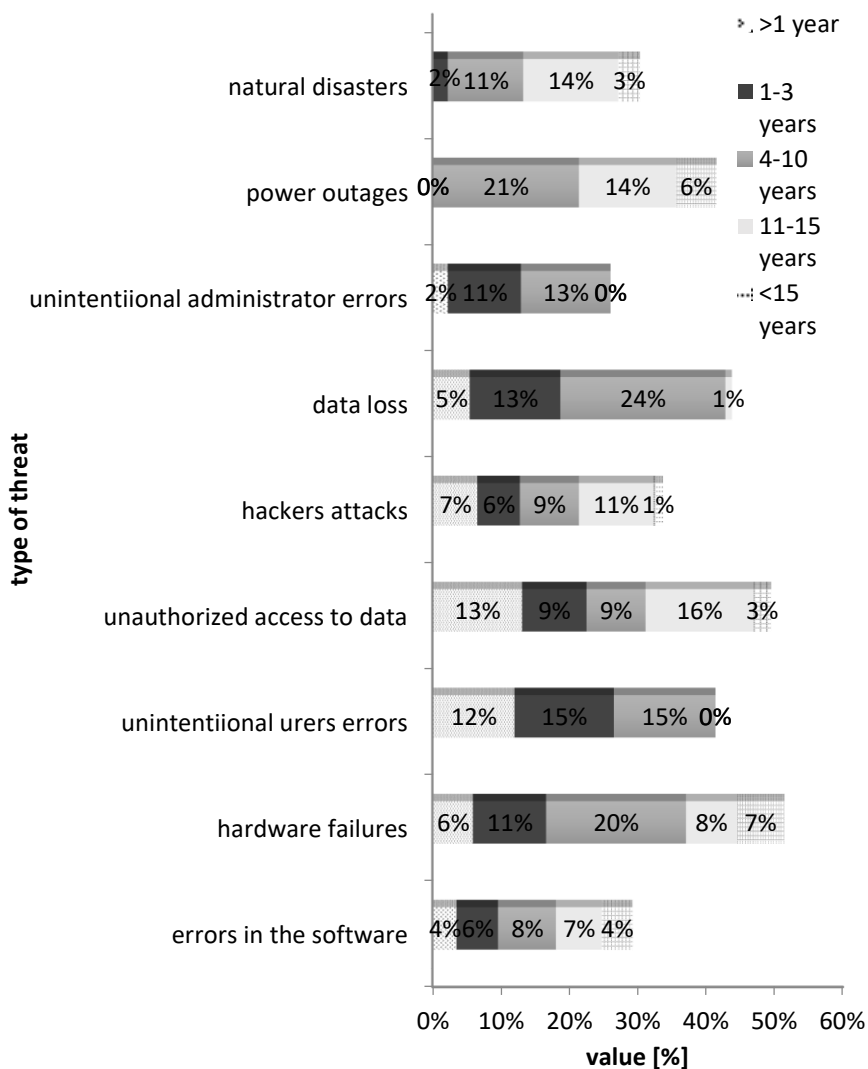


Figure 2. Enterprise threats and employees' work experience

Employees employed for less than a year do not notice the possibility of natural disasters or interruptions in power supply. However, employees with many years of experience, working over 15 years, believe that data loss is impossible and they do not notice existing threats. Answers reveal the beliefs of the employees and the dominant way of thinking. It is necessary in this case to conduct a training that will allow the staff to acquire knowledge about possible risks.

Respondents also answered a question about threats related to the Internet (Figure 3), which may also be dangerous for the company.

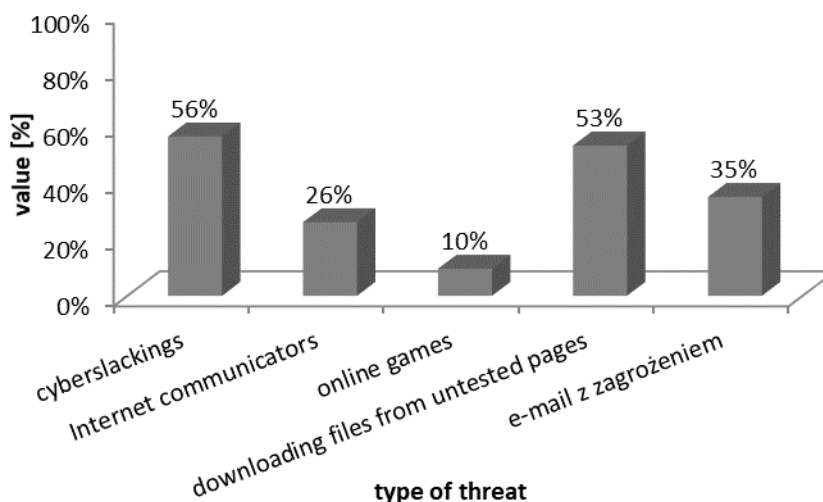


Figure 3. Threats to which companies are exposed in connection with the use of the Internet by employees

Respondents admit that they do not have a habit of logging out, closing the door to their rooms, which may favor the use of data by unauthorized persons. They use instant messaging during business hours, which can lead to computer viruses or the creation of a remote desktop. Employees also admit to using e-mail regardless of whether

the message was sent by an unknown recipient or even when the e-mail address comes from an unknown e-mail service.

Few managers and members of the management of Polish companies are aware that in the case of data loss, large Polish enterprises are exposed to losses of up to PLN 500,000 per day. This applies mainly to those companies whose production or activity is based on information systems that process and store huge amounts of data.

Definitely the biggest problem is still the low awareness of the management and the management of potential problems related to data loss. In addition, there is a common belief that backups, so-called back-up, it is a panacea for all problems. When this measure fails, many companies and private users think that the data is no longer recoverable. However, this assumption is not true, as evidenced by global and Polish statistics on the effectiveness of data recovery. According to industry specialists, lost data can be recovered in eight out of ten cases.

4. CYBERSLACKING

In order to investigate the phenomenon of using the Internet and convince employees about their anonymity in the network, a research survey was conducted, as well as an interview with senior management in 365 enterprises of various sizes (from micro to medium) in various industries located in the Silesian Voivodeship. The research was to prove where these phenomena occur commonly and how they affect the functioning of the company.

Among employees, as many as 76% of respondents have higher education, 12% average, 11% bachelor and 2% post-secondary education. The subjects have prestigious professions. In the first question, the respondents answered questions about their profession and indicated the form of their employment.

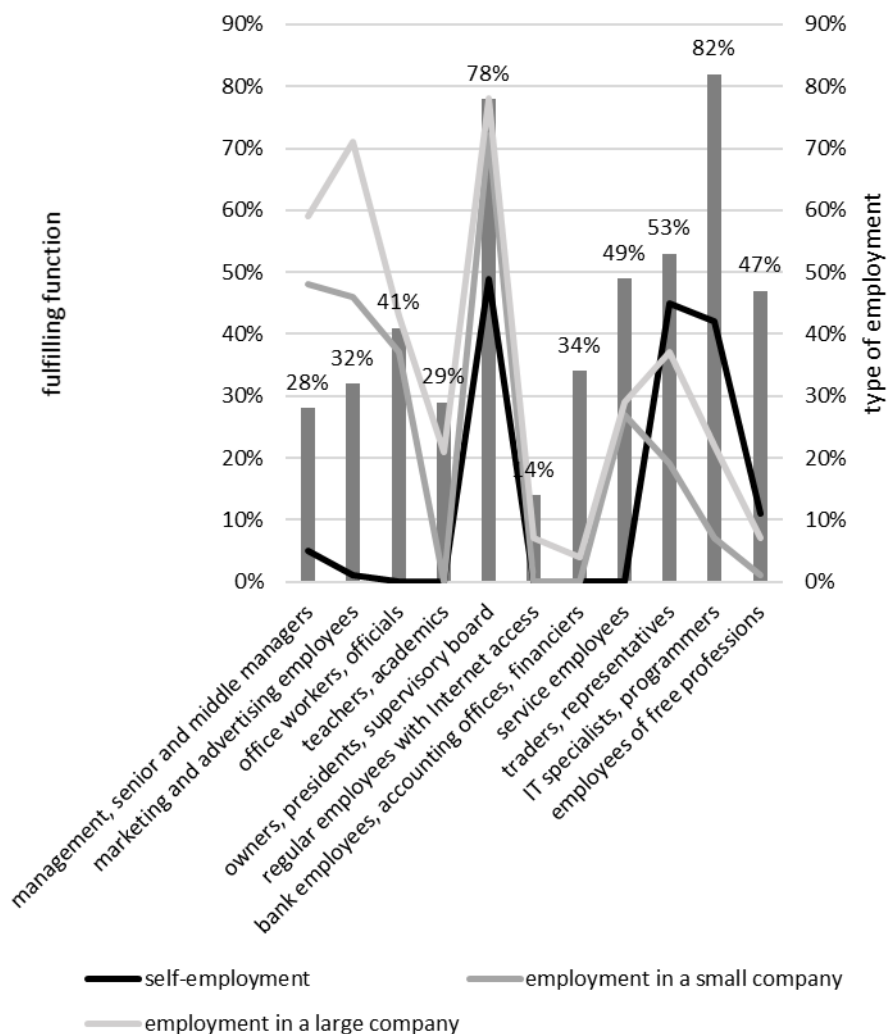


Figure 4. Occupation and form of employment of the respondents

The results of the study clearly indicate that 78% of owners and presidents of companies admit that they use the Internet for private purposes. Most often those sitting on these positions feel impunity,

instead of fulfilling their duties, they deal with the implementation of private goals. The second group of Internet abusers at work are IT specialists and programmers. This professional group has the owners' trust, it is they who control the remaining employees, but they themselves remain without control and supervision.

The next question concerned the identification of the industry in which the respondents are employed (Figure 5).

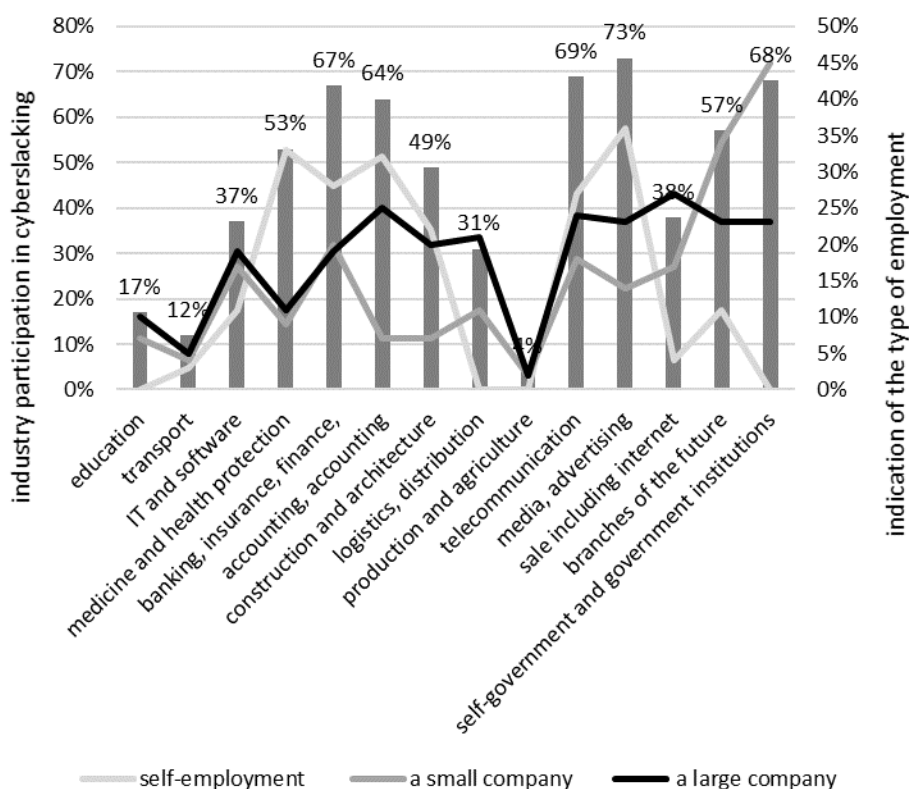


Figure 5. Industry and form of employment of the respondents

The results of the survey indicate that the industry associated with media and advertising is particularly exposed to the phenomenon of

cyberslacking, but 69% telecommunications and 68% self-governments were also ranked the highest, while the smallest rates are recorded in the production and agricultural profile.

Employees gave the information about their use of the Board for private purposes at work without much resistance. They also do not think that they do something bad, as shown in Figure 6.

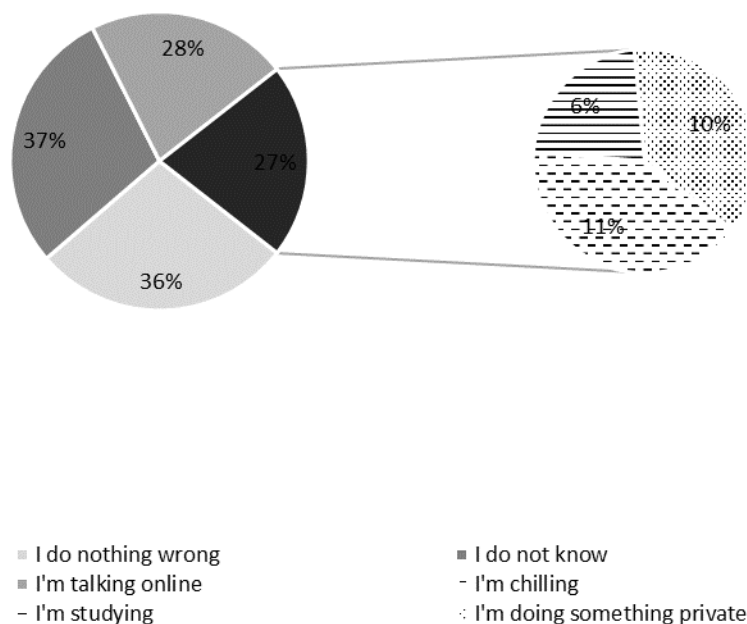


Figure 6. Declaration of respondents on using the Internet

By making a systematic analysis of threats to contemporary organizations, one can distinguish several areas in which threats

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appear, and the effects of their implementation may pose a serious threat to the continuity of the entity's operations. Each organization is exposed to unexpected adverse events.

The causes of some adverse events, such as natural disasters, are most often beyond the control of the organization. However, in the area of the organization's activities related to, for example, finances, there are a number of procedures analytical-assessments that allow you to recognize earlier symptoms of possible problems before the crisis occurs.

Serious consequences for the continuity of the organization's activities pose threats resulting from the use of information and communication technologies, resulting primarily from threats to information security. We will determine the threat system by any undesirable phenomenon (process, event) from the point of view of the undisturbed operation of the system. Such phenomena or their accumulation in a specific place and time, destructive to the system, create situations that are dangerous for its existence (development). It should also be pay attention to the possibility of dangerous situations for the system being the result of internal threats resulting, for example, from the unreliability of the technique. Information threat is defined as a threat that results there may be a reduction (degradation) in the value of information resources of a specific organization (object), and in the further consequence - a decrease in the reliability (potential) of the organization (object) and a reduction in the effectiveness of the organization (effectiveness, economics).

Among the constitutive features that distinguish information threats, among others one should distinguish: lack of political and geographical boundaries, anonymity of perpetrators, vague law or lack of legal regulations, unclear responsibility. Difficulties in distinguishing between acts performed in cyberspace they may refer to the difficulty of distinguishing a criminal act (cybercrime) from cyberterrorism or an act of war. For this type of dangerous activity, they encourage

perpetrators to simplify the functionality of technology, which is accompanied by a decline equipment prices, as well as the increasingly developed market for cybercrime services, "information acquisition. Threats intentional and conscious are also an organized effect actions aimed at destruction, i.e. destruction or reduction of the efficiency of information systems (or their components) or specific objects organizations forming the so-called critical infrastructure. They represent a new challenge for staff responsible for organization security, readiness of information systems, management of information resources, etc.

Attackers can be recruited from economic intelligence, intelligence agencies, they can be terrorists. A specific group are hackers whose actions in a conflict situation they are particularly dangerous (table 1).

Table 1. Profiles of attackers in cyberspace

Attackers	Skill	Themes
Business intelligence	Competition, financial, national interests	advanced
Internal attackers (staff, contractors)	Revenge, financial	Medium high
hackers:	Curiosity willingness to stand out	
novices	Curiosity to want to stand out,	weak
Black Hat	allegedly increasing security	Medium high
Gray Hat	For rent	advanced
White Hat	Increasing safety	Medium high
hacktivist	Political activists, want to demonstrate something	advanced
careerist	Getting power, financial	Medium high

More and more often, at the interface between technology and reality with a situation where malware infects systems that directly affect our

lives. What is also disturbing is the fact that many attacks are becoming the target companies dealing with IT security. Companies in this industry usually handle a large one number of clients, therefore, as a result of a successful attack, cybercriminals can enter in possession of the keys to digital portfolios of a large number of users spread all over the world.

One of the main threats to Internet users still remain operating system infections with all kinds of malicious software. The most popular are viruses, Trojan horses, spyware or fake software also known as rogue malware. The common denominator for these pests, however, will be the slogan "earnings".

5. SUMMARY

The security of modern organizations in its mainstream comes down to information security management: manufactured, processed, transmitted and stored and to ensure the safety of the services provided services. Increasing number of threats, increase in security costs, dilemmas between security and functionality make it increasingly difficult to find the right one the proportions between the possibilities of processing and storage and sharing information and its protection.

The aim of the article was to show the threats arising with the development of technology enabling the use of the Internet at work. The dynamic development of these tools has facilitated illegal activity on the web. However, it is worth remembering that these methods were not intended to be used for illegal activities, but for the safety of users and enterprises on the Internet. The article is only preliminary research, showing in which industries and professions the phenomenon of cyber-caching threatens the functioning of the enterprise. The phenomenon of using the Internet at work is so common that employers try to protect themselves from it using, for example, programs tracking employees' activities on the Internet. The methods

of preventing the phenomenon of cyberslacking constitute the next stage of research.

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*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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EXAMINING THE SATISFACTION OF ENTREPRENEURS WITH THE ACHIEVED RESULTS IN THE ZAJEČAR MUNICIPALITY

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Abstract

Development of small and medium-sized enterprises (SMEs) is the basis of modern economic development in the world. In transition countries (including Serbia), the development of private entrepreneurship is carried out in conditions of undefined legal frameworks and excessive state regulation. The main problem for starting and successful running of a private business is the lack of knowledge among entrepreneurs, especially in Serbia. In this paper, a structural model for examining the satisfaction of private entrepreneurs with the achieved results has been defined. The research was carried out on a small sample of 109 entrepreneurs – the initiators of a private business in the municipality of Zaječar, and certainly can obtain a better statistical certificate on a larger sample.

Keywords: *entrepreneur, SMEs, entrepreneurship*

1. INTRODUCTION

Development of Small and Medium Enterprises (SMEs) presents the most important feature of every modern economy. Friendly environment is crucial for initiation and improvement of personal

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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business. Large number of SMEs improves private sector of one country and entrepreneurial skills of its population. The main features of SMEs are flexibility and the ability to adapt to the changing market conditions. Also, the entrepreneurship has positive effect on the employment rate, diversification of economic activities, sustainable development and trade and export. However, entrepreneurship comes with the risk whose price can be high, but still lower than the price incurred as a consequence of inactivity and non-entrepreneurship.

The process of transition causes population's concerns arise from the greater likelihood of poverty, business uncertainty and unemployment. On the other hand, this process accelerates the emergence of private initiatives that increase employment rate, which is confirmed by faster development of national and international entrepreneurship. From the aspect of Serbian social-cultural and economic conditions, it can be concluded that development of entrepreneurship is one of the best way to overcome current transition obstacles reflected in a high unemployment rate, especially of the most vulnerable social groups.

The aim of government in transition to the modern market economy is to create with minimal interventions stable and secure business environment where entrepreneurs can make reliable plans and achieve their business goals. These activities should be in accordance with the needs of the specific economy. It is very important to enable stable macro-economic conditions, favourable business climate and adequate legislative which will regulate all issues important for the business. Entrepreneurs face with a lack of trust among consumers, and with requests of investors and business partners for additional guarantees. However, they learn from their mistakes and based on that experience they can accelerate business development.

In order to compensate the lack of personal experience in the period of growing need for various managerial skills, entrepreneurs should have access to one commercial first class support. Today, less than 20% of small enterprises use help enabled by public-sector services. The

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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European Commission already provides financial support through the Structural Funds, by developing various types of commercial support services.

SMEs do not have access to the all funding sources. Their business requires resources and respect of certain legal (minimal founders' social capital) and financial (ensuring solvency, financial independence and cost-effectiveness) limitations.

During the SMEs funding, in addition to the initial capital, there is a need for fresh capital that enable financing the development of activities, enhancing and preserving the balance of the capital structure. As a result of the operations are formed permanent cash flows (in the form of depreciation and profits), which differ from external financing.

Financial effects resulted by the increase of social capital are:

- Growth of financial potentials;
- Determination of own capital;
- Improvement of financial balance.

SMEs do not have access to the international market capital, but the issuance of European shares can enable it and contribute to the implementation of the different markets. This is considered as a financial expression of the results of national heritage strategy and the internationalization of the market. Growth of social capital is a way of operational financing and increasing of own capital.

In addition to social capital, commercial associations dispose also with capital borrowed from money flows. Part of it is used for purposes prescribed by the legal and statutory provisions, and the other part remains at the disposal of a commercial association. The earliest financing method is internal financing or self-financing. The level of

self-financing depends on the realized investments and the management of economic activities.

SME's own capital is not sufficient for financing specific research activities, supporting modernization and expanding production capacities. During the process of making decisions related to the financial optimization, managers take into account sources from borrowed capital and other smaller sources, as well. Between a commercial association that requires equity and capital owners, contractual relationships appear. These contracts determine the cost of capital, the financial payment service, the duration of the loan, the return of capital and the nature of the guarantees. Funding can be realized directly or through specialized financial intermediaries. Those intermediaries require various fees for their services, which make higher the costs for commercial associations. Funding through borrowed capital considers: financing for shorter, medium and longer periods, monetary capital market, bond market and leasing market.

2. THE ROLE OF SMEs ON THE UNIQUE EUROPEAN MARKET

The foundation of European Union (EU) followed by barriers removal, mutual recognition and harmonization between the countries, had significant contribution in creation of unique European market. This enabled the growth of the market from 380 on 450 millions of people. In Lisbon, in the year of 2000, the European Commission set up the goals related to the employment, economic reforms and social unity; in 2001 the Commission reached the agreement regarding the strategy for supporting environmental development and protection.

In this agreement it was highlighted the need for economic reforms aiming to create 15 million of new jobs until 2010. The Commission created the program of support for the entrepreneurs who need help and advices regarding their business activities and adopted internal

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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agreement related to the communication procedures in industrial policy of the expanded European market. On the meeting held in Barcelona in 2002, Commission presented the „Green Paper“, document that relates to the improvement of entrepreneurship, investments and making new jobs using the knowledge, innovations and dynamics.

In order to determine the conditions for development of entrepreneurship, in Europe are used indicators connected with the following issues:

- *The inclination of people to start business* – Previous studies indicated that European citizens prefer to be employed by a company rather than to start their own business – 45% of Europeans would like to have own business compared to the 67% of people from USA.
- *Number of entrepreneurs* – The number of entrepreneurs varies in whole Europe – 6% of population in Denmark and Luxembourg, 13% in Spain, 15% in Portugal, 8% in Greece and Italy, while in the USA amounts 10%. Regarding the initiatives, only 4.5% of Europeans took steps directed to starting business or had done some kind of business in the last 3 years, unlike the 13% in the USA.

The level of entrepreneurial dynamic in Europe is much lower than in the USA; firms from the USA have lower founding values than those from Europe. Entrepreneurs from the USA tend to explore the market in a smaller scale, and if they succeed, they are developing faster than those from Europe, where many business ideas have never come to the market. 46% of Europeans agreed that someone should not start a business with risk, as this would lead to failure, as opposed to only 25% of US citizens who think the same. In the United States, 8 of the 25 current large companies did not exist in 1960, or they were very

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*

small, unlike in Europe, where all current large firms did business even before 1960.

Europeans believe that the major obstacles to starting a business are still administrative barriers, as they produce difficulties in obtaining initial financial fund. Even 69% of them consider that administrative procedures are very complicated, while 76% said that the main obstacle is lack of funds.

The average time needed to establish a company in Europe is 12 working days for an authorized person and 24 days for Limited Liability Company. In Portugal in 1997, it was set up the Centre with aim to help people in process of registration of new firms. This kind of centres comprises representatives of all public departments responsible for the various procedures necessary for the registration. Potential entrepreneurs can get advice from an advisory office located in the centre. The procedures have been simplified, so the time needed to start a business was reduced by 80%, approximately.

However, access to the funds is still the major obstacle. Difficulties relate to the guaranteed bank loans and finding finances for the potential business risk. Banks are willing to lend to the reliable and secure companies only. Serious difficulties associated with capital cover. In addition to the project capital, informal investment potentials, i.e. friends, family or “business angels” should be exploited as much as possible.

Belgium has helped entrepreneurs to save their business during the temporary crisis, and to divest unprofitable firms as quickly as possible. The Courts can declare debt forgiveness to the failed entrepreneurs, thus enabling them to start a new business.

People would accept the risk more readily if they were encouraged and rewarded. The initial steps were made in the direction of lowering fees for small firms and reducing the fiscal obligations of the owner. The

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
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French government conducted rapid changes in relations between employee and employer, reflected in activities of reducing barriers for employees who want to independently start particular job and eliminate fiscal and social charges for new entrepreneurs.

Twice more Europeans are willing to start new business comparing to those who prefer taking over a business. For example, 96% of the undertaken business in Austria successfully survives in the first 5 years, as opposed to only 75% of operations that start from scratch. One third of the EU business will need new owners in the next 10 years, due to retirement and other reasons. This will create greater opportunities for taking over the existing companies.

Business education and specialized trainings, as well as learning about the benefits of businessperson's career, should encourage entrepreneurs and stimulate them to take initiatives. The Euro barometer noted that 37% of Europeans are willing to become entrepreneurs, and only 15% of them have succeeded in that. Studies have shown that the possibility for person to become an entrepreneur is getting bigger, if person had a basic knowledge about starting the business. Participants, whose parents are entrepreneurs, pointed out that they had a tendency towards entrepreneurship.

The skill of starting a business implies the person's ability to lead, his creativity and perseverance and other managerial qualities, such as efficiency and credibility. Individual abilities of entrepreneurs should be promoted from an early stage of firm's development. Business incubators provide significant support to new entrepreneurs. Firms that are part of these incubators have bigger chance of surviving than firms that are not. Currently, there are over 850 incubators in EU and this number is constantly increasing.

Entrepreneurs believe that the bureaucracy is a major obstacle to the business development, especially for entrepreneurs who are tending to expand on the European market. The regulations are not adjusted to the

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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size of company and it has negative effect on small enterprises. In order to reduce administration for SMEs, some member states made exception for these cases. Denmark has implemented new system for income tax administration. It is based on the voluntary enrolment in EasyPay, where employees can give information about their incomes and other personal data. EasyPay is part of the initiative called „eGovernment“, which electronically collects all forms of public services and websites, enabling companies to register online, legally by contract, using an electronic signature. Also, Webreg system provides these possibilities to the owners.

Austria has introduced a website (www.help-business.gv.at) that provides people clear information regarding administrative procedures. The five-year program called The Internal Market Strategy is focused on urgent areas such as intellectual property, public procurement rules and barriers that affect services.

Even though unemployment is still a major challenge for the EU, there are increasing problems related to recruiting. Most of the jobs were for workers with secondary and higher education. The growing number of potential employers has increased the need for skilled workers. In one study, 46% respondents stated that they would recruit labour from other countries, but the main obstacles are language, work permits and complicated administrative procedures.

Europe is striving to continue development of its own capital market. American companies are trying to reach stronger economic balance that European (averagely, almost 50% of the own capital, opposite to the 30% in Europe).

In 2001, Finnvera – Finland institution for public financing of the SME sector, developed a micro-loan project intended for existing and potential small enterprises, which funded investments, working capital and business development for 2741 entrepreneurs, or 45.5 million euros. This program combines state-funded guarantees with EU

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*

guarantees in line with losses. Entrepreneurs need help to open up to the foreign investors and investors need quality information about their firms.

Italian economy is known for numerous industrial areas (conglomerates), which are consisted of small groups of companies. The authorities encourage collaboration and competition among firms in order to increase overall performance. Policy and support have been designed for each area specifically (for example, Veneto, Lombardy, Emilia Romagna). In order to improve quality and efficiency, several areas established Club dei Distretti Industriali, which represent 40% of these regions, or 30,000 firms and 250,000 workplaces. The aim of the club is to develop a network between foreign and Italian industrial areas.

For example, in the last 5 years, about 1/4 of the big companies in the Netherlands helped employees start their own business. The "EXIST Program" from Germany was launched by the Federal Ministry of Education and Research with aim to promote regional cooperation between universities, technical schools, the commercial sector and other partners. This program connects partners who would not cooperate in other circumstances, and in this way they create an aggressive entrepreneurial mentality in high-level educational institutions, which should lead to innovative initiatives and new jobs.

Luxembourg created a rewarding system for entrepreneurs who achieved significant business success. The Craft Chamber promoted a prize for young entrepreneurs. The Gender Equality Ministry awards prizes for successful business led by women.

Strathclyde University from the United States offers a program for promoting positive attitudes towards entrepreneurship among professors. The content of the program is flexible and is intended for "learning through practice", which involves making business plan and taking managerial decisions, with the help of one mentor. Teachers

learn about entrepreneurial habits and attitudes, but also how they can apply their experiences to make a progress in businesses and schools.

2.1. Female Entrepreneurship

There is a problem finding the final definition of entrepreneurship because there are many definitions with its advantages and disadvantages, which is complicated by the introduction of the definition of female entrepreneurship even more. One very strong and logical definition is that entrepreneurship is “the creation of new organizations, which has its place depending on the social and economic process” (Thornton, 1999).

However, a more universal definition is: “a multidimensional phenomenon in female entrepreneurship, which can be accessed from a point of view of female activism, where female entrepreneurship is a way of activating women's resources for the benefit of themselves; from a point of view of economic development, when female entrepreneurship is treated as a way to activate women's resources, especially in the area of small and medium-sized enterprises; from a point of view of social policy, where women's entrepreneurship reduces unemployment, especially in middle-aged women, who are at a high risk of losing their jobs during transition; from the point of view of sustainable development, in the way that female entrepreneurship can be seen as a way of harmony of economic or ecological or social development through socially responsible business.” (Blagojević, 2006).

When women start their own business, it is typical for them not to live a life just as if they are creating a special economic survival. They direct their attention to their own integration into a new global system of business connections and bring basic resources to work; not just to money but also to their intuition, instinct, sensitivity, and value. While on this path to business success women are liberated from traditional perceptions, which are related to their role in the so-called male jobs,

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
<https://www.visegradfund.org/>

there are opportunities for changing their permanent positions in all spheres of life.

Indeed, it can be said that women have a clear path of their freedom, and at the same time a path of new entrepreneurial culture, creating a completely new perspective in the world. However, on this path they are limited by their own forces, which are necessary, but not sufficient to achieve the ultimate goal. It is also necessary to introduce concrete support from the entire society, which will clearly indicate not only the improvement of awareness in terms of equality, but also the understanding of the importance of female entrepreneurship for the development of every economy, including Serbia.

The process of involving women in entrepreneurial activity is the main topic of any developmental economy. However, there are many obstacles on this path, some are social, some economic, and some are political. Inclusion of women in entrepreneurship is accompanied by economic, educational and cultural barriers.

Economic barriers are associated with a lack of foundational capital funds, difficult market access, insufficient knowledge and credit, closed domestic policies, and a lack of legislation that affects central issues and at the same time stimulates the development of women's entrepreneurship. All of the above obstacles are closely related and interdependent. Initial findings suggest borrowing from banks, but also to a growing risk that stimulates women who are generally unwilling to take risks. Women are in a worse position than men when they start a business.

Educational barriers have roots in the past because they represent the traditional belief of Serbian society and are most often an obstacle to women, so today 80% of illiterate and uneducated populations are women. There is a tendency in Europe for educated women to go to business more often, which is confirmed by the fact

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
<https://www.visegradfund.org/>

that 43% of women in entrepreneurship have university education, 39.3% completed secondary education, and 17% elementary education.

The educational structure of unemployed women in Serbia is very badly assessed, and if viewed through the level of specialist training, 37.1% are women with elementary education, 32.8% with secondary education and 22% with a three-year school (Markov, 2006). Because of this, it is necessary for all unemployed women to continue and complete their education and to provide them with constant access to counselling centres and seminars.

Cultural barriers have been previously noticed in Serbian society and are shown through a bad position, and moreover, a misunderstanding of the women's business. Initially, women were regarded as wives and mothers, and were mostly outside the assumption of responsibility and equity from providing living conditions. Discrimination against women as someone making money is associated primarily with rural areas, where patriarchal ties are stronger. We should not neglect the social process that does not create women's self-responsibility, as it builds internal belief that it is a business field for men.

The Female's Business Association was built as one vital organization for strengthening women through education and support to clear instructions for entering the entrepreneurship. The public recommendation is related to the empowerment of women, especially in the conditions of transition, and is usually related to the following areas:

- a) The need of the Government for the continuous improvement of the funds for the development of SMEs, which is especially stimulated at the local level;
- b) Make lower administrative barriers and simpler procedures for SMEs under the authority of the Government at each level;
- c) Financial services for SMEs must be offered, such as financing new business ideas, bank's leasing, various founding capital

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
<https://www.visegradfund.org/>

and financial investment with long-term loans, securing lower interest rates and keeping in mind the specific interests of micro, small and medium-sized enterprises;

- d) The identified needs of SMEs to take care of the inclusion of information on entrepreneurs;
- e) The need of the local government and companies to take care of the policy of creating friendly relations between the environment and families (for example: flexible working hours, part time,...);
- f) The government and banks must offer new loans for female entrepreneurs;
- g) The importance of micro companies must be achieved, which can solve the problem of unemployment and facilitate the way for women to enter into economic activity, by providing information, training, free or low consultation prices;
- h) Training must include the education of younger people in schools and universities in order to create a competitive environment and atmosphere in society;
- i) Public and private training institutions must provide special training for women;
- j) Financial experts must be trained to be able to run new micro-credit institutions;
- k) A network must be developed between women to support each other;
- l) Non-governmental organizations (NGOs) must actively participate in the development of SMEs, as they play a major role in continuous development;
- m) Non-governmental organizations must encourage women to enter into business, to have confidence in their ability and to control their fear of failure and to fulfil their roles in society;
- n) NGOs have to take a major role in curbing poverty through the development of micro-loans and supporting unemployed women to get hired (Stanković, 2005).

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
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The Millennium Declaration, adopted by state leaders in the United Nations in New York in September 2000, promoted the innate equality and power of women. The Serbian government has defined specific goals that are broader than the original Millennium Platform:

- Reduce differences and poverty between men and women
- Reduce inborn inequality in the economy
- Reduce inborn inequality in scientific education and education
- Reduce inborn inequality in political participation
- To make a stronger role for women in the population
- Reduce violence against women.

At this stage of development, there is currently economic discrimination against women due to irregular market activities and high competition for highly paid jobs, which is based on the reproductive role of women. Women with children cannot be highly positioned on the market, according to gender power and the power of full purchase in the workplace. According to this, equality means the equal presence, power and equal role of both genders in every sphere of public and private life.

The EU has made significant progress in adopting equality, thanks to the adopted law, which implies equal treatment of men and women, and the use of special tools and guidelines for empowering women: economic independence between men and women, management of private and professional life, decision making with equal thought, stopping all forms of violence in family relations, eliminating stereotypes, promoting equality in underdeveloped policies. The EU has adopted the Map of Road to Equality between Men and Women for the period 2006-2010.

Serbia still does not treat men and women equally, which would be considered necessary if it wants to join the EU. In the future, Serbia must adopt general laws on discrimination and gender equality. It is true that this should, step by step, provide institutional mechanisms at the government level: the National Committee for Gender Equality, the

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
<https://www.visegradfund.org/>

Gender Equality Council, while in Vojvodina, the Executive Committee of the Secretariat for Labour, Employment and Gender Equality was established, Provincial bureaucracy for gender equality, are established. All of these mechanisms play a role in controlling the realization of women's rights, especially working rights.

Women have an extremely poor position in the labour market due to changes in education and participation in political life, and accordingly, the percentage of unemployed women has risen to 24% (compared to 16% of unemployed men) and is considered higher than in EU countries, where 9.6% of unemployed women and 7.6% of unemployed men. Today, women in Serbia occupy only 1/5 of managerial positions in companies, and only 14% are chairmen of the Administrative Committees and in the EU 30% of women occupy the highest positions in companies. Research shows that women in Serbia are less paid than men for work of equal weight and complexity. The EU has the same problem. Women have as much as 15% lower salaries than men. They are mostly represented in the service sector (the lowest paid sector); only in health and social services, 76.6% are women, and 65.4% in education. In line with the aforementioned facts, it is very urgent to adopt a general non-discrimination law.

2.1.1. Typical motives of female entrepreneurs

According to a survey conducted in the period January-June 2005, the motives for undertaking a private business can be divided into two groups. The first group includes women who opt for a private business because they want to provide life to their families, children in the first place. The poor economic and critical transition period was the main reason for committing and abandoning passive expectations. The second group includes women entrepreneurs who decide on concrete actions because they want to show their own opportunities and achieve independence, freedom, greater profit, and satisfy their ability to succeed.

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
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These motives are typical, not only for Serbia, but also for other countries. Research in Slovenia has shown that women are more likely to start a private business because they are not satisfied with public companies and want independence. In Poland it is confirmed that female and male motives for the start of their own business are similar: the need for success, the desire for independence, the desire for job satisfaction, the economic need. In Lithuania the motives are the same (Markov, 2006).

The statement of the Association of the European Economic Council says that the reasons for starting a business are the following:

- labour control, freedom, and decision-making – 50%
- earnings, profit – 45%
- a better combination of work and family responsibilities, work-life balance and family life – 5% (Markov, 2006).

The success of realization of these ideas, with motivation, still has to have good personal characteristics of female entrepreneurs and through them to make a difference with male entrepreneurs. It has been confirmed that successful women within the entrepreneurial activities are:

- more precisely in making business decisions,
- more disciplined, and take more care of banking duties, including the return of bank loans,
- they work more efficiently,
- more responsible and reliable,
- they have more realistic reasons for taking loans,
- more careful,
- more organized than men,
- more persistent,
- they are more energetic in persistence in aggravating circumstances,
- they are ready for constant learning (Markov, 2002).

Differences in comparisons also include the following:

- men have much more experience when they start a business,
- women who enter into business have larger families (number of members), which increases the obligations and work in the home,
- men are more educated and have better skills and knowledge for business,
- men tend to be only the owners of the company, and women enter into partnerships,
- women respect the law,
- an average woman spends more time in analysing business opportunities for making profits,
- men start much more productive and capital-intensive jobs, while women lead labour-intensive jobs (Radović Marković, 2007).

3. ENTREPRENEURSHIP IN SERBIA

Although SMEs already account for 99% of the total number of active enterprises in Serbia, their contribution to employment and business results is significantly lower than in the European Union. In 2016, the SME sector in Serbia is less developed compared to the EU average and the majority of EU countries from the environment (SME Report, 2016). The high participation of the SME sector in the basic indicators of the economy (number of enterprises, employment and GVA) is a result of the slowed dynamics of the implementation of structural reforms and development problems of large economic systems, and not of the high level of development and competitiveness of the SME sector. In addition to the increase in industrial production, there was no significant increase in exports, no significant quantity of products and services of new value were produced, there were no significant innovations, which points to the problematic result of the competitiveness of the entrepreneurial sectors in Serbia.

Despite the improvement of the business environment in 2016, post-crisis effects are still present, especially in the areas of creating new

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*

values, increasing employment and strengthening competitiveness. In such an environment, the business of the small and medium-sized enterprises and entrepreneurs sector (SME), which, as a rule, was part of the economy, was most sensitive to changes in the economy changes.

The impact of the entrepreneurial sector on whole economy is very high, mostly through its participation of 66.3% in a total traffic. However, the SME sector is mostly directed towards services, and 42.4% of the total turnover was realized in the trade sector. Further, this situation adversely affects the national foreign trade balance. However, the intensive growth of revenues and reduction of unemployment rate indicate that SME sector is much stronger and more flexible than big corporations are.

The strategy for SME's development in Serbia is based on the positive experiences of developed and transitional countries. The goal of this strategy is to adjust the structure of national economy according to the model of the market economies of the EU countries. Incentive programs and measures, created by the Ministry of economy with aim to accelerate the development of entrepreneurial sector in Serbia, are presented in the action plan for the implementation of the Strategy for the Development of Entrepreneurship and Competitiveness for the period 2014-2020. The intention is to strengthen institutional support for the improvement of SMEs at the national, regional and local level. This strategy defines the basic goals:

1. Improving the business environment;
2. Improving access to funding sources;
3. Continuous development of human resources;
4. Strengthening the sustainability and competitiveness of SMEs;
5. Improving access to new markets;
6. Development and promotion of the entrepreneurial spirit and encouraging the entrepreneurship of women, youth and social entrepreneurship.

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
<https://www.visegradfund.org/>

The impact of the SME sector on the economy as a whole is very pronounced, with the highest participation in the overall turnover of 66.3%. However, the structure of the SME sector is mostly focused on service activities, and 42.4% of the total turnover was achieved in the trade sector, which further adversely affects the foreign trade balance of the country. However, with more intensive growth in revenues and a reduction in the number of employees, the SME sector shows that it is a much stronger and more flexible sector than large corporations.

Every entrepreneur, SME has a certain value for Serbia. Some sectors of the economy have a special strategic importance, thanks to their ability to add new value to natural resources, contributing to an increase in foreign exchange inflows, influencing employment growth, fostering regional development, and creating the conditions for Serbia to take advantage of the opportunities open up by information and communication technologies.

All entrepreneurs have a certain value for Serbia. Some of the economy sectors have a special strategic importance, thanks to their ability to: add value to the natural resources, contribute to the increase of foreign exchange inflows, affect growth of the employment rate, foster regional development and create the possibilities for Serbia to use chances opened up by the information and communication technologies.

In Serbia, the process of privatization of social enterprises is still dominant, which will open up some new market opportunities for SMEs and opportunities for business cooperation with new owners, on a sound market basis. However, SMEs do not have a backbone and cannot establish cooperation with large enterprises, which significantly limits the direction of their development. The domestic market is not too large, and the purchasing power of the population is still low. Competition is increasingly present in all commodity and price groups, and exports are still not a real alternative to most SMEs. All this

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represents the prerequisite for the growth and survival of most SMEs in the domestic market.

If an entrepreneur chooses to start his own business, the first problems and difficulties will arise already during the registration of the company due to the overly complicated and long administrative procedure. The average time required is 105 days, and the average cost is 680 euros. Despite constant changes in tax regulations, the domestic tax system is still not in line with modern tax systems. Certain changes in the tax rate on company profits are reduced from 20% to 14%. Total tax burden in Serbia is still high, and stronger incentives should be introduced, first of all in the first years of business.

The problem that always stands out as the biggest and the most important is the provision of financial resources. Until recently, the usual ways for financing SMEs' projects in Serbia were: owners personal savings, loans from friends and relatives and other informal sources of financing and bank loans as well. National banks were not significantly interested in financing the SME sector, and the credit terms were rather unfavourable. However, there have been significant improvements in this respect from recently. Financial opportunities for starting your own business have been greatly improved. Today, numerous domestic and foreign funds and sources of funding are available to potential entrepreneurs. Some of the domestic support programs and funding sources in the Republic of Serbia are:

1. National funds – funds from the budget of the Republic of Serbia (incentives from the Ministry of the Republic of Serbia, Government Agencies,...)
2. Banking support instruments for the SME sector
3. Credit lines of international financial institutions through the National Bank of Serbia
4. Domestic foundations, funds and socially responsible companies active in Serbia
5. Foreign foundations, funds, embassies and financial institutions active in Serbia.

On the other hand, the efforts directed towards the accession of Serbia to the EU enabled access to many foreign funds and programs such as:

1. IPA II
2. IPARD
3. HORIZON 2020
4. COSME
5. Erasmus for young entrepreneurs
6. Erasmus +
7. Creative Europe.

However, the obstacle to the development of the financial sector continues to be a lack of legislation in this area to regulate the financial market and the issue of investment funds. One of the main problems is still a low level of savings that limits the creditworthiness of banks. The lack of funds additionally complicates the still poor condition in the land registers on the territory of Serbia. Even legal objects cannot be used for a mortgage.

Table 1. Number of SMEs in the period from 2010 to 2016

	2010	2011	2012	2013	2014	2015	2016
Small	9.614	9.656	9.699	9.353	9.198	9.531	10.154
Micro	77.989	78.890	79.189	81.775	81.327	80.122	84.105
Entre-preneurs	228.680	228.540	226.132	222.152	231.616	232.765	243.590
Medium	2.257	2.218	2.142	2.132	2.131	2.182	2.263
SME	318.540	319.304	317.162	315.412	324.272	324.600	340.112

Source: Ministry of Economy based on data of Republican Bureau of Statistics

SMEs are currently the most dynamic part of the economy in Serbia; in them, 2/3 of the total number of employees, 55% of gross domestic product and more than 40% of total exports are engaged. This is supported by the statistics on the movement of the number of SMEs in the period from 2010 to 2016, which are shown in the Table 1 and the number of employees in SMEs for 2014 and 2015, which are shown in the Table 2. As can be seen, the number of SMEs increased by 6.77%

in the period from 2010 to 2016. The growth of the SME sector is a particularly important economic factor in the development of the Serbian economy and has the potential for further growth and development.

Table 2. Number of employees by size of enterprise in 2014 and 2015

	Entrepreneurs	Micro enterprises (0-9 employees)	Small enterprises (10-49 empl.)	Medium enterprises (50-249 empl.)	Total
2014.					
Number of employees	207.748	147.641	185.206	220.944	761.539
2015.					
Number of employees	236.360	150.919	190.936	223.505	801.720

However, the problem in Serbia is an uneven concentration of SMEs in geographical terms. In fact, every third private company is located in Belgrade, and more than half in four districts – Belgrade, Novi Sad, Niš and southern Banat. The entrepreneurial sector from the Belgrade region is twice as productive compared to the entrepreneurial sector of southern and eastern Serbia. The larger regional differences are on the level of the area, the productivity of the most developed (Belgrade) region and least developed (Bor and Zaječar) municipalities is 2.4:1.

When it comes to sectors, 40% of all private firms make wholesale and retail trade, which together with the processing industry, transport and communications, account for more than 2/3 of the total number of enterprises (SME Report, 2016). Also, the problem is the lack of export-oriented companies.

I. 4. THEORETICAL BACKGROUND AND RESEARCH MODEL

A low standard of living and a risk of losing their jobs, in the transition countries, in humans initiate the desire for ensuring a safer existence. One way to secure this is to start your own business.

Limited financial resources motivate people to creatively use available resources in order to achieve their dream, or to start and create their own business. Financial resources for running your own business are always limited, so they must be used within a reasonable time interval to create the necessary infrastructure to run your own business. The above facts make it possible to define the following hypothesis:

H₁: Motives for starting and running the own businesses are in a positive relationship with the necessary financial resources.

The achieved results in the realization of a private business are measured by the satisfaction of the entrepreneur in relation to the expectations before the realization of the idea of starting a private business. If motives and reasons for starting a private business create an adequate entrepreneurs' commitment to an entrepreneurial venture, then the efficiency and effectiveness of the venture are at the level of expectation of the entrepreneur – the initiator of a private business. The initial positive results represent a strong motivational force and can greatly encourage entrepreneurs to undertake further efforts to solve a number of problems of the start-up business. These facts make it possible to define the following hypotheses:

H₂: Motives for starting and running the own business have a positive impact on the satisfaction of private entrepreneurs with the results achieved.

H₃: The available financial resources positively influence the satisfaction of private entrepreneurs with the achieved results.

By joint consideration of the defined hypotheses, it is possible to form a conceptual theoretical model for examining the satisfaction of private entrepreneurs with the results achieved, on the territory of the municipality of Zaječar, as shown in Figure 1.

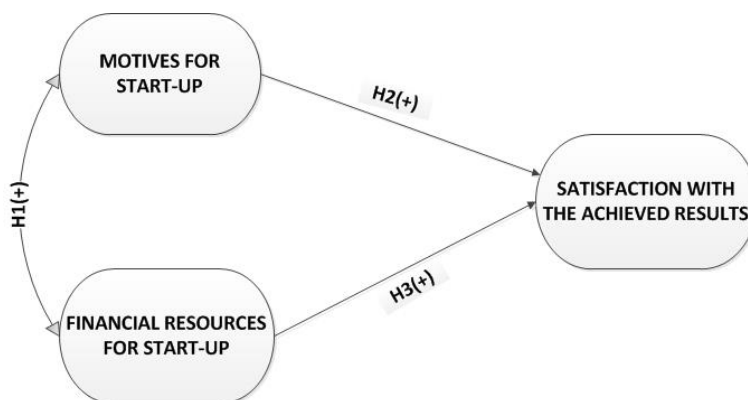


Figure 1. Conceptual model for examining the satisfaction of private entrepreneurs with the results achieved

4.1. Study Area

The subject of this research is Zaječar district. This area is located near the borders of Serbia with Romania and Bulgaria, and is considered border area. In terms of economic, political, ethno-demographic and cultural development, border regions are generally treated as backward areas. And in this case, the situation is like that. In addition to the negative demographic tendencies among the social problems expressed in this part of the Serbian border, uneven regional development is evident, which is reflected in many areas, primarily in the economy (Vuković et al., 2012). SMEs in border regions have problems that have a negative impact on the level of growth and competitiveness of firms, but new opportunities are opening up with the entry of neighbouring Bulgaria and Romania into the EU over the past years, so that positive developmental impact on entrepreneurship development in this area can be expected.



Figure 2. Bor and Zaječar districts (Source: www.wikipedia.com)

Table 3. Number of SMEs and a number of employees in the Bor and Zaječar municipality in 2016 compared to the national level

	Enterprises		Employees	
	Number	%	Number	%
Bor municipality	3.837	1,1	10.077	1,2
Zaječar municipality	3.519	1,0	9.183	1,1
Republic of Serbia	340.112	100%	837.532	100%

The current state of entrepreneurship in these areas is sufficiently illustrated by the statistics presented in Table 3. Also, according to all other indicators of the level of development of entrepreneurship, these areas are lagging behind for the rest in Serbia.

5. RESEARCH METHODOLOGY

In order to test the hypothesis of the defined research model (Figure 1), a survey was carried out among entrepreneurs in the territory of the municipality of Zaječar. The survey was based on data collected by the questionnaire method from January to April 2017. The main goal of the research was to examine the entrepreneurial activities of the initiators of the private business on the territory of the municipality of Zaječar, in order to determine the level of satisfaction with the achieved results, depending on the motives for launching a private business and the available financial resources.

The questionnaire consists of two parts. The first part contains 4 questions of demographic character, and the second part contains three groups of questions, on the basis of which a research model for satisfying the entrepreneur's satisfaction with the achieved results, based on personal motives and available financial resources for starting a private business, was formed. For the gradation of the answers, a five-step Likert scale was used (Likert, 1955; Kale et al., 2000), where 1 denotes the lowest degree of agreement and the 5 denotes the highest agreement with a given statement.

The survey included a total of 109 founders of a private business in the municipality of Zaječar. The authors personally carried out the research directly by asking questions, avoiding any potential ambiguity that could have arisen. The software packages SPSS v.25 and LISREL v.8.8 were used to process the collected data and validate the defined research model.

6. RESULTS AND DISCUSSION

6.1. Demographic Characteristics of the Tested Sample

Based on the collected answers from the first part of the questionnaire, it is possible to look at the structure of the sample according to:

gender, number of employees, the time of the existence of a private company and the area in which private business was launched.

Table 4 shows the structure of surveyed entrepreneurs by gender. As can be seen from Table 4, the sample includes more male entrepreneurs – 61 respondents, or 55.96%.

Table 4. Structure of the sample by gender of the respondents

<i>Gender</i>	<i>Number of entrepreneurs</i>	<i>Percentage</i>
<i>male</i>	61	55.96%
<i>female</i>	48	44.04%
Σ	109	100%

According to the size of the entrepreneurial venture (the number of employees), among the respondents, there were mostly companies with up to 10 employees (80.73%), while there were no respondents with more than 30 employees, which can be seen from Table 5 shown below.

Regarding the time since the private company was found, there were the most respondents working between 5 and 10 years (29 or 26.61%), while the number of younger private entrepreneurs who operate less than 1 year was only 12 or 11.01% (Table 6).

The last demographic feature was related to the area in which private business was launched. Almost half of the sample (46.79%) is firms that operate in the field of providing different types of services. Only one entrepreneur was from the field of transport (Table 7).

Table 5. Structure of the sample according to the number of employees in the company

<i>Number of employees</i>	<i>Number of entrepreneurs</i>	<i>Percentage</i>
<i>up to 10</i>	88	80.73%
<i>10-30</i>	21	19.27%
<i>30-50</i>	/	/

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50-250	/	/
more than 250	/	/
Σ	109	100%

Table 6. Structure of the sample according to the time from the establishment of a private business

<i>The existence of a firm</i>	<i>Number of entrepreneurs</i>	<i>Percentage</i>
<i>up to 1 year</i>	12	11.01%
<i>1-3 years</i>	24	22.02%
<i>3-5 years</i>	20	18.35%
<i>5-10 years</i>	29	26.61%
<i>more than 10 years</i>	24	22.02%
Σ	109	100%

Table 7. Structure of the sample according to the area where the private business was launched

<i>Business area</i>	<i>Number of entrepreneurs</i>	<i>Percentage</i>
<i>agriculture</i>	9	8.26%
<i>transport</i>	4	3.67%
<i>industrial production</i>	18	16.51%
<i>tourism</i>	12	11.01%
<i>services</i>	51	46.79%
<i>health care</i>	15	13.76%
Σ	109	100%

6.2. Descriptive Statistics

In order to define the basic elements of the statistical set (sample) used in this research, in the software package SPSS v.25, standard statistical parameters for all 3 groups of questions are calculated. The obtained results of descriptive statistics are shown in Table 8.

Table 8. Summary descriptive statistics

<i>Question group</i>	<i>Variable</i>	<i>Mean</i>	<i>Std. dev.</i>	<i>Variance</i>
MOTIVES FOR THE START-UP (M)	<i>M1_higher earnings</i>	4.433	0.887	0.788
	<i>M2_economic need of the region</i>	3.011	1.166	1.359
	<i>M3_career and economic security</i>	4.456	0.914	0.835
FINANCE FOR THE START-UP (F)	<i>F1_personal savings</i>	4.311	1.214	1.475
	<i>F2_savings of parents</i>	2.356	1.546	2.389
	<i>F3_loan (from a bank, a friend)</i>	2.589	1.498	2.245
SATISFACTION WITH THE ACHIEVED RESULTS (S)	<i>S1_improved personal financial situation</i>	4.278	0.972	0.944
	<i>S2_improved social status</i>	3.378	1.176	1.384
	<i>S3_employment of family members</i>	3.489	1.478	2.185
	<i>S4_creating a perspective for growth and development</i>	4.133	0.997	0.993

6.3. Reliability of Sample and Normality Tests

The internal consistency between the variables within each group of questions and the reliability of the measurement scales were estimated based on the obtained Cronbach's Alpha reliability coefficients (Cronbach, 1951). Value of the Cronbach's Alpha reliability coefficient represents the average value of the correlations between items, when the grading is based on the given scale, such as Likert's five-step scale. The obtained values of these coefficients are shown in Table 9.

Table 9. The obtained values of Cronbach's Alpha reliability coefficients

<i>Question group</i>	<i>Cronbach's Alpha</i>
M – Motives for the start-up	0.505
F – Finance for the start-up	0.288
S – Satisfaction with the achieved results	0.657

According to Nunnally (1978), the reliability coefficient values greater than or equal to 0.70 indicate a high degree of internal consistency among the variables within the groups of questions, which is a prerequisite for good modelling based on the collected data. Some authors consider acceptable the reliability coefficient values that range around 0.60 (Hair et al., 1995; Boyer and Pagell, 2000), and even about 0.55 (Van de Ven and Ferry, 1979).

Based on the obtained values of Cronbach's Alpha reliability coefficients (Table 9), it can be concluded that the acceptable level of internal consistency exists only within the group S – *Satisfaction with the achieved results* (0.657) (Hair et al., 1995; Boyer and Pagell, 2000). The remaining two groups of questions do not have satisfactory internal consistency, which can be explained by the fact that the respondents who participated in this research were dispersed by knowledge, that is, the educational structure of the respondents is different, so they differed in their answers to the asked questions.

A normal distribution test was performed using the Kolmogorov-Smirnov test, since the sample size was greater than 50. Otherwise, the result of the Shapiro-Wilk test is seen. If their significance levels are greater than 0.05, then normality is assumed. For both the Kolmogorov-Smirnov and the Shapiro-Wilk tests, the computed significance levels are greater than 0.05 (0.200 and 0.201, respectively). Therefore, normality can be assumed (Ho, 2014). There are as many zero hypotheses as there are a number of questions. Each

hypothesis claims that the variable has a normal distribution. If Sig. greater than 0.05, the hypothesis is accepted, while otherwise the hypothesis is rejected.

Table 10 shows the obtained results of the Kolmogorov-Smirnov test, but only for items in the groups of questions in which the zero hypotheses are accepted, i.e. where there is a normal distribution (Sig. > 0.05).

6.4. Sample Adequate Measure and Structure Validation

Measure of Sampling Adequacy (MSA analysis) was done using Kaiser-Meyer-Olkin (KMO) test. The value of this indicator for the considered sample is 0.640, and the minimum acceptable value of the KMO indicator is 0.60 (Kaiser, 1974; Cerny and Kaiser, 1977). In this way, it has been confirmed that the sample used for research in this paper is adequate and suitable for the application of factor analysis.

In addition, Bartlett's Test of Sphericity shows that there are significant correlations among question groups within the questionnaire (Hair, 2006). The values of this test are $\chi^2 = 145.556$, $df = 45$, Sig. = 0.000.

Table 10. Sample normality test

<i>Observed variable</i>		<i>Kolmogorov-Smirnov</i>		
		<i>Statistic</i>	<i>df</i>	<i>Sig.</i>
M1	2.75	0.231	5	0.200*
	2.75	0.231	5	0.200*
M2	3.00	0.258	7	0.174
	3.25	0.215	11	0.165
	3.75	0.186	17	0.123
	4.00	0.195	7	0.200*
	4.50	0.300	5	0.161

F2	2.33	0.285	6	0.138
	2.50	0.254	5	0.200*
	2.83	0.201	9	0.200*
F3	2.33	0.277	6	0.168
	2.50	0.243	5	0.200*
	3.00	0.300	5	0.161
S2	3.25	0.205	10	0.200*
S4	3.00	0.270	7	0.133
	3.50	0.263	8	0.109

*This is a lower bound of the true significance

6.5. Validation of the Defined Model

Validation of the defined theoretical model for examining the degree of satisfaction of private entrepreneurs, the founders of a private business, in the territory of the municipality of Zaječar (Figure 1), was carried out using the software packages SPSS v.25 and LISREL v.8.8 using statistical factor analysis (Djordjević et al., 2018; Panić et al., 2018; Savić et al., 2017).

Factor analysis confirmed the one-dimensionality of all three groups of latent variables in the observed model, based on PCA analysis (Kingir & Mesci, 2010). The results of the factor analysis are shown in Table 11, from which the obtained values of the percentage of variance explained by the one-dimensional factor for each group of questions and the obtained loading factor values can be seen. The minimum acceptable loading factor value is 0.3, and the obtained loading factor values confirm that there is a high degree of internal consistency between the groups of questions in the set model (Sheppard, 1996; Velicer & Jackson, 1990).

Table 11. Results of factor analysis for the tested model

Question group	Observed variable	PCA		CFA	
		% of the variance explained by the one-dimensionality factor	Factor loading	Factor loading	t-values
M	M1	52.941	0.813	0.65	5.74
	M2		0.481	0.29	1.99
	M3		0.834	0.61	5.35
F	F1	39.703	0.302	0.17	0.79
	F2		0.725	0.81	1.77
	F3		0.758	0.44	1.52
S	S1	50.274	0.727	0.75	3.09
	S2		0.746	0.80	4.44
	S3		0.703	0.60	3.15
	S4		0.657	0.36	2.80

In order to ensure the validity of the tested model, CFA (Confirmatory Factor Analysis) was performed, and the obtained results of convergent validity were also shown in Table 11. CFA analysis determined the good fit of the defined model, confirming that the 10 defined variables reliably describe 3 groups of questions (latent variables) defined in the research model shown in Figure 1 (Djordjević et al., 2018; Panić et al., 2018).

In addition, Table 11 shows the values of the *t*-test, based on which a conclusion can be drawn as to whether the sample is representative. Based on the obtained *t*-values it can be concluded that the sample does not differ much from the population because in most cases the *t*-values are greater than 2 (Ho, 2006), without statistical significance, except for the group of questions F – *Finance for the start-up*, where the *t*-test values are less than 2. The reason for this could be in the

sample size. It is assumed that higher values of *t*-test with higher statistical significance would be obtained on a larger sample.

In order to test the validity of the defined theoretical model shown in Figure 1, deeper statistical data analysis was performed using the LISREL software package v.8.8. First, the fitting indicators are determined, which is shown in Table 12.

Table 12. Goodness of Fit Statistics

<i>Indicators of the fitting statistics</i>	<i>Obtained values</i>	<i>Recommended values</i>
Chi-Square (χ^2)	52.83	-
Degrees of freedom (df)	32	-
Relative chi-square (χ^2/df)	1.65	< 3.0
Root Mean Square Error of Approximation (RMSEA)	0.083	0.08-1.0
Normed Fit Index (NFI)	0.70	> 0.9
Non-Normed Fit Index (NNFI)	0.78	> 0.9
Comparative Fit Index (CFI)	0.84	> 0.9
Incremental Fit Index (IFI)	0.86	> 0.9
Relative Fit Index (RFI)	0.58	> 0.9
Goodness of Fit Index (GFI)	0.90	> 0.8
Adjusted Goodness of Fit Index (AGFI)	0.82	> 0.9

The obtained value of the relative χ^2 of 1.65 can be considered significant, because the requirement is to be less than 3 (Molina, 2007). *Root Mean Square Error of Approximation (RMSEA)* is an indicator based on an approximation error that occurs due to the expected degree of freedom in the population (Živković et al., 2009). The lower the value of the indicator, the greater the correspondence and it ranges from 0.08 to 1.0. In this case, it is 0.083, which indicates a good matching in the tested model and a satisfactory compliance with the GFI indicator. *Goodness of Fit Index (GFI)* defines the

degree of applicability of the model in comparison with the case when the model does not exist. The values of this indicator above 0.80 indicate good fitting (Molina et al., 2007), and in this case, an AFI of 0.90 was obtained, which satisfied the set condition.

In addition to the RMSEA and GFI indicators, the following indicators were also calculated for the purpose of assessing the degree of fit in the model: *Normed Fit Index (NFI)*, *Non-Normed Fit Index (NNFI)*, *Comparative Fit Index (CFI)*, *Incremental Fit Index (IFI)*, *Relative Fit Index (RFI)* and *Adjusted Goodness of Fit Index (AGFI)* with obtained values of 0.70, 0.78, 0.84, 0.86, 0.58 and 0.82, respectively. The obtained values do not satisfy the requirement to be greater than 0.90, and therefore cannot be considered satisfactory. The values of these fitting indicators would probably be higher if the statistical sample was increased.

Subsequently, using the software package LISREL v8.8, regression analysis was performed and the structural path coefficients for the defined conceptual model were calculated (Figure 3). Regression analysis is a statistical tool for testing relationships between variables in order to determine the quantitative influence of independent variables (predictors) on dependent variables, as well as the statistical significance of the observed relationships. For the purpose of statistical analysis in this paper, each predictor is separately included in the model and an analysis of the influence of each of them on the dependent variable was performed. This is of great importance from the aspect of determining the simultaneous impact of both predictors (*Motives* and *Financial resources for starting a private business*) on the dependent variable (*Satisfaction with the achieved results*). The values of the obtained path coefficients and the determination coefficients (R^2) in the structural model are shown in Figure 3.

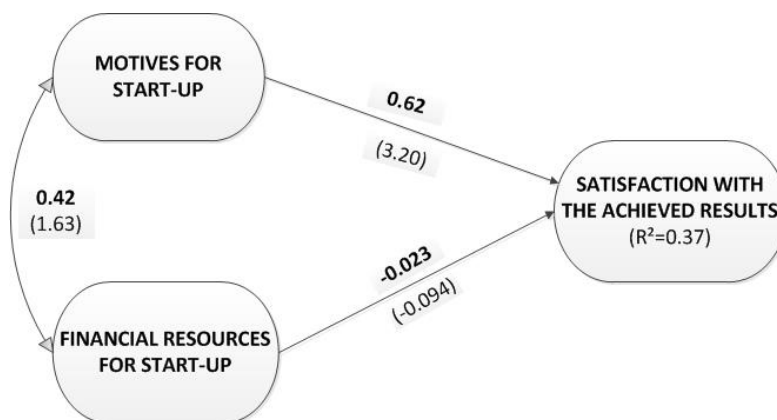


Figure 3. Structural model for examining the satisfaction of private entrepreneurs with the results achieved

In order to make a final decision on the acceptance of a defined conceptual model for examining the satisfaction of private entrepreneurs with the results achieved, on the territory of the municipality of Zaječar, first, *t*-values for each set hypothesis were determined. The obtained *t*-values are shown in brackets in Figure 2. For the hypothesis H₂, a *t*-value of 3.20 was obtained, which shows that there is a strong positive correlation between the motive for launching a private business and satisfaction with the results achieved. For the hypothesis H₁, the *t*-value is somewhat lower (1.63), indicating a weaker correlation between two independent variables (*Motives and Financial resources for running a private business*). Only for the hypothesis H₃, *t*-value is negative (-0.094) and shows that there is a weak negative correlation between the independent variable (*Financial resources for running a private business*) and the dependent variable (*Satisfaction with the achieved results*).

The obtained value of the coefficient of determination (R²) shows that 37% of the variation in the dependent variable (*Satisfaction with the achieved results*) is explained by the influence of independent

variables – the predictors (*Motives for starting and running the own business* and *Financial resources for starting a private business*).

As can be seen from Figure 3, the hypothesis H₁ was confirmed ($b = 0.42$), i.e. it was confirmed that the motives for initiating and managing one's own business are in a positive relation with the financial resources necessary for starting a private business. The H₂ hypothesis suggests that the motives for starting and running the own business have a positive impact on the satisfaction with the achieved results ($b = 0.62$). For the hypothesis H₃, a negative value of the path coefficient ($b = -0.023$) was obtained, which established that the initial financial resources for establishing a private company did not have a positive impact on the satisfaction of the results achieved in this sample. Obviously, in the territory of the municipality of Zaječar, it is very difficult for private entities to operate and that the expectations of the private business starters are obviously not fulfilled.

It would be very interesting to do a re-examination of the respondents who participated in this research to determine where they are today and whether they do business. The authors assume that the majority of respondents either stopped working or would cease to exist in the near future, bearing in mind that the conditions in the field of private entrepreneurship in this part of Serbia are extremely poor.

Such claims are supplemented by the comments of the respondents who participated in this research. Most of the findings were mainly related to bad administrative conditions and to complicated and lengthy procedures for starting a private business. Most respondents believe that the state should provide a greater volume of assistance to private entrepreneurs and that certain solutions must be systemic. Certain observations related to unequal conditions between private and state property, unlike other countries in an environment where private and state practice is equal. Respondents also pointed to a high level of corruption, bribery, crime, grey economy, a huge

administrative apparatus at the level of all organizations, ranging from local government to state ministries.

In this way, a conceptual model for examining the satisfaction of the private entrepreneurs in the territory of the municipality of Zaječar with the achieved results, was tested (Figure 1), based on empirical research on a sample of 109 private entrepreneurs – initiators of a private business in the municipality of Zaječar.

The relatively low values of the obtained path coefficients are the result of a relatively small sample that was statistically processed in this paper. By increasing the number of respondents, greater internal consistency and sample reliability should be expected from the tested variables, which would also improve other statistical parameters.

7. CONCLUSION

A literary overview of the problem of private entrepreneurship in the world indicates that the development of small and medium-sized enterprises is the basis of modern economic development in the world. The desire to start own private business rather than to work in a state-owned company is most pronounced in America, and far less in the EU countries.

In transition countries (including Serbia), the development of private entrepreneurship is carried out in conditions of undefined legal frameworks and excessive state regulation. Many entrepreneurs came from the political structures and management of state-owned companies, using this kind of business for money laundering and other illegal activities. Using unspecified conditions and business rules, they rapidly increased their capital and became monopolists in certain industries.

Under the conditions of regulation of the legal framework for business, the margins of business are becoming less and the conditions

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for the operations of small and medium-sized enterprises are deteriorating, and decisions on starting their own business are becoming increasingly difficult. International cooperation of private entrepreneurs and internationalization of private businesses is very limited, and the development of innovative activities in private entrepreneurship and the creation of entrepreneurial networks can be considered symbolic.

The main problem for starting and successful running of a private business is the lack of knowledge among entrepreneurs, especially in Serbia, which has been in the informative and technological isolation of the contemporary world for the past twenty years. In the education system, more recently, sporadically, software contents are introduced that enable people to start and run their own business in conditions of competition in the domestic and global market. Today, the necessary knowledge is acquired at training courses for the unemployed, which from a distance do not meet the needs for the education of a successful entrepreneur.

A defined conceptual and structural model for examining the satisfaction of private entrepreneurs with the achieved results has been demonstrated on a small sample of 109 entrepreneurs – the initiators of a private business in the municipality of Zaječar, and certainly can obtain a better statistical certificate on a larger sample.

A common denominator in the proposed structural model is the necessary knowledge for the design, launching and successful running of one's own business, which, in order to be successful, must have an international dimension and an international level of innovative activities. This knowledge can only be provided through a regular educational process at all levels.

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THE CONDITION OF POLISH ENTREPRENEURSHIP IN THE CONTEXT OF ITS DEVELOPMENT

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Abstract

The presented statistical data, comparisons in longer periods and comments on the observed changes encourage analysis and reflection on how the SME sector in Poland is developing. There are many positive changes in the structure of Polish enterprises, which mainly concern the increasing share of small companies in the structure of enterprises and changes in the field of industry structure - the share of service companies is growing, with the declining share of industry. In total, in 2003-2011, a positive balance was observed between the number of newly created and liquidated companies, although in 2011, for the first time in several years, fewer companies were established than liquidated. The chapter presents the specificity of the conditions under which Polish small and medium enterprises operate.

Keywords: SMEs, Microenterprises, Development

1. INTRODUCTION

In accordance to the European Commission, the Polish Economy is characterized by a dichotomy between the results of the private sector

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dominated by small firms and outcomes of large enterprises most of which are still owned by the state. The private sector is blossoming. Some small enterprises might encounter difficulties in adjusting to foreign competition, but companies acting in trade and services will discover new market opportunities (Agenda 2000:31).

The number of small- and medium-sized enterprises is the lowest per head of population among the EU member states. Industrial and trading firms predominate amongst Polish SMEs. In Poland, the biggest number of SME firms are to be found in the in wholesale trade, retail and food industries. Firms engaged in land transport, buildings, as well as electrics and plumbing also make up a large part of the sector. SMEs are more than three-times as likely to use bank loans as large firms. This applies particularly to small companies, which use loans to finance 21% of their investments. As a result, SMEs are more heavily-indebted than large companies, but rarely apply for loans in foreign currencies. Their main sources of investment financing are still their own funds. Small- and medium-sized enterprises grow, on average, at the same rate as large firms. But they are much more sensitive to economic fluctuations, especially changes in domestic demand, which is why the global financial crisis plunged them into a deep recession (Czerniak & Stefański, 2015).

Since the beginning of economic transformation in Poland and Poland's accession to the European Union, the strategy for the development of the Polish economy and Polish enterprises has been based on the use of competitive advantage on the European market based on lower labour costs. With the disappearance of barriers to the free movement of goods and services, as well as capital, the process of shifting production from the western to the eastern part of the enlarged Union has been noticed. Thanks to the implemented reforms, which created relatively favourable conditions for running a business, Poland has become an attractive centre for the location of European investments. As a result, since the beginning of transformation Poland has made considerable progress in the elimination of the economic gap compared to Western Europe (increase in the average GDP per

capita of 32% of the average Western European level in 1991 to 59% of the level in 2011) (Orłowski 2011).

Currently, the continuation of such a development strategy is associated with the growth of many serious long-term questions related to the effects of the global crisis caused by excessive Western indebtedness. Poland's economic growth has, to a large extent, been based on direct investments coming from abroad, looking for a cost-effective location for production on Western European markets. Both the crisis and relatively good economic results of Poland are a good starting point to consider the advantages and methods of their future good use possessed by Polish companies.

The factors related to the flexibility of the Polish economy include, among others:

- experiences of Polish entrepreneurs resulting from the economic transformation (PricewaterhouseCoopers, 2010),
- flexibility of employees towards lower wages,
- weak exchange rate of Polish zloty,
- small opening of the economy for export and its diversification as well as a large internal market,
- financial stability of Poland related to the prudent policy of Polish financial supervision,
- moderate level of public debt,
- financial benefits for Poland resulting from its membership in the European Union in the form of funds that radically increase the scale of public investment and investments in industrial production.

Undoubtedly, Poland still has a flexible economy. Owing to the activity of enterprises, diversified export structure and support in the difficult moments of competitiveness of domestic production in the floating currency exchange rate, the demand fluctuations in the largest trade partners of Poland are largely compensated by appropriate changes in demand in the country (Tarnawa & Zadura-Lichota, 2012).

According to reports (Czerniak & Stefański, 2015) development of SMEs is based mainly on increasing productivity. In period 2006-2013 Polish enterprises noted 52% of the growth of value added what had a great influence on the better use of existing capital and labour, as well as a relatively high propensity to invest in research and development. There is noted a great contribution of Polish SMEs to innovation, especially they invest into people than machinery. The most significant barriers to growth for SMEs are the high tax burden and bureaucracy. Moreover, entrepreneurs point to the difficulty of finding and hiring new employees and securing finance.

SME's difficulties in accessing finance inhibit innovation. The proportion of enterprises who invest in research and development amounts to 18.4%. It is also noted by entrepreneurs, that it difficult to obtain funds for funding innovation. It is the main barrier of innovative enterprises growth (Mazur & Zaborek, 2016; Czerniak & Stefański, 2015). Observation of the market confirm also that medium-sized industrial and building firms complain about the lack of adequately trained personnel. The problem of gaps in education also applies to directors and business owners, who often lack management skills and basic knowledge of finance and accounting (Mazur & Zaborek, 2016; Czerniak & Stefański, 2015, Steinerowska – Streb & Steiner, 2014, Jelonek et al., 2014, Ratten et al. 2007).

2. POLISH ENTERPRISES FEATURES

European statistics (www.ec.europa.eu) Polish economy profile is uneven. It is noted that Poland achieves the averages above European averages in some fields such as: entrepreneurship, access to finance and environment. However, this is offset by below-average performance on the single market and internationalisation. The Small Business Act principles have been address in the government's strategy for responsible development created in 2016 what included some proposals as initiatives on enterprises improvement. One of the

SMEs policy priority was field of skills and innovation that was evaluated as one of the weakness of Polish SMEs sector.

2.1. Economic Characteristics

According to 2018 SBA Fact Sheet Poland (SBA, 2018), Polish SMEs account for 51.4% of value added and 68.1% of employment in Poland's 'non-financial business economy', whereas the respective EU averages are 56.8% and 66.4%. The average annual labour productivity of Polish SMEs is about EUR 16 900 per person, which is 2.6 times lower than the EU average of EUR 43 900. The average size of SMEs in Poland is around 3.7 people, close to the EU average of 3.9 people. Number of SMEs was presented in Figure 1.

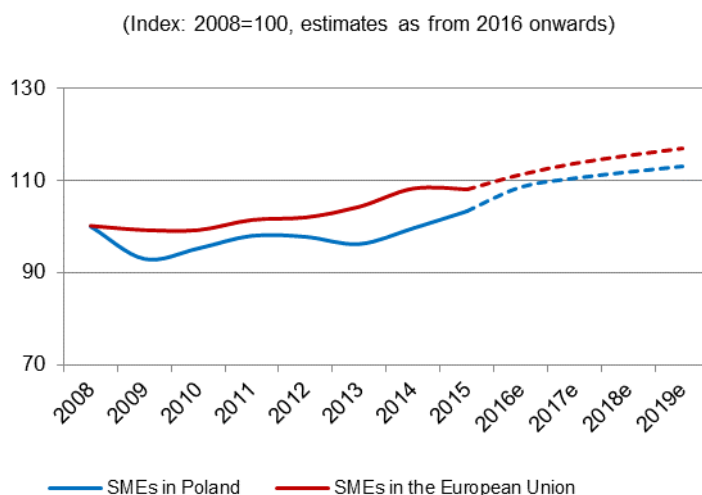


Figure 1. Number of SMEs in Poland and European Union in 2008 – 2019.

In Poland, the highest number of enterprises from SME sector deal with manufacturing and wholesale and retail trade (54.4%). In 2013 – 2017 there was noted growth of employment level (10.8%) in Polish

SME sector. However, opposing growth trends were evident across different size-classes: whereas employment in micro firms grew by 18.1 % in 2013-2017, growth in small and medium-sized firms was merely 2.8 %. In 2016 – 2017, Poland noted employment growth (1.7%), what was mostly noticeable in microenterprises sector. Manufacturing large enterprises noted smaller employment growth (12%) comparing to SME sector (18%). Number of SMEs by industry type is presented in Figure 2.

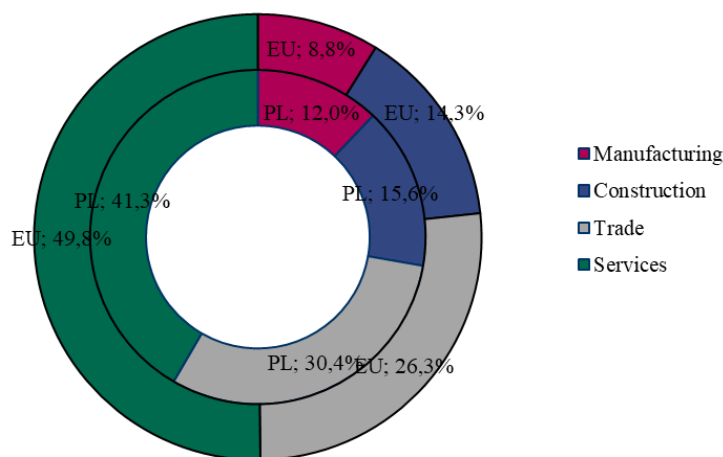


Figure 2. Number of SMEs by industry type in Poland and European Union in 2008 – 2019.

Polish microenterprises noted great growth of employment (24.5%) and added value (40.1%) in period 2014 – 2017. This result comparing with weak results of microenterprises within performance in 2008 - 2017 has been the most successful factor. There was noted also increasing demand of international markets for Polish products and rising domestic consumption due to lower unemployment. SME

sector has benefited from various forms of government support dedicated to innovative activity. Employment trends in Poland comparing to European Union were presented in Figure 3.

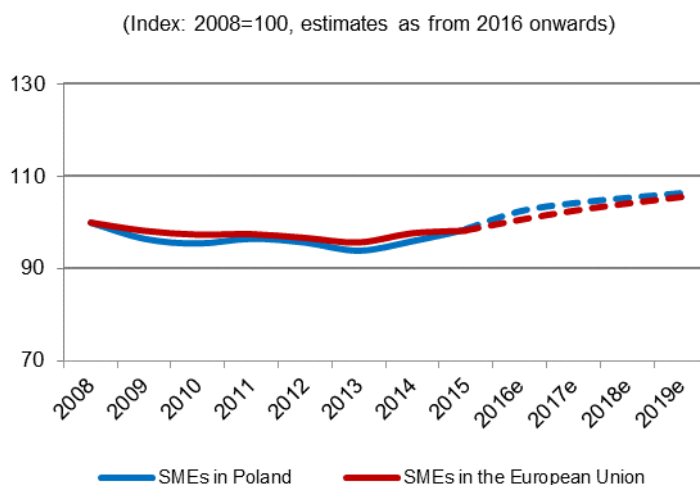


Figure 3. Number of persons employed in SMEs in Poland and European Union in 2008 – 2019.

Registration of business noted rising growth since 2008. In 2011, business registration noted approximately 360 000 annually. There are noted also Polish start-up entities that are mostly technology based start-ups. Poland is a leader in female entrepreneurship as the founders of start-ups (23.9%). Start-ups in Poland are register sectors such as: IT and software development (21.1 %) and software as a service (25.4 %), what is comparable with a European top position for the e-commerce sector (Polish average is 9.9% and EU average of 3.3 %). Polish start-ups currently employ 10.6 employers.

According to data of The Polish Statistical Office (GUS 2011), the economic and financial situation of Polish enterprises in 2017 should be generally assessed positively. In the group of companies employing

more than 9 people, revenues from total activity, financial results and profitability ratios increased. Revenues from export sales increased faster than total revenues. The number of employees and average employment increased. At the level from 2016, the remaining financial liquidity indicators, but their level exceeded the reference values. In Poland, there are around 2.0 million non-financial enterprises. The structure has been unchanged for years. Micro-enterprises dominate (96.2%). Number of enterprises by size class was presented in Figure 4.

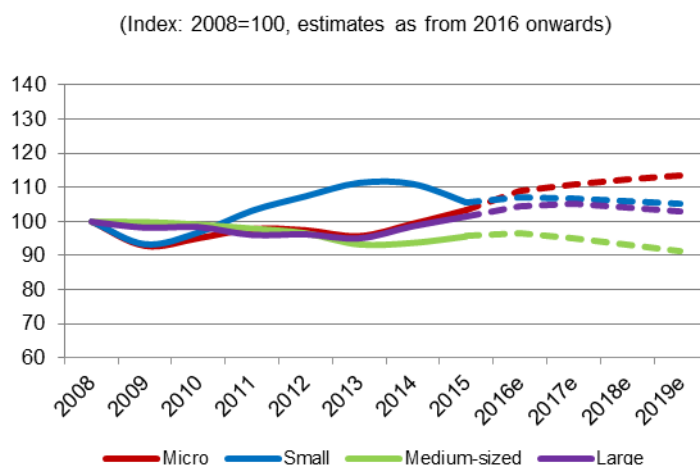


Figure 4. Number of enterprises by size class in Poland and European Union in 2008 – 2019.

The share of small and medium-sized entities is respectively: 2.8% and 0.8%. Large entities account for 0.2% of the total. Data for 2017 confirm that there is a structural change in the economy, resulting from a faster growth in value added in modern sectors, with a slower growth rate or even a decline in some "traditional" sectors. In the period 2010-2017, the largest share in the economy had enterprises with the highest relative increase in value added: "information and

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communication", and immediately after "administration and support activities", which includes such departments as administrative office services and other support activities, business, maintenance services, brokering activities in the labor market or renting and leasing. The value of financial and insurance services in the areas of transport and storage as well as industrial processing grew dynamically.

At the end of 2017, in the REGON register there were approximately 4.3 million entities of the national economy (1.7% more than in the previous year). At the same time, the number of entities with active status does not exceed approximately 2.4 million. The vast majority of them were private entities (about 96.1%, over 4.1 million entities). Traditionally, the largest group of registry entities are natural persons running their own business (approximately 69.6%), clearly ahead of commercial companies (approximately 12.4%) and civil entities (approximately 6.6%).

According to 2018 SBA Fact Sheet Poland (SBA, 2018), unlike most EU start-ups, a noticeable share (15.0 %, compared to the EU average of 10.3 %) of Polish start-ups is generating revenue both through business - to business and business-to-customers. Still the business - to business sector is the main customer base from which revenue is generated (63.3 %). The growth of the start-ups number in Poland is continued. The outlook for SMEs in general remains positive for 2017-2019 with value added rising by 16 %. Healthy growth is forecast for all sectors, with three specific sectors: information and communication, professional, scientific and technical activities, and administrative and support services expected to generate higher growth for SMEs than the average for the economy. This indicates that the share of the service economy will increase over time to match the level of more economically advanced countries. SME growth is likely to translate into a 2.1 % rise in SME employment, representing an additional 128 500 jobs in 2017-2019.

Polish SME sector performs uneven SBA profile (Figure 5).

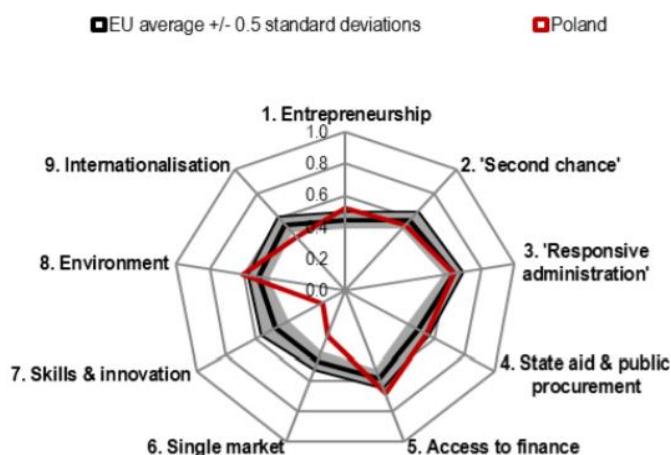


Figure 5. SBA profile of Poland in 2018 (ec.europa.eu)

SBA profile of Polish enterprises presented in Figure 1 confirms the lowest scores of Poland in the field such as: entrepreneurship, access to finance and environment, which is below average performance on the single market and internationalisation. Considerable achievements were made within field of digitalisation in the public administration, what result mainly from the access to funding and smart support programmes. Polish enterprises underline serious problems resulting from heavy and/or frequently changing administrative procedures. There is still noted low levels of innovation that remain an obstacle to scaling up and expanding on international markets.

In 2018, the Ministry of Economic Development was reorganised into the Ministry of Investment and Economic Development and the Ministry of Entrepreneurship and Technology, with the latter being the key entity responsible for drafting SME legislation. The Polish Agency for Enterprise Development (Polish: PARP) expand comprehensive support programmes for SMEs. It is believed that those changes are important for reduction of administration what

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influence on improving the consistency and coherence of legal interpretations by public administrations and further advancing e-administration and e-government.

Today, entrepreneurs are taking first place in creating economic reality. Their companies - employers, employees and attitudes presented by them - create the country's prosperity. Creativity, adaptability, and willingness to take risks make them boldly implement ideas for their own business, and our economy receives a measurable development impulse. An entrepreneurial attitude allows development despite the barriers and limitations entrepreneurs have to face. This does not exempt policymakers from creating increasingly better conditions for doing business. Plain regulations and clear rules favor entrepreneurial attitudes. In this way, space is created for a broader involvement in development processes, including innovative ones.

2.2. Directions of Enterprises Development

The growing share of innovative enterprises, with a significant increase in expenditure on R & D in this sector, indicates a favorable structural change and acceleration of development processes. In the Polish economy, the share of modern, open and ready-to-trade entities with foreign markets is growing, as evidenced by, among others, the relation of exports of goods and services to GDP. The relation of expenditures on research and development to GDP still remains at the level of about 1.0%. At the same time, significant and dynamically growing involvement of the enterprise sector in research and development - constituting a determinant of innovation in the economy - is noticeable. The share of enterprises from the enterprise sector in internal expenditures on R & D activity in 2016 was at the level of 65.7% as compared to 26.6% in 2010. This positive trend did not translate into the improvement of Poland's position in international innovation rankings. In the most recognizable - European ranking of the European Innovation Scoreboard - Poland maintained a low, 25th

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position, remaining in the so-called moderate innovators. To the strengths of the innovation system according to the ranking, a favorable environment should be included, which consists of access to broadband Internet and entrepreneurship, while the weak innovative activity of the SME sector and the research system scientific.

The tele-information sector is developing dynamically in Poland. The next year in the sector increased employment, which was accompanied by an increase in the number of enterprises. In the context of the change of Polish industry towards Industry 4.0, it is worth noting an increase in the percentage of enterprises using cloud computing (for the first time the indicator has reached a two-digit value). Research also indicates the increasingly common use of modern production technologies by enterprises, such as: automation, robotics or incremental technologies (3D printing).

Polish enterprises are more and more innovative entities, actively involved in research and development and are more and more willing to establish cooperation. The data indicate a growing tendency for entrepreneurs to take risks that are an inevitable element of innovative activity. Enterprises in Poland perceive the benefits of implementing innovations and try to use such opportunities more and more boldly, although many areas in the research-development-innovation area still need improvement.

One of the most important measures of innovativeness of the economy and technological progress are expenditures on research and development in relation to GDP. In this case, the indicator for Poland (around 1% of GDP) is clearly lower than the EU average (2.03%). On the other hand, the constantly increasing expenditures on R & D in the enterprise sector are positively promising. In 2016, the sector invested in nominal terms over 4 times the amount in relation to 2010, and its share in total R & D expenditure amounted to 65.7% (in 2010 26.6%). Compared to other European Union countries, Poland is ahead of Portugal or Slovakia in terms of BERD in GDP.

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Also, Poland's place in international innovation rankings remains a challenge. In the European ranking of the European Innovation Scoreboard 2018, Poland maintained the 25th position and remained in the so-called moderate innovators. The strengths of the innovation system according to the ranking should be a favorable environment, which consists of access to broadband Internet and entrepreneurship, while the weak innovative activity of enterprises (SMEs) and a system of scientific research. In the Global Innovation Index 2018 (GII) report, Poland took 39th place (out of 126 countries), followed by Bulgaria, Slovakia and Latvia. This ranking is opened by Switzerland, then by the Netherlands and Sweden.

Innovative activity is being undertaken by more and more entities. The share of innovative enterprises in industry has been growing systematically since 2012, while in services it has been decreasing, only in the last study this trend has been overcome. Current data on enterprises' innovative activity in 2014-2016 indicate that the share of innovative enterprises amounted to 18.7% in industry (increase by 1.1 percentage points) and 13.6% in services (increase by 3.8 percentage points). Increases were also observed among innovatively active enterprises. In the years 2014-2016, innovation-active industrial and service enterprises accounted for 20.3% and 14.5% of the total number of these entities respectively (compared to 18.9% and 10.6% in 2013-2015).

Among the most innovative group of enterprises, ie large enterprises employing 250 people and more, both sectors recorded an improvement in results. In 2014 - 2016, 61.5% of large industrial companies and 44.0% of service companies introduced at least one innovation on the market (in 2013-2015 it was 60.6% and 42.8% respectively). The smallest innovativeness is characterized by small enterprises (10-49 employees), of which every eight introduced innovations on the market, while in previous years it was one in ten.

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Modern solutions in industry are most often implemented through the purchase of machinery and equipment (49.4%), while in 2016, 18.3% of expenditure on innovations was allocated to R & D. In turn in services, investments in machines accounted for 19.0% and in R & D 41.0%. R & D expenditures among industrial and service enterprises were nominally next year from PLN 9.3 billion in 2015 to PLN 9.6 billion in 2016. Service companies account for a much larger share of expenditures related to innovative activity, in comparison with industrial companies, they target the purchase of software (9.2% compared to 1.6%) and marketing of innovative products and services (6.2% compared to 1.4%). On the other hand, industrial enterprises spend a larger part of expenditures than companies from the services sector for investments in buildings, constructions and lands (26.7% compared to 5.8%). In the years 2014-2016, 32.8% of innovatively active industrial enterprises cooperated as part of innovative activities (compared to 29.1% in 2013-2015) and 26.9% of service enterprises (24.4% in 2013-2015).

Micro, small and medium-sized production companies spent on average 14.5% of revenues on the implementation of innovative technologies. Small companies, from 10 to 49 people, spend more than 30% of their revenues on technology implementation, while micro-enterprises spend 10-30% of their revenues on this purpose.

The most expected by Polish entrepreneurs state support in the implementation of new technologies are tax incentives (80% of indications) and providing an educational framework allowing to adapt the training of future staff to the needs of companies (70% of indications). The third important area, which was indicated by 69% of entrepreneurs is the improvement of transparency of applicable legal regulations. The entrepreneurs see a relatively small role of public support in the creation of consortia of Polish enterprises of various sizes working on innovative ones projects (36% of indications).

3. EVALUATION OF SMEs DEVELOPMENT PERSPECTIVES

Evaluation of the SMEs development perspectives was conducted with using the survey carried out in an electronic version, via the website of the Polish Ministry of Enterprise and Technology, in February-March 2018 (Ministry of Enterprise and Technology 2018). The entrepreneurs' responses mainly concerned the situation in the second half of 2017. The sampling frame for the sample was in this case a set of entrepreneurs from the REGON register with an e-mail address. The dominant part of the respondents were microenterprises (in the current survey it was 73.3% of companies). The share of small enterprises amounted to 18.2%, while the average was about 8.5%. However, it should be emphasized that a significant part of respondents are single-person companies that do not have any employees under a contract of employment (about 42% of surveyed entities in the current study).

According to the results of the study, in which the SME sector development index increased, entrepreneurs have an optimistic attitude to the development prospects for the next six months. This trend was observed in all size groups of entities. Entrepreneurs operating in cities more often than those operating in rural areas assessed those companies would develop. For the first time in the history of the survey, the index has reached a positive value, also for each of the size groups of entities. As in previous surveys, the economic situation in the country remains an important factor affecting the development of enterprises. Among the factors constituting a barrier to development, the surveyed entrepreneurs pointed out the costs of the workforce and the political climate.

Approximately 30% of entrepreneurs expected deterioration in business conditions in the first half of 2018, 35% of entrepreneurs assessed that they would remain unchanged, and 22% expected improvement. It should be noted that the assessment of the conditions

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in which companies operate is cyclical: it is usually less negative in the second half of the calendar year.

The most important barrier to entrepreneurship development invariably remains, in the opinion of the respondents, the amount of taxes and fees - most often indicated by microenterprises, with the role of this factor systematically decreasing. However, more and more companies experience problems related to labor resources: costs, availability and qualifications. It should be noted that the percentage of entrepreneurs who increased employment decreased, at the same time every third company increased wages and in addition more companies plan to raise them and hire employees.

Entrepreneurs, once again, positively assessed economic policy. The government's economic policy assessment index has increased, reaching the highest value in the history of the study. This generally positive assessment does not include the respondents' answers regarding the regulatory environment. Negative aspects of regulatory framework are signaled and more often than not this aspect is indicated as a cause that inhibits the company's development. Most entrepreneurs' reservations are addressed in the case of tax law.

The analysis of research results on barriers to the activity of Polish enterprises shows that the most often indicated barrier is employment costs. Other factors frequently mentioned include: increased competition on the market, insufficient demand / low turnover, high tax burden, unclear and inconsistent legal regulations and labor law regulations. Although the analyzed companies rarely indicate access to finance as an important barrier to development, international research suggests that this factor may play an important role in the creation and development of new enterprises and in undertaking innovative activity.

In the opinion of entrepreneurs, currently the importance of insufficient demand / small turnover and uncertainty regarding the general economic situation as a barrier to their activity has clearly decreased compared to 2013. This is probably the result of the

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improved economic situation that took place at that time. However, problems with a shortage of (qualified) employees have increased. The frequency of indications of barriers to employment costs and tax burdens, in turn, remains fairly stable over time. However, many of the factors discussed above, including adverse demographic changes or the growing need to compete increasingly on the basis of quality, indicate that the shortage of employees (in particular qualified employees) is a structural change that will constitute an increasingly larger barrier to business development. In this context, one can also expect a rise in wage pressure, which (periodically) may be strengthened by the continued good economic situation (in particular qualified ones) is a structural change that will constitute an ever-growing barrier to business development. In this context, one can also expect a rise in wage pressure, which can be additionally (periodically) strengthened by the continued good economic climate.

It is also worth noting significant differences in the perception of the importance of particular barriers currently and in the initial period of activity of the analyzed enterprises. Despite different moments of individual companies, respondents often pointed to similar difficulties that they had to deal with at that time, i.e.: lack of access to financing, insufficient demand and burdensome administrative procedures. This may suggest that the importance of currently emphasized regulatory factors (both related to the level of complexity and the predictability of regulations) increases with the maturation of enterprises.

Competition and insufficient demand are fairly general, but relatively often indicated barriers to development by enterprises from many important sectors. Competition is particularly felt by food companies (72% of companies), in financial and insurance (69%) and detective and security (69%). The problem of competitive import is most often noticed by companies producing textiles and clothing (33%) and producing and processing coke and refined petroleum products (32%). On the other hand, the companies most rarely mentioning competition on the domestic market as a barrier to development are related to real

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estate services (19%), operations of head offices and management consulting (21%) as well as health care and social assistance (26%). The Economic Forum shows that managers in Poland assess intensity of local competition at a level close to the EU average. At the same time, respondents in Poland more often indicate that this competition is of a price nature, with differences in this respect they are particularly visible in comparison to the more developed countries.

In the case of a demand barrier, its insufficient level in the country (49%) and abroad (65%) most often indicate companies that produce and process coke and refined petroleum products. The least frequent demand in the country (18%) and abroad (15%) is replaced by vehicle manufacturers. At the same time, it is worth noting the significant decline in the share of respondents in recent years indicating insufficient demand as a barrier to their activity. Undoubtedly, the improvement of the global and Polish economic situation has contributed to this.

The barriers to high burdens for the state are most often indicated by order-keeping companies (65%) associated with culture, entertainment and recreation (61%) and offering financial services (58%). For the latter, there was a significant increase in the frequency of indications of this barrier with respect to 2015 (then around 29%), which was probably the case related to new burdens in this sector. On the other hand, this barrier is mentioned least frequently by companies from the sector of production and processing of coke and refined petroleum products, of which only 19% of respondents indicated the problem of high burdens for the state.

The barrier of high costs borne by the state is more often indicated by smaller enterprises. Although tax preferences for the smallest (and / or new) companies can limit this problem, while solutions that could discourage should be avoided enterprises to increase the scale of their operations, e.g. due to the loss of privileges due only to the smallest entities. This is particularly important in the context of the very low

mentioned performance of micro-enterprises in the context of larger enterprises - in Poland these disproportions turn out to be the largest of all EU countries.

Among companies that often emphasize unclear and inconsistent regulations, we can distinguish enterprises belonging to the sectors related to the use of modern technologies, such as the pharmaceutical sector (53%) and research and development (51%). It may signal that improving the quality of legal provisions would be conducive to faster technological development of enterprises in Poland. Polish entrepreneurs evaluate worstly the rules and procedures related to tax law. Very important, though difficult to determine, are the types of legal provisions that constitute the largest barriers to the operations of companies.

Entrepreneurs asked about the quality of the existing regulations and procedures, surveyed entrepreneurs valued the business courts' worst (59% of responses indicated a bad or very bad rating), tax law (50% negative) and procedures for business control (36% negative)). It is worrying that, according to 64% of respondents, the tax law regulations deteriorated in relation to the period in which they started their activities. Entrepreneurs participating in the survey were additionally asked to indicate which of the cash benefits for the state most burden their businesses with administrative activities. The most frequently indicated benefits in this context were taxes.

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STRUCTURAL AND PERFORMANCE ANALYSIS OF SERBIAN SME SECTOR AT AN AGGREGATE AND INDIVIDUAL LEVEL

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Abstract

In terms of structure, SME sector is regarded as a backbone of almost every economy. As such, it has drawn much academics' and practitioners' attention. The objective of this paper is threefold – first, to present recent research interest from the perspective of the main determinants of SMEs' business performance, with particular attention to developed European economies; second, to analyse structure and performance of Serbian SME sector at an aggregate level, in comparison with EU-28, Visegrad group of countries and Germany as an economy with outstanding performance of the sector and third, to analyse the determinants of economic performance of SMEs operating in Serbia, taking into consideration variables which are deemed important from the perspective of practitioners. Findings of this study indicate underperformance of Serbian SME sector in terms of productivity and value added. Whereas SMEs' market orientation, innovation and entrepreneurial orientation have occupied recent research interest in developed European economies, the application of hierarchical multiple regression indicated the adjustment of raw materials inventory and expected sales at domestic market as key determinants of managers' expectations of SMEs' economic performance in the short run. Implications of the study are discussed and directions for future research are provided.

Keywords: SMEs, Serbia, EU, Visegrad group, business performance

1. INTRODUCTION

Small and medium-sized enterprises play a significant role in a number of economies around the world. In OECD area, SMEs account for more than 99% of all enterprises, 60% of total employment, and generate roughly 50% of value added. Their contribution to employment and value-added is especially relevant in service industries, where they account for about 65% of workforce and value-added, whereas their role in manufacturing is less significant, due to large investment requirements which pose barriers to entry. Among service industries, SMEs' contribution to employment and value added is particularly relevant in wholesale and retail trade, accommodation and food, real estate and professional, scientific and technical activities, whereas less pronounced is the role of SMEs in service industries which require significant R&D investments. Their contribution to value added is less than 50% in ICT services, such as publishing and telecommunications, which require significant fixed costs. SME sector is also regarded as important creator of new employment, income and a factor which contributes to the diffusion of knowledge, social inclusion and social well-being. At the level of EU non-financial business economy, SMEs account for more than 99% of enterprises, employ around 66% of workforce and contribute around 56% to value added.

Due to their relevance for national economies, SMEs have been gaining rising attention of academics and practitioners alike. However, SMEs share the destiny of the economy in which they operate. Whereas recent concerns of academics in developed economies have revolved around the impact of innovativeness, entrepreneurial and market orientation on SMEs' business performance, practitioners in less developed economies are concerned about the adjustment of raw materials inventory, price of finished goods, expected sales at domestic market and future price of raw materials as factors which

may affect an enterprise's business performance. Whereas performance of SMEs has been extensively analysed in developed economies, far less empirical examinations exist on SME sector in developing economies. This research aims to bridge this gap in extant literature on SMEs. Therefore, the objective of this study is threefold. First, to provide an overview of recent studies on the determinants of SMEs' business performance, with particular attention to studies performed in developed European economies. Second, to analyse SME sector on an aggregate level, from the perspective of structure of the sector and its contribution to value added and compare it with EU and Visegrad group of countries, which emerged as having more productive SME sector, with greater contribution to value added and which as such may act as a benchmark for Serbian SME sector. Third, taking into consideration the perspective of managers of SMEs, this study provides an insight into the main determinants which from their viewpoint affect economic performance of SMEs operating in Serbia, in the short run.

By responding to these objectives, this study aims to add to the growing body of knowledge on SMEs' performance. The remainder of the paper is organized as follows: first, review of recent studies in the context of SMEs in Europe and main determinants of their performance is presented. The following part presents an analysis of Serbian SME sector according to several chosen parameters and its comparison with EU-28 and Visegrad group. Third section deals with the analysis of the main determinants of Serbian SMEs' economic performance, from the perspective of managers, which is followed by the main conclusions of this research and direction for future studies.

2. THE DETERMINANTS OF SMEs' BUSINESS PERFORMANCE

Due to their contribution to total employment and GDP, SMEs are regarded as the dominant factors in business environment in a number of countries. Factors which spur financial performance of SMEs or

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prevent their thriving have been the subject of numerous studies conducted throughout Europe.

Success and failure of SMEs are particularly influenced by entry barriers, technological requirements, competitive situation of a market and the power of buyers and suppliers. Access to resources has been identified as the main precursor of SMEs' success and failure, i.e. access to capital, quality of accounting, planning, marketing and the ability to hire professional advisors. Unlike larger companies, which can achieve economies of scale and have bargaining power with suppliers and distributors, have recognized brands which allow them to set prices above those of competing companies (Raju et al., 2011), small enterprises face many impediments, called the liability of smallness and suffer from the liability of newness, due to which their mortality rates are often higher. SMEs lack knowledge and have limited access to finance. The lack of finance is an impediment to the growth of SME sector in many countries. Due to limited credit history SMEs have limited access to debt financing. This especially pertains to start-ups, whose business model is based on intangibles. It is often very difficult for new businesses to provide financial means in a form other than debt financing, due to the lack of business and credit history. The access of SMEs to bank loans vary across OECD countries, from more than 50% of SME bank financing in terms of GDP share in Switzerland and Japan to less than 5% in the US in 2014, reflecting the contribution of SMEs to value added and the availability of other sources of financing, as well. After global financial crisis SMEs across countries are faced with more demanding terms of bank financing, such as higher interest rates, shorter maturity period and higher demands for collateral(OECD, 2017b). After global financial crisis banks in many OECD countries have reduced their lending activities and in these circumstances private equity, private debt and collective investment vehicles have become particularly useful in providing finance to SMEs.However, the development of these financial instruments and private capital market differ across countries. While capital market financing is well developed in the

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United Kingdom, and also fairly well developed in Germany, France, Sweden and the Netherlands, it is underdeveloped in the countries of Eastern, South and Central Europe. Capital market instruments are especially relevant for riskier business ventures, fast-growing enterprises and start-ups (OECD, 2018).

Whereas the development of appropriate skills and knowledge is a necessity in order to be competitive in a knowledge-based economy, it is more difficult for SMEs to attract highly skilled workforce, than it is for large enterprises, and SMEs' training efforts per employee are weaker than those of larger enterprises (OECD, 2017b). According to Mayr et al. (2017), the main factors of SMEs' failure can be classified into three groups, environmental condition, firm-specific resources and characteristics and entrepreneurs' and managers' personality and traits. Studying sustainable reorganization of Austrian SMEs, aforementioned authors advocated for the creation of a market position based on unique benefits which would be difficult for competitors to copy and as such would impose barriers to entry for potential entrants. According to these authors, change plays a key role in successful reorganization. Therefore, enterprises' resources and characteristics should be adapted to meet customers' and environmental needs. As SMEs commonly lack resources and capabilities, networking has been recognized as a means of acquiring much needed management, marketing and finance expertise and as a source of social and business contacts, which in a number of ways can facilitate SMEs' access to various stakeholders. Contrary to a number of previous studies, this research resulted in a negative influence of firm's age on sustainable turnaround, which the authors explained as the presence of older entrepreneurs who are reluctant to change and adapt, in spite of their considerable experience and numerous business and social contacts, and named the phenomenon as the liability of obsolescence.

Studying the survival probability of privately owned small and medium sized companies in Slovakia in a period from 1997 till 2012,

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Visegrad countries and Serbia)*



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including transition and post-accession of Slovakia to European Union, Wilson et al. (2016) identified 793 exits of SMEs caused by market failure and provided evidence of positive impact of foreign ownerships on the reduction of failure probability.

Lai et al. (2017) on a sample of UK-based SMEs provide support for the idea that the adoption of formalized practices in managing human resources, recruiting, selecting, developing, rewarding, motivating employees, positively affects SMEs' financial performance and labor productivity and the findings revealed the viability of positive impact on both samples of enterprises, small and medium-sized, although the positive effect is greater in small enterprises. The authors further argue that in enterprises characterized by high employee satisfaction positive effect of human resource management practices on financial results weakens as formalization increases and conclude that the development of highly structured and highly formalized human resource management system seems unnecessary in terms of already existing highly satisfied workforce, where employee satisfaction has been achieved as a result of high informality and flexibility.

Literature provides evidence of a significant positive effect of the development of dynamic capabilities, the ability to explore new markets and the ability to explore new technologies, on financial performance of SMEs. On a sample of UK-based SMEs, Ko and Liu (2017) provide evidence of the direct positive impact of investments in marketing and R&D on financial performance of enterprises. The authors further argue that the embracement of environmentally responsible business practices only apparently limits strategic choices of SMEs. The option for SMEs faced with social pressures and expectations is to reconfigure their resources and capabilities, which would broaden their strategic choices, i.e. the development of marketing and R&D competencies may have positive financial

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Visegrad countries and Serbia)*



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consequences, such as the increase of profit margin, return on assets and return on equity.

Strategic collaboration has also been regarded as a means of enhancing SMEs' performance. In the early stage of SMEs' development, a weak collaboration with a reputable partner can enhance SME's credibility. In order to overcome resource scarcity, which is a typical position of a small or medium-sized enterprise in the early stage of development, these enterprises rely on strategic networks, and thereupon gain access to resources, such as capital and market knowledge, and gain access to new markets. Network resources are regarded as strategic resources when they are valuable, difficult to acquire or imitate. Innovations by SMEs depend on knowledge spillovers and knowledge networks that they can access. As SMEs generally lack resources, their innovations are mainly developed in collaboration with customers, competitors, suppliers, distributors, research centers and universities. As access to knowledge networks can provide a variety of opportunities for the exchange of knowledge and the improvement of skills, it is of particular relevance for SMEs to identify appropriate knowledge networks on a national or global level. The percentage of SMEs which collaborated with public research institution or a university in the development of innovation, according to the study of OECD varies across countries, from around 20% in Czech Republic to less than 5% in Italy (OECD,2017). On a sample of rapidly internationalized Finnish SMEs Partanen et al. (2018) provide evidence of significant impact of strategic network resources, i.e. resources an enterprise gains from its most important business relations and which have an influence on an enterprise's customer base, volume of sales, reputation, efficiency and effectiveness, on network identity, attractiveness of an enterprise to other firms and customers, and its positive influence on SMEs' performance, measured in terms of ROI, customer satisfaction and an outlook for an enterprise's long-term survival, and objective

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(Actions based on comparative analysis in
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performance indicators, such as firm's return on capital employed and profit growth. Networking has been also recognized as an important factor for SMEs to survive bankruptcy and achieve sustainable turnaround and long-term competitiveness, together with repositioning, which is based on unique service bundle, innovation and change (Mayr et al., 2017).

Substantial research attention has been paid to the construct of entrepreneurial orientation, comprising innovativeness, proactiveness and risk-taking, and its impact on business performance of enterprises. Kraus et al. (2012) reported significant positive effect of entrepreneurial orientation on business performance on a sample of Dutch SMEs, whereas business performance was measured in terms of sales growth rate, employee growth, gross margin, profitability and cash flow. The authors assert positive impact of entrepreneurial orientation on business performance even in the period of economic crisis and turbulent market environment which accompanies such crisis. Evidence in support of the impact of entrepreneurial orientation on firm's growth, as a measure of its performance, was also supported on a sample of Spanish SMEs in Moreno and Castila's (2008) study. According to these authors, the relationship is positive, however, not direct, but mediated through the impact of strategic behavior of an enterprise. Significant effect of entrepreneurial orientation on firm performance has also been supported by Saeed et al. (2014). Their meta-analytic research including 177 SMEs from 41 countries indicates stronger effect of entrepreneurial orientation on firm performance in cultures which are characterized by low uncertainty avoidance, lower power distance, in developing countries and those characterized by high political stability. Recent studies have also highlighted significant positive effect of entrepreneurial orientation on SMEs' international performance. On a sample of German manufacturing SMEs involved in international trade Swoboda and Olejnik (2016) provide evidence of significant positive influence of entrepreneurship orientation on enterprises' international performance,

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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measured in terms of sales growth, ROI and profit. Thanos et al.'s (2017) postal study on a sample of 208 internationally oriented Greek SMEs provide evidence of significant and positive effect of international entrepreneurial orientation, i.e. opportunity-seeking behavior of an enterprise characterized by innovativeness, proactiveness and risk-taking, on international performance. Performance was measured in terms of the level of sales, return on investment, market share, profitability, satisfaction with the objectives set, in comparison with the results of their direct competitors on the foreign market. However, positive effects of international orientation on performance are diminished by the combination of international hostility, i.e. highly competitive market with lack of opportunities to exploit, and high levels of politicization, i.e. actions of individuals or coalitions of individuals within an enterprise which are motivated by their own personal needs instead of an organization's goals. According to these authors, in order to gain maximum benefits from foreign markets international SMEs should direct their attention to international entrepreneurial orientation, which is feasible for these enterprises as they have flexible structures and faster decision-making process, in comparison with large multinational enterprises.

Innovation has also been recognized as one of key drivers of companies' competitiveness and business performance, especially among SMEs. According to Love and Roper (2015), SMEs which are characterized by innovative practices are more likely to export successfully and generate growth from the export than non-innovative enterprises. On a sample of Spanish SMEs Exposito and Sanchis-Llopis (2018) provide evidence of significant impact of product and organizational innovations on financial performance measures, such as sales increase and cost reduction, whereas operational performance, measured in terms of the increase in productive capacity and the improvement of product/service quality, is influenced by all types of innovations, i.e. product, process and organizational innovations. On a representative sample of UK-based SMEs Foreman-Peck (2013) provides evidence of positive effect of innovations on enterprises'

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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turnover growth. Positive impact of both product and process innovations on enterprises' productivity has also been reported on a sample of Italian SMEs (Hall et al., 2009).

Over recent years significant research attention has been devoted to the construct of market orientation and its relevance for achieving superior business performance. Two streams of research on market orientation and its effects have emerged since the 1990s - first, based on Narver and Slater's (1990) conceptualization of market orientation as an organizational culture, based upon customer orientation, competitor orientation and interfunctional coordination, which more effectively and efficiently creates superior value for customers and second, based on Kohli and Jaworski's (1990) notion of market orientation as organizational behavior which is focused on the generation of information, dissemination of information and responsiveness to information. The adoption of market orientation has a positive effect company's ability to satisfy current needs and wants of customers, anticipate their future needs and has been regarded as a means of achieving sustainable competitive advantage (Pena et al., 2012). Wang et al.'s (2012) study in the context of hotel industry indicates significant influence of market orientation on hotel performance, measured in terms of managers' perceptions of market share, sales, ROI growth and reduction of selling costs. This study also provided evidence of significant impact of market orientation on customer satisfaction, loyalty and retention, whose positive effects on companies' performance have been well documented in previous research, including the context of SMEs (Rajic& Dado, 2013; Rajic et al., 2013; Rajic et al., 2016; Rajic et al., 2017). On a sample of SMEs Lengler et al. (2016) provided evidence which suggests that at very high levels of customer orientation, i.e. better understanding of customers and their needs and demands, SMEs perform positively in terms of export performance, whereas companies which adopt mid-range customer orientation practices may be outperformed on foreign markets. According to Raju et al. (2011) positive relationship between market orientation and business performance of SMEs holds across a

variety of settings and measurement methods of both market orientation and business performance.

3. PERFORMANCE OF SERBIAN SMEs ON AN AGGREGATE LEVEL

According to results of annual financial statements for enterprises in the territory of the Republic of Serbia it can be noted that in 2016 the calculation of macroeconomic aggregates covered micro, small and medium sized enterprises (SMEs sector) - in other words, enterprises with less than 250 persons employed - referred to 89.932 enterprises (99,5% of total) and employed 633,9 thousand persons (59,5% of total).

Enterprises in this sector made 59,4% of the total turnover and equalled 48,4% of gross value added. And apparently as can be observed in Table 1 these indicators are not significantly different compared to the EU average or the countries belonging to the Visegrad Group.

SMEs are taken to be among the major forces of the economic development. They spur on private initiative and entrepreneurship capacities, they are flexible and can quickly adjust to the market changes, also they generate employment, induce more versatile economic activities, have beneficial effect to exports and trade, and simultaneously they stand for the main agent of competitive economy development (SORS, 2017).

By contrast, what is important to emphasize, SME enterprises share the destiny of the whole Serbian economy. No matter how we sort them in relation to their peers their results have been underperformed.

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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Table 1. Share of SMEs in total number of enterprises, persons employed and value added in 2016

	Enterprises - number	Persons employed	Value added
Non-financial business sector			
EU-28	99,81	66,61	56,33
Germany	99,52	63,45	54,68
Visegrad group	99,83	68,55	52,96
<i>Serbia</i>	<i>99,46</i>	<i>59,54</i>	<i>48,43</i>
Industry, total			
EU-28	99,23	55,92	40,48
Germany	97,74	45,69	38,59
Visegrad group	99,33	53,37	35,76
<i>Serbia</i>	<i>98,65</i>	<i>50,15</i>	<i>33,41</i>
Manufacturing			
EU-28	99,24	57,61	41,44
Germany	97,82	45,67	31,60
Visegrad group	99,34	55,05	38,50
<i>Serbia</i>	<i>98,75</i>	<i>54,93</i>	<i>41,65</i>
Construction			
EU-28	99,95	88,26	80,74
Germany	99,93	93,32	89,10
Visegrad group	99,96	91,42	83,06
<i>Serbia</i>	<i>99,57</i>	<i>78,60</i>	<i>73,66</i>
Services, total			
EU-28	99,86	67,51	61,65
Germany	99,65	67,26	62,05
Visegrad group	99,90	73,83	65,18
<i>Serbia</i>	<i>99,69</i>	<i>64,19</i>	<i>59,68</i>
Wholesale and retail trade			
EU-28	99,88	69,66	65,49
Germany	99,67	67,63	65,67
Visegrad group	99,91	77,57	70,45
<i>Serbia</i>	<i>99,76</i>	<i>72,57</i>	<i>70,88</i>
Information and communication			
EU-28	99,78	60,42	42,95
Germany	99,54	62,22	45,27

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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Visegrad group	99,87	65,67	41,85
<i>Serbia</i>	<i>99,46</i>	<i>56,95</i>	<i>36,01</i>

Source: EUROSTAT and SORS database; authors' calculations;
Notes: VISEGRAD group contains: Czech Republic, Hungary, Poland and Slovakia

First of all, despite the fact that SMEs sector often referred to as the backbone of the economy, providing jobs and growth opportunities by cross-referencing data with the observed countries, we found that the Serbian SMEs sector is overloaded with employment. It certainly stabs productivity. Namely, the number of persons employed per enterprise in the Serbian SMEs (as a part of *total non-financial business*) in 2006 was 7,0. In the EU-28 and the Visegrad Group the ratio was half lower, 3.4 and 3.1, respectively. Similar proportions exist in the manufacturing industry. In Serbia the number of employees per enterprise was 11.0, and in the EU-28 and the Visegrad Group were 8.3 and 5.8, respectively.

The problem of low productivity, and therefore low competitiveness, of Serbian SMEs (with the conclusions being the same when we compare the total economy) downright floats when we compare level of value added per employed person - in the broadest sense a total factor productivity indicator.

Every person employed in the Serbian SME enterprises in 2016 provided EUR 11.448 (EUR 14.073 in all enterprises of *total non-financial business sector*). Concurrently, the average person employed in the Visegrad group of countries was 52% more productive. In EU-28 the difference was 3,4 times, while comparison with German is even more apparent - the difference reaches 4,3 times.

The relative difference is more significant in the industry than in the services while the smallest discrepancy is recorded in the construction sector. Comparing with Serbian peers every employed person in SMEs sector in the Visegrad group in 2016 was more productive in

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
<https://www.visegradfund.org/>

Manufacturing by 73,4%, in *Construction* industry by 24,0%, in total *Services* sector by 49,6%, and within in *Wholesale and retail trade* by 44,5%, i.e. in *ICT* sector by 42,6%.

In a four-year period 2012-2016 contribution of Serbian SMEs to value added growth doesn't differ crucially from the observed countries.

Approximately one half of the gross value added growth comes from SMEs in the total *non-financial business sector*. Significant deviation we notice only in *Manufacturing* and *Construction* industry. As we have already mentioned, the growth of the European *manufacturing* industry, particularly in Germany, dominantly rests on large enterprises.

OECD work on productivity confirms these findings. The productivity gap between large firms and smaller SMEs has widened since the global crisis. While for small and medium-sized enterprises there has been a reversal in this trend during the recovery, the larger gap has become persistent for micro-firms, especially in manufacturing, where production tends to be more capital-intensive. Thereby, in many emerging and developing economies, the productivity gap between large firms and SMEs – and the resulting income gaps - are especially large, due in particular to a disproportionate concentration of employment in micro and small firms, often informal ones, with relatively little employment in medium-sized firms (Cusmano et al., 2018).

Completely opposite, due to the devastated serious large capacities the dynamics of the manufacturing industry in Serbia relies on the small and medium enterprises. Consequently, industrial dynamics is weak. The problem of insufficient large capacities is particularly evident in *Construction*, where large enterprises negatively contribute to value added growth.

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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Note that negative contribution of -137,0 in Construction in the Visegrad Group was the result of a total value added reduction by EUR 214,2 mil while value added of SME's surged EUR 239,5 mil.

Table 2. SMEs in terms of value added, 2016

	Value added per employed person, in EUR		Contribution of SME's to value added growth during 2016/2012 (%)
	SME's	Large enterprises	
Non-financial business sector			
EU-28	42.714	66.047	49,0
Germany	49.162	70.737	61,6
Visegrad group	17.382	33.644	55,3
<i>Serbia</i>	<i>11.448</i>	<i>17.935</i>	<i>48,4</i>
Industry, total			
EU-28	49.116	91.634	27,3
Germany	68.430	91.603	17,3
Visegrad group	20.065	41.252	31,2
<i>Serbia</i>	<i>10.791</i>	<i>21.638</i>	<i>30,4</i>
Manufacturing			
EU-28	45.140	86.698	25,5
Germany	53.573	97.460	20,8
Visegrad group	18.712	36.620	29,0
<i>Serbia</i>	<i>10.611</i>	<i>18.116</i>	<i>42,4</i>
Construction			
EU-28	38.927	69.799	69,0
Germany	42.627	72.836	90,9
Visegrad group	13.384	29.083	-137,0
<i>Serbia</i>	<i>12.361</i>	<i>16.240</i>	<i>183,5</i>
Services, total			
EU-28	38.207	46.233	55,8
Germany	46.933	51.270	79,2
Visegrad group	16.139	23.412	74,1
<i>Serbia</i>	<i>11.693</i>	<i>14.162</i>	<i>59,5</i>
Wholesale and retail trade			
EU-28	38.207	46.233	56,4
Germany	46.933	51.270	72,4
Visegrad group	16.139	23.412	60,9

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<i>Serbia</i>	11.170	12.140	66,9
Information and communication			
EU-28	62.661	127.056	58,4
Germany	68.717	136.804	65,1
Visegrad group	24.272	64.519	103,2
<i>Serbia</i>	17.022	40.031	95,2

Source: EUROSTAT and SORS database; author's calculations;

Notes: VISEGRAD group contains: Czech Republic, Hungary, Poland and Slovakia

An even more detailed observation is possible from the data given in Table 3 since enterprises are segregated by size.

There is no dilemma that the value added per employee increases with the size of the company. Hence, the largest companies have the highest added value per employed person. On the other hand, in all observed industries, by all parameters, Serbia is ranked behind the EU, Germany and the Visegrad group. Across countries, there is in general a persistent productivity gap between SMEs and large firms. To the extent that large firms can exploit increasing returns to scale, productivity typically increases with firm size, although some variability across sectors and countries is observed. In particular, in the services sector, medium-sized firms outperform large firms in some countries, exhibiting competitive advantages in niche, high-brand or high intellectual property content activities, as well as the intensive use of affordable ICT (OECD, 2017a).

Interestingly, similar proportions are maintained and when analysing privatized companies sorted by size. It can be said the period over the past decade was marked by highly visible and rapid change of ownership structure that was enabled by the 2001 Privatization Law. Productivity of companies privatized by the public tender method, i.e. large companies, was almost two times higher than of those privatized through the auction sale (SMEs enterprises). There is no preferred regularity in the movement of labour costs here, which

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can be explained by the fact that these companies were privatized without aclear vision as regards their future (Nikolić, 2011; Nikolić, 2014).

Table 3. Value added per employed person, in EUR, 2016

	SME's				Large enterprises	TOTAL
	0-9	10-19	20-49	50-249		
Non-financial business sector						
Czechia	15.970	19.645	23.170	28.678	35.168	25.651
Hungary	11.358	17.563	19.635	23.601	32.371	21.174
Poland	9.640	20.186	22.944	25.872	32.925	21.507
Slovakia	12.542	21.889	24.880	25.907	36.588	23.088
<i>Serbia*</i>	<i>6.640</i>		<i>13.014</i>	<i>14.696</i>	<i>17.935</i>	<i>14.073</i>
Industry, total						
Czechia	16.764	18.061	21.197	29.503	41.858	31.844
Hungary	11.134	16.764	18.042	23.010	42.832	30.563
Poland	9.927	17.666	19.617	23.678	40.427	28.857
Slovakia	10.771	18.953	23.088	25.573	41.773	30.092
<i>Serbia*</i>	<i>5.331</i>		<i>10.014</i>	<i>13.246</i>	<i>21.638</i>	<i>16.198</i>
Manufacturing						
Czechia	13.095	17.523	20.449	26.387	38.523	28.963
Hungary	9.832	14.590	17.183	22.802	41.987	29.473
Poland	9.945	16.125	18.978	22.509	33.823	24.849
Slovakia	9.959	16.414	20.158	24.816	37.186	26.940
<i>Serbia*</i>	<i>5.225</i>		<i>9.717</i>	<i>13.410</i>	<i>18.116</i>	<i>13.993</i>
Construction						
Czechia	11.572	15.191	18.858	24.867	31.211	16.256
Hungary	9.056	13.248	14.769	20.792	18.709	12.342
Poland	9.162	16.832	19.304	26.082	29.151	15.011
Slovakia	8.147	20.609	21.444	22.700	30.592	12.666
<i>Serbia*</i>	<i>8.399</i>		<i>11.910</i>	<i>15.649</i>	<i>16.240</i>	<i>13.192</i>
Services, total						
Czechia	12.841	23.721	28.591	34.110	24.573	21.244
Hungary	9.705	17.580	23.226	29.904	19.788	16.521
Poland	8.509	21.524	24.729	28.675	23.936	16.987
Slovakia	11.617	23.254	30.940	27.689	21.820	17.933
<i>Serbia*</i>	<i>6.789</i>		<i>14.892</i>	<i>16.194</i>	<i>14.162</i>	<i>12.577</i>
Wholesale and retail trade						
Czechia	12.841	23.721	28.591	34.110	24.573	21.244
Hungary	9.705	17.580	23.226	29.904	19.788	16.521

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Poland	8.509	21.524	24.729	28.675	23.936	16.987
Slovakia	11.617	23.254	30.940	27.689	21.820	17.933
Serbia*	6.443		15.161	15.355	12.140	11.436
Information and communication						
Czechia	20.810	30.592	36.295	46.743	75.715	47.603
Hungary	11.049	27.310	27.564	47.550	58.474	32.576
Poland	13.247	28.674	33.302	40.632	61.772	36.164
Slovakia	15.783	24.933	40.843	49.189	67.441	40.418
Serbia*	8.485		18.376	25.623	40.031	26.926

Source: EUROSTAT and SORS database; authors' calculations;

Notes: Unlike others SMEs in Republic of Serbia are, by number of employees, classified in three groups: micro (0-9), small (10-49) and medium (50-249).

Structural changes in Serbia which occurred during transition have not resulted with sufficient growth that could provide sustainable improvement as compared to either other transitional countries or EU average (Nikolić&Zubović, 2013). Up to 2014 there were no significant changes in industry branches that contribute the most to PPP generation like the high-tech industry. In this period, as compared to other countries the share of the real sector stagnated, which has led to slower convergence towards the EU average. It was a turning point. Since then industrial growth has been more sustainable, led dominantly by exports, and foreign investments. Furthermore, the result is even more important because it was achieved during a time of implementation of severe fiscal consolidation measures that had an unfavourable impact on domestic demand.

However, the structural problem of Serbia remains a low technological level of production that is not generating growth, or is manifested in a divergent trend of the physical volume and gross value added. It should be emphasized that Serbia holds the world record in relative export growth during the last several years! Again, our industry and exports rely on low-technology, i.e. low-accumulation areas of production. They generate a surplus (good for

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Visegrad countries and Serbia)*



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the balance of payments), but they do not contribute to economic growth! Hence it should be noted that subsidies for opening jobs, an important lever for attracting foreign investors during the past four years, do not belong among determinants of the growth of investments that will create a competitive economy – they may even be counter-productive in that regard.

The share of areas belonging to medium-high and high technology is only 26% of the manufacturing industry. Furthermore, this technologically more developed segment of production created only 765 euros per capita in 2016. At the same time this type of production in Bulgaria was worth 26% more, in Romania 2,2 times more, in Slovenia 5,2 times more, and in Germany a whole 10,3 times more (Nikolić&Zoroja, 2018).

The key sources of accelerated growth of the GDP that we desire in the mid-term must clearly be more productive activities. Despite serious positive steps in its economy, Serbia remains in a state of structural and technological imbalance, preventing the creation of sustainable economic dynamics. In this regard, an important component of economic policy must be an active structural-investment policy as a mechanism for securing the modernization of the production structure. Economic development in the long-term will be a function of the complexity and efficiency of its production structure. These processes are tied to technological changes and the introduction of innovation, significant investment into education, and the research and development sector.

If, on the other hand, we analyse quality, it is interesting to note certain data regarding changes to the technological structure of manufacturing. Namely, abstracting all methodological problems regarding the division of manufacturing areas according to achieved technological level, during recent years we note a tendency of slight relative structural changes of manufacturing in favour of areas with higher technological content. Regarding the period 2010-2017, the

share of medium-high technology areas of *Manufacturing* in generating value added for this sector has doubled, from 11% to 22% (Nikolić&Zoroja, 2018).

Considering the importance of the previous observations, below we give a detailed overview of the technological structure of the *Manufacturing* industry by size-based enterprises.

Table 4. Technological intensity of manufacturing, % share in value added in 2016

MICRO enterprises, 0-9 employees				
	High-tech	Medium-high	Medium-low	Low tech
Germany	4,2	14,5	44,9	36,4
Czechia	2,9	14,6	45,5	36,9
Hungary	5,1	14,3	41,7	38,8
Poland	3,3	10,5	49,0	37,2
Slovakia	3,0	9,3	55,9	31,8
Visegrad group	3,4	12,0	48,0	36,7
Serbia	8,3	14,3	35,4	42,0
SMALL enterprises, 10-49 employees				
	High-tech	Medium-high	Medium-low	Low tech
Germany	5,7	22,4	42,1	29,8
Czechia	3,8	23,3	45,1	27,8
Hungary	2,9	18,1	44,7	34,3
Poland	2,3	16,3	41,9	39,5
Slovakia	2,9	17,2	53,2	26,7
Visegrad group	2,9	18,6	44,2	34,3
Serbia	8,2	20,2	26,5	45,1
MEDIUM enterprises, 50-249 employees				
	High-tech	Medium-high	Medium-low	Low tech
Germany	7,1	33,9	33,7	25,2
Czechia	4,2	29,5	39,6	26,8
Hungary	5,5	26,9	35,8	31,8
Poland	2,8	20,5	40,1	36,6
Slovakia	3,3	33,9	39,7	23,1
Visegrad group	3,6	25,0	39,4	32,0

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<i>Serbia</i>	3,7	19,6	29,0	47,6
SMEs, total				
	High-tech	Medium-high	Medium-low	Low tech
Germany	6,4	28,6	37,4	27,6
Czechia	3,8	25,4	41,8	28,9
Hungary	4,2	20,4	45,1	30,3
Poland	3,0	17,9	41,8	37,3
Slovakia	4,1	28,4	42,7	24,8
Visegrad group	3,5	21,3	42,4	32,8
<i>Serbia</i>	5,5	19,3	28,9	46,3
LARGE enterprises, 250 persons employed or more				
	High-tech	Medium-high	Medium-low	Low tech
Germany	9,8	60,5	17,7	12,0
Czechia	5,7	55,6	25,8	13,0
Hungary	18,7	52,1	15,0	14,2
Poland	4,4	32,2	32,5	31,0
Slovakia	4,8	51,9	30,0	13,4
Visegrad group	7,2	43,8	27,4	21,6
<i>Serbia</i>	4,1	23,7	31,0	41,2

Source: ibidem

It is easy to see from Table 4 or from a more concise view from Figure 1 that the technological intensity is also in a positive correlation with the size of the company. The growth engine of the *Manufacturing* industry in Germany is based on large enterprises which are the creators of the highest technologies. These enterprises generate a competitive advantage. This is the essential difference between the performance of Germany *manufacturing* sector and others, especially Serbia.

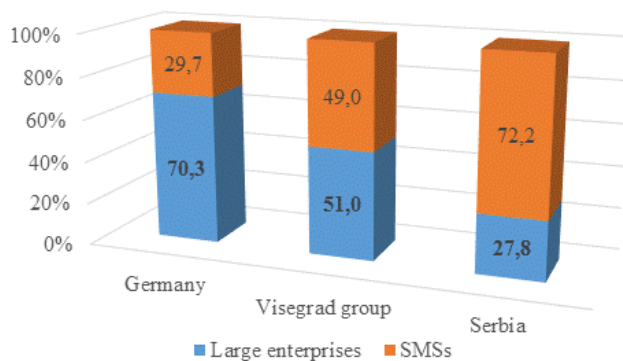


Figure 1. High & Medium-high tech (HMT) industries¹, % share in value added in 2016 *Source:* authors' calculations from EUROSTAT and SORS database

Large enterprises that innovate and scale up are the driving force behind growth, ensuring the coordination, upgrading and participation in supply chains of smaller suppliers from SMEs. At the same time, many SMEs do not extend their reach beyond small local markets. These firms, which produce limited innovation, and whose owners do not have strong growth aspirations, often remain small throughout their life cycle (Cusmano et al., 2018).

The designers of Serbian industrial and development policy must therefore give primacy primarily to: the *automobile industry, pharmaceuticals, mechanical engineering and electrical equipment manufacture*. Unfortunately, Serbia could only compensate this gap within a reasonable future timeframe by attracting foreign strategic companies in these fields. Therefore any activities that will result in this are allowed and desirable.

¹The medium and high-tech industry is defined using OECD classification as the following by International Standard Industrial Classification of All Economic Activities (OECD, 2011)

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Visegrad countries and Serbia)*



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Facts indicate that only with the expansion of large enterprises in high-tech and medium-high tech areas will open up the space for the SMEs sector. Within SMEs enterprises can only deliver the expected contribution.

At the very end, it is interesting to cross the data of enterprises classified by number of employees from the business register with a record of foreign trade.

Observing the total export of the Republic of Serbia that amounted to EUR 13,4 billions in 2016, according to size of enterprises by number of employees, it is the fact that large enterprises (with 250 employees and over), realized 56,9% of total export of the country. This relates to particularly large systems that employ a great number of people and that “bear” the exports. Group of medium enterprises, with the share of 21,5% in total export value are on the second place, followed by small enterprises and the share of 10,8%. The last group refers to micro enterprises (0-9 employees) that participated in total export of Serbia with 8,7% (SORS, 2016).

On the other hand, 24,1 thousand enterprises (26,7% of all enterprises in business register) participated in import (EUR 17,1 billions in 2016). Most of the import jobs are done by micro enterprises with share of 56,6%. The enterprises with 10-49 employees presented 21,2% of all importers, followed by medium enterprises and the share of 7,0%. The last group presents the enterprises with 250 employees and over that participated with the share of 2,1% in total number of importers. However, if we look at import value according to size of enterprises by number of employees, it becomes obvious that the largest enterprises with 250 employees and over participated with 40,4% in total import of the country. The group of micro enterprises participated with a relatively small share of 12,4%.

The largest part of Serbian SMEs export rests on products of a lower phase of finalization and less value added (raw materials and labour-

resource intensive products), which is characteristic of less developed countries. In order to improve export competitiveness, it is necessary to change the export structure in favour of price and qualitatively more competitive products of a higher degree of manufacturing (finalization), which is possible only by investing in modern technologies that lead to supply growth, reduction of production costs, more efficient use of production factors, product and growth of export revenues.

4. THE DETERMINANTS OF EXPECTED ECONOMIC PERFORMANCE OF SERBIAN SMEs BASED ON INDIVIDUAL-LEVEL DATA

4.1. Methodology

This part of the study aims to examine the influential factors of managerial expectations of economic position of SMEs operating in Serbian economy. The analysis refers to short-term expectations of managers.

Database used in this research is a part of a larger study, entitled Conjunctural barometer, which has been conducted on a monthly basis by the Serbian Chamber of Commerce, using systematic random sampling and by means of structured questionnaire. Conjunctural barometer has been conducted on samples of large and small and medium-sized enterprises, taken from the population of enterprises which submitted their annual financial statements referring to the year prior to the one in which data collection is performed. Enterprises included in the study belong to one of the following three sectors: mining, processing industry and electricity, gas and steam supply. Data used in this particular study refer to December 2018 and are obtained from the subsample of SMEs, as only these enterprises have been the focus of this research. Out of a total sample of 152 enterprises included in the study in December 2018, 52 cases (34.2%) referring to large enterprises were excluded from the study.

Conjunctural barometer questionnaire consists of four parts. The first part is related to the evaluation of current economic position of an enterprise. Questions related to the evaluation of production activity of an enterprise, general level of capacity utilization, assessment of raw materials and in-process inventory in comparison with current production needs, finished goods inventory and their assessment in comparison with regular level of stocks, number of employees in the previous month. The second part included questions related to the expectations of economic position of an enterprise in the following three months, expected sales at domestic and foreign market, in case of export activity of an enterprise, expectations of current capacity utilization in relation to expected sales, expectations of finished goods and raw materials price and expectations of employee number in the following three months. Third part included questions related to the main limitations of production, the level of receivables and debts and risk assessment. The fourth part included questions related to the size, predominant production and ownership.

Hierarchical multiple regression has been applied to examine significant determinants of managers' expectations of an enterprise's economic performance in the short run, above and beyond the influence of managers' evaluation of current economic position of an enterprise.

4.2. Results and Discussion

The application of hierarchical regression, whereas the assessments of the current economic position were entered as the first block of variables, and expectations were entered subsequently, indicated statistical significance of both models, as presented in Table 5 and Table 6. Variables related to the assessment of current economic situation explained 18.3% of variance of the dependent variable, expectations of economic performance of an enterprise in the following three months. The entrance of variables related to the short-term expectations of sales at domestic and foreign market, expectations related to the production capacity in comparison with

expected sales and expectations related to the price of goods and raw materials added 38.6% to the explained variance of expectations of economic performance of an enterprise. The value of Durbin-Watson statistic indicates that there is no auto-correlation in multiple regression data. Variance inflation factor (VIF) and tolerance values, presented in Table 7, indicate that correlations among independent variables are not excessive, as resulting VIF values are lower than the upper bound of 10 and Tolerance values are higher than the lower bound of 0.10. Tolerance is a direct measure of multicollinearity and it represents the amount of variability in an independent variable which is not explained by other independent variables in the model, whereas VIF is an inverse value of tolerance (Hair et al., 2010). The presence of multicollinearity would decrease the ability of independent variables to predict dependent variable and assess the relevance of independent variables in predicting the dependent variable.

Raw materials inventory and expected sales at domestic market emerged as statistically significant positive determinants of expected economic performance of an enterprise, as presented in Table 7. These results indicate that a standard deviation change in raw materials inventory towards the regular level needed for current production yields 0.264 standard deviations increase in managers' expectations of short-term economic performance of enterprises. Similarly, one standard deviation increase in sales at domestic market would increase managers' expectations of economic performance of enterprises for 0.647 standard deviations.

Table 5. Model Summary^c

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics				
						F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.428 ^a	.183	.132	.47363	.183	3.635	4	65	.010	
2	.754 ^b	.569	.496	.36092	.386	8.823	6	59	.000	1.601

a. Predictors: (Constant), x4rec2, x2rec, x1rec, x3rec

b. Predictors: (Constant), x4rec2, x2rec, x1rec, x3rec, x11rec, x16, x10, x8brech, x9rec, x8arech

c. Dependent Variable: x7rec

Source: authors' calculations

Table 6. ANOVA^c

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.261	4	.815	3.635	.010 ^a
	Residual	14.581	65	.224		
	Total	17.843	69			
2	Regression	10.157	10	1.016	7.797	.000 ^b
	Residual	7.686	59	.130		
	Total	17.843	69			

a. Predictors: (Constant), x4rec2, x2rec, x1rec, x3rec

b. Predictors: (Constant), x4rec2, x2rec, x1rec, x3rec, x11rec, x16, x10, x8brech, x9rec, x8arech

c. Dependent Variable: x7rec

Source: authors' calculations

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Table 7. Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	1.270	.483		2.630	.011		
Current economic position	.201	.137	.191	1.473	.146	.749	1.336
Production activity	.126	.113	.133	1.113	.270	.887	1.128
Capacity utilization	-.331	.178	-.293	-1.858	.068	.507	1.973
Raw materials inventory	.598	.204	.415	2.931	.005	.629	1.591
2 (Constant)	.897	.773		1.161	.250		
Current economic position	-.127	.124	-.120	-1.026	.309	.529	1.890
Production activity	-.028	.093	-.029	-.301	.764	.766	1.306
Capacity utilization	.117	.165	.104	.713	.479	.345	2.898
Raw materials inventory	.380	.177	.264	2.147	.036	.484	2.066
Sales at domestic market	.634	.132	.647	4.813	.000	.404	2.474
Sales at foreign market	.129	.106	.148	1.220	.227	.496	2.018
Capacity in comparison to expected sales	-.197	.202	-.109	-.976	.333	.581	1.721
Expected price of raw materials	-.014	.102	-.013	-.134	.894	.790	1.266
Expected price of goods	-.186	.135	-.127	-1.377	.174	.861	1.161
Expected business risk	-.076	.206	-.036	-.369	.714	.782	1.280

a. Dependent Variable: x7rec

Source: authors' calculations

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According to this analysis, expectations related to the sales at domestic market and the adjustments between raw materials inventory and needs of production determine managers' perceptions of economic performance of an enterprise. These findings may indicate that the enterprises included in this study are primarily oriented towards domestic market. Contrary to large enterprises, it is difficult for SMEs to achieve economies of scale and related operational efficiency. Therefore, SMEs' managers are advised to increase sales volume by being more effective and efficient than competing companies in satisfying needs and requirement of chosen niche markets.

As for managerial concerns regarding the adjustment of inventory levels, this finding is in compliance with previous literature on SMEs' performance, which indicates that SMEs lack specialized knowledge, expertise and highly skilled human resources, such as those needed for inventory management. Raw materials inventory is perceived as a "necessary evil" (Vrat, 2014), i.e. resource which is needed, but is blocked in an unproductive form of assets. However, it is necessary to have raw materials inventory in order to respond when it is needed, as the unavailability of raw materials will cause delays in production and delivery of goods and may have negative consequences in terms of penalties for missing deadlines, loss of good business reputation and long-term loss of customers. However, keeping raw materials inventory is not free of charge, due to opportunity costs of keeping stocks, such as a loss of interest rate an enterprise would have earned if the amount of money invested in inventory had been invested elsewhere, costs of storage facility for inventory, administrative costs related to the maintenance of inventory or risk costs caused by the obsolescence of raw materials, perishability, damage, disappearance of inventory, etc. Managers should also be aware of costs of reordering inventory, caused by administrative work, which are usually fixed. Therefore, keeping inventory is a challenging issue in materials management. Raw materials inventory is needed to respond to uncertainty of supply, caused by variability of lead time, demand variability, seasonal sales, etc. Raw materials inventory is also

maintained to respond to some situational circumstances, such as inflationary pressures, variability in the production of raw materials or simply to use quantity discounts. In order to make appropriate decisions in terms of how much of raw materials to buy and when to order, SMEs' managers are advised to make an appropriate choice of inventory models, which are based upon inventory policy. Review of literature indicates three inventory policies which are generally applied (Vrat, 2014). One implies continuous monitoring of inventory and placing an order when the status of inventory falls to reorder point, which is the level which is necessary for the continuity of production during the lead time. This policy has drawn the most attention of practitioners and it is the oldest scientific approach to inventory management. The following one requires periodic review of the level of inventory in predetermined fixed time interval. Within this policy, a new order is placed in the quantity of the difference between maximum level of inventory and available inventory at the time of control. A disadvantage of this policy is that it does not take into consideration the level of raw materials to respond to future demands and it also implies a new order no matter how high is the level of inventory at the time of review. The third policy implies periodical examinations of inventory level, taking into consideration maximum level of inventory, minimum level and actual status. If the status falls below the minimum level, a new order is placed, or postponed until the following control period, if the actual level of inventory is higher than the minimum level.

5. CONCLUSIONS

The aim of this study was threefold: first, to review recent research interests in the context of SME sector, from the perspective of the influential factors of business performance, with special attention devoted to European economies; second, to provide a comparative analysis of Serbian SME sector at an aggregate level and third, to analyze the determinants of economic performance of Serbian SMEs

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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from the perspective of managers, taking into consideration the short run.

Findings of the review of literature indicate the liability of smallness, the liability of newness and the liability of obsolescence as the detrimental factors to business performance of SMEs operating in Europe. Market orientation, innovativeness and entrepreneurial orientation have gained prominent attention among positive determinants of SMEs' business performance.

SMEs share the destiny of the whole Serbian economy. No matter how we sort them in relation to their peers their results have been underperformed. First of all, their productivity is poor. The sector is overloaded with employment. The number of persons employed per enterprise in the Serbian SMEs in 2006 was 7,0. In the EU-28 and the Visegrad Group the ratio was half lower, 3.4 and 3.1, respectively. It is even more unfavourable to compare level of value added per employed person. The average person employed in the Visegrad group of countries was 52% more productive - in EU-28 the difference was 3,4 times, in Germany is even more apparent, difference was 4,3 times. The relative difference is more significant in the industry than in the services while the smallest discrepancy is recorded in the construction sector. It is a fact that the growth of the European manufacturing industry, peculiarly Germany, dominantly rests on large enterprises. Completely opposite, due to the devastated serious large capacities the dynamics of the manufacturing in Serbia relies on the small and medium enterprises. The problem of insufficient large capacities is particularly evident in Construction, were large enterprises negatively contribute to value added growth. The structural problem of Serbia remains a low technological level of production that is not generating growth, or is manifested in a divergent trend of the physical volume and gross value added. It should be emphasized that Serbia holds the world record in relative export growth during the last several years! Again, our industry and exports rely on low-technology, i.e. low-accumulation areas of production. They generate a surplus

(good for the balance of payments), but they do not contribute to economic growth! In that sense we found that the technological intensity is in a positive correlation with the size of the company. The growth engine of the Manufacturing industry in Germany is based on large enterprises which are the creators of the highest technologies. These enterprises generate a competitive advantage. This is the essential difference between the performance of Germany manufacturing sector and others, especially Serbia. Facts indicate that only with the expansion of large enterprises in high-tech and medium-high tech areas will open up the space for the SME sector. In these circumstances SMEs can deliver the expected contribution and can become among the major forces of the economic development.

Findings of this research also indicate the adjustment of raw materials inventory and expected sales at domestic market as key determinants of economic performance of SMEs operating in Serbia, from the perspective of managers and taking into consideration the short run. However, one should be cautious in generalizing the findings of this study. The main drawbacks of this research, taking into consideration individual-level data, are the size and scope of the sample. The study has been performed on a sample of Serbian SMEs operating in the sectors of mining, processing industry and electricity, gas and steam supply, whereas service industries which are the leaders in terms of the participation of SMEs in total number of enterprises, have not been included in this study. Therefore, future studies should be performed on a more representative sample of enterprises, taking into consideration their distribution across sectors and contribution to value added.

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RESEARCH OF PROBLEMS IN THE ESTABLISHMENT AND WORK OF SMEs IN THE MUNICIPALITY OF BOR

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Abstract

Small and medium-sized enterprises (SMEs) are the engine of economic development, stimulate economic entrepreneurship, increase productivity, reduce unemployment and make the economy of one country strong. In order for one country to be economically strong, it should encourage the opening of small and medium enterprises. In everyday business, SMEs face an economic crisis and turbulence in the market. The problem to be solved is to encourage the opening of new businesses and ensure the survival of existing companies in the market.

The survey among the founders and owners of small and medium-sized enterprises was conducted on the territory of the Municipality of Bor. The survey responds to current problems when establishing small and medium enterprises. The survey examines entrepreneurs how much time they needed to establish their own company. It was also examined in which businesses activities SMEs are being established and the resources used to start the companies. Likewise, the survey examines the reasons for the establishment of the company, as well as the necessary knowledge, skills, and abilities necessary for opening up

the company. The survey also examines the satisfaction with the results achieved in the work of the company.

The results of the survey can be used to improve the status of entrepreneurs in order to eliminate obstacles and problems when establishing a company. Also, it can be of use to entrepreneurs when identifying the area of the economy in which they would establish the company.

Keywords: *Small and Medium Enterprises, Entrepreneur, Enterprise*

1. INTRODUCTION

SMEs are the engine of economic development of a country. It stimulates private ownership and entrepreneurial ability. Also, it stimulates productivity, economic growth and reduces unemployment. In addition to the impact that these enterprises have on increasing employment, they also influence the improvement of the economic situation in the country, as well as the development of competition. Therefore, we can say that SMEs are key factors that affect the economic image of each country.

In the Republic of Serbia, small and medium-sized enterprises are the most profitable segment of the economy. This sector accounts for about 46% of exports and 60% of imports and employs over 67% of the total number of employees. Also, small and medium enterprises contribute to balancing regional development of Serbia. The development of Serbia depends to a large extent on the development of small and medium-sized enterprises and their uniform territorial distribution. (Ivkovic et al., 2012)

Small and medium-sized enterprises in the performance of their activities show a high degree of innovation and flexibility in their environment. Although they are still predominantly focused on the

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local market, small and medium-sized enterprises play an increasingly important role in international trade (Pavlović, 2009).

The number of small and medium-sized enterprises in the Bor municipality over the last few years has been gradually increasing. With the increase in the number of private companies and the structure of their business, it is becoming more and more diverse. In the municipality of Bor, the most represented are micro-enterprises, as well as small enterprises, while the number of medium and large enterprises is significantly lower. The largest number of small and medium enterprises is from the trade sector, followed by enterprises in the field of the processing industry, agriculture, transport, and construction. SMEs in Bor Municipality represent the future of economic development and an important factor in the processes of restructuring the overall economic environment.

The following SMEs were privatized in the municipality of Bor: trade company "Tehnopromet", trade company "Centroistok", trade company "Borpromet", project bureau "Borinzinjerin", polyester film factory, Polet meat processing plant, construction company "Sloga" and printing house "Bakar".

In the municipality of Bor, similar to other cities in Serbia, there are unsuccessful privatizations where new owners did not fulfill their contractual obligations. Such privatizations were annulled by the Privatization Agency. An example of negative privatization in Bor is the privatization of the construction company "Sloga" and the trading company "Centroistok".

Small and medium-sized enterprises are particularly affected by the economic crisis and turbulence in the market. The position of these companies is very unstable due to problems in the business due to reduced demand for individual activities, more difficult access to domestic and foreign markets, and capital markets (Ožegović & Pavlović, 2012).

Lack of financial resources and other resources also affects the definition of the organizational structure of small and medium-sized enterprises. Small enterprises are enterprises with few employees. Employees are usually forced to perform several activities/functions in the company.

It is not a rare case that the owner of a small enterprise performs more activities and activities. Also, small businesses, due to the lack of financial resources, or the ineffectiveness of forming a stronger organizational structure, in order to increase profits, can get a good deal of business activities outside the company itself. This is also reflected in the specific management of such enterprises (Stamatović & Zakić, 2010).

2. RESEARCH OF PRIVATE ENTREPRENEURSHIP AT THE TERRITORY OF THE MUNICIPALITY OF BOR

A survey was conducted in the territory of the municipality of Bor in order to examine the possibilities for preventing the decay of small and medium enterprises. The survey explores the motivation and desire of individuals to become entrepreneurs, to develop their own private business and to get insight into their initiative in this regard.

The results of the survey should also indicate the problems encountered by new entrepreneurs, so that, such problems in the formation of small and medium-sized enterprises can be perceived. The identified problems and obstacles should be eliminated and reduced by all unnecessary and unnecessary elements in order to stimulate and facilitate the opening of small and medium enterprises.

The survey was conducted on a sample of 40 entrepreneurs operating in the territory of the municipality of Bor. Survey is anonymously conducted and all private data is protected. The analysis of the survey was performed in the SPSS 17.0 software, and the results were presented using MS Office programs.

The survey contains specific questions concerning the entrepreneur himself and his private business. The questions were organized in six groups, with predefined answers. Respondent - the entrepreneur expresses his assessment for each question, rounding the number in the range from 1 to 5 in the following way:

1. Absolutely disagree;
2. Partially disagree;
3. Neutral (no influence, irrelevant);
4. Partially agree;
5. I absolutely agree.

The purpose of conducting the survey was to examine the influence of certain elements on starting a private business, as well as the motivation of entrepreneurs to start their own business. Also, the financial resources and all the other necessary resources needed for the opening of small and medium enterprises were analyzed. One of the objectives of the survey was to look at the necessary knowledge needed for starting and running a private business.

Usually, a major obstacle to the formation of a new company is documentation that needs to be collected and provided in order to register the new company. The survey provides insight into the time needed to collect the necessary documentation and license for the opening of small and medium enterprises (Milikic, 2009).

3. EXAMPLE FROM THE SURVEY CARRIED OUT ON THE TERRITORY OF THE MUNICIPALITY OF BOR

The survey carried out on the territory of Bor municipality had this form:

1. What are your reasons for starting a private business?

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- a) Prestige;
 - b) Better wages;
 - c) The economic needs of the region;
 - d) Career and economic strength and security.
2. What resources have you used to start a business?
- a) Savings;
 - b) Bank loans;
 - c) Earnings from working abroad;
 - d) A loan from a friend;
 - e) European funds.
3. The scope of your business?
- a) Industry and mining;
 - b) Construction;
 - c) Trade;
 - d) Catering and tourism;
 - e) Crafts and personal services;
 - f) Health and social protection.
4. How long did it take for you to obtain work permits?
- a) For one day;
 - b) For 1 month;
 - c) For 1 - 3 months;
 - d) For over 3 months.
5. How did you acquire the necessary knowledge to start and run a business?
- a) University education;
 - b) Own experience;
 - c) Specialized courses in the field of business;

- d) From books and magazines;
- e) Talking to friends.

6. Satisfaction with the results achieved?

- a) Improved personal financial situation;
- b) Improved social status;
- c) Providing a perspective to the employment of family members;
- d) Opening the perspective of the growth and development of the company.

4. RESULTS AND INTERPRETATION OF THE SURVEY

To the question: "What are your reasons for starting a private business?" the obtained results are presented in Table 1 and Figure 1.

Table 1. The answers about the reasons for starting a private business

	Reasons for starting a private business							
	Prestige		Better Wages		Economic needs of the region		Career and economic strength	
	N	%	N	%	N	%	N	%
Absolutely disagree	23	57.5	2	5	26	65	8	20
Partially disagree	2	5	0	0	5	12.5	2	5
Neutral	7	17.5	9	22.5	5	12.5	13	32.5
Partially agree	5	12.5	5	12.5	1	2.5	7	17.5
Absolutely agree	3	7.5	24	60	3	7.5	10	25
Total:	40	100	40	100	40	100	40	100

Respondents answered that better earnings is the most important reason for starting a private business. Such a response was given by 24 respondents (who rounded off the answer absolutely agree), which is 60% of the total number of respondents. Career and economic security are in second place by the number of answers, 10 respondents, which is 25% of the total number of respondents. The prestige and economic potential of the region share the same place with 3 respondents, which represents 7.5% in relation to the total number of respondents.

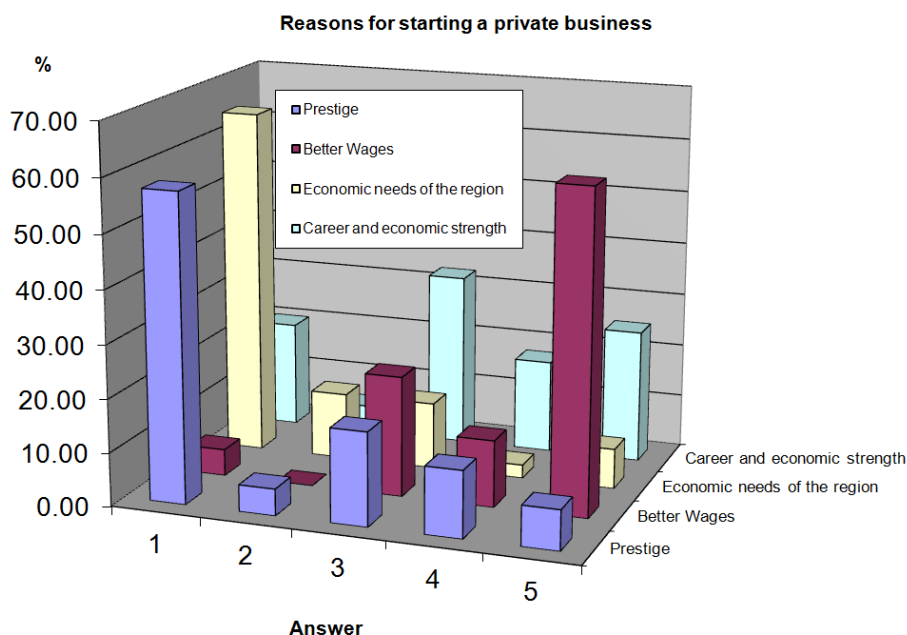


Figure 1. The reasons for starting a private business

To the question "What resources did you use to start a business?" the obtained results are presented in Table 2 and Figure 2. The most common resource for starting a private business is savings. This answer was given by 25 respondents, which represents 62.5% of the total number of respondents. In second place according to the number of responses are bank loans, 6 respondents, which represents 15% of the total number of respondents. The next resource is a loan from friends, 4 respondents, which represents 10% of the total number of respondents. No respondent rounded off the answer, I absolutely agree, for earnings from working abroad and for the European fund as a resource for starting a private business.

Table 2. The answers about the resources used to start a business

	What resources have you used to start a business?									
	Savinigs		Bank loans		Earnings from working abroad		A loan from a friend		European funds	
	N	%	N	%	N	%	N	%	N	%
Absolutely disagree	8	20	30	75	39	97.5	32	80	39	97.5
Partially disagree	0	0	0	0	0	0	0	0	0	0
Neutral	1	2.5	1	2.5	0	0	3	7.5	0	0
Partially agree	6	15	3	7.5	1	2.5	1	2.5	1	2.5
Absolutely agree	25	62.5	6	15	0	0	4	10	0	0
Total:	40	100	40	100	40	100	40	100	40	100

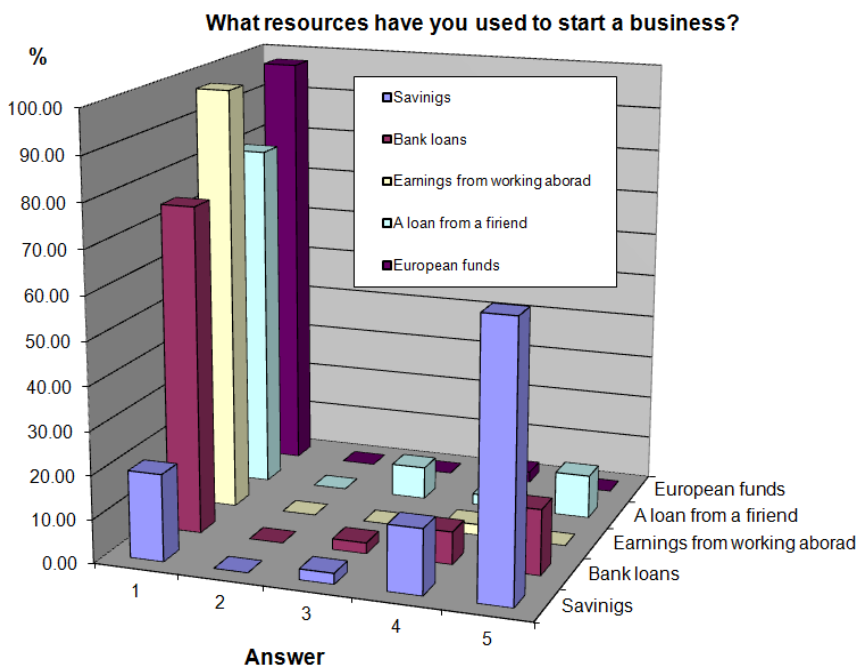


Figure 2. Resources used to start a private business

For the question "Areas of your activity?" the obtained results are presented in Table 3 and Figure 3. The most frequent business activity

of SMEs in Bor municipality is trade. This answer was given by 28 respondents, accounting for 70% of the total number of respondents.

Table 3. The answers about the field of activity of SMEs

	Fields of activity											
	Industry and mining		Construction		Trade		Catering and tourism		Craft and personal services		Health and social protection	
	N	%	N	%	N	%	N	%	N	%	N	%
Absolutely disagree	37	92.5	36	92.5	8	20	36	90	26	65	26	65
Partially disagree	0	0	1	0	0	0	0	0	0	0	0	0
Neutral	0	0	0	0	2	5	0	0	0	0	0	0
Partially agree	2	5	1	2.5	2	5	5	5	3	7.5	3	7.5
Absolutely agree	1	2.5	2	5	28	70	5	5	11	27.5	11	27.5
Total:	40	100	40	100	40	100	46	100	40	100	40	100

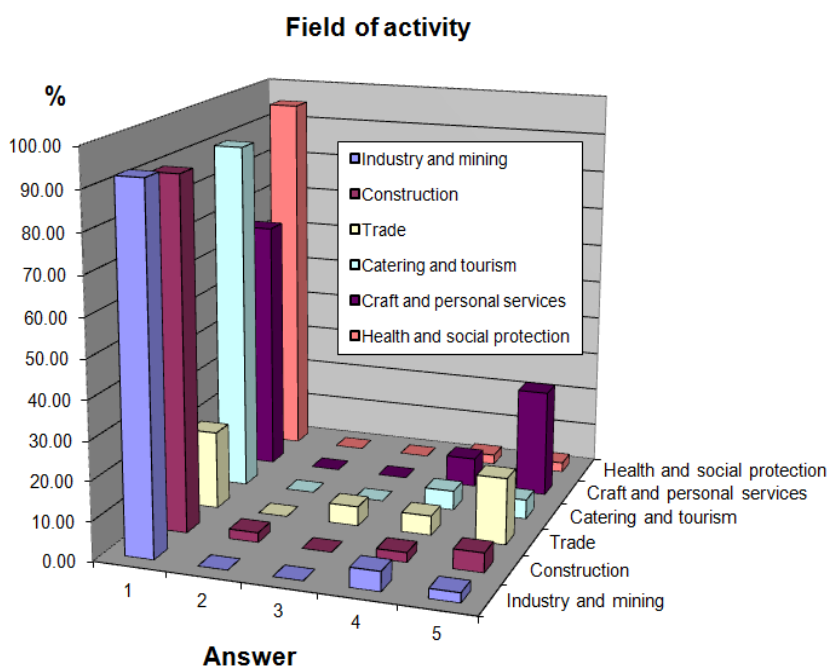


Figure 3. Field of activity of SMEs

At the second place is the area of craft and personal services, 11 respondents, which is 27.5% of the total number of respondents. Next are the areas of construction and catering and tourism, which are in the same position, with 2 respondents, which represents 5% of the total number of respondents. One respondent pleaded for industry and mining, as well as for health and social protection, which is 2.5% of the total number of respondents.

For the question "How much time did you need to obtain work permits?" the obtained results are presented in Table 4 and Figure 4.

Table 4. The answers about the time needed to obtain a work permit

	Time needed to obtain a work permit							
	For 1 day		For 1 month		For 1-3 months		For over 3 months	
	N	%	N	%	N	%	N	%
Absolutely disagree	37	92.5	13	32.5	32	80	35	87.5
Partially disagree	0	0	0	0	0	0	0	0
Neutral	2	5	1	2.5	0	0	0	0
Partially agree	1	2.5	4	10	1	2.5	0	0
Absolutely agree	0	0	22	55	7	17.5	5	12.5
Total:	40	100	40	100	40	100	40	100

The majority of respondents answered that they needed up to a month to obtain a work permit, 22 out of 40, which is 55% of the total number of respondents. For the period of one to three months, 7 respondents identified, representing 17.5% of the total number of respondents. For responding over three months, 5 respondents identified, representing 12.5% of the total number of respondents. Not a single respondent replied, "I absolutely agree", to the offered answer that it is enough to collect the necessary documents and permits for work for one day.

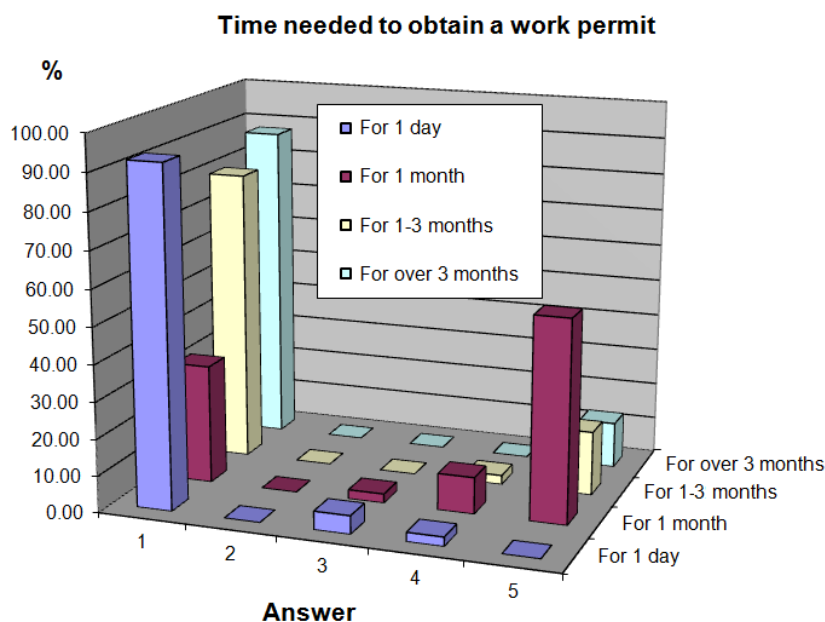


Figure 4. Time needed to obtain a work permit

For the question "How did you acquire the necessary knowledge to start and run a business?" the obtained results are presented in Table 5 and Figure 5.

Table 5. Necessary knowledge for starting and running a business

	Necessary knowledge for starting and running a business									
	University education		Own experience		Specialized courses in the field of business		From books and magazines		Talking to friends	
	N	%	N	%	N	%	N	%	N	%
Absolutely disagree	31	77.5	2	5	28	70	13	32.5	11	37.5
Partially disagree	1	2.5	0	0	1	2.5	5	12.5	0	0
Neutral	0	0	2	5	5	12.5	8	20	9	22.5
Partially agree	0	0	4	10	1	2.5	10	25	6	15
Absolutely agree	8	20	32	80	5	12.5	4	10	14	25
Total:	40	100	40	100	40	100	40	100	40	100

The largest number of respondents answered that their own experience is most necessary for starting a business, 32 respondents, which is 80% of the total number of respondents. In second place, there is a conversation with friends, 14 respondents, which represents 25% of the total number of respondents. University education, 8 respondents, is in the third position with 20% of the total number of respondents. Then there is the response of specialized courses, 5 respondents, which represents 12.5% of the total number of respondents. At the last place are books and magazines, 4 respondents, which represents 10% of the total number of respondents.

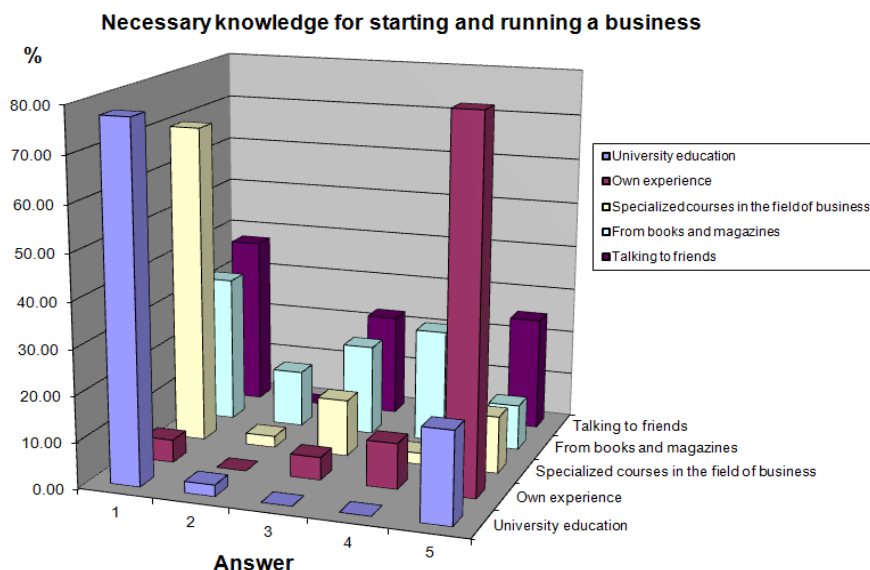


Figure 5. Necessary knowledge for starting and running a business

For the question "Satisfaction with the results achieved?" the obtained results are presented in Table 6 and Figure 6. The largest number of respondents answered that they are satisfied with the opening of the company's growth and development perspective, of 20 respondents,

which represents 50% of the total number of respondents. In second place according to the number of responses are improved personal financial situation, and improved social status and securing the perspective of employment of family members, 19 respondents, which represents 47.5% of the total number of respondents (Milikic, 2009).

Table 6. The answers about the satisfaction with the results achieved

	Satisfaction with the results achieved									
	Improved personal financial situation		Improved social status		Providing a perspective to the employment of family members		Opening the perspective of the growth and development of the company			
	N	%	N	%	N	%	N	%	N	%
Absolutely disagree	37	92.5	13	32.5	32	80	35	87.5		
Partially disagree	0	0	0	0	0	0	0	0		
Neutral	2	5	1	2.5	0	0	0	0		
Partially agree	1	2.5	4	10	1	2.5	0	0		
Absolutely agree	0	0	22	55	7	17.5	5	12.5		
Total:	40	100	40	100	40	100	40	100		

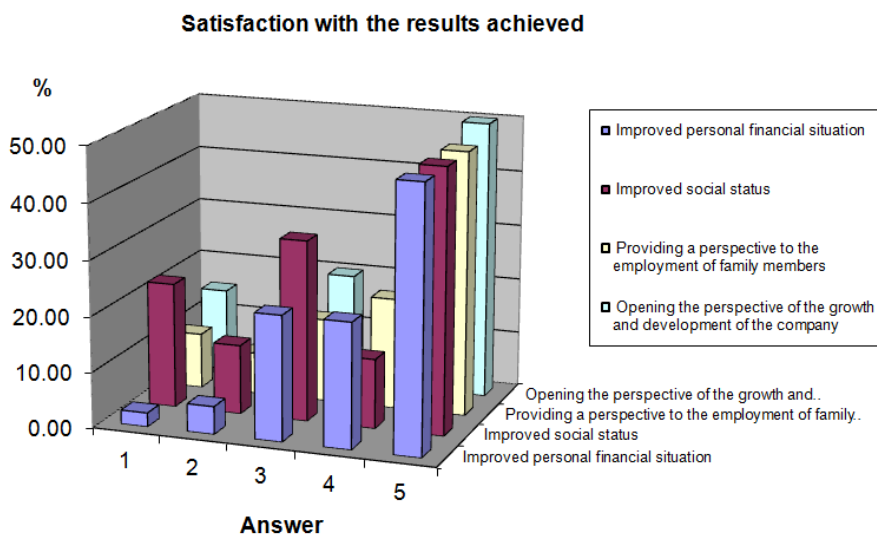


Figure 6. Satisfaction with the results achieved

5. CONCLUSIONS

Small and medium-sized enterprises are the engine of economic development. It stimulates private ownership and entrepreneurial abilities. They strengthen the economies of one country, improve competition and thus reduce the price of products/services on the market. Starting such enterprises represents the beginning of a great struggle, through the process of founding itself, through business and survival on the market.

People who open small and medium-sized enterprises intend to apply new ideas and innovations from the aspect of their own business. By opening own business, the owner takes over the business risk, entering into the fight with the competition for placing his products/services on the market, in order to secure the survival and profit.

Characteristics and problems in the establishment of small and medium enterprises on the territory of the municipality of Bor are:

- An intensive process of founding;
- Lack of ideas and programs;
- Insufficient financial support;
- Relatively unfavourable structure of activity;
- Commitment to multiple activities.

The results of the conducted survey carried out on the territory of the Bor municipality show that trade and service activities are mostly represented, while the least represented are companies dealing with health and social protection, as well as companies in the field of industry and mining. Such an entrepreneurial status shows the inability of entrepreneurs to establish a company that will deal with a new activity not yet established on this market.

The reason for starting a private business on the territory of Bor municipality is better earnings. The prestige and economic necessity

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of the region are minor reasons for starting a business. Such results indicate the economic status of the entrepreneur. As the Municipality of Bor is poor and its population is socially endangered, it is clear that entrepreneurs are the most important material status. This does not support the development of the economy, the emergence of new ideas, innovations and the expansion of business activities.

For starting a private business, the most commonly used personal savings, followed by bank loans and a loan from a friend. None of the involved entrepreneurs used funds from EU funds, nor started a private business using funds obtained abroad.

In the municipality of Bor, it is usually necessary a month to collect licenses for the opening of private entrepreneurship. In addition, entrepreneurs rely on their own experience regarding the acquisition of knowledge to start a private business. A small number of entrepreneurs used specialized courses in the field of business and knowledge from books and specialized journals. The greatest satisfaction with the results achieved by the entrepreneur was caused by the opening of the company's growth and development perspective. This is followed by an improved personal financial situation, improved social status and securing prospects for the employment of family members.

The survey results can be used to improve the status of entrepreneurs. It is necessary to help new entrepreneurs to start their own enterprise in a relatively simple way. It is very important to remove all formal obstacles and problems in the establishment of the company. This primarily refers to the reduction and simplification of legal procedures for opening new businesses and eliminating unnecessary documentation. The extensive and long-lasting procedure of opening up the company very destimulatively affects the potential entrepreneur. Guides should be given to entrepreneurs within the scope of activity to set up an enterprise in order to develop new business branches. The national strategy should be focused on

expansion activities so that each business segment is equally represented.

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THE INFLUENCE OF ENTREPRENEURIAL FACTORS ON MSME'S INNOVATIVENESS AND PROFITABILITY IN TRANSITIONAL ECONOMY

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Abstract

Entrepreneurial factors (entrepreneur's creativity, entrepreneurial self-efficacy, collecting information, knowledge transfer, and teamwork) have been identified in the literature as the main drivers of micro, small and medium-sized enterprises' (MSME's) development. The focus of this research is to examine the role of these factors on innovativeness and profitability of MSME's in transition economy. For this purpose, a conceptual model with six research hypotheses is proposed. For data collection, the questionnaire method was used, and the survey covered a total of 1,165 respondents (entrepreneurs-owners of MSME's). The conceptual model was tested using SPSS 17.0 and AMOS 18 software package. The Structural Equation Modelling (SEM) for the causal relationship data analyses between the constructs (factors) was adopted. The obtained results confirm five of the six hypotheses proposed, and that there is a high positive correlation among factors. The findings from the study suggest that proposed entrepreneurial factors are very significant determinants of MSME's performance (innovativeness and profitability). The obtained empirical results can be used for comparative analysis in order to determine universally valid connections that could be important for the development of entrepreneurship.

Keywords: *Entrepreneurial factors, Innovativeness and profitability MSME's, Statistical analysis, SEM methodology.*

1. INTRODUCTION

The growing interest in the study of SME operations worldwide is premised on the pivotal role played by the sector in adding value to the economy by creating jobs, enhancing income, lowering costs and adding business convenience (Jevwegaga et al., 2018). There is no single agreed definition of a micro, small and medium-sized enterprises' (MSME's). A variety of definitions are applied, but there are some common criteria, that have to be taken into consideration when defining an MSME's, this being the number of employees, the asset size and the sales level. If only the criterion of the number of employees is observed, the most frequent upper limit designating an MSME's is 250 employees.

In the past decades, the MSME's development policy was not always an integral part of Serbia's overall socio-economic development. The MSME's sector was often marginalized and considered as a less significant dimension of economic development. The situation began to change significantly since 2000, when socio-economic reforms in Serbia began. Since then, the MSME's sector has become the most efficient segment of Serbia's economy, the growth and employment leader, recognized as a driver of economic development. As in other transition countries, entrepreneurship in Serbia is still in development. The transition to a market-oriented economy in Serbia implied certain changes within the organization as well as in the external environment. During this period, the most attention was focused on creating a political and economic environment in the country, in order to attract foreign and domestic capital to launch its own entrepreneurial venture. Therefore, too little attention was paid to people within the organization as well as certain personality characteristics, which carry the spirit of entrepreneurship with them.

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After a detailed analysis of available literature, it was concluded that the issue of interrelatedness between considered entrepreneurial factors and innovativeness and profitability of MSME's appears as a research problem in many papers on developed economies all around the world. On the other hand, investigations dealing with the aforementioned issue in transitional economies are fairly scarce. Therefore, the author believes that there is a research gap that would be partially filled by the current paper. Besides, the paper may serve as a foundation for researchers from developed countries in order to compare their results to the results of transitional economies.

In the fact that in Serbia there are few research on the innovativeness and profitability of MSME's, such as papers (Cvetanović et al., 2014; Jovanović et al., 2018; Jovanović & Arsić 2017; Jovanović & Arsić 2018; Nikolić et al., 2015), and that this is a current topic of research by many world researchers (Ahlin et al., 2014; Casillas et al., 2015; Jevwegaga, 2018; Love & Roper, 2015; Olughor, 2015), as well as the fact that SMEs in Serbia are important sources of employment and economic growth, and at the same time represent the most efficient segment of the Serbian economy, the main motive for this research can be found. The subject of the research is MSME's in the region of Southern, South-Eastern and Eastern Serbia. i.e. the research is focused on entrepreneurs-owners of MSME's whose companies are located in those regions.

The aim of this study was to determine the mechanisms by which entrepreneurial factors (entrepreneur's creativity, entrepreneurial self-efficacy, collecting information, knowledge transfer, and teamwork) affect the innovativeness and profitability of MSME's in Serbia. The aforementioned entrepreneurial factors represent latent variables in SEM (Structural Equation Modelling) model. Interrelations of these elements (structural equations) actually define that mechanism. The same methodology for the research of similar conceptual models can be found in the papers by other authors, as well (Arsić & Jovanović 2015; Jovanović et al., 2017; Milijić et al., 2015). The results obtained

by this study can be analyzed and compared with the results of research obtained from other regions. In this way, universally valid relationships that could be important for the development of entrepreneurship in Serbia can be determined.

The author Naude (2010) points out that, due to the relevance of the discovery, entrepreneurial research should be limited to the developed economies. However, the authors Engelen et al. (2009) pointed out those similar researches in various cultures would only promote and improve entrepreneurship, because they could highlight links that were valid in relation to the links that applied to individual cultures. Also, authors Leskovar-Spacapan and Bastič (2007) emphasized the transferability of conclusions across countries, and pointed out that the conclusions driven for developed countries could not be generalized and were not necessarily relevant for explaining situations in transition and developing countries.

Based on the motivation, research subject and defined goal, research questions were formed: Where are MSME's located in Southern, South-eastern and Eastern Serbia from the aspect of their innovativeness and profitability? Does MSME's in Serbia sufficiently use and develop the concept of entrepreneurship, in order to achieve a satisfactory level of innovativeness and profitability?

For this reason, the author proposed and tested a conceptual model with six research hypotheses.

2. THEORETICAL BACKGROUND AND HYPOTHESES

The strengths and weaknesses of MSME's in terms of organizational innovativeness and profitability have been widely discussed; typically, smaller firms are said to have advantages in terms of rapid decision-making, willingness to take risks and flexibility in responding to new market opportunities; in contrast, larger firms have advantages linked to scale and the availability of specialist resources. This suggests that

"the relative strengths of large business are predominantly material (economies of scale and scope, financial and technological resources, etc.), while those of small firms are mostly behavioural (entrepreneurial dynamism, flexibility, efficiency, proximity to the market, motivation)" (Vossen, 1998).

Authors Günay and Apak (2014) considered the positive role and importance of MSME's for the development of the economy of a country, and the authors Li et al. (2012) emphasize that MSME's of manufacturing activities are of special importance. MSME's constitute the production wheels for the large scale enterprises (Adeleke, 2002), and are regarded as important engines in the economic development of every country (Acs et al., 2008), while the entrepreneurial orientation of MSME's entrepreneurs-owners has an important role in achieving this task. Entrepreneurial orientation, with its three main dimensions: risk-taking, acting proactively and creativity, has a positive impact on organizational performance and profitability (Keh et al., 2007). Also, authors Keh et al. (2007) found that the majority of MSME's is interested in collecting information from the market regarding the customers' needs and competitors, in order to strengthen its market position and increase profitability. In both developed and developing countries of the world, MSME's have proved to be prominent in terms of employment and added values to gross domestic product, "yet their full potential remains untapped" (Schlogl, 2004). The authors Nikolić, et al. (2018) present a conceptual framework for investigation of the factors influencing the failure MSME's as well as the level of their recovery. They focused on the most relevant factors that can cause failure of MSME's and make their recovery more difficult.

2.1. An Entrepreneur's Creativity and MSME's Innovativeness

The phenomenon of entrepreneur's creativity is the subject of the study of many researchers in the field of social psychology, economics, philosophy, history, and psychometrics. Entrepreneur's

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creativity is often attributed to miracle, cognitive processes, social environment, personal traits and coincidences. It is associated with geniuses, mental disorders and humor. On the one hand, it was considered the quality with which we are born, and on the other hand it was argued that creativity can be learned by using techniques.

Schumpeter (Schumpeter, 1934) in his theory of “creative destruction” stressed the key role of entrepreneurial creativity in initiating and developing technological innovation and economic changes. Since then, many studies have been examining the phenomenon of entrepreneurial creativity. Maslow (1968) underscored that creativity was an inherent feature of all people, but only a small part of the population used that creativity. The researchers Amabile et al. (1996) define individual creativity as the creation of new and useful ideas in any domain. People who are creative in one area are likely to be creative in other areas, just as people who are highly intelligent perform well on a wide range of cognitive tasks (Silvia et al., 2009). Creative entrepreneurs create a spillover effect by serving as role models to the rest of the organization (Shalley & Gilson, 2004), and also represent an instrument to achieving sustainable competitive advantages in organizations (Shalley, 1995). Author Nistrom (1993) emphasized that entrepreneur’s creativity and innovation are "an invention of the future".

Baron and Tang (2011) found that an entrepreneur’s creativity was significantly related to the nature of innovation, but not to innovation performance. Also, they found that the relationship between an entrepreneur’s creativity and the number of innovations adopted by new ventures was stronger in highly dynamic rather than more stable environments. Shane (2003) emphasizes an entrepreneur’s creative role in innovation, and points out that many entrepreneurs use various forms of brainstorming to increase the number of new ideas, and thus enhance creativity as an important foundation for innovation. Heunks (1998) found that an entrepreneur’s creativity significantly related to organizational innovativeness. In their paper, Baron and Tang (2011)

confirm their hypothesis that an entrepreneur's creativity was significantly related to the radicalness of innovations. Marcati et al. (2008) emphasized the entrepreneur's vital role in fostering innovation.

2.2. An Entrepreneurial Self-efficiency and MSME's Innovativeness

According to Boyd and Vozikis (1994), entrepreneurial self-efficacy refers to the extent to which an individual believes that he/she can complete tasks and actions to produce desired outcomes. Also, authors Wood and Bandura (1989) state that people with the same skills may perform poorly, adequately, or extraordinarily, depending on whether their self-beliefs of efficacy enhance or impair their motivation and problem solving efforts. There are higher chances that individuals with high self-efficacy for a specific task will seek and stay on this task longer than individuals with low self-efficacy (Bandura, 2001). An important aspect of self-efficacy is that it is a domain-specific, subjective judgment regarding the novelty and value of an outcome of a specific action (Ford, 1996). A person can have high self-efficacy in one area, but low self-efficacy in another area, especially pertaining to certain, very specific tasks and/or skills (Wilson et al., 2007). Entrepreneurs with strong beliefs about their entrepreneurial self-efficacy tend to associate challenging situations with awards such as profit, recognition and psychological fulfilment (Hisrich & Brush, 1984), because self-efficacy is not related to the past, but to what could be achieved in the future (Yang & Cheng, 2009). Because empowered individuals feel self-efficacious, they are likely to be innovative in their work and expect success (Spreitzer, 1995).

In papers (Ahlin et al., 2014; Hmieleski & Corbett, 2008; Tang, 2008), the positive effect of entrepreneurial self-efficacy on MSME's innovativeness is emphasized, which stimulates entrepreneurial improvisation and business performance itself.

2.3. Collecting Information and MSME's Innovativeness

Collecting information refers to perceiving and interpreting business information (Shane & Venkataraman, 2000). It is about deliberately collecting information and converting that knowledge into business information (Ardichvili et al., 2003). Business information plays a paradoxical role in creativity: It supplies the raw materials from which creative new ideas are forged, but also carries with it the potential to inhibit creativity (Ward, 2004). For example, entrepreneurs gather, analyse and interpret information, and this analytical focus is seen to inhibit creativity (Gibb, 2002).

The author Moorman (1995) points out that information from the market is defined as data related to the current and potential stakeholders, stemming from various external sources. The authors Kawakami et al. (2012) underpinned that the importance of the collecting information process was enormous for both large and MSME's. Collecting information is a big challenge for MSME's, because of the limited resources at their disposal and less experience in market research. Therefore, most entrepreneurs rely on informal sources of information, such as relatives or existing customers (Narver & Slater, 1990). Training and additional education of employees will enable employees to collect and use information from the market (Kawakami et al., 2012). Internal collecting information in combination with external creates the necessary precondition for quality decision-making, and thus the conditions for increasing MSME's innovativeness.

2.4. Knowledge Transfer and MSME's Innovativeness

Organizational learning is the process by which the enterprise develops new knowledge and insights from the common experiences of people in the organization, and has the potential to influence behaviours and improve the firm's innovativeness and profitability (Jimenez-Jimenez & Sanz-Valle 2011). This process comprises four

subprocesses: knowledge acquisition, distribution, interpretation, memory (Baker & Sinkula, 1999). Knowledge transfer includes knowledge acquisition (the process the enterprise uses for obtaining new information and knowledge) and knowledge distribution (the process by which employees share information within the enterprise).

Employee knowledge is no longer vital only to function of research and development, but rather to all functions of the firm (Leiponen, 2005). The research done so far has emphasised knowledge as an important innovation factor and lack of required knowledge and skills as the most serious impediment to MSME's innovativeness. Also, the author Leiponen (2005) showed that employee knowledge and skills bring about a rise in enterprise innovativeness and bring about a rise in MSME's profit. The investigation (Salim & Sulaiman, 2011) revealed that organizational learning and knowledge transfer contributes to innovation capability MSME's. The authors Jimenez-Jimenez and Sanz-Valle (2011) show that organizational learning and knowledge transfer contribute positively to enterprise innovativeness and business performance. Some studies suggest that organizational learning and its output, organizational knowledge, are antecedents of organizational innovativeness (Baker & Sinkula, 1999; Darroch & McNaughton, 2002; Ussahawanitchakit, 2008). Authors Casillas et al. (2015) believe that different forms of knowledge and knowledge transfer to shape the pace of SMEs progression.

2.5. Team Work and MSME's Innovativeness

The basic elements of each organizational unit are people and teams. By using teamwork organizations achieve synergetic effect, because higher scores are achieved working together rather than any individual contribution, and also each individual in a team achieves more than he/she ever could. Today, teamwork is becoming important increasingly and modern business without it is almost unimaginable. Teamwork increases employees' satisfaction and loyalty (Stewart & Barrick, 2000) and leads organization closer to the set goals. Using

teams is a part of social responsibility, because it enhances communication, trust and stimulates profitability (Levine, 2007).

Many studies highlight the large role of teams in shaping different business results. For example, authors Fay et al, (2015) suggest that the more widespread the use of teamwork in organizations, the higher the level of organizational innovation. Furthermore, this effect depends, particularly for production teams. The authors Llorens-Montes et al. (2005) confirm that certain characteristics of the firm (support leadership and teamwork cohesion) significantly affect both learning and innovation, as well as showing the implications of these in organizational performance.

2.6. MSME's Innovativeness and MSME's Profitability

Innovation helps the enterprises to deal with the turbulence of external environment and, therefore, is one of the key drivers of long-term success in business, particularly in dynamic markets (Baker & Sinkula, 2002;). The European Union internationalisation survey (European Commission, 2010) suggests that, for the sample as a whole, approximately half of internationally active MSME's are innovative. Innovation is recognised as a vital driver of economic growth and development (Bosworth & Collins, 2003). Innovation has a positive impact on business activities as it leads to new products and services with improve quality and lower cost of production (Rose et al., 2009). In this way, it indirectly influences the organizational profitability.

Organizational performance is related to the ability of the MSME's to gain profit and growth in order to achieve its general strategic objectives (Hult et al., 2004). Essentially, the key reason for the profitability of SMEs is the entrepreneur's desire to achieve business performance and increased competitive edge (Gunday et al., 2011). In the work of (Van Auken et al., 2008) the finding showed that innovativeness of the organizational was related to MSME's

performance. Also, MSME's furnish a strong increase to employment and economic growth specifically due to their innovative activities which becomes a main force of explaining competitive advantage and organizational performance (Keizer et al., 2002; Ussahawanitchakit, 2012). Also, the authors Rosenbusch et al. (2011) emphasize that their findings show that innovation has a positive effect on the performance of MSME's.

However, some studies arrive at conflicting conclusions. For instance, Mansury and Love (2008) find that the presence and extent of innovation have a positive effect on the growth of a firm but no effect on productivity. Finally, Damanpour et al. (2009) find that adopting a specific type of innovation every year in public service organizations in the UK is detrimental. These results show that the relationship between innovation and performance is complex and requires more research. Despite some contradictory studies, most of the empirical studies suggest a positive relationship between innovation and SMEs performance.

Based on the literature review, theoretical arguments and findings of empirical research, the following hypothesis are suggested:

- H1: The relationship between entrepreneur's creativity and MSME's innovativeness is positive.*
- H2: The relationship between entrepreneurial self-efficiency and MSME's innovativeness is positive.*
- H3: The relationship between collecting information and MSME's innovativeness is positive.*
- H4: The relationship between knowledge transfer and MSME's innovativeness is positive.*
- H5: The relationship between team work and MSME's innovativeness is positive.*
- H6: The relationship between MSME's innovativeness and profitability is positive.*

Based on the hypotheses H1-H6, the conceptual model of positive impact is defined, and shown in Figure 1.

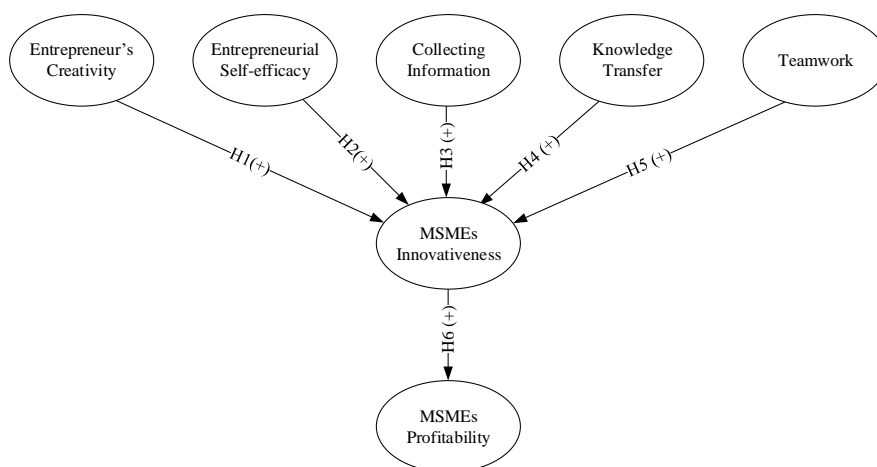


Figure 1. Conceptual model

The conceptual model is defined in order to determine the impact of entrepreneurship factors on MSME's profitability. In the model, there are five independent variables: entrepreneur's creativity, entrepreneurial self-efficacy, collecting information, knowledge transfer, teamwork, as well as two dependent latent variables: MSME's innovativeness and MSME's profitability.

3. METHODOLOGY

For the purposes of empirical research, the data were collected through a questionnaire. The questionnaire was developed based on the relevant available contemporary literature (Heinonen et al., 2011; Jimenez-Jimenez & Sanz-Valle, 2011; Yung & Cheng, 2009) and the attempts of other researchers to create an adequate instrument for analysing and evaluating the influence of entrepreneurial factors on MSME's that were relevant to our study. The questionnaire form consists of two parts: the first part contains 8 questions of

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demographic type (Table 2); the second part of the questionnaire form comprises 28 questions describing major elements of the entrepreneurship (Table 1).

Table 1. Questionnaire items

No	Description
1	I invent exceptional and surprising solutions
2	My ideas are usually very unique
3	When I encounter obstacles, I am able to detour around them
4	I try to find novel solutions even it is not expected from me
5	I have a tremendous amount of ideas
6	I gathered a lot of information on industries and sales etc. for the basis of the business idea
7	I gathered a lot of information on markets for the basis of the business idea
8	I did organised work on the business idea
9	I am able to set and attain profit objectives
10	I am able to control costs
11	I am able to conduct market analysis
12	I am able to develop new ideas
13	The employees regularly attend fairs, exhibitions and seminars
14	Suitable internal and external training programs are available to employees
15	There is adequate business cooperation with the academic environment
16	The company has a formal mechanisms to guarantee the sharing of the best practices among the different fields of the activity
17	There are individuals within the organization who take part in several teams or divisions and who also act as links between them
18	There are individuals responsible for collecting, assembling and distributing internally employees' suggestions
19	Assistance in developing new ideas is readily available
20	People in this team are always searching for fresh, new ways of looking at problems
21	The members of my team are always looking for new solutions and regard every problem from a different perspective
22	People in the team co-operate in order to help develop and apply new ideas
23	The number of firm's new products that are first-to-market (or early market entrants)
24	The number of new products and/or services a firm has introduced to the market
25	The speed of firm' new product and/or service development
26	Our organization is doing much better business than our competition
27	Our sales is increasing more than the competition's
28	Our market share is larger than the competition's

3.1. Sample and Data Collection

The collection of data was performed by anonymous surveying of entrepreneurs-owners of MSME's. The research was conducted from October 2017 to May 2018, in South, South-Eastern and Eastern Serbia. The survey was anonymous. For the assessment of the answers

a five-point Likert scale ranging from 1=totally disagree to 5=totally agree. Collected 1,165 correctly filled questionnaires properly. Ratio between sample size (1,165 entrepreneurs-owners) and number of questions (28 from questionnaire) is 41.61 and is much larger than the prescribed value 5 (Hair et al., 2006).

3.2. Demographic Characteristics of the Sample

The demographic characteristics of the sample are shown in Table 2.

Table 2. Demographic characteristics of the sample ($n=1,165$)

Variables	Category	Frequency	Share (%)
Gender	male	776	66.6
	female	389	33.4
Age	≤ 25	78	6.7
	26-35	253	21.7
	36-45	363	31.2
	46-55	338	29.0
	≥ 56	133	11.4
Number of employees	≤ 10	802	68.8
	11-50	271	23.3
	51-250	92	7.9
Firm age	≤ 5	293	25.2
	6-10	283	24.3
	11-20	340	29.2
	21-30	147	12.6
	≥ 31	102	8.8
Previous experience	No	382	32.8
	Yes	783	67.2
Previous experience in industry	No	555	47.6
	Yes	610	52.4
Source of capital	Domestic capital	1040	89.3
	Foreign capital	58	5.0
	Mixed capital	67	5.8
Industry	Agriculture	80	6.9
	Manufacture	252	21.6
	Non-manufacture	168	14.4
	Service	665	57.1

The survey included 776 male and 389 women entrepreneurs-owners of SMEs. 81.9% from total number of respondents belong to the age group between 26 and 55, which represents the best period of life for entrepreneurship. According to the size of the company, 68.8% are

owners of micro enterprises (less than 10 employees) and regarding the firm age, 78.7% are enterprises not older than 20 years. Previous entrepreneurial experience has 67.2% of respondents, which means that 32.8% started a new venture. Of the respondents who had a business experience, 52.4% said that in the past they were doing the same business as they did now. Also, it is notable that 89.3% of organizations are domestically owned and 57.1% are service organizations.

4. RESULTS

For statistical data analysis and hypothesis testing, software packages SPSS v.17.0 and AMOS v.18 were used.

4.1. Descriptive Statistics

For all 28 questions (variables), results of descriptive statistics of the investigated sample are shown in Table 3. Standard statistical parameters are shown: mean, median, standard deviation and variance.

Table 3. Descriptive statistics of variables ($n=1,165$)

No var.	Mean	Median	Mode	Std. Dev.	Var.	No var.	Mean	Median	Mode	Std. Dev.	Var.
1	3.96	4	4	0.86	0.74	15	3.05	3	3	1.15	1.32
2	3.75	4	4	0.90	0.81	16	3.19	3	3	0.95	0.91
3	4.01	4	4	0.82	0.67	17	3.16	3	3	0.99	0.99
4	3.58	4	4	1.03	1.07	18	3.13	3	3	1.04	1.08
5	3.95	4	4	0.92	0.85	19	3.86	4	4	0.86	0.73
6	3.96	4	4	0.89	0.78	20	3.80	4	4	0.88	0.77
7	3.97	4	4	0.87	0.76	21	3.74	4	4	0.91	0.82
8	3.79	4	4	0.92	0.85	22	3.95	4	4	0.88	0.77
9	4.16	4	4	0.74	0.55	23	3.45	3	3	0.92	0.84
10	3.89	4	4	0.94	0.88	24	3.35	3	3	0.89	0.79
11	3.71	4	4	0.91	0.82	25	3.30	3	3	0.92	0.85
12	3.98	4	4	0.81	0.66	26	3.31	3	3	0.95	0.91
13	3.12	3	4	1.19	1.41	27	3.41	3	3	0.87	0.75
14	3.29	3	4	1.09	1.18	28	3.40	3	3	0.91	0.82

The mean value of the responses ranges from 3.05 to 4.16, median from 3 to 4, mode from 3 to 4, standard deviation from 0.74 to 1.19, and variance from 0.55 to 1.41. The answers revealed that most of the respondents “agreed”, providing positive feedback and expressing their positive stance vis-a-vis the questions posed.

4.2. Factor Analysis

In order to implement the exploratory factor analysis (EFA) the adequacy of sampling was investigated using the Kaiser-Meyer-Olkin (KMO) test and Bartlett's sphericity test. In accordance with the recommendations from the literature (Hair et al., 2006; Ho, 2006), the minimum acceptable value for the KMO indicator was 0.6, while the level of significance of Bartlett's the test is $p < 0.05$. The Varimax rotation method with Kaiser Normalization was used. There are 7 factors (groups) generated, with acceptable results (KMO=0,909, $p < 0,000$). EFA was undertaken to determine the unidimensionality of the main factors (latent variables) in the proposed model. The results of EFA (percent of explained variance by unidimensional factor extraction and factor loading) are shown in Table 4.

The results of EFA corroborate the unidimensionality of all the latent variables in the model, given that all the test items/questions (variables) were classified into one factor set each, whose eigenvalue was greater than 1. The factor loading of the variables was from 0.689 to 0.910, which is much larger than 0.4 which is a recommendation for samples of more than 300, according to (Floyd & Widaman, 1995). Based on the results, the latent groups of variables could be reliably described using pre-defined variables (questions).

Confirmatory Factor Analysis (CFA) to determine the reliability and validity of the control model. Internal consistency, measured by Cronbach's alpha coefficient, was used as a reliability indicator of the control model. In all the latent variables (groups/factors) these coefficients were greater than the recommended value of 0.7 (Ho, 2006). This

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meant that the latent variables were internally consistent and that the variables (questions) were reliable for further analysis. Also, based on the factor loading and t-value (the last two columns in Table 4), it was apparent that convergent validity was achieved with each question within the considered groups. Factor loading of all variables was greater than the recommended value of 0.4 (Floyd & Widaman, 1995), and for all variables the level of statistical significance is $p < 0.000$.

Table 4: The results of the EFA and CFA statistics

Group	Variable	Exploratory Factor Analysis (EFA)		Confirmatory Factor Analysis (CFA)		
		PCA		Reliability		Convergent validity
		% variance that can be describe one-dimensional factor	Factor loading	Cronbach alpha	Factorloading	t value
		49.959		0.747		
Entrepreneur's Creativity (EC)	1		0.715		0.642	1.000
	2		0.689		0.575	16.119 *
	3		0.707		0.629	17.319 *
	4		0.700		0.545	15.265 *
	5		0.722		0.622	17.039 *
		54.887		0.722		
Entrepreneurial Self-efficacy (ES)	9		0.740		0.623	1.000
	10		0.716		0.451	14.031 *
	11		0.760		0.594	16.331 *
	12		0.747		0.722	18.768 *
		72.008		0.803		
Collecting Information (CI)	6		0.868		0.712	1.000
	7		0.884		0.718	23.893 *
	8		0.790		0.754	19.400 *
		55.557		0.838		
Knowledge Transfer (KT)	13		0.729		0.539	1.000
	14		0.750		0.602	18.832 *
	15		0.743		0.579	16.742 *
	16		0.757		0.759	15.213 *
	17		0.772		0.706	14.231 *
	18		0.719		0.671	14.801 *
		69.392		0.853		
Teamwork (T)	19		0.810		0.762	1.000
	20		0.867		0.818	25.717 *
	21		0.823		0.789	23.779 *
	22		0.831		0.745	23.889 *
		78.914		0.865		
MSME's Innovativeness (I)	26		0.884		0.812	1.000
	27		0.910		0.875	31.617 *
	28		0.870		0.799	29.219 *

		80.317		0.877	
MSME's	23		0.884	0.813	1.000
Profitability	24		0.910	0.870	32.654 *
(P)	25		0.894	0.838	31.489 *

Notes: The level of statistical significance: * $p < 0.000$

4.3. Fit Indicators

The control and structural model's goodness-of-fit indicators are shown in Table 5. The last column of Table 5 shows recommended values of indicators according to (Bentler & Bonett, 1980).

Table 5: FIT index values for the control and structural model

Fit indicators	Values for the control (measuring) model	Values for structural (PATH) model	Recommended values
Chi-Square (χ^2)	962.650	1112.107	-
Degree of freedom (d.f.)	317	322	-
Relative Chi-Square ($\chi^2/d.f.$)	3.037	3.454	< 3.0
Root Mean Square Error of Approximation (RMSEA)	0.042	0.046	< 0.08 – 0.10
Goodness-of-Fit Index (GFI)	0.940	0.932	> 0.9
Adjusted Goodness-of-Fit Index (AGFI)	0.923	0.914	> 0.9
Comparative Fit Index (CFI)	0.956	0.946	> 0.9
Incremental Fit Index (IFI)	0.956	0.946	> 0.9
Normed Fit Index (NFI)	0.936	0.926	> 0.9
Relative Fit Index (RFI)	0.924	0.913	> 0.9

The relative chi-square value (3.037/3.454) is slightly above the recommended value. This result can be tolerated, because it is a large sample that was being tested. Because of this fact, it can be concluded that the initial questions of the survey were indeed representative. The RMSEA value of the control and structural model is 0.042 and 0.046, respectively. This is absolutely acceptable fitting. The GFI indicator for both models is above the recommended value (0.90). This confirms that a good matching of both models has been achieved. RMSEA and GFI indicated an absolute fitting of the model. According to other goodness-of-fit indicators (AGFI=0.923/0.914; CFI=0.956/0.946; IFI=0.956/0.946, NFI=0.936/0.926 and RFI=0.924/0.913), there was a good fit and the data was truly

representative. In other words, all the 28 variables (questions) could reliably and validly describe the 7 latent groups of variables, based on the proposed conceptual model.

4.4. Correlation Matrix of Latent Variables

All correlation coefficient values should be above the recommended value of 0.33 (Ho, 2006). In this way it is ensured that there is a positive correlation between the latent variables. Results of correlation analysis are shown in Table 6.

Table 6: Correlation matrix of latent variables

Latent variables	1.	2.	3.	4.	5.	6.	7.
1. Entrepreneur's creativity	1	0.88 *	0.75 *	0.39 *	0.45 *	0.40 *	0.50 *
2. Entrepreneurial self-efficacy		1	0.81 *	0.49 *	0.48 *	0.40 *	0.51 *
3. Data collection			1	0.47 *	0.52 *	0.44 *	0.46 *
4. Knowledge transfer				1	0.48 *	0.37 *	0.49 *
5. Teamwork					1	0.33 *	0.43 *
6. Organizational innovativeness						1	0.63 *
7. Organizational Profitability							1

Notes: The level of statistical significance: * $p < 0.000$

Based on the results shown in Table 6, all correlation coefficient values are positive and above the recommended value. This suggests that there is a positive correlation between latent variables that are of practical significance. The level of statistical significance of correlation is $p < 0.000$.

4.5. Structural Model

After validation of the control model, the structural model was tested using AMOS v.18 software, consistent with the proposed conceptual model. Figure 2 shows the results of SEM analysis. The value of the regression coefficient explains the strength of the correlation between a dependent and independent variable and is shown above the arrows. The values of the t-test are given in parentheses, and should be above

the recommended value of 1.96 (Hair et al., 2006; Ho, 2006). The asterisk denotes the level of statistical significance. The Squared Multiple Correlations (R^2) value represents the percentage of variance in an endogenous construct explained by other constructs connected to it directly.

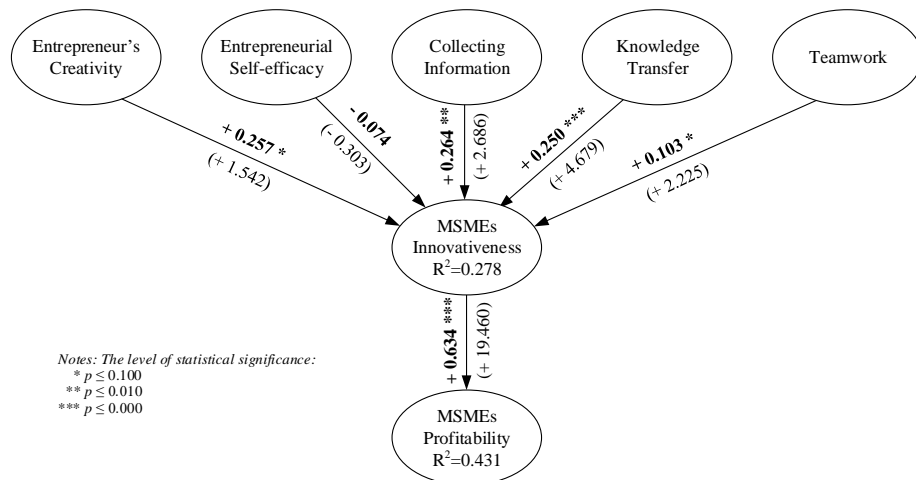


Figure 2. Structural model

Based on the results shown in Figure 2, it can be concluded that four hypotheses were confirmed, acceptable and statistically significant, because the following values are obtained: H3($\beta=0.264$; $t=2.686$; $p<0.010$); H4($\beta=0.250$; $t=4.679$; $p<0.000$); H5($\beta=0.103$; $t=2.225$; $p<0.100$) and H6($\beta=0.634$; $t=19.460$; $p<0.000$). The H1 hypothesis is confirmed, nonacceptable, and doesn't have corresponding statistical significance, because the following values are obtained: H1($\beta=0.257$; $t=1.542$; $p<0.100$). The H2 hypothesis is no confirmed, because the following values are obtained: H2($\beta=-0.074$; $t=0.303$). The coefficient determination value ($R^2=0.278$) indicated that the effect of the latent predictors: "entrepreneur's creativity", "entrepreneurial self-efficacy", "collecting information", "knowledge transfer", and "teamwork" on the latent endogenous variable "MSME's innovativeness" could be

calculated with a 27.8% variance. The coefficient determination value ($R^2=0.431$) indicated that the effect of the latent predictor: "MSME's innovativeness" on the latent endogenous variable "MSME's profitability" could be calculated with a 43.1% variance.

5. DISCUSSION, IMPLICATIONS, AND FUTURE RESEARCH OPPORTUNITIES

Six hypotheses have been defined in the paper, and then a conceptual model of positive impact is set and tested, using the SEM methodology. Specifically, in the paper hypothesized and tested the direct effects of an entrepreneur's creativity, entrepreneurial self-efficacy, collecting information, knowledge transfer, and teamwork on innovativeness and profitability of MSME's in Serbia. A total of 1,165 entrepreneurs-owners of MSME's in South, South-Eastern and Eastern Serbia were tested. Understanding how individual-level determinants impact firm-level MSME's performance output is important.

5.1. Implications

This study contributes to the area of innovativeness and profitability of MSME's. Building on the findings of previous research (Hmieleski & Corbett, 2008; Keh et al., 2007; Keizer et al., 2002; Tang, 2008; Ussahawanitchakit, 2012) emphasizing the different factors affecting MSME's performance, we differentiated between six types of factors outcome. The results of this study highlight three important direct effects of an collecting information, knowledge transfer, and teamwork on his/her firm's innovativeness output. The same conclusions can be found in papers (Baker & Sinkula, 1999; Fay et al, 2015; Jimenez-Jimenez & Sanz-Valle 2011; Kawakami et al. 2012; Leiponen, 2005; Levine, 2007; Salim & Sulaiman, 2011; Ussahawanitchakit, 2008). Also, there is a fourth important direct effect of an innovativeness on his/her firm's profitability output,

which is confirmed in papers (Gunday et al., 2011; Hult et al., 2004; Keizer et al., 2002; Rosenbusch et al. 2011; Van Auken et al., 2008).

Similarly, the paper emphasizes direct effects of an entrepreneur's creativity on his/her firm's innovativeness output, but the results have no statistical significance. Whereas (Baron & Tang, 2011; Heunks 1998; Marcati et al. 2008; Shane, 2003) studies showed that an entrepreneur's creativity was significantly related to his/her MSMEs innovativeness output, findings in this paper also support these positive direct effects, but the results were not statistically confirmed.

On the other hand, direct effects of an entrepreneurial self-efficacy on his/her firm's innovativeness output is non confirmed. Whereas (Ahlin et al., 2014; Hmieleski & Corbett, 2008; Tang, 2008) studies showed that an entrepreneurial self-efficacy was significantly related to his/her MSMEs innovativeness output, findings in this paper don't support creativity's positive direct effects. Due to organisational sluggishness, probable lack of expert knowledge and entrepreneurial spirit, insufficient self-confidence and self-efficacy often, typical of enterprises in transitional economies, this negative effect of entrepreneurial self-efficacy on MSME's innovativeness and profitability can be explained. This is significant because beliefs of personal efficacy are important irrespective of the previous experience, success, and tenure of entrepreneurs. The rationale but also a solution for these negative effects could be found and in the papers (Bandura, 2001; Baron & Tang, 2011; Hmieleski & Corbett, 2008), where the authors propose that in circumstances in which there is a weak or inconsistent relationship between a predictor and an outcome (e.g., a relationship is valid in one setting but not in another, or for one subpopulation but not for another), it is appropriate to search for moderators.

The author believes that differences in results between transitional and developed economies are normal and expected. Yet, it's about different entrepreneurial cultures and different levels of national

competitiveness. In developed economies is a strong entrepreneurial tradition and these are countries with a high reputation for entrepreneurship, and a long tradition in entrepreneurship practice. However, Serbia was operating under the rules of central planning and has a relatively short entrepreneurship tradition. After the 2000s, Serbia is moving to a market based economy, which allowed private companies to operate.

The theoretical contributions of this study stem from conceptualizing and empirically testing mechanisms through which entrepreneurial factors directly and in interaction affect MSME's innovativeness and profitability. It should be pointed out that there is no universal formula of how to develop innovativeness and profitability of a country's MSMEs exists. Concrete policies seeking to increase MSME's innovativeness and profitability are often shaped by “best practice models”, which are derived from well performing regions.

The implications that this research could have on the business policy makers, and especially to those to which the research refers, for entrepreneurs, is that creativity and innovation must be encouraged.

5.2. Limitations and Future Research Opportunities

There are several limitations that need to consider but which, in turn, suggest opportunities for future research. First of all, entrepreneurs evaluated their creativity and self-efficacy by themselves hence the entire investigation is based on their subjective assessment which must always be taken with a grain of salt. Future research could also reduce subjectivity using a different scale, which will exclude self-assessment of entrepreneurs. Another limitation was the fact that the survey was conducted in South, South-Eastern and Eastern Serbia, which represents a less developed part of Serbia. Therefore, the results obtained cannot be generalized for the entire country, but can be a good basis for further research in other regions, and used for their comparative analysis.

6. CONCLUSION

One of the biggest myths of entrepreneurship is that entrepreneurship cannot be taught. Yes, it can, considerably, we just have to learn to accept the risk that goes with it and every innovation introduced into the business. Although most entrepreneurs-owners of MSME's have very little free time, however, they should be find time for creative thinking and a positive attitude to change.

Entrepreneurship requires a high level of creativity, innovation and risk taking, everything not specific for countries in transition. Entrepreneurship was created in the Western culture and precisely reflects that way of thinking and doing business. Serbia, which was mainly characterized by centrally planned and mono-structural economy until 2000, has a very short history of entrepreneurship. Similarly to all transition countries, entrepreneurship is still in its development in Serbia, due to economic conditions and also because of the national culture. Yet, the findings presented in this paper provide a basis for future work investigating the role of important individual-level capacities in the entrepreneurial process.

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THE CONTRIBUTION OF NEW TECHNOLOGY AND INNOVATIVENESS OF SMALL AND MEDIUM ENTERPRISES TO BUSINESS SUCCESS

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Abstract

Nowadays, innovation of small and medium enterprises (SMEs) is most important for their business survival because innovation is a key factor enabling utilization of knowledge, skills, or experience to develop new technologies, new processes, and new products or services for their business operations. Also, innovative small and medium enterprises (SMEs) have made a significant contribution to the global economy in terms of developing entrepreneurship and job creation. The aim of this paper is to determine how to innovativeness of small and medium enterprises can contribute to their success through research and development activities, cooperate, the possibility of external supply of technology, professionalism and specialization. This paper used the methodology of SEM, which includes evaluating the measurement model, and on the basis of an adequate index fitting a structural model was tested. The results of this research show that innovative approach to business of SME can lead to enterprises bestir, grow and become successful in small business. In relation to that small and medium enterprises must be seen as main initiator of innovations, but it is necessary to create the best possible ambient for development of small and medium enterprises and companies.

Keywords: *Innovation of SMEs, Professionalism, Research & Development, Specialized SMEs, External supply technology*

1. INTRODUCTION

Nowadays, innovation of small and medium enterprises (SMEs) is most important for their business survival because innovation is a key factor enabling utilization of knowledge, skills, or experience to develop new technologies, new processes, and new products or services for their business operations (McAdam et al., 2004, et al., 2017). Also, SMEs' innovativeness reflects a tendency to engage in and support new ideas, novelty, experimentation, and creative processes which results in new products, services, or technological processes (Rhee et al., 2010).

Small and medium-sized enterprises have an extremely important role on local and regional development of one country and the region in which they operate (European Commission, 2018). They are often the main source of new employment, and they can also play a significant role in the foreign trade of a country as the cooperators of large multinational companies. Their comparative advantage is that they are flexible, they can quickly adapt to changes and meet market demands (Ikić, 2012; Patricioe et al., 2018). The importance of entrepreneurship development in a country is important because it affects the reduction of unemployment and is extremely innovative. According to Beraha, (2011), in the last century half of the innovations resulted from the engagement of small and medium-sized enterprises. SMEs are superior to large business systems because of their flexibility, vitality, tendency to take innovative and risky ventures, and greater opportunities for specialization, and they can a better adapt to consumer demands and dynamic changes in global business conditions.

Based on three criteria, companies can be divided into: micro, small and medium. There are many definitions of SMEs. According to one definition, for small and medium enterprises, the number of employees, total income and balance should be taken into account.

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Other definitions include the capital invested and working capital (Wijewardena and Correy 1995). However, in literature is a common case to define SMEs by using the number of employees (Adams and Hall 1993; Rothwell and Zegvel, 1982). According to some provisions of the European Union, small and medium-sized enterprises can be defined as enterprises with less than 250 employees, annual turnover of less than 40 million EUR (Hovels, 2005). Where, micro enterprises are defined as firms with less than 10 employees and whose total annual income or total balance does not exceed 2 million euros. Small businesses are defined as companies employing 10 to 49 workers and whose total income or total balance does not exceed 10 million euros. Medium enterprises are defined as companies with more than 49 employees and less than 250 employees, whose total income is less than 50 million euros or whose total balance is less than 43 million euros (www.privreda.gov.rs).

Innovative small and medium enterprises (SMEs) have made a significant contribution to the global economy in terms of developing entrepreneurship and job creation. Also, there is an increasing and more important role of SMEs in the contribution of economic growth and technological development, especially in developing countries. Micro, Small and Medium-sized Enterprises (SMEs) represent more than 99% of the total business in the European Union. Of these, nine out of ten are actually micro enterprises with fewer than ten employees (Eurostat, 2015).

Small and medium-sized enterprises are conditioned by technology that allows the company to do what it did before and do the same job in a more efficient way. Therefore, SMEs through the introduction and management of technology should achieve the efficiency and effectiveness of technology that can provide innovative products for which there is a real demand in the market.

The aim of this paper is to determine how the research and development activities of SMEs , their willingness to cooperate, the possibility of external supply of technology, professionalism and specialization in carrying out business activities can contribute to the innovation of small and medium enterprises.

2. LITERATURE REVIEW

Innovation is not just a way to improve business of one company; it is also the path to better social relations, richer companies and richer society as a whole. Empirical studies support the existence of relationships between the innovative behavior of small and medium-sized enterprises and their efficiency (Gunasekaran, et al., 2000; Mahemba and De Bruijn, 2003). In industrialized countries, there is a common belief that economic growth comes from inventions, especially in the industry (Rothwell and Zegveld, 1982) and that they have made a significant contribution to this growth in SMEs.

By creating and introducing innovations, the company increases the chances of survival or achieves a competitive advantage. Proper management of the benefits of SMEs with an optimal combination of all available resources, including IT capabilities, becomes the imperative of every modern organization and contributes to its competitive advantage, increase production and increase market value, profitability, growth and development (Bagaric, 2010). One of the basic results of technological progress is the increase in the productivity of all engaged resources, and the main factors for assessing the success of the company are productivity and quality (Mahemba and De Bruijn, 2003).

The interactions between SMEs and markets indicate that SMEs have a specific advantage because they can react quickly and more efficient to changes in the market, which makes them more innovative than large business systems (Mahemba & De Bruijn, 2003). Many relevant

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research and practice have shown that small and medium-sized enterprises are the most flexible part of the economy, which in the conditions of the crisis persist thanks to the possibility to constantly innovate, predict economic trends, react to changes in a relatively short period of time, monitor market trends, employ a significant part of the labor force. Pitt and Clarcke (1999) emphasize that innovation requires practice that interrupt across the structural boundaries of an organization.

The basic characteristics of small and medium-sized enterprises and entrepreneurs, are relating to their size, flexibility, the tendency towards innovative and risky ventures, and the greater possibility for specialization, enable these companies to adapt much more easily than large business systems to continuous changes in consumer demands and the conditions of business in the global market. In this way, small and medium-sized enterprises encourage the strengthening of competition, which has the consequence of improving the quality of products and services and lowering prices, the development of innovations and new technologies and the economic growth of national economies, in general (Erić, et al., 2012).

By creating economic policy, many creators of economic policy see small and medium-sized enterprises as an engine of economic development (de Rassenfosse, 2012). By fostering innovation activities in small and medium-sized enterprises presents one of the main incentives for growth and development on a global scale. There is no universal formula that will enable the increase in the capacity of small and medium-sized enterprises in one country. Economic policies that focus on boosting innovation often rely on "models of practice" that are affirmative and yielding results (Todtling, & Tripll, 2005). Also, many other authors (Kawakami, et al., 2012) agree that the creators of economic policy must first determine what encourages entrepreneurial activity in the country in order to effectively encourage innovation in small and medium-sized enterprises. By

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copying one economic policy from one country to another, it will not lead to the desired results.

In innovation studies, small and medium-sized enterprises can notice the difference between product innovation and process innovation. There are specific differences between product innovation and process innovation in terms of the size of the resources invested by small and medium-sized enterprises (Fritsch & Meschede, 2001). Production innovation is easier to commercialize and sell to interested partners, while on the other hand process innovation is something that is not sold just like that (Nieto & Santamaria, 2010).

Although innovation can be an important source of progress for small and medium-sized enterprises, there are risks of investing in innovation. For example, research and development costs to identify new products and services can be very high. So that, if companies do not make profits from these activities, there is an unnecessary waste of resources. Also, there is a risk that competitors are working on the commercialization of the same idea and even have a better strategy of placement on the market. In such situations, high research and development costs will not be justified. In addition, in times of economic crisis, companies first reduce research and development costs and focus on major activities of business (Trajković and Milošević, 2018).

Therefore, innovation represents a high-risk activity. However, keeping in mind that the high risk is in a positive correlation with the profit from the company's innovation in various industrial branches - primarily in the area of information and communication technologies, companies decide to take the risk, knowing that successful innovations can bring competitive advantage to the company with remarkable growth. The most successful companies combine the knowledge acquired through previous experience with strategies and future

innovations, which leads to the creation of new skills that can improve results and improve profitability, development and growth.

The study by Rothwell and Zegveld (1982) indicates on the significance of entrepreneurial characteristics and structural flexibility of SMEs in the process of decision making on the supply chain. SMEs can meet the needs of the narrower part of the market by establishing long-term relationships with suppliers and customers (Milošević, 2018). In addition, SMEs can achieve high growth (production, sales) by focusing on individual product groups, avoiding too much expansion of their marketing activities, avoiding to operate on markets where large companies dominate and to carefully choose the market in which they will act (Adams and Hall 1993). Innovative behavior is also described as the existence of an appropriate view of obstacles, and the treatment of these obstacles as an opportunity for learning, and not as a negative event.

The development of innovative SMEs based on new technologies are constructed on a complex and efficient distribution of entrepreneurial know-how for specific needs, increasing the orientation towards the task and spreading the horizon with the increase of chances and the establishment of expert centres, and the extension of technological expertise, as well as, the distribution of modern technological know-how (Hovels, 2005).

3. INNOVATIVE PERFORMANCE OF SMES IN SERBIA AND SURROUNDING COUNTRIES

In the domestic economy there is a small number of highly innovative SMEs with high potential for growth (in the field of information and other technologies), as well as a large number of SMEs that are not innovative or at least insufficiently. In other words, most SMEs in Serbia do not build their competitiveness on the development of

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innovation, such as practice in developed countries. Moreover, the innovative activities of SMEs tend to decline in the last few years.

Small and medium-sized enterprises in Serbia, trying to be innovative, face numerous problems of administrative nature. First of all, there is a lack of financial resources, but also various administrative barriers, inability to access the results of the activities of research institutions, access to the international market, and to the insufficiently stimulating economic environment. In order to solve this problem, it is necessary that the state develops a development policy and program that should help small and medium enterprises in Serbia to utilization their innovation potential (Ravić and Gavrić, 2008). Research on innovation activities in businesses in Serbia in the period 2010-2012, conducted by the Republic Statistical Office on a sample of 3,500 businesses (Sample frame were active business entities obtained from the Statistical Business Register, which contains 11841 business entity with 10 or more employees) showed the highest participation in innovative activities of big businesses. Organizations research has shown that manufacturing businesses are more innovative than service businesses (Prlić et al., 2016). While results of research conducted in Serbia in the period 2012-2014 on a sample of 3587 businesses shown that the size of the business entity is a key factor for innovative activities of enterprises. According to this study, there were 37.4% of small business innovators, 52.7% medium enterprises innovators and 68.1% of large companies innovators (www.webrzs.stat.gov.rs). If we make a comparative analysis of the basic indicators of the SME sector in selected countries of the EU and Serbia in 2016, it can be concluded that the qualitative indicators of the level of development of the sector are some lower than the EU average and higher than neighboring countries (Figure 1).

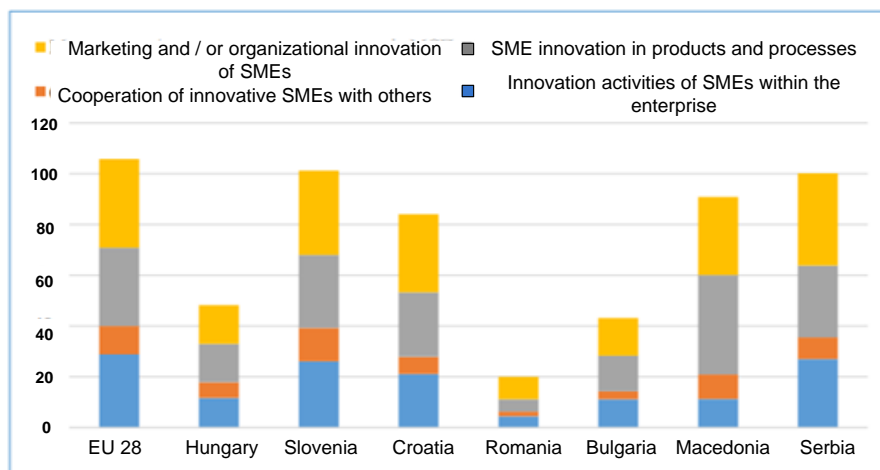


Figure 1. Indicators of innovation SMEs Serbia and neighboring countries in 2016 (www. ec.europa.eu)

4. THE DEVELOPMENT OF HYPOTHESES

In the literature that focuses on the characteristics of innovative enterprises, it can be noticed that in many papers they mention technical and technological characteristics that greatly contribute to better business and innovation of SMEs. Companies can apply externally focused methods for supplying innovation and technology, where initially important alliances and partnerships. Good communication between associates can contribute to combining existing and creating new knowledge, which can improve innovation through external acquisition of technology.

In this paper, the focus is on the contribution of the innovation of small and medium enterprises that will enable enterprises to survive in a dynamic market. The innovation characteristics of SMEs can be seen through professionalism, research and development activities,

and specializations of SMEs, cooperation of SMEs and external supply of technology.

4.1. Professionalism

When talking about professionalism we must emphasize that concept of professionalism implies not only expertise but also quality of work performance. In that sense for SME is important to professionally cooperate with its associates so they could fulfill their business goals and goals of company they work with. Concept of professionalism means not only the business skills but also competences of the SME owner, his expertise and business experience. Accordingly, the first hypothesis was developed:

H1: Entrepreneurs/SME owners with higher level of professionalism have positive influence on the process of introducing innovations.

4.2. Research and Development

One of key activities of the enterprise that leads to technological development is investment in research and development. Research and development has immediate task to generate technological innovations, which is in the core of the technological progress. There is a direct connection between research and development potential and achieved technological level and progress. When talking about research and development expenses it is necessary to emphasize that it is expected that SME which spends more on research and development has better results and innovativeness in business. Based on that being said a second hypothesis is developed:

H2: Research and development of SME have influence on enterprise's innovativeness.

4.3. Specialized SMEs

Small and medium enterprises that do external activities are specialized enterprises with developed technology which enables them to be more efficient and effective. It means that enterprises and key entrepreneur innovator have knowledge regarding market potential, new ideas and technology. It is about discovering perspective areas and successful potential business partners, cross-checking with scientific sector. In literature we can find numerous typologies regarding the level of expertise of owners/managers of SME considering innovations. One of classifications can be found in the work Kaufmana, Wooda and Theyela (2000) where they mention technological specialist and specializations i.e. focus on cooperative relations. In technologically specialized companies managers can expand their knowledge and to use it in other projects important for the company. Based on that, third hypothesis is developed:

H3: Specialized SME have positive influence on company's innovation.

4.4. Cooperation of SMEs

Cooperation is a reference point for innovative development (Janusz and Koziol-Nadolna, 2011). Establishing relationships between SME and big companies is a cooperation in which big companies offer different services to SME in the area of innovative development. This type of cooperation is reflected in courses, trainings, consulting and expert services (Stanislawsk and Szymanski, 2017). Also, not less valuable area of this kind of cooperation is implementation activity. One of the biggest advantages of cooperation between SME and big companies is increase in number of created ideas, concepts, technologies and solutions that contribute to useful innovation for both sides. Cooperation between companies is when they work together on achieving the same goal. In these relationships no

company can effectively compete without constant support of other partners (Schumpeter, 1960).

H4: Cooperation between SME and large companies has influence on development of innovations.

4.5. External Supply Technology

Ability to cooperate and willingness to cooperate as a characteristic of SME is a very important aspect of successful supply of technology from external source. If SME are prepared to use the strategy of external innovation they can significantly increase achieved results, and also to create foundations for better business in the future. The most important interests for enterprise that is trying to gain technology through building alliances with other enterprises is to see what the partner enterprise will contribute to the alliance. Identification of the real partner is of the crucial importance (White and Bruton, 2007). Based on that next hypothesis is developed.

H5: SME that show willingness to cooperate with other enterprises and have more opportunities to externally supply with technology have influence on introduction of innovations.

Based on developed hypothesis, conceptual model of innovation contribution of SME is developed as a condition of their successfulness, shown on Figure 2.

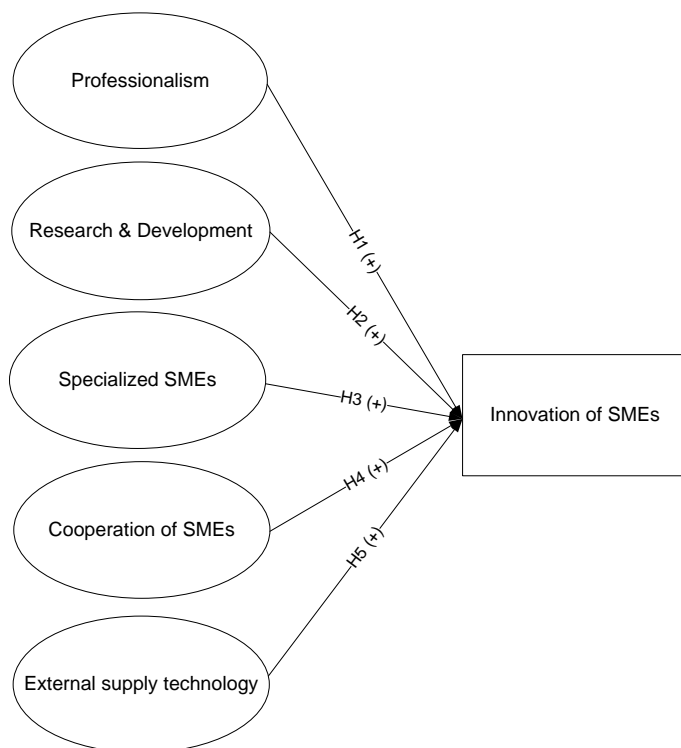


Figure 2. Conceptual model of contribution of the innovativeness of SMEs

5. Material and methods

The research was conducted in Serbia among SME by anonymous survey method. Survey questionnaire is composed of two parts. The first part is regarding demographic questions, while the second part is regarding research questions consisting of 19 questions, grouped in 5 groups. For completing the questionnaire Likert five-step scale was used (1- absolutely disagree to 5- absolutely agree. There were 220 correctly filled questionnaires that were further analyzed for research

results. Data was collected by e-mails and personally in companies that were chosen to participate in the survey. Based on data collected, among examinees there were owners, sales managers and employees assigned to other work positions (associates, secretaries, managers and other). Collected data was submitted to further processing and analysis by use of statistical methods; with numerical indicators and interpretation of results with software program SPSS v. 17 and LISREL v. 8.8.

Table 1. Demographic profiles and descriptive statistics of respondents

Characteristics	Frequency	Percent	Cumulative percent
What size company belongs			
Micro	45	20.45	20.45
Small	72	32.72	55.17
Median	83	37.72	92.89
Great	20	9.09	100.0
Total	220	100.0	
Which category to innovation belongs			
Innovative companies	95	43.18	43.18
No innovative companies	125	56.81	100
Total	220	100.00	
At which workplace respondent works			
Owner	65	29.54	29.54
Sales manager	121	55	84.54
Employees	34	15.45	100
Total	220	100.00	

The first part of the questionnaire is regarding demographic questions consisting of data about the size of the enterprise, enterprise

innovation category and also works positions of examinees. In table 1. we can see that majority of examinees is from small (32.72%) and medium enterprises (37.72%) which are by category non-innovative (56.81%), and that the largest number of sales managers (55%) participated in this research.

5.1. Results Analysis

For hypothesis testing and confirmation of suggested model, SEM methodology is used which marks modeling with help of structural equations (Byrne, 2004). SEM methodology implies assessment of measurement and structural method, which should result in satisfying fitting indices (Anderson i Gerbing, 1988). Data is processed by use of software packages SPSS v.18 and LISREL v. 8.8, and maximum credibility estimation method is used for data analysis.

To confirm one-dimensionality within all 6 groups of claims in the hypothetical model, confirmation factor analysis (CFA) was used. Internal consistency of groups of claims was tested. To estimate internal consistency Cronbach's coefficient was used α (Cronbach, 1951) which ideally should be higher than 0.7 (Nannally, 1978). However, values of Cronbach's coefficient α (Table 2) are very sensitive on the number of items on the scale, so that in certain cases it can be tolerated that coefficient α is close to 0.7 (Pulles et al., 2013). When defining the correlation model correlation connections is established among defined groups of claims with a goal to confirm that 19 observational variables reflect 6 latent variables in a reliable way.

Confirmation factor analysis is used for estimation of convergent and discriminatory validity which values can be seen in Table 2, in accordance with recommendations defined by (Fornell and Larcker, 1981). Standardized load factors on their structures are statistically important ($p < 0.1$, $p < 0.05$). AVE value is above the recommended

value ($AVE \geq 0.5$) which confirms the convergent validity (Hair at all, 1998) and conditions of discriminatory validity is also fulfilled. Obtained value of the fitting index point at adequate model fitting with obtained: $\chi^2(N=220, df=134)=201.22$, $\chi=1.501$, $p<0.05$, RMSEA = 0.068, NFI = 0.89, NNFI = 0.95, PNFI = 0.70, CFI = 0.96, IFI = 0.96, RFI = 0.86.

Table 2. Results of the Measurement Model

Variables	Standardized factor loading	AVE	Discriminant Validity	Cronbach's α
Innovation of SMEs				
Q1	0.76	0.509	0.714	0.868
Q2	0.68			
Q3	0.74			
Q4	0.67			
Professionalism				
Q1	0.79	0.523	0.723	0.685
Q2	0.65			
Research & Development				
Q1	0.83	0.795	0.892	0.894
Q2	0.95			

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Specialized SMEs				
Q1	0.66			
Q2	0.88	0.523	0.723	
Q3	0.60			0.896
Cooperation of SMEs				
Q1	0.76			
Q2	0.73			
Q3	0.90	0.573	0.757	0.877
Q4	0.78			
Q5	0.58			
Exterenal supply technology				
Q1	0.82	0.623	0.789	0.713
Q2	0.88			
Q3	0.65			

p<0.01

The next step is testing of the structured model to confirm hypothesis. Table 3 shows fitting indices, which values show adequate model fitting and fulfilled conditions for interpreting of structural coefficients. All load factors (Table 3), and also a Chi-square goodness-of-fit statistics of structural model $\chi^2= 165.61$, $df=135$, $p < 0.05$ have statistical importance ($p > 0.5$).

Table 3. Fit indices for the structural model

χ^2	χ^2/d f	RFI	RMSEA	RMR	CFI	NNFI	NFI	IFI
$\chi^2=165.61$; $df=135$ ($p < 0.05$)	1.23	0.90	0.046	0.051	0.98	0.97	0.92	0.98
Accepted fit	<3	>0.90	<0.08	<0.10	>0.90	>0.90	>0.90	>0.90

For testing of the models coefficient of regression (β coefficient) and determination R2 were used. Regression coefficient (β) explains strength and character of connections between dependant and independent variables, that are shown in table 4 and 5, and determination coefficient R2 shows participations of explained variability in total, i.e. how many variations of dependant variable are explained with independent variable (Trajković and Milošević, 2018). Determination coefficient in this case has discovered that influence of latent predictors on innovativeness of small and medium enterprises can be calculated with 47.5 % variance.

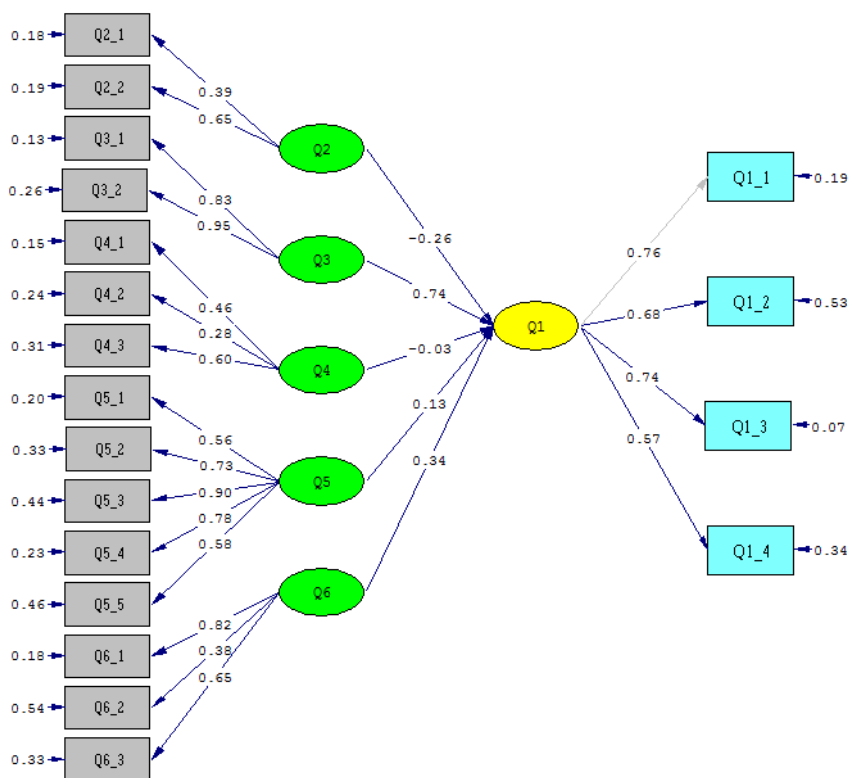


Figure 1. Structural model of innovation of SMEs

Table 5. Path coefficients and T-values

The relationship or path	Standardized parameters	T-value	Causal relations
H1: Professionalism →Innovation	-0.26 (c)	-1.42	R1: no
H2: R&D →Innovation	0.74 (a)	3.84	R1: yes
H3: Specialized →Innovation	-0.03(c)	-0.18	R1: no
H4: Cooperation →Innovation	0.13(b)	0.83	
H5: Ext. supply tech. →Innovation	0.34 (a)	249	R1: yes

(a) Significant at the 99% level; (b) Significant at the 95% level

5.2. Discussion of Results

During data processing from the questionnaire regarding innovativeness of small and medium enterprises as technological paradigm of their success it can be observed that this dependable latent variable contains four observational variables that in the best possible way describe preparedness for innovation of small and medium enterprises and those are: level of technological abilities that SME have and preparedness to innovate business; preparedness to share key technological information for innovative progress; preparedness to innovate when developing the product and process improvement; proactivity in cooperation during innovation development.

With help of this endogenous latent variable five exogenous independent influential variables were observed such as *Professionalism* which contains two observation variable (possession of relevant certificated for quality and possession of knowledge and skills of project management); *Research and development* contains two observational variables (investment of SME in research and development activity and constant innovation; owning the laboratory for research and development); *Specialization of small and medium enterprises* contains three observational variable (finding the innovative way to improve business; sale of innovative products to

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many industries; level of specialization of businesses); *Cooperation of small and medium enterprises* includes 5 observational variables (existence of long-term cooperation with other enterprises, caring about relationships with other enterprises, in case of business problems enterprise would sacrifice itself for maintaining cooperation with other enterprise, using the strategy of mutual cooperation, using the best resources in cooperation with other enterprise); *External supply of technology* includes three observational variables (preparedness to cooperate for successful technology supply from external sources; emphasizing the importance of successful cooperation with enterprises; including stakeholders in the process of innovation development).

With confirmatory factor analysis validity and reliability of measurement scale is tested. Obtained results show that condition of consistent reliability is fulfilled, as well as discriminative and convergent validities. Fitting of measurement and structural model shows that all load factors of measurement and structural model have statistical importance, ($p > 0.5$), as well as Chi-square goodness-of-fit statistics.

Based on analysis and hypothesis testing it can be conclude that hypothesis H1 which is: Entrepreneurs/owners of SME with higher level of professionalism have positive influence on the process of introducing innovations, is rejected. This hypothesis examines relation of innovativeness and professionalism of small and medium enterprises. Beta coefficient for this hypothesis is $\beta = -0.26$, with statistical importance $t = -1.42$. Analysis of coefficient β we can see that in case of mentioned variable there is negative value. Mentioned negative influences are regarding the fact that lower values of independent variable influence the higher values of dependable variable and vice versa, which shows that statistical importance does not exist ($p < 1.96$). Hypothesis H2 which is: *Research and development of SME have influence on innovation of the enterprise*, and its beta coefficient is $\beta = 0.74$ with strong statistical importance

t=3.84. Hypothesis H3: *Specialized SME have positive influence on innovation of the enterprise.* Between dependable variable of innovation of SME and undependable specialization of small and medium enterprises regression coefficient is negative $\beta=-0.03$ with statistical importance t=-0.18. From shown we conclude that this hypothesis is rejected. Hypothesis H4: *Cooperation of SME with big companies influences development of innovation* is not rejected since that it has positive direction without statistical importance $\beta=0.13$ t=0.83. Hypothesis H5: *SME that are prepared to cooperate with other companies and have more possibilities to externally supply with technology have influence on introduction of innovation* is confirmed since that beta coefficient for this hypothesis is $\beta=0.34$, with statistical importance t=2.49. Determination coefficient in this case discovered that influence of latent variable on contribution of innovativeness of small and medium enterprises as technological paradigm of their successfulness can be calculated 47.5 % variance.

6. CONCLUSION

In modern business innovations are considered one of the most important sources of the competitive advantage because they lead to the improvement of products and processes; it contributes to survival of the company during business crises, and also helps the company to achieve better financial results. Innovations are considered one of key factors for the success of the company as well as for gaining the competitive advantage. To survive in modern business conditions, small and medium enterprises must adapt their goals, strategies and organizational structure to changes in internal and external surroundings.

Results of this research show that research-development activities of SME, their preparedness for cooperation and potential of external supply with technology have positive influence on development of innovativeness and achieving positive business performances of the

company. However, due to lack of professionalism in regard to use of standards of system management and specialization for their implementation, process of introducing the innovation into SME is significantly delayed which can lead to delayed growth of small and medium enterprises, as well as failure in business. However, business failure can be seen as the learning process for future business successes and specialization of enterprises, thus innovative approach to business of SME can lead to enterprises bestir, grow and become successful in small business. In relation to that small and medium enterprises must be seen as main initiator of innovations, but it is necessary to create the best possible ambient for development of small and medium enterprises and companies.

Acknowledgmen

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**STUDY OF FACTORS AFFECTING INNOVATION
ACTIVITY OF SMEs IN THE FURNITURE
INDUSTRY IN BULGARIA
(THE CASE OF "DOMINEX PRO")**

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Abstract

The study provides an overview of the status of SMEs in the industry in Bulgaria. The results of research conducted by different scientific teams in South-West Planning Region (2008) and North-Central Planning Region (2012) of Bulgaria are presented through in-depth interviews with a general questionnaire and expert assessments. The authors carried out a comparative analysis of influencing factors - beneficial and deterrents to the innovation activity of SMEs in a traditional industrial sector for Bulgaria - furniture production.

An up-to-date case study for the company Dominex Pro Ltd is included. It is selected for analysis as: a typical average company operating in the sector; a leading manufacturer of metal products, metal components and parts for interior furnishings, which is also a supplier and exporter of the Swedish furniture and home furniture company IKEA. The profile is a dynamically developing innovative structure. It was determined by analyzing expert assessments of the impact of the advantage and barriers on the Bulgarian furniture SMEs on the main methodological elements of the same questionnaire from the surveys carried out in 2008 and 2012. General conclusions and views on the future of SMEs are given.

***Keywords:** Beneficial and Deterrent Factors, Innovation Activity, SMEs, Furniture Industry*

1. INTRODUCTION

The market and the competitors are the most important factors that influence upon the innovation activity of the enterprises in Bulgaria. The more closed is the market (both geographically and in terms of those involved), the less innovative are the productive organizations. Presenting production on the international market implies more efforts and opportunities for the industrial organization, as well as a product that meets more requirements and is sought in markets with more aggressive competition and consumers that are more demanding. Exporting businesses (especially to more developed economies) have access to leading technological knowledge that they can acquire, adapt and implement. Thus, a specific type of learning in the industrial sector is realized - learning through export, where external markets influence the innovation of companies.

The total number of industrial enterprises in Bulgaria is blurred. According to the BULSTAT register, there are one million companies in the country at the end of 2007, while according to NSI, at the same time, 258,000 production plants operate, and only 30,000 of which have more than 10 employees. EUROSTAT is looking for innovative companies in Bulgaria among them.

The aim of the study is to define the parameters of the general environment and the internal conditions, as favorable or deterrent factors that directly affect the innovation of SMEs. The subject of the survey is SMEs in the furniture industry of Bulgaria. The object of evaluation is their innovation activity.

2. AN OVERVIEW OF INDUSTRY AND SMEs

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On a corporate level, innovation activity (IA) is defined in a broad sense as a set of planned changes in corporate operations to improve the performance of the organization. These changes may include acquiring of new knowledge obtained through research and development (R&D) or a new way of using and combining existing knowledge. The IA may include R&D activities (eg. prototyping a new product) but may not contain a research element but only an organizational or marketing process (eg. reorganization of the production cycle) (Kunev, 2011).

Innovation activity is important for the development of small and medium-sized enterprises (SMEs), which are the backbone of the economy of developing countries. SMEs not only help strengthen entrepreneurship and innovation but also contribute to economic growth through job creation as well as Gross Domestic Product (GDP) growth. For the years 2018-19, the expectations are for higher level of activity of SMEs in Bulgaria, based mainly on investing through corporate loans. The reason is that companies have some large financial funds available and could increase investments in innovations without the need of external financial sources.

According to UniCredit Group, Romania has the highest economic growth among EU countries in 2017, but in the next two years it is expected Bulgaria to achieve better level in that indicator.

The expectations of the bank's analysts are that after a stable growth of 4% in GDP for 2017, the Bulgarian economy will keep a 4,3% growth rate for the period 2018-2019 (see Fig.1). This will lead to taking the place before Romania and to become the number one in growth among the countries from Central and Eastern Europe (Stoycheva, 2018). In general, for the region of Central and Eastern Europe UniCredit expects that among the countries with better results than 2017 will be Bosnia and Herzegovina, Slovakia and Serbia. On the other hand, countries like Hungary, Czech Republic and Croatia

are expected to be among the countries with decrease in GDP (Stoyanova, 2018a).

Solid GDP growth in 2018 and 2019, with some deceleration



Figure 1. Expectations for GDP growth in CEE (Stoyanova, 2018a)

For example, according to the GEM Business Entrepreneurship Index, Bulgaria ranked 48th in the overall ranking and 25th in the 25th place in a total of 26 countries with growth, based on increasing the efficiency of the economy. For 2017, the level of the motivation index of Bulgarian entrepreneurs is kept at the lowest level, not only within Europe, but also relative to the average levels of the five major international zones. Bulgaria ranks second in the entire surveyed business community on the non-profitable business benchmark, only after Lebanon (Global Entrepreneurship Monitor GEM, 2019).

Table 1 summarizes the distribution of the relative shares of the Bulgarian industrial organizations from the processing industry that have implemented new or improved products according to data from a representative sample of Bulgarian enterprises that have passed a procedure for evaluation of innovation management for the period 2010-2018. Their profile by size copies the structure of the industrial

sectors in the national economy, with micro and small enterprises prevailing - 70%, and 30% are in favor of the medium and large ones (NSI, 2019).

Table 1. Relative share of enterprises that have developed new or improved products in Bulgaria (2010-2018)

Company size	2010 2018	2012	2014	2016	2018
from 10 to 49 employed	4.7	4.0	4.0	4.4	4.9
from 50 to 249 employed	9.8	8.3	7.9	8.7	9.5
over 250 employed	18.2	17.8	18.2	17.4	19.0

Source: NSI, 2019

Industrial enterprises have a higher innovation activity than the service sector (Fig. 2.), and the biggest product innovators are the large scale business.

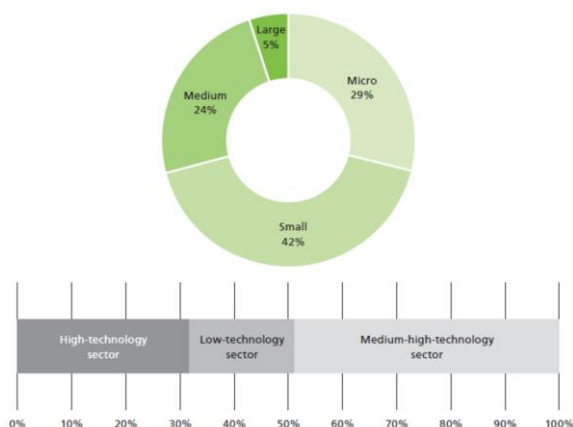


Figure 2. Enterprises with innovation activity and sectoral policies as a percentage of all enterprises in Bulgaria (Source: Georgieva & Stefanov, 2017)

2.1. Factors, Influencing the Innovation Activity at SMEs

The environment in which SMEs implement their activities is contradictory. Part of its components motivate innovative behavior, while others – activate passive attitude towards innovation. At the same time, the same elements affect differently on the enterprises. Parameters of the general environment and the direction of their impact have a significant impact on the characteristics of the set of factors directly affecting innovation (Antonova, 2017).

The reasons that motivate companies to carry out innovation activities are mostly united around the need for product diversification and product quality improvement as well as the search for opportunities for expanding market share. This is also the reason for the higher share of product innovations observed. A survey of 89 industrial SMEs in the North-East Planning Region, Bulgaria in 2011, justifies such allegations (Kunev, 2012).

From the same source, for process innovations it is shown that they are mainly related to the requirements for greater compliance with the normative base and European standards (through the introduction of quality management systems, environmental protection, health and safety of employees). The smallest part of the projects are aimed at improving the production characteristics of the business, including by increasing energy efficiency. At European level, this issue is highlighted as a top priority, and if Bulgarian businesses want to be competitive in globalizing markets, they will have to take into account this factor in the future.

Concerns have also been raised by many of the 89 managers of innovative SMEs in the processing industry that improved performance such as production flexibility, increased production capacity (23.1%) and reduced labor, material and energy costs per unit of output (between 32% and 40%) are not relevant to innovation.

In a similar earlier study of Vitosha Research for the Southwest planning region in 2006, the most significant negative impact have the specific financial issues of the innovation process - the need for serious investment, high market and financial risk, relatively difficult predictability of the rate of return and expected cash flows (Fig. 3).

The second group of barriers form the regional and national environment concerns the policy pursued in the field of innovation, the lack of clear priorities and significant incentives enshrined in the country's legislation and patent law. While firms lack sufficient quantitative and qualitative resource assurance, they do not determine this factor as a retentive of their innovation activity. A possible reason for such a contradiction can be found in the weakly expressed affinity to product and process renewal processes. In other words, if the launch of new products is not among the priorities of company plans (where they are being developed), it is natural for companies not to have the need to organize an innovation process. (Georgieva & Simeonova, 2008)

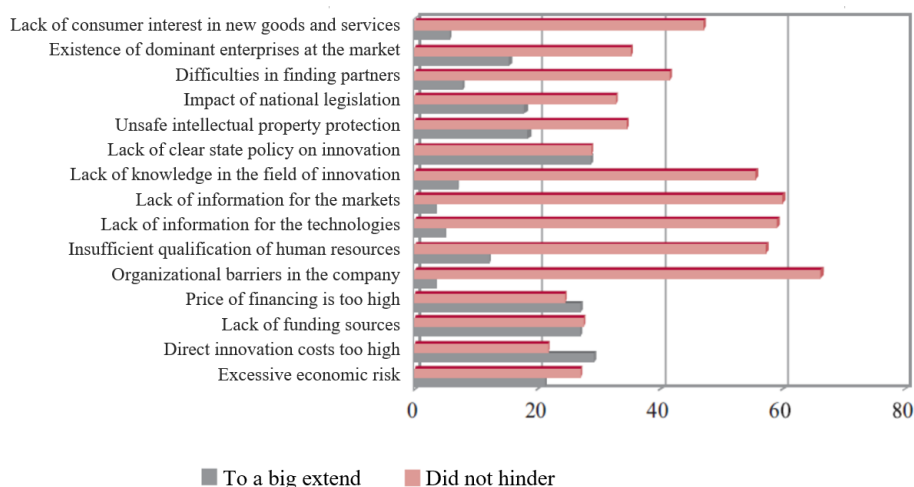


Figure 3. Factors influencing the innovation activity of companies from the Southwest Planning Region, Bulgaria (%), (Source: Georgieva & Simeonova, 2008)

There are a number of factors influencing the process of organizing, implementing and managing innovation activity. They act differently - some stimulate the process of developing new products (technologies), while others hold development or directly block innovation in the enterprise. Factors are divided into two directions by type (internal and external) and by impact (favorable and dissuasive). Some of the results describing internal / external and favorable / blocking innovations will be presented below, according to the responses of 89 managers from the North Central Planning Region in 2012 (Kunev, 2012) and analytical results for the Southwest Planning Region in 2008 (Georgieva & Simeonova, 2008).

2.2. Factors, Stimulating Innovations at SMEs

The most important factors, beneficial to innovations in the manufacturing sector for the North Central Region (2012) are: rich managerial experience, entrepreneurial spirit, highly qualified staff and intensive contacts with industry associations

In terms of the size of the studied subjects, the survey shows that the entrepreneurial spirit has the strongest impact on medium-sized business entities (55.32%). Their managers have organizational and managerial experience (74.47%) and have the necessary human resources (55.32%). The latter two factors are also decisive for small enterprises (78.21% and 52.56% respectively), but with the largest share of them the relations with the branch organizations are the basis for the decision to innovate (78.21%). For microstructures, it is most difficult to define the combination of factors that have stimulated innovation. Experiences (31.81%) and qualified staff (31.57%) are leading, but this is less than a third of them.

In developed market economies, recourse to specialized advisory services is common practice, especially for SMEs. In our country, those who most need such help - micro-enterprises - least benefit from

it (10.12%). Regarding the role of financial institutions, the survey (Kunev, 2012) confirms the status quo so far as the size of the enterprise increases and the confidence of the financial institutions (2,65%, 38,46% and 48, 94%) also increases, as well as the possibility of faster and easier access to fresh financial resources.

A very small proportion of non-innovative enterprises in the Southwest Planning Region in the 2008 survey (Georgieva & Simeonova, 2008) have defined that highly qualified specialists, experience and entrepreneurial spirit are innovation stimulating factors. Despite their presence, they were not enough to motivate managers to act in this direction. Good relationships with industry associations have favored to a greater extent their normal functioning than their innovation activity.

2.3. Deterrent Factors for Innovations in SMEs

Managerial assessments are far more categorical in both cited studies on innovation barriers. Among the internal factors for the North Central Planning Region (2012), the greatest obstacle for innovation-active enterprises is the lack of knowledge in this area (73.15%). But the highest share is mostly due to micro-enterprises. Almost 90% of them face difficulties in this direction. Secondly, there is a lack of information about the latest achievements and technologies (68,52%). Again, this is the biggest problem for micro-enterprises. The low techno-technological level is an inhibiting innovation factor for 58,15% of the innovative and for 80,89% of all respondents. More than half of the SMEs do not have enough information about the markets, and a large percentage indicate that they have experienced personnel difficulties (40.00%). The least is the negative impact of insufficient managerial experience, which to a certain extent is understandable given the subjective judgment of respondents.

Analyzing managers' views on external factors in the Southwest Planning Region (2008), it can be said that the problem here is

definitely financial (Table 2). For over 90% of innovative respondents, the cost of funding is significant, direct costs are too high, and access to financial resources limited. Only 0.72% of innovative enterprises did not declare difficulties related to sources of funding. An important problem for innovative enterprises is too high economic risk (70.74%). It is interesting to analyse the distribution of the answers about the *lack of a clear state policy in the field of innovation*. For over 90% of small enterprises, the insufficiently active role of the state in the face of its institutions has negatively affected their innovation activity, and for microenterprises it was more important to provide sufficient financial resources to innovate in due time compared to developing of strategies and programs. The most important factor that negatively influenced the medium-sized enterprises when choosing not to develop projects in 2008 is the excessive economic risk (88.23%), (Georgieva & Simeonova, 2008).

Table 2. Main factors hampering innovation in SMEs identified in the 2008 survey in Southwest planning region

Main factors	Total	Micro-	Small	Middle
1. Excessive economic risk	70,4	69,64	79,49	65,96
2. Direct costs for innovations are too high	91,3	96,63	91,03	44,68
3. Lack of sources of financing	91,67	99,28	78,21	46,81
4. Cost of financing is too high	93,33	96,87	82,05	80,85
5. Lack of consumer interest in new goods and services	28,33	29,16	26,92	23,4
6. Existence of dominant enterprises at the market	57,59	67,71	15,38	38,3
7. Lack of a clear state policy in the field of innovation	59,07	50,84	91,03	78,72
8. Others	56,3	55,66	41,03	87,23

Source: Georgieva & Simeonova (2008)

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The financial resource is indeed important but not decisive for the choice to innovate. Leading is *in-depth knowledge of innovation and timely information on scientific and technical achievements*. In their presence, business entities are much more likely to focus their company strategy on innovation, even in the absence of financial resources

Regarding the general factors several deterrent factors inhibiting innovation are highlighted, which are confirmed by data from both studies. There is an indisputable problem - the lack of secure protection of intellectual property. Unfair competition creates difficulties for almost all innovative SMEs. Equally important is the problem of the difficult finding of partners for joint innovation activity. The imperfections, frequent regulatory changes, and the lack of legislative decisions in certain areas make it difficult to not only implement innovative projects, but also obstruct the normal functioning of enterprises.

Table 3 provides a systematic assessment of the favorable conditions and barriers identified in the two cited studies on the impact factors on the innovation activity of SMEs in two economic regions of Bulgaria.

Table 3. Systematization of Impact Factors on Innovation Activity (IA) of SMEs in the two surveys in the Southwest Planning Region and the North-Central Planning region.

Impact Factors on IA	Beneficial	Deterrents
Internal factors	Excessive managerial experience;	Lack of knowledge in the innovation field;
	Existence of an entrepreneurial spirit;	Insufficient information about the contemporary achievements and technologies;
	Existence of highly qualified personnel;	Lack of market information;
	Intense contacts with industry	

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	<p>associations;</p> <p>Existance of appropriate organizational structure and management style;</p> <p>Precise determination and prior allocation of innovation costs;</p> <p>Optimal allocation and targeting of resources to a specific innovation process and its stages;</p> <p>Using new tools and software (incl. such that can be borrowed from other industries), which can increase corporate productivity.</p>	<p>State of the business environment;</p> <p>Low technological level</p>
External factors	<p>An effective system of innovative relationships with educational institutions;</p> <p>Well established relationships of cooperation with branch organizations;</p> <p>Existence of partners with close objectives, innovation risks, turnover, production and market power;</p> <p>Integration of regional resources into a cooperative network to stimulate innovation activity and economic development of the enterprise.</p>	<p>Lack of a clear state policy in the field of innovation;</p> <p>Difficulties related to sources of financing;</p> <p>Excessive economic risk;</p> <p>Lack of secure protection of intellectual property;</p> <p>Difficulties in finding partners;</p> <p>Lack of consumer interest in new goods and services;</p> <p>Frequent changes in the legislative system.</p>

Source: *Adapted by authors from* Panteleeva, I., 2013; Georgieva, & Simeonova, 2008

2.4. EXTERNAL FACTORS INFLUENCING THE INNOVATION ACTIVITY OF SMEs

The factors analysed in the view of internal/external and the influencing variables, identified in the two studies could be systemized as follows:

- *Institutional support* is a factor based on good systemic innovation practices; adequate support by state institutions; an active regional policy to support the enterprise's innovation development, and the introduction of tax incentives for R&D.
- *Collaborations and partnerships* are based on well established relationships with branch organizations; national and regional research and design-constructions; partnerships with local industrial enterprises;
- *Successful development of a significant part of the enterprises in 2 regions*: it is important to combine regional resources in a cooperative network to stimulate innovation activity and economic development of enterprises

2.5. INTERNAL FACTORS INFLUENCING THE INNOVATION ACTIVITY OF SMEs

- *Characteristics of the Owner (Manager)*: Significant knowledge, experience, and actions to expand them are important. Ability to manage company growth and early identification of new opportunities for development through innovation. Using innovative knowledge, skills and experience not only of the family/management team members, but also of all employees.
- *Company Strategies*: Need to develop common corporate and functional strategies that reflect company capabilities and market needs. The main goals of the overall strategy are growth and competitiveness through active innovation development and commitment to the necessary resources in time and volume.
- *Resource provision*: This factor includes several types of resources needed by an enterprise to develop or improve a type of innovation:

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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availability of appropriate organizational structure and management style; availability of the necessary resources (organizational, entrepreneurial and technological) and the appropriate mix between them; the availability of efficient communication and distribution channels at the low level of intermediary engagement.

- *Human resources*: It is particularly important to have qualified personnel with knowledge, experience and readiness for development. Application of an effective system of staffing and an innovation training scheme for the employed. Adequate individual characteristics of the innovators (knowledge, professional habits and experience, creative, communicative and organizational abilities, interests, loyalty to the enterprise). Intense exchange of technological and manufacturing experience.

Since people are the most valuable asset for businesses, especially for those who recognize innovation as a major source of competitiveness, it is not surprising that almost all enterprises included in the two sample surveys (2008, 2012) have implemented initiatives for motivation and development of human resources. A relatively small part of the firms has internal innovation awards and award procedures (17%). In most cases, it is a formal *recognition of achievements and creative thinking* (80.5%), accompanied by a 65.9% *reduction in work schedules* and an *additional financial reward* (56%).

- *Innovative behavior*: The most important issue for this factor is *defining of high organizational goals and focus on product / service differentiation* in niche markets in order to avoid or protect against price competition. Using the specificity of innovation and the peculiarities of its dissemination as a way of differentiating between enterprises. *Preliminary formulation of the criteria and indicators for measuring the results with the possibility to change them in the process of innovation*.

- *Innovative process*: Clearly defining the stages, activities, resources and *potential "critical points" of the innovation process* with effective internal and external communication channels is essential for the successful innovation process of SMEs. The use of *new tools and*

software products (including those borrowed from other industries) that enhance business productivity by *shortening the time to develop innovations* and delivering to the customer as quickly as possible.

• *Market*: It determines to what extent the enterprise is oriented towards commercialization and what is its presence on international markets. Market monitoring is very important here regarding the design, construction and development of products and technologies. It is essential for the company to maintain uninterrupted contact with the customer and the ability to quickly identify and respond to consumer expectations

To sum up, it can be said that the problems faced by SMEs and hampering their innovative development are complex and heterogeneous in nature - economic, political, psychological, social, organizational, financial and staffing. In this sense, companies need clear business rules, a favorable innovation environment, and above all – *effectively functioning institutions to support innovation*.

3. CHARACTERISTICS OF INNOVATIVE ACTIVITIES OF SMEs IN THE SECTOR OF FURNITURE PRODUCTION

3.1. General View of the Sector

Similar to the other European countries, in the sector C331 "Furniture production" according to the national classifier of NSI - KID 2008 in Bulgaria, the majority of SMEs - more than 99% are SMEs and among them over 70% are micro - mostly family business. Today, Bulgarian furniture companies are competitive, and a large number of them are also export oriented. These are the two main characteristics of the industry. The resurgence of the production in this sector after 2008 has also affected the export dynamics, as the main partners are the EU countries. In addition to the competitive price and quality, Bulgarian manufacturers are also sought for their high adaptability and flexibility to customer requirements. The proximity to the markets of the Old Continent is another advantage and good incentive. Among

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the countries top ten list that account for the largest Bulgarian exports are: Germany, France, Italy, Great Britain, the Czech Republic, Poland and even far China. Outside the EU, the main market is Turkey. An interest to Bulgarian production has also been registered from the Middle East, Africa and North America (Bulgarian Branch Chamber of Woodworking and Furniture Industries, 2018).

Leading activities in the branch are the production of office and shop furniture, kitchen furniture, other furniture, mattresses and mattress frames. There are 2 741 companies operating in the sector, 51.2% of which are located in Sofia-city, Plovdiv, Varna, Yambol, Pazardzhik, Blagoevgrad and Rousse. As the most influential in the production of furniture can be distinguished the companies: "Nikrom Trumpna Mebel" AD, "Parallel" EOOD, "TED BED" EAD, "Videnov Group" OOD, Ekon 91 OOD, Sredna Gora AD, Dominex Pro EOOD and others.

The expansion of the real estate market after the second half of 2015 has a positive impact on the furniture sector in Bulgaria. The annual growth in the furniture industry is 2-3 per cent. It employs about 40,000 people, keeping the number in spite of rising volumes of production, which is an indicator of productivity growth. The sector formed 3.1 per cent of the production volume for the whole country and 3.6 % of the value added in the economy.

Just two years later, in 2017, furniture export accounts for 1.3% of the country's total exports and rose by 7%. In both sectors, over 20,000 people work, accounting for close to 4% of those employed in the processing industry, and more than 2,900 companies operate in the furniture industry alone (Georgieva, 2016).

3.2. Characteristics of Enterprises in the Sector

Using the benefits of the European market. The production of Bulgarian furniture is one of the good examples of how the European market can boost the development and success of a whole sector in the country's economy. This is one of the fastest growing export industries in the light industry, with 70% of the total external market of Bulgarian furniture being the EU (Georgieva, 2013).

The Bulgarian producers are able promptly to feel the gaps of the common European market and to win their place thanks to the competitive prices, good quality and their adaptiveness to the current trends. This situation has been provoked by the fact that in recent years the demand of the large international trade chains has been increasingly focused on Eastern Europe due to rising Chinese production prices and high transportation costs. Another plus is that many of the Bulgarian producers take advantage of the opportunities of European programs to modernize their productions and increase their capacity. The bonus is also the entry of IKEA on the Bulgarian market and the partnerships that the Swedish giant has been able to establish and its constant search for developing new ones in the country.

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Figure 4. Top 10 of the Bulgarian suppliers of IKEA, a part of the enterprises (1100) worldwide of the Swedish company Source: Georgieva, 2015.

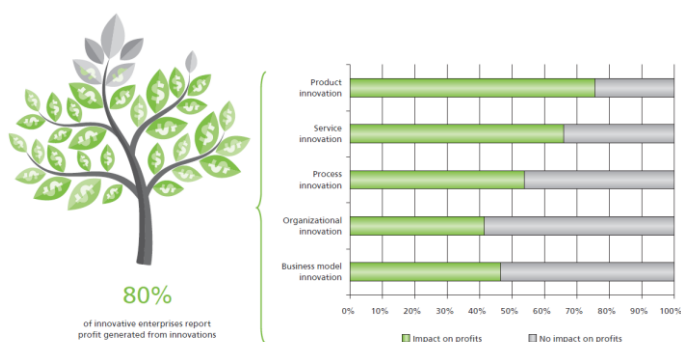
The Swedish company is looking for good and profitable collaborations, and after 2015 the total number of Bulgarian companies working for IKEA is over 20. The list includes the majority of the top 10 companies in the field. IKEA has the ambition to increase its deliveries from Bulgaria. However, the giant seeks partnerships with companies that are certified to handle wood from sustainably managed forests. The company has been pursuing this policy for years, and there is an increased number of traders in Europe and globally which refuse to work with uncertified wood for ethical and environmental reasons. Later, in the text the good practice of *Dominex Pro Ltd.* will be presented - a company operating in the sector and analyzed by expert assessments for the impact of the advantages and barriers on the Bulgarian furniture SMEs.

During the recent years processing enterprises in Bulgaria suffer from a chronic shortage of raw materials, mainly due to the illegal harvesting, the gray sector and the intensive export of raw wood. As a result, since 2010, the average growth of the branch is by 6-8% per year. The demand is shifted towards a more budget suitable segment for the home, nevertheless there are examples of successful business models, such as Videnov Group, which for years have been among the

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industry leaders thanks to a well-developed trading and distribution network - a chain of nearly 60 sites, with a strong focus on consumer benefits.

According to data from ICAP Group (Credit Risk Services) for 2017, the realized net sales revenue of Bulgarian producers with production volumes over BGN 3 million per year in the furniture sector is BGN 357,132,000. The analysis is based on a sample basis of 39 furniture producers. 78% of companies operating in the sector declare profits based on product innovations, according to the data from the Applied Research and Communications Fund (2017).



Source: Applied Research and Communications Fund, 2017.

Figure 5. Impact of innovation on the profit of innovative enterprises.
Source: Georgieva & Stefanov, (2017).

According to Hristo Yovchevski from "Rico Style" *the strengthening of the domestic market* is due to the trade chains - Bulgarian and foreign, as they give a chance for sustainable partnerships and a great deal of security for those producers who want to develop and make investments. On the other hand, the chains follow European standards in their work and constantly exceed their requirements for companies, including ISO 9000, ISO 16000, ISO 26000, EMAS, EUROLABEL certification. This process increases the quality of business and makes it more competitive.

According to the executive director of the Bulgarian branch chamber of woodworking and furniture industry (BBCWFI), Elitsa Nencheva, the lack of labor is severe in the sector, as the business is most often located in villages and regions with weak economic development. Thus, instead of helping business to develop these regions, we have the reverse result, their existence is in practice jeopardized by the lack of workers. (Kozbunarova,& Kodjaivanova, 2016).

3.3. Main Problems in the Furniture Sector

1. The turbulence of the internal market for furniture in recent years, caused by the bankruptcy of Carrefour and Aron; the rapid development of Videnov; the financial difficulties of Yavor; enhancing Internet commerce - lead to new segmentation and overflow from a large customer chains to domestic chains and large corporate stores (Getov, 2017). The main challenges for manufacturers are related to the *constant pressure from the traders to lower prices or market the analogies of old models* but with lower prices. On the other hand, the prices of materials and wages in the sector are rising and, accordingly, these circumstances lead to a *reduction in margins, a decrease in the quality for the internal market and an increase in the imported products through big chains*.

2. The lack of precision in recruiting staff due to the lack of adequately trained and qualified staff is perhaps a major branch barrier. The *lack of programs for upgrading/improving the qualification of the sales staff of the manufacturers* leads to a price-oriented industry, which, in the long run, is going to lead to a catastrophe for everyone involved. Therefore, a lot of effort, persistence, time and resources are needed to achieve results in this problematic area.

3. The permanent *advertising campaigns centered on "price advantages"* only form an unfavorable attitude for the industry in the

end user. The main challenge for the stakeholders in the value chain is to increase the margins and to exit from the price competition, emphasizing on the quality and the balance of a good price - design – quality (Bulgarian Small and Medium Enterprises Promotion Agency, 2012).

The main barriers to the Bulgarian furniture business are based on data from the Bulgarian Small and Medium-sized Enterprises Promotion Agency presented in Figure 6.



Figure 6. Main barriers to the Bulgarian furniture business
Source: Bulgarian Small and Medium Enterprises Promotion Agency, 2016

The problem of recruiting a personnel has not yet been resolved. According to a survey of the labor market conducted by BIA, the lack of skilled workers is observed in most professions. These are not a small percentage of the professional fields studied in the vocational high schools in Bulgaria. At the same time, however, the number of students studying in these schools is decreasing and the number of jobs available. At the same time, 70% of secondary school graduates do not have any professional qualifications. The reason is that there is

no system for forecasting the needs of an average special qualification in the various secondary schools. There is also a general decline in the labor force due to the negative demographic trends - population aging, negative natural growth and emigration (BSMEPA, 2016; 200 professions suffer from a shortage of qualified staff, 2016).

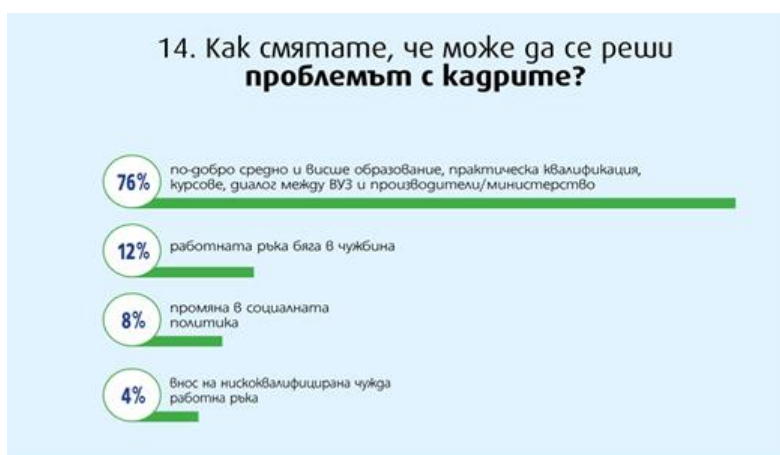


Figure 7. Suggestions from SMEs to resolve the personnel problem
Source: BSMEPA, 2016

Possible solutions to the problems in the furniture companies are:

1. Developing partnerships with professional high schools for introducing a dual form of education and stimulating the young people for training in the furniture professions.
2. Promotion of European funds and programs to promote competitiveness and innovation, aiming at building a sustainable competitive advantage over foreign producers based on: flexible production lines, customised to the needs of the consumer and resource efficiency requirements; high quality specifications and cutting-edge technologies; modern design; imposing own brands as producers; integration of pre- and post-sale services; an organization of fast distribution, with minimum stock quantities and more.

3. Organizing of more targeted advertising campaigns "*Select the Bulgarian!*"- which will emphasize the high quality of Bulgarian furniture on customised orders.
4. Establishing of balanced investment programs aimed at building new production capacities and diversification of the markets.

3.4. Examples of Innovation Activity in Manufacturers From Furniture Production

“Technomebel” is a successful platform for B₂B meetings, professional forums and demonstrations. The forum offers participants and visitors a full accompanying program with different highlights. The perspectives and the challenges faced by the representatives of woodworking and furniture industry are the topics discussed at round tables "Industry 4.0". "Knowledge Race" is also in the accompanying program, which aims to transfer knowledge among students and higher education students through practical training methods. Simultaneously another exhibition "World of Furniture" is being held, located on 14,500 m², where an extremely wide range of home and business furniture products are presented (The TechnoMebel exhibition presents over 100 companies from Bulgaria and Europe, 2018).

Some good examples of product, organizational, technological and eco-innovation of Bulgarian furniture SMEs will be presented in the following part.

3.4.1. Product innovation - *Smart Sofa* of “Natchevi” Company, from Sliven

As a result of developing a project, “Natchevi” Company has signed a grant agreement with the Ministry of Economy with the purpose of implementing the project: "Increasing the innovation activity of the Nachev-90-C-IE in the field of mechatronics, by introducing into

serial production and marketing a useful model - *Smart Sofa*, under procedure BG16RFOP002-1.001. The product has several functions - warming, cooling *without a compressor*, relax mechanism, surround sound system and more. Its management is through a special table on the couch and through the owner's personal smartphone. The innovative furniture can handle all appliances at home without the need for its owner to get up from the “smart sofa”. The software has been developed by scientists from the Bulgarian Academy of Sciences and the Technical University in Sofia (Panayotova, 2017).



Figure 8. Product innovation - *Smart Sofa* of “Natchevi” Company
Source: <http://nachevidesign.com>

3.4.2. Organizational innovation - implementation of the *BORA Business Solution System* in Videnov Group OOD, Yambol

Needs are constantly increasing and compounding. "Videnov Group" Ltd. is oriented towards the implementation of the BORA Business Solution ERP system because the supplier company - BORA Solution is committed not only to the implementation but also to the adaptation of the software product to the business processes of the applicant company. Part of the assignment is the implementation of a production management module that ensures the work with furniture fittings. Subsequently, an information was provided towards the main machines in the production lines. The implementation of the production module in its full capacity enables the machines to recognize the individual details through the bar code and to "know" what to do with them. According to Deputy Managing Director of Videnov Group, an inevitable challenge in introducing integrated production management systems is customer's education and the establishment of an appropriate organization to work with the system. The experience of Videnov Group shows that if the necessary attention is given to those aspects, customers quickly get used to the new solution and use it with ease (ERP system - Responding to needs when business grows, CIO, 3, 2011).

3.4.3. Technological innovation – a *wasteless technology* of the production in “Rudy-An” Ltd, Varna

The company has found concrete solutions for the recycling of waste materials from production. It is a good practice to convert the wool that remains from the upholstery of upholstered furniture to silicone wool by means of a waste disposal machine. Thus, the silicone fluff that is produced becomes a cushion filling for the cheaper product series of the company. Previously, the sawdust at the output of the production was used to form eco-briquettes (accompanying waste product), on the other hand nowadays, the new socially responsible

solution is the donation of sawdust to local farms and horse-bases (Tomov, 2017).

3.4.4. Eco innovation - eco furniture of “Savel” EOOD, Troyan

In order to be independent from external suppliers of finishing boards, which are the main raw material for the production of eco-furniture, the company has created entirely new production. The owner of the company has decided to produce its own semi-finished products, which are not treated with colorants and varnishes, but with environmentally friendly oils, specially delivered from “Sikos” Germany. Thanks to the new machines acquired through the European funds - OP "Innovation and Competitiveness", the company produces completely dustless production of beech and oak slats, which turn into panels with thickness from 15 mm to 5 cm for insertion in high quality tables and chairs (Bulgarian national television. News, 2017).



Figure 9. Eco series chairs of “Savel” EOOD - Troyan

4. ANALYSIS OF INFLUENCING FACTORS ON THE INNOVATIVE ACTIVITY OF THE INDUSTRIAL ENTERPRISE – THE CASE OF "DOMINEX PRO" LTD

The choice of Dominex Pro Ltd as the subject of the case is based on several main arguments: it is a typical medium-sized company

operating in the analyzed sector; a leading manufacturer of metal products, metal components and parts for interior furnishings, which is also a supplier and wholesaler for the Swedish furniture and home style company IKEA. The company profile - a dynamically developing innovative structure - was determined by analyzing expert assessments of the impact of the advantages and barriers on the Bulgarian furniture SMEs, based on the main methodological elements of the questionnaire from the surveys, conducted in 2008 and 2012 in the South-West Planning region and the North-Central Planning region.

4.1. General Information about The Company

At the beginning it is a small business unit with about 30 people, and today the staff numbers about 450 people. The company specializes in the production of metal, glass, plastic and wood products. The scope of activity includes: import, export and re-export; commissions and barter transactions; business mediation and representation; goods distribution; forwarding and carriage transactions; leasing.

Located in the Eastern Industrial Zone of Ruse, the plant has two production sites with a total area of about 100 000 m², of which - 20 000 m² are covered. A workshop is available for cutting, painting and packaging. There is an internal transport infrastructure built. The company *is structured in the following production processes*: the cutting of pipes and flat iron; mechanical machining - bending, cutting, welding processes, robotic and laser welding, spot welding; extrusion of plastic parts and foils; polymer coatings.

The *advantages* of the company are that it has a wide range of machines and equipment allowing large and multi-series production. In 2013 Dominex Pro Ltd. purchases new lots, enabling *vertical diversification* - the production of pipes and the withdrawal of wires needed for the main production. The company operates under the *monopsol* - it manufactures products mainly for one customer - IKEA. Under this model, there is always a likelihood of discontinuing

business relations but, on the other hand, ensuring a regular demand for the products produced for it, which ensures the uninterrupted production.

The *problems* that arise in the factory are of a different nature - supply delays and poor procurement planning for materials, reflecting the rise in variable costs. A bottleneck in the organization is the sub-optimal spatial layout of workplaces, which on the one hand affects individual and group productivity, and on the other - creates premise for mistakes in the course of production processes. It is difficult to plan and order orders. In some cases, the enterprise looks for options to produce some of its materials. Trying to solve problems with local suppliers, Dominex Pro is focusing its attention outside of Bulgaria. Subsequent problems are other difficulties in terms of transport and logistics. This results in material overloading as well as inability to work with Just-in-Time (JIT)

In February 2018, the company launched a new investment project to increase energy efficiency. The goal is to achieve sustainable economic growth by investing in new technological equipment with higher productivity as well as by introducing an energy management system. This includes the acquisition of an energy-efficient laser sheet metal cutting machine, 2 tubular cutting machines, 2 robotic welding systems and a powder painting line as well as the creation of an alternative waste heat recovery and rehabilitation system (Regional Administration Ruse, 2018).

4.2. Methodology of the Study

The **main objective** is to study the impact of the advantages and barriers on the Bulgarian furniture SMEs, influencing the innovation activity of a typical for the sector medium-sized enterprise and to formulate recommendations based on the results analysis to better take into account this impact and to develop adequate measures in order to improve the innovation activity.

Object of the study is the innovation activity of the chosen enterprise, which is determined by the implemented innovations so far - technological, production, management and organizational changes.

Subject of the study are influencing factors (advantages and barriers) of the innovation activity of the selected industrial enterprise divided into two directions - by type (internal and external) and by impact (Beneficial and Deterrents). Logically, their classification might be displayed in the following matrix (Table 4.):

Table 4. Logic Matrix of Factors and Impacts

Type of factors	External	<i>External Beneficial</i>	<i>External deterrents</i>
	Internal	<i>Internal Beneficial</i>	<i>Internal deterrents</i>
		Beneficial	Deterrents
		Type of influence	

Sample: In order to achieve the aim and objectives of the survey, the the in-depth interview is targeted only at respondents who have the relevant knowledge and competencies on the topic according to the position they occupy in the organization (Table 5):

Table 5. Distribution of respondents in categories and positions

Category	No. of people in category	Specific position	No. of persons
Managing Partner	1	Executive Director	1
		Manager ERP	1
Managing Director	3	Production manager	1
		Quality manager	1
Operations Manager	1	Head of Workshop	1
Analytical specialist	3	Logistics specialist	2
		Quality specialist	1

Survey tool. The questionnaire used to perform the expert assessments is based on the methodology used in the studies quoted earlier in the text – “*Development of the Regional Innovation System of the South-West Planning region*”- 2008 (Georgieva & Simeonova, 2008) and “*Influencing Factors on the Innovation Activity of SMEs - Approbation of a Methodological Approach*” in North-Central Planning region, 2012 (Kunev, 2011, 2012).

The questionnaire structure is presented in Table 6:

Table 6. Structure of the questionnaire

Unit	No. of answers (factors, options)
<i>Part A. Internal factors</i>	
A.1. Internal Beneficial	19
A.2. Internal deterrents	6
<i>Part B. External factors</i>	
B.1. External Beneficial	10
B.2. External deterrents	10
<i>Other comments, opinions</i>	Free text
<i>B.1. Position of the respondent</i>	4
<i>B.2. Participation in innovation activities</i>	Free text

For assessing the impact of the factors in Part A and Part B, a 5-step Likert scale is used, allowing the experts to quickly and easily identify their preferred response by marking in the appropriate box a symbol *x*. An example of how to respond is shown in Table 7:

Table 7. Type of answering for degree of influence of the factors

A1.	Do you think the following internal factors and conditions are beneficial to creating and implementing innovations?	1 No influence	2 Poor influence	3 Partial influence	4 Strong influence	5 Very strong influence
A1.1	Vast management experience					

The activities of this study were carried out in the period June - August 2018 in the following consistency (Table 8).

Table 8. Gantt chart of the expert study

Activity	Month 1				Month 2				Month 3			
	w1	w2	w3	w4	w1	w2	w3	w4	w1	w2	w3	w4
Preparation of the questionnaire												
Selection of respondents												
Contacting respondents and schedule of meetings												
Interviewing and completing the forms												
Entering the data in a spreadsheet (MS Excel)												
Processing (averages, graphs)												
Analysing the data and elaboration of recommendations												

4.3. Results and Comment

4.3.1. General impact

From the expert assessments, the following results can be summarized for the overall impact of the micro- and macro-environment influencing the innovation activity of the enterprise, presented in Fig. 4.1. The complex impact assessment, calculated on the basis of a total average of all factors, is **3.904**, ie. shows their strong influence on the innovation activity of the enterprise. Like in the logical matrix of factors, the following results are shown: the individual averages of each group of factors; average assessment of external factors; average assessment of internal factors; average score for favorable factors; average assessment of deterrents; total average (lower right corner).

	Beneficial	Deterrents	Average
External	<i>External Beneficial</i> 3.575	<i>External deterrents</i> 3.925	3.750
Internal	<i>Internal Beneficial</i> 3.888	<i>Internal deterrents</i> 4.229	4.059
Average	3.732	4.077	3.904

Figure 10. Complex assessment of the impact of the factors studied

The overall results lead to the findings that: internal factors (4,059) have stronger impact, compared to external (3,750); *Deterrents (4,077) have bigger influence than beneficial (3,732).*

The average overall assessment of favorable internal factors is 3,888 (Figure 11.), which means that experts perceive as a *strong* their influence on the enterprise's innovativeness

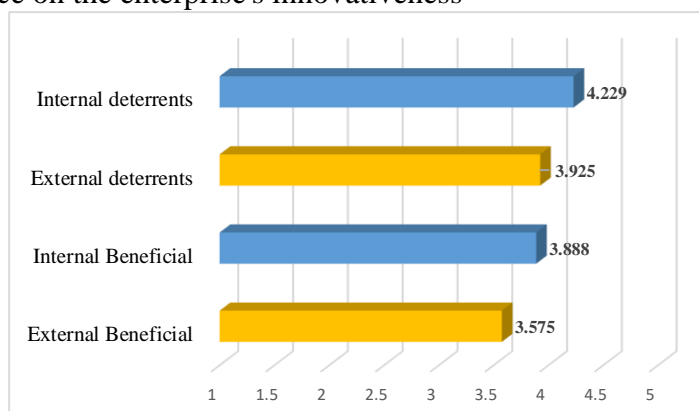


Figure 11. Average impact assessments of internal and external factors

For *internal deterrents*, the average total score is 4,299, which can be defined as a *strong, to very strong* impact on the company's innovation activity. For the second group of external factors, the following overall average score is observed: for the *deterrent factors* it is 3,925 and for the beneficial - 3,575. Here, a significant difference between assessments is not noticeable - experts have indicated that they have a *very strong impact* on innovation in the enterprise. From the analysis made so far, it can be concluded that the impact of the *internal deterrents* (average impact assessment - 4,229 points) is the strongest.

However, if the *internal* and *external* factors, on the one hand, and the *deterrents* and the *beneficial*, are observed (Figure 12.), it could be noticed that the *internal factors* have stronger influence (average score - 4,101). while the *external factors* (average estimate - 3,750) are in the scale of partial influence, which is close to strong. In the group of *deterrent* and *beneficial* factors, the average estimates are: for the deterrent 4,077 points and 3,732 for the beneficial ones respectively. This leads to the finding that experts assess the stronger importance of the innovation activity of *deterrent factors*.

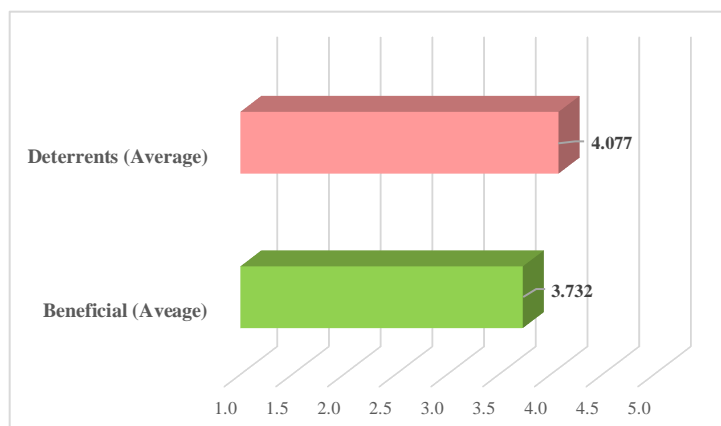


Figure 12. Average assessments of the impact of deterrent and beneficial factors

4.3.2. Summary of the overall influence of the factors

In Figure 13 a *Radar* of the degree of influence of the factors in the company is presented. The strongest impact on the innovation activity of the company have the **internal deterrent factors** (4.229 points). Their manifestations are in the following directions: lack of knowledge in the field of innovation, insufficient information on modern achievements and technologies, lack of information on markets, organizational barriers in the company, insufficient own resources for innovation and low technological level.

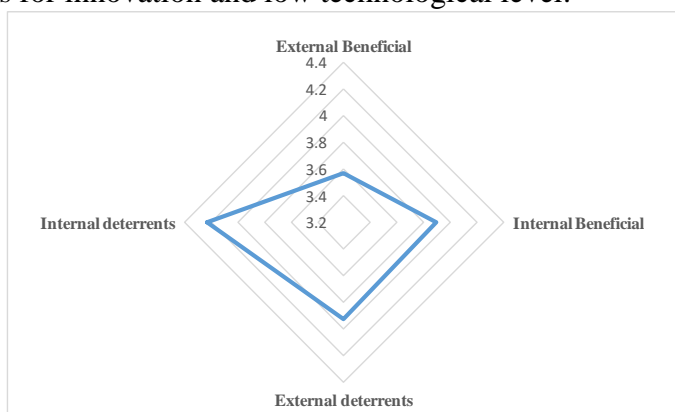


Figure 13. Radar of the impact power of the influential factors in Dominex Pro

4.3.3. Detailed impact analysis

A. From the group of **Internal beneficial factors** could be outlined those who scored 4.50 points and above (Figure 14) as they tend to scale with a *very strong influence* on the creation and implementation of innovations and they are the following:

(1) Existence of an entrepreneurial spirit (score of 4,50). Entrepreneurship is a new way of thinking and an idea; it has a competitive spirit that leads to innovation. Every new idea may have risks of all

kinds for the enterprise, but in order to create more innovations that increase the competitiveness of the company, no innovative ideas should be denied, even if they are at a low organizational level. This is also the reason the experts from “Dominex Pro” to believe that the existence of an entrepreneurial spirit is of great importance for stimulating innovation.

(2) Preliminary determination and distribution of innovative costs (score 4,50). Proper allocation of innovation costs is an essential factor in building a successful innovation project. For this purpose, it is very important to create a preliminary plan that accurately defines the costs needed to introduce and implement the innovation in the particular stages of the innovation cycle.

(3) Optimal allocation and targeting of resources to a specific innovation process (score 4,63). Precise determination and allocation of innovation costs is an essential factor in building a successful innovation project. For this purpose, it is very important to set up in the preliminary plan costs categories, needed to introduce and implement innovation.

(4) Presence of common strategy for company development (score 4,88). This factor has the highest rating, which means that experts consider it has a very high degree of influence. The overall prosperity of the company depends on the development strategy. It is based on entering on new markets, enhancing competitiveness, innovating, collaborating with similar businesses, building fruitful partnerships.

(5) As factors with a lower impact on innovation activity (again Fig. 14) the respondents pointed out: intensive contact with industry associations, protected patents from the enterprise and existence of export orientation of the activity. The reason for this is that these factors are not directly related to the creation and implementation of innovations, they are rather secondary, perhaps with the exception of product innovations.

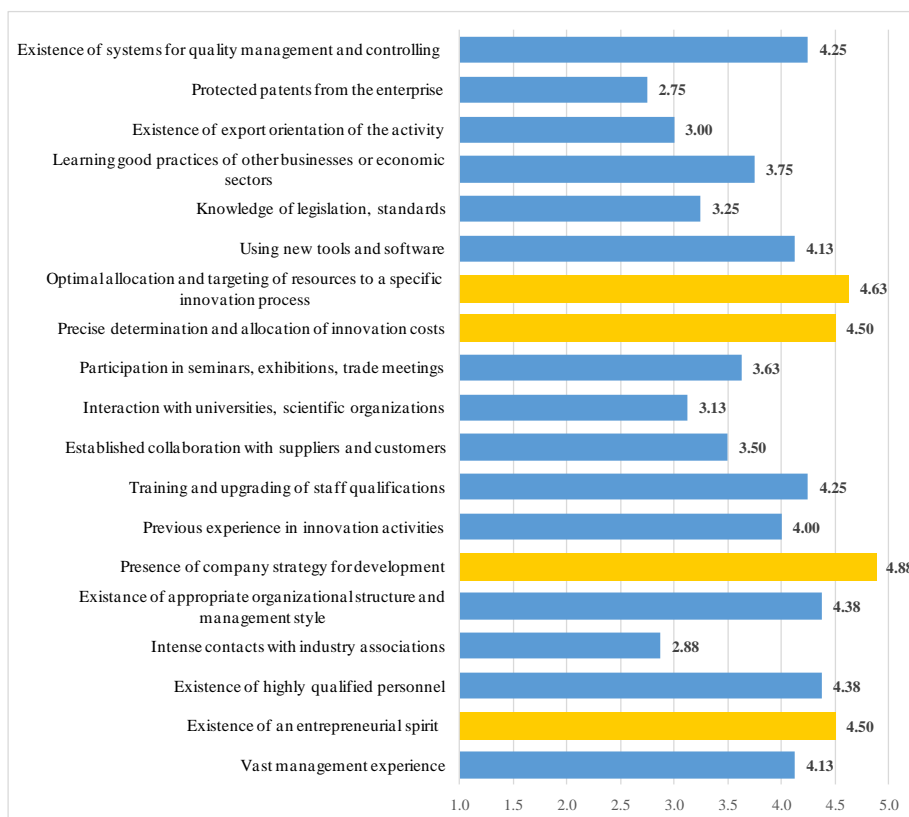


Figure 14. Detailed assessment of internal beneficial factors

B. Internal deterrent factors

In two of the internal deterrents “*Insufficient information about the contemporary achievements and technologies*” and “*Organizational barriers in the company*” there was a higher assessment (4.50 points) of impact effect (Figure 15.).

(1) Insufficient information about the contemporary achievements and technologies may make it difficult for an enterprise to judge whether a particular innovation will be successful in marketing.

Informing about the experience of introducing or developing similar or future innovations in other companies will be beneficial for the company to build its proper innovation strategy.

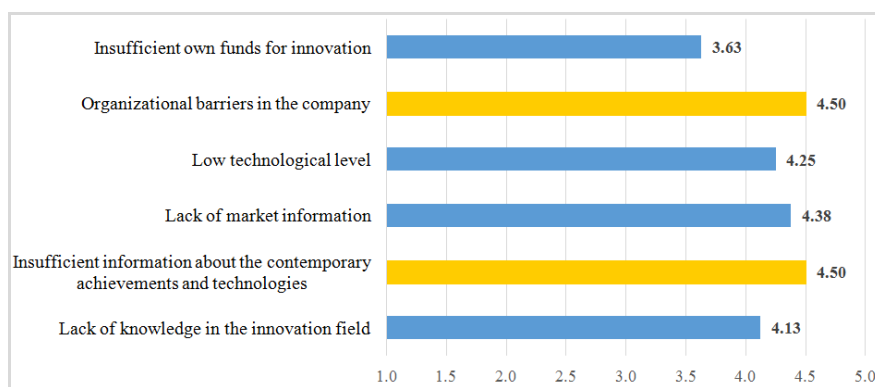


Figure 15. Detailed assessment of internal deterrents

(2) The factor "**Organizational Obstacles in the Company**" has the same impact, maybe because an incomplete communication between team members as well as the vaguely worded tasks of carrying out the innovation process would jeopardize the success of any innovation in the enterprise

C. From the group of **External beneficial factors** (Figure 16.) the experts give the highest impact assessment to:

(1) **Access to different sources of financing** (< 4,25 points). To enable innovation to take place, an enterprise must have access to different sources of funding, through which to operate under conditions of deficiency and limited opportunities for alternative solutions. This is the reason for the strong impact of this factor as critical for the favorable development of the enterprise innovation process.

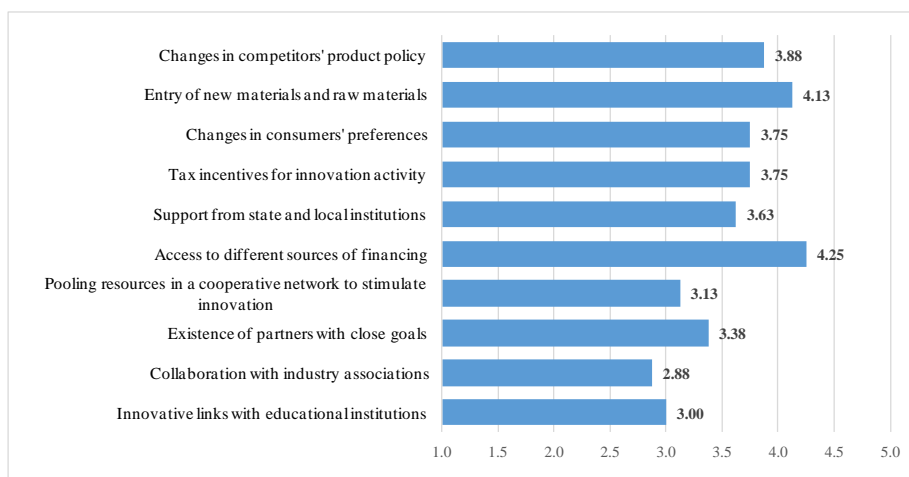


Figure 16. Detailed assessment of external beneficial factors

(2) Collaboration with industry associations is the factor with the lowest score (2.88 points) for this group. Apparently, the experts of Dominex Pro do not find the importance of branch associations and formal membership in them. On the other hand, the current trends in sectoral competition and the implementation of clustering, as a guiding principle in countries with developed innovation systems in the Leaders and Innovation Followers groups, show that competition through co-operation brings only benefits such as participation in exhibitions and fairs, in order to align the current level of development with other companies in the industry (Innovation Union Scoreboard, 2018).

D. Among the External deterrent factors the highest rating of influence (Fig. 17.) received the factor:

(1) Insufficient qualification of human resources (4,50 points). Here the experts have decided that those employees of the company who do not have the necessary knowledge of the positions they occupy and lack motivation for permanent learning, cannot be useful for the company's activity, which will inevitably affect the innovation

activity. Human resources are the most important resources for growth in enterprises with innovative strategic orientation, so it is very important to emphasize their training and development in the organization if a company wants to be really successful.

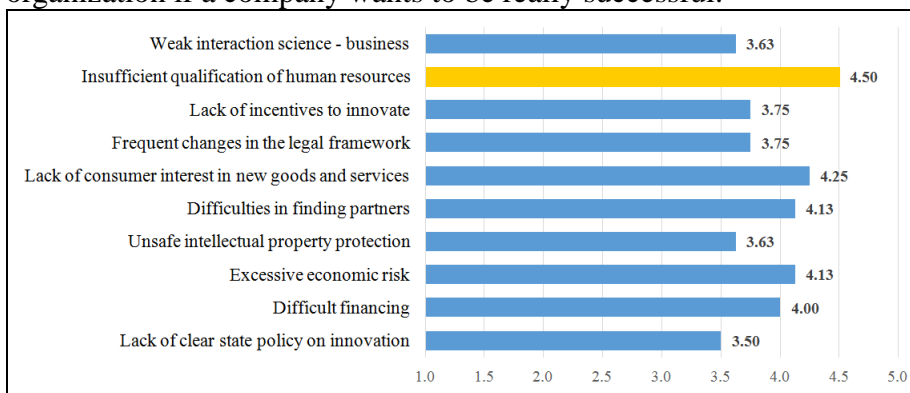


Figure 17. Detailed assessment of external deterrent factors

(2) Lack of a clear state policy in the field of innovation is the factor with lowest rating (3,50 points) according to the respondents. Here they believe that maybe the support from the different state institutions is not entry adequate, and the state the state does not fulfill its role as a principal in economic and technological policy. Nevertheless, this is not essential for the actions of innovative companies.

4.4. Findings From the Study

To a large extent, the conclusions that can be drawn from Dominex Pro case study are related to the high degree of similarity of expert responses and their assessments with respondents' opinions from the two regional SME status surveys carried out by various research teams in the the South-West Planning region (2008) and North-Central Planning region (2012). Despite the timeframe of the two researches and the dynamics of processes related to innovation development, the picture of corporate behavior and entrepreneurial attitudes in Bulgaria

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Visegrad countries and Serbia)*

regarding the activities of SMEs and the barriers they face is not significantly changed

(1) The enterprise should invest in the development of dual learning, which can be a prerequisite for generating highly qualified trained staff through integration between HEIs and the business structure.

(2) An advantage would be the creation of a modern training center focusing on the development of specific individual programs to increase the knowledge, skills and competencies of staff from different levels of management in company.

(3) The company should apply the best practices of the *Leaders in innovation development* type of companies by participating in events organized by the Branch Chambers in order to create more partnerships with producers from the sector, which would lead to the exchange of knowledge related to the technological novelties in the furniture production, especially in the production of tubular furniture

(4) Export orientation and avoidance of the monopsol strategy will open up new markets for the high-quality production of the company to overcome the risk of high dependence on a single customer.

(5) Regarding the overcoming of the influence of the internal factors with negative influence is important the awareness of the top managers regarding the development of a company strategy for long-term development and formation of an appropriate organizational structure.

(6) Systematic work is required to prepare staff for better adaptability to change before introducing different types of innovation by: building good organizational links between departments; improvement of the organization of planning and production for better supply with materials and consumables; more optimal use of the ERP system by all department managers and heads of workshop so that they can have

up-to-date information in decision-making on business processes; organizing teambuilding programs that will help to improve communication between members of individual teams as well as to stimulate their motivation for innovation

5. CONCLUSIONS

The different types of innovation have helped the development of SMEs by creating differential competitive advantages, but in the pursuit of their innovation activities, some companies encounter barriers from a different nature. The implementation phase and commercialization require serious investments, so managers need to be well aware of the factors that have a strong impact and would hamper the innovation. Hence, we can say that by increasing the knowledge about the barriers in front of the organizational development, an opportunity to form a good internal and external innovation environment for SMEs is provided.

Staying at the level of 2014 on a number of indicators for the status and development of the innovation potential, Bulgaria has missed a lot of opportunities and is relatively lagging behind the developed European economies and the new EU member states. Over the next two years, when the strategic framework for the next programming period in the EU (2021-2027) is technically and contentwise prepared, it is a time to change the status quo and look for better mechanisms for an improvement. Based on the trend from the previous years, Bulgaria is likely to reach its target by 2020, but without undertaking serious reforms in the national innovation ecosystem, which leaves the country as one of the most uninnovative Member States.

According to the Entrepreneurial Attitude Index in the GEM survey (2018), Bulgaria is ranked 48th in the overall ranking and 25th in a total of 26 countries with a growth, based on increasing the efficiency of the economy. For 2017, the level of the motivation index of Bulgarian entrepreneurs has been kept at the lowest level, not only

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Visegrad countries and Serbia)*

within Europe but also relative to the average levels of the five major international zones.

Nevertheless, Bulgaria ranks fourth in Europe in terms of the five-year dynamics of innovation in the EU's 2017 ranking - one in every fifth Bulgarian company has introduced a technological innovation over that period. According to a survey by UniCredit Group in 2017, the country has the highest number of Fintech companies in Central and Eastern Europe, ahead of the Czech Republic, Romania and Slovakia.

There are two parallel trends of growth. From one point, the foreign investors in the ICT sector are gradually expanding their production capacities, opening up new jobs, creating research and innovation units and exporting. On the other hand, Bulgarian major exporters from the traditional industries go on to grow because of the continuous investment in innovations in the country and the search for new markets, including through investments in their subsidiaries abroad.

The private sector involvement in Bulgaria's innovative economy is constantly improving, but the lack of competent and sustainable support from the public sector is increasingly becoming a deterrent factor. The country needs to strive for a rapid and convincing catch-up of Central European leaders with a well-defined and consistently implemented smart specialization policy at national and regional level. It should be based on the five principles, which effective implementation aims to find long-term solutions to the problems of lack of sufficient R&D funding and the weak link between science and business.

By 2018, in implementing the Innovation Strategy for Smart Specialization of Bulgaria (IS3), the management of the structural funds and smart specialization are concentrated at the national level with a very limited involvement from the local authorities. Although the six planning regions have developed their own regional innovation

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strategies as early as 2005, only several separate elements are included in the two programming periods (2007-2013) and (2014-2020) in the form of individual projects.

The thematic areas of specialization were selected without the active involvement of entrepreneurs and researchers. The links between the Structural Funds and the identified smart specialization priorities are often formal without taking into account the real effects and impact on the innovation development of the regions. Monitoring indicators and evaluating thematic areas are too general to demonstrate a direct causal link between the implementation of the strategy and the development of the regions.

Smart specialization should focus on overcoming the structural disadvantages of the innovation system through more effective public spending for R&D and fostering cooperation between enterprises (including SMEs) and research institutions: Centers of Excellence, Centers for Competence, Regional Innovation Centers and other similar organizations, ensuring their financial sustainability with a clearer management structure and a bigger share of economic activity.

At a state level, a new regional planning is needed based on the economic and social profiles of the regions, not just based on population figures. This will give some opportunities for a fair competition among all other less developed areas outside the Sofia region. Over the past period 2007 - 2013, most of the project proposals originated from the South-Western Planning Region, which has the largest share of Bulgarian enterprises. On the other hand, there are fewer than 100 project proposals from the Northern-Central Planning Region, where many companies in the areas of mechatronics, ICT and creative industries are located. The current picture is no different 2 years before the end of the latest 2014-2020 programming period.

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ALTERNATIVE SOLUTIONS IN THE ACTIVITIES OF POLISH MICRO-ENTERPRISES

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Abstract

Each enterprise, regardless of the type of business or its size, is required to keep accounts. Polish entrepreneurs, in order to meet the obligation under the Accounting Act, commission a bookkeeping service to an accounting office, employ accountants in an enterprise, or decide to conduct accounting independently. Some business owners decide to use an increasingly well-known solution, which is Cloud Computing in accounting. Nowadays, the society, and in particular entrepreneurs, value time and money more and more. Therefore, the Cloud Computing solution is becoming more and more popular due to its mobility, low costs and time savings. The aim of the research presented in the article is to assess the solutions applied by Polish microenterprises in the use of Cloud Computing in accounting as an alternative modern tool to improve the activity of microenterprises.

Keywords: *Microenterprise, Technology, Cloud Computing*

1. INTRODUCTION

Accounting in an enterprise is the basic source of economic information, which collects all necessary data related to a specific business activity. Accounting is a concept that is not unambiguous. Numerous accounting definitions can be found in literature and

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practice. It can be described most widely as a system that reflects the property and financial situation in the monetary measure of economic units, as well as the total recognition of economic phenomena and processes in an orderly manner using appropriate methods, forms, technical and organizational solutions. Thanks to that, it is possible to obtain an internally coherent and balanced image of the business unit and its operations. Another definition of accounting is to define it as a system of records, i.e. an orderly and comprehensive set of principles, methods and rules that have been formulated by theory. Burzyn defines accounting as a flexible, subjective and universal information and control system using the balance sheet method (Dyduch, 2013).

Twenty-first century there is a dynamic progress of information technology. Nowadays, it is difficult to imagine life without computers that support people's work. In addition, it is worth mentioning that ICT (Information and Communication Technologies) are used practically at every stage in business processes. The ICT services sector is used by both entrepreneurs and, among others, by tax offices, where tax returns and declarations should be sent. It is also noted that through the globalization of markets there has been a free flow of documents, data, processes and people between countries. Development of information technology is noticeable in accounting offices, where the activity consists not only of using financial and accounting programs. The required development of computerization is also associated with the fact that in enterprises there is an electronic flow of documents between particular departments.

Electronic document flow also occurs between companies and accounting offices. Technological progress more and more often allows for automatic accounting, thanks to which accountants can devote more time to checking the correctness of settlements and documentation. When using modern systems, you can talk about a huge time saving. Electronic document flow also occurs between companies and accounting offices. Technological progress more and more often allows for automatic accounting, thanks to which accountants can devote more time to checking the correctness of

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settlements and documentation. When using modern systems, you can talk about a huge time saving.

Economic units are classified as micro, small, medium and large. The company's classification depends on, among others on the total assets, net sales and the number of employees. According to Polish legislation, the status of a micro-enterprise is held by a company in which at least in one of the last two financial years no more than 9 employees were employed. In addition, the annual net turnover from the sale of goods, goods and services and financial operations within this type of enterprise cannot be higher than the equivalent of EUR 2 million. This limit may not exceed the sum of the balance sheet assets made at the end of one of the last two years. In 2005, more than 1.6 million micro enterprises operated in Poland. Two years later, the number of such entities increased by almost 100,000. The upward trend in this area was maintained until 2008, when there were 1,717 200 companies registered in Poland employing up to 9 people. In 2009, there was a one-off drop in the number of microenterprises in the last decade - by 6.6% per annum. Nevertheless, there has been a renewed upward trend since then, as evidenced by the data according to which in 2014 microenterprises in Poland were 221,900 more than five years early.

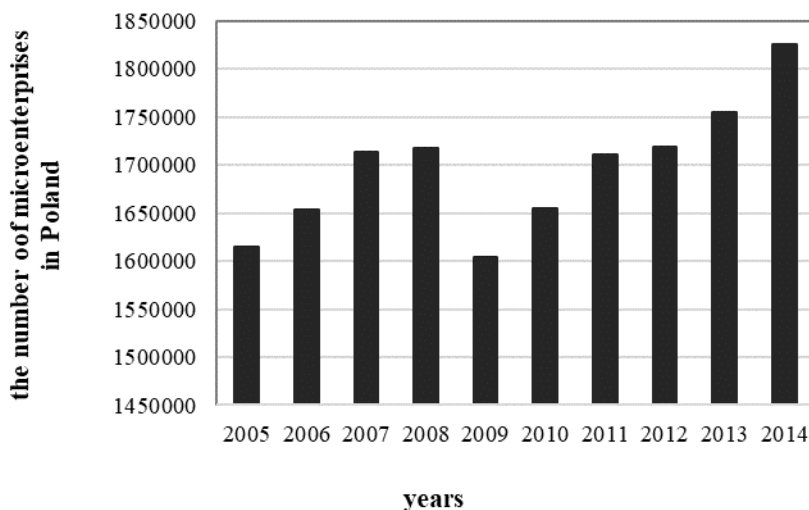


Figure 1. The number of microenterprises in Poland in 2005 – 2014.

The Central Statistical Office provided data on microenterprises in Poland. They show that in 2016 there were over 2 million, or 16.8% more than six years earlier. The Central Statistical Office of its latest data on microenterprises in Poland (these are companies that employ up to 9 people) compared with 2015 and 2010. In 2016, Poland noted exactly 2 million 4 thousand business operations. Microenterprises, i.e. 5.2% more than in 2015 and by 16.8% more than in 2010. The CSO calculations also show that micro-enterprise revenues increased by 7.1% year-on-year, and the number of employees increased by 5%. The financial result in 2016 was at the same level as in the previous year - PLN 124.9 billion and was 34.7% higher than in 2010. In 2016, the cost level indicator for microenterprises was 88.1% compared to 87, 2% in 2015 and 87.8% in 2010.

Depending on the type and size of the business, both the balance sheet and tax laws delimit the registration obligations of small and micro entities, exempting the smallest of them from the obligation to keep

commercial books. On the other hand, those entities that are obliged to keep full accounts can benefit from simplifications, both record-keeping and reporting.

2. CLOUD COMPUTING CHARACTERISTICS

The concept of Cloud Computing (i.e. cloud computing) for the first time began to appear at the end of the twentieth century. In the following years, the phenomenon of providing services in the cloud took place. Then the concept became a new marketing concept considered to be catchy and as a determinant of development and modernity. Cloud Computing (CC) facilitates access to specific resources (e.g. software, servers, networks) via the Internet. Therefore, CC can be defined as a service that is available on demand at any place and at any time, and one condition for having access to Cloud Computing services is access to the Internet. Because of the capabilities and functionality of the CC is now one of the key trends that are distributed by the IT industry (Krok, 2017).

Until now, many people have formulated different definitions of the cloud. This shows that each of the authors has a different view on CC and puts emphasis on other aspects that are related to it. Therefore, in this subsection several definitions are provided for general discernment in the topic of Cloud Computing. The definition of Cloud Computing was proposed by IBM (International Business Machines Corporation), which reads as follows: Cloud Computing is a new model for the use of IT, as well as a processing style, where applications, business processes, resources and data are passed to specific users as a service. As you can see, this definition shows that Cloud Computing is a processing style, thanks to which recipients are provided with data or applications in the form of services (Bartczak, 2015).

Another definition that should be quoted is the definition often quoted in scientific articles, proposed by NIST (National Institute of Standards and Technology), where CC is defined as a model that

provides convenient access to a network of configurable computing resources (you can include m) .in. application, networks, services, storage space and servers). In addition, they can be immediately provided with the lowest possible management effort or interaction from the resource network provider. When defining CC, it is also worth looking at the IT approach, which defines the computational cloud as a model of IT services. This model is related to the fact that IT resources are used by recipients outside the physical location. Another approach is a business approach. This approach presents CC as a new form of outsourcing of an IT business unit. This approach says that outsourcing concerns the implementation and receipt of IT systems in enterprises (Kucęba, 2013).

The demand for services in the cloud is growing and brings more and more profits. Due to the fact that the demand for CC is growing, companies such as Google, Microsoft, Amazon or IBM constantly improve current offers, and try to develop the most competitive and mutually beneficial offer. According to a report by Firrester Research, which was published in the spring of 2014, CC services are expected to bring a profit of USD 191 billion by 2020, in 2013 a profit of USD 58 million. Seeing such a huge difference, there is no doubt that there is an increasing demand for Cloud Computing services.

2. 1. Advantages, Disadvantages and Threats Resulting From the Use of Cloud Computing

Enterprises wanting to start using Cloud Computing solutions are considering all kinds of pros and cons. However, when companies decide to use CC services, the greatest concern is the protection and security of personal data. Many aspects of accounting are related to personal data and their protection, including systems: commercial, marketing, as well as human resources and payroll. On 25 May 2018, Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals with regard to the processing of personal data (GDPR) entered into force. This

regulation aims to strengthen the requirements related to the protection of personal data. Under the new Regulation, responsibilities should be abolished and replaced by appropriate mechanisms and procedures that will contribute to improving the protection of personal data. The most important benefits of RODO include:¹

- data protection at the design stage of the information system,
- default data protection,
- ensuring the right to limited processing, information about yourself and oblivion.

Another legal regulation adopted in the form of a new Polish Act on the protection of personal data, which exempts micro, small and medium enterprises from many obligations, thanks to which companies do not have to:

- provide information about the processing time of specific personal data,
- apply the right to request access to data, as well as to rectify and delete them,
- appoint a general inspector of personal data protection (GIODO).

In CC safety issues, the following phenomena can be distinguished that may affect how it will be perceived. The first of these is the migration of many types of threats that are associated with online services. The growing popularity of solutions offered by Cloud Computing as well as the storage of both individual and organization resources in the cloud have naturally influenced the fact that they have become the target of cyberattacks. The growing popularity of CC has increased the interest in web applications that are placed in the cloud and looking for possible gaps in systems and application security. The second phenomenon that has been observed is the use of cloud resources to coordinate or carry out attacks on IT purposes. Unlimited

¹<https://giodo.gov.pl/pl/p/informacje-ogolne> (available on 01.06.2018).

resources, high flexibility and a wide range of available services give unlimited possibilities to those entities that could use them to harm other network users. In addition, cloud features can be used to carry out large-scale attacks.

It is also worth noting that in this respect the potential of cloud computing has not been used. The last phenomenon that deserves attention due to security concerns is the development of private cloud technologies. Companies seeking to combine the use of resources in a more effective manner and constant control over data may observe such solutions with interest. These types of offers are extensive without the high costs of licensing, thanks to which it is possible to try out and familiarize yourself with the new type of technology (Czerwonka & Zakonnik, 2016).

The threats related to security and data protection caused that many tools and mechanisms were created, thanks to which, after appropriate application, a data protection guarantee can be guaranteed. They are more reliable than solutions that are based on internal data centers. Data security in CC is not based only on the security procedure that is implemented by the service provider, but also on the obligation to adapt to specific procedures related to user safety. The most important elements associated with such protection include the following mechanisms (Rot, 2017):

- the obligation to maintain and organize training,
- to give security certificates to users,
- providing an internal security policy when working with specific data in the cloud,
- using appropriate methods of access of users to specific data while using mechanisms and authentication of credentials,
- using appropriate cryptography certificates to maintain data security both made available and processed in CC,

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- using mechanisms to log into the system with the use of appropriate keys, thanks to which the user will be authenticated.

Starting with considerations about the opportunities and risks associated with cloud computing, you can mention the benefits that CC brings to the company. These are macroeconomic benefits related to the entire economy, but also microeconomic ones, that is concerning specific sectors, industries and individual enterprises. Following this path, you can distinguish what is a macroeconomic benefit, so they are (Kryński & Miller, 2016):

- optimization of IT resources that are used in the economy for the purposes of specific tasks;
- reduction of organizational and financial barriers using IT resources by industries of the economy;
- increase in investments in economic sectors, which will be possible thanks to savings obtained in business units resulting from the use of Cloud Computing services.

CC, like any technology or solution has its advantages and disadvantages. The most important advantages of cloud computing include (Fulmański & Wojczyk, 2014):

- reduction of costs related to equipment - individuals or enterprises that use CC services do not have to incur single expenses, which are related to the preparation and equipment of the server room; this is very important especially for enterprises that are just starting their operations or their operations are developing dynamically; additionally, thanks to the use of the application when using CC services, you can significantly minimize the necessary demand for computing power or disk space contained on client stations; limiting these elements also has an impact on reducing the purchase costs,
- lower costs of data storage and processing,
- reduction of costs related to maintaining IT departments,

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- flexibility - Cloud Computing is able to provide clients with unlimited resources, which is impossible from the point of view of internal resources of the company; it is most visible in the public cloud, which has a huge data storage capacity and computing power, which is due to the fact that it operates on a large scale. It is also very important that the client can, without complications and easily make appropriate regulations regarding the demand for appropriate services without modernizing his own hardware resources,
 - efficiency - thanks to the software in CC, which is run by the client, the phenomenon of reducing the utilization of equipment is observed, which allows to increase the quality of work; if a situation occurs, where the client will temporarily need more computing power, it is certain that there will be no problem because the cloud is able to provide the client with as much computing power as he needs in a transparent manner; it is possible thanks to the mechanisms of virtualization, which enable consolidation of the computing power of several hardware units,
 - always up-to-date software,
 - the document formats are compatible,
 - safety and reliability,
 - equipment mobility,
 - universal access,
 - environmental protection.

Although the use of CC services has many advantages, unfortunately, there are also risks that need to be carefully considered before the customer decides to use his services. The most important threats include (Słaby & Dwojak 2014):

- unavailability of services - in the event of a cloud computing failure or a network that supports quite a large number of clients, this may have an impact on the company's operations;
- the risk of loss of data integrity - customers using CC expect data to be complete and protected against damage, damage and manipulation; increasing the disposal of the equipment may

result in a situation where customer data will not be stored in one, but in two different locations; this situation may result in the loss of some data or their consistency;

- addiction to the cloud provider - cloud providers give equal opportunities for its use; the lack of common standards is related to the fact that the client who wants to use the services of another provider has a problem with migration from one cloud to another; in addition to the fact that this process is time-consuming it also requires large financial outlays, necessary for the demand of appropriate, professional knowledge, in order to ensure the highest level of security,
- unauthorized access and confidentiality of data - the cloud should be equipped with a secure mechanism, and the data should be available only to authorized users; in order to develop a suitable type of mechanism, several complications should be overcome, which are related to with: providing access to services (it should be independent of the client's location), ensuring security of communication in the cloud, access of many users at the same time,
- insufficient legal regulations.

Talking about the benefits and risks of cloud computing, we should also mention the barriers that cause that potential cloud users are afraid to take advantage of any such services. Barriers can be divided into three groups, these are (Parys, 2015):

- legal barrier - concerns first of all the need to ensure security, as well as the storage and privacy of both personal data and other data that are placed in the cloud, compliance with the requirements set by the RODO,
- technical barrier - high reliability of Internet connections is required, in addition, the cloud provider imposes certain requirements and restrictions on the construction of applications,

- mentality barrier - concerns people who have no confidence in technological progress and newness; they also do not want to take risks, nor do they want to make any changes.

3. CHARACTERISTICS OF POLISH MICROENTERPRISES USING CLOUD COMPUTING

In order to learn about the opinions of Polish microenterprises, a survey was conducted. The first question was to check whether the survey is actually completed by micro-entrepreneurs, after the analysis it is concluded that all surveys have been solved by the required entity.

The third question concerned the determination of the industry in which the enterprise operates, as shown in Figure 2.

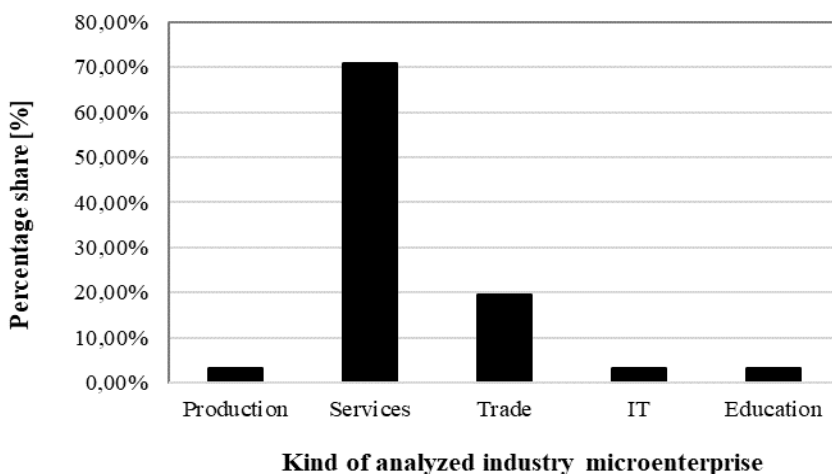


Figure 2. Kind of analyzed industry microenterprises in Poland in 2017 - 2018.

The survey showed that the majority of surveyed entities belonged to the services sector.

The next question was to check what percentage of micro enterprises know Cloud Computing. Obtained research findings are presented in Figure 3.

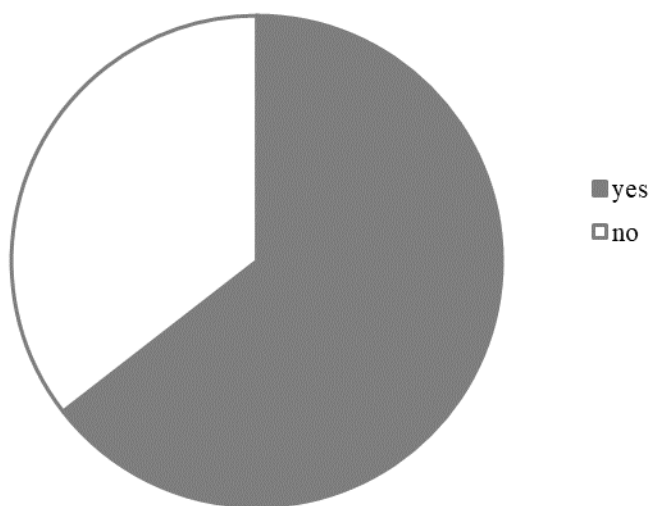


Figure 3. Percentage of Polish microenterprises knowing Cloud Computing.

Another question has been asked in order to identify the number of people using the Cloud Computing solution in micro-enterprise accounting. Only 38.7% of respondents use such a solution. In turn, 61.3% of respondents do not use Cloud Computing in the company's accounting. The next questions, i.e. 6-12, were answered by respondents who answered positively.

The next question was to check if the respondents are satisfied with the use of CC in the company's accounting. 83.3% of respondents answered yes to this question, however 16.7% are not satisfied with the use of CC.

The seventh question addressed to the respondents concerned the determination of why they decided to use Cloud Computing. The respondents were allowed a maximum of 3 responses, which was presented in Figure 4.

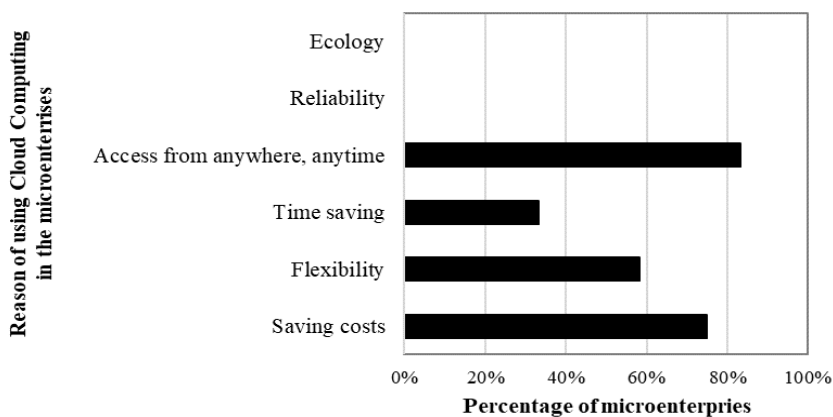


Figure 4. Reasons of using Cloud Computing in Polish microenterprises.

As seen in Figure 4 most respondents appreciate that, thanks to the CC in accounting have access to data from anywhere and at any time (83.3%). Also in the high position is the answer, which shows that respondents chose Cloud Computing because of cost savings (75%). Another important factor (58.3%) is flexibility and time saving (33.3%). Other answers, i.e. reliability and ecology, did not get any answer.

The next question asked to the respondents was to allow to assess the level of satisfaction with CC services. The responses are shown in Figure 5.

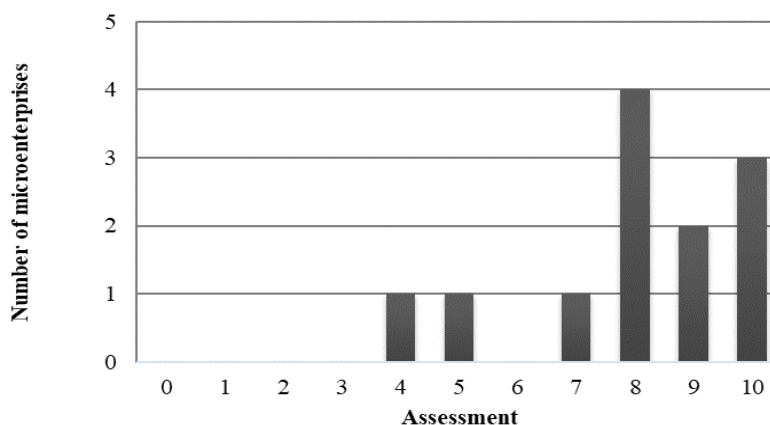


Figure 5. Assessment of Cloud Computing in Polish microenterprises.

According to the data presented in Figure 5, it can be seen that the highest number of people assess CC services on a scale of 0 to 10 per 8. Three people considered that CC services deserve the highest rating, while two persons classified the level of satisfaction at 9. Unfortunately, it turns out that not everyone assesses CC services so well, because one person felt that their satisfaction on a scale was: 4,5,7.

The penultimate question was asked to the respondents to check why micro-entrepreneurs do not want to conduct company accounting using CC services. Respondents could give a maximum of 3 responses, which are shaped as follows:

- 61.9% of respondents emphasize that they prefer traditional methods of accounting of the company,
- 28.6% of respondents indicate that they never met such a solution,
- 23.8% of respondents are concerned about data protection,
- 9.5% are concerned about data loss and limited control,
- 4.8% responds that there is no time for such a solution.

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The last question was to check whether micro-enterprises among whom a survey was conducted, would decide to use CC services in accounting, knowing that it is a safe solution that saves time and money. 14.3% of respondents categorically denied the use of any such possibility. The same number of people (14.3%) declared their willingness to change on the services provided by the company providing the ability to conduct online accounting. In turn, 71.4% considered that it would reflect on such there is a solution, however, would have to first understand the capabilities and all the advantages and disadvantages for reaching such there is a solution.

Summarizing the survey conducted in this subsection, it can be noted that the sentences are very divided. At the beginning respondents were divided into two groups: using CC services in accounting and not using such a solution. After the respondents indicated in which industry their micro-enterprises operate, they were again divided into two groups, this time for people who know what CC is and for people who have never heard of CC. In the respondents, only 38.7% use CC in micro-enterprise accounting. However, it is worth emphasizing that the vast majority (83.3%) of respondents are satisfied with the CC solution. The vast majority of respondents declared that they use cloud accounting due to mobility, cost savings and flexibility. In the overall assessment of CC in accounting is not bad, however, it also has ratings such as 4 and 5. The most popular are software such as: wFirma, inFakt and iFirma. As far as the scope of using CC services is concerned, it is very different, although the majority of respondents use: FV, JPK, PIT, creation of tax returns, KPiR and fixed assets. The most important question in the survey was the twelfth question, which allows you to answer the subject of this work, ie whether CC is an alternative to traditional accounting. What the vast majority of people answer in the affirmative. Among persons not using CC in accounting are people who conduct accounting alone and who commission the service to the accounting office (the distribution of respondents is more or less in half). Non-CC respondents claim that they prefer traditional methods and fear that their data will be poorly protected. In

addition, some respondents declare that they do not keep accounts with the use of CC because they have never heard of such a solution. The answer to the last question shows that respondents are willing to use CC services in accounting after thoroughly familiarizing themselves with the service.

4. CONCLUSION

Summarizing this chapter, it can be concluded that the risk related to data protection and data security in CC exists, however, it can be prevented or at least minimized. Enterprises should use proven solutions. If the company has standards related to data security at a high level, then similar security should be required from suppliers providing Cloud Computing services.

The cloud computing offers several service models that give many opportunities to enterprises regardless of their size and type of activity. It does not matter whether the company is large or small, nor is its scope of activity or scope significant. Many companies and individuals use the cloud without being aware of this, e.g. using Google.

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OCCUPATIONAL SAFETY FACTORS EVALUATION IN MANUFACTURING MSMEs: THE CASE OF SERBIA

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Abstract

More than 99% of companies in the Serbian economy belong to the MSME sector, which engages a significant part of labor force. Thus the occupational safety of the employees has major significance. This paper explores the impact of the main occupational safety factors on occupational safety performance safety in manufacturing MSMEs in Serbia. Hence the SEM (Structural Equation Modeling) methodology was applied. Statistical analysis was performed using the software package SPSS 18.0 and LISREL 8.80. The seven-hypothesis model was developed and tested on a sample of 207 participants employed in 18 micro, small and medium-sized enterprises. The results of empirical research confirm five hypotheses and point to the significant impact of certain occupational safety factors on the performance of overall occupational safety. Within research conclusions the special emphasis is placed on those occupational safety factors in which certain weaknesses have been identified and where there are realistic improvement opportunities. Finally, based on the research results, as well as on the basis of the relevant literature, concrete measures for the improvement of these occupational safety factors were suggested, which would have a positive impact on the overall occupational safety of employees in manufacturing MSMEs.

Keywords: Occupational Safety Factors, Manufacturing Msmes, Employees, Occupational Safety Performance.

1. INTRODUCTION

The micro, small and medium-sized enterprises (MSMEs) sector is the basis of the economic activity and development of Serbia. From 357755 registered enterprises in Serbia, 357234 of them belongs to the MSME sector, which is 99.9%. This sector engaged 873462 employs, or 66.0% of the total number of employees in Serbia. Micro, small and medium-sized enterprises in Serbia achieves 39.5% of total exports, 54.5% of imports and about 56.7% of gross domestic product of the Republic of Serbia (The Ministry of Economy, 2018). In the European Union around 99% of all registered companies belongs to the MSME sector (European Commission, 2018), which is very similar to the situation in Serbia. These facts are in favour of the importance of the MSME sector, both in terms of its contribution to economic development, as well as in terms of engaging large numbers of labour force. Hence, the institutions of the Government of the Republic of Serbia are trying to implement a strategy of development of micro, small and medium-sized enterprises. The development strategy comprises five pillars: the promotion and support of entrepreneurship and the establishment of novel economic societies, improvement of human resources for the competitive MSME sector, financing of the MSME sector, improving the competitive advantage of MSMEs in export markets and as the last pillar, the legal, institutional and business environment of the MSME sector in Serbia (The Ministry of Economy, 2015). As part of the improvement of human resources, occupational safety represents an important element in achieving the competitiveness of the MSMEs. In order to select a specific strategy and adopt a plans for improving the occupational safety performance in micro, small and medium-sized enterprises in Serbia, it is necessary to consider the current situation in this field.

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Micro, small and medium-sized enterprises must develop the performance of occupational safety system, same as large companies do. Moreover, small companies need to pay more attention to the occupational safety of their workers, compared to large companies. The reason is extremely simple. Smaller companies feel more financial consequences of any work-related injuries, due to the smaller number of employees (the absence of an employee significantly reduces the potential of human resources), and also because of the modest financial resources compared to large companies (The World Bank, 2012). On the other hand, large companies are aware that all investments in occupational safety represent a profit for the company, while such a business attitude is still not sufficiently developed in MSMEs (Cagno et al., 2013).

The measurement and analysis of occupational safety in manufacturing companies that rely on traditional indicators, such as the occurrence of work-related injuries, provide significant feedback about the shortcomings of the occupational safety system, as well as the accidents themselves. However, this way of measuring occupational safety represents a reactive approach to managing this field and it measures events and results that have already occurred. Numerous studies emphasize the proactive evaluation of occupational safety, using appropriate occupational safety factors that enable the identification of any potential deficiencies in the organization's occupational safety system, thus reducing the probability of the occurrence of work-related injuries (Grabowski et al., 2007; Reiman & Pietikäinen, 2012; Podgórski, 2015; Haslam et al., 2016; Sheehan et al., 2016).

In the process, the analysis of the perception of the employed, their interpretations of the system and occupational safety strategies have an important role, and are predominantly dependent on the safety climate and organizational values in general (Yorio et al., 2015). Hence, creating and fostering a positive safety climate has a key role in improving occupational safety performance within an organization

(Fang & Wu, 2013). In this regard, in order to improve safety climate performance it is necessary to identify key factors of occupational safety that show weaknesses, and then individuals or groups in the organization that affect these factors (Biggs & Biggs, 2013). Numerous researchers have dealt with the identification of occupational safety factors in their research (Christian et al., 2009; Cagno et al., 2011, Cagno et al., 2014; Fernández-Muñiz et al., 2017; Gopang et al., 2017; Nordlöf et al., 2017; Kasim et al., 2019). Better identification of these factors, as well as the interactions among them, can lead to the improvement of risk perceptions, management practices, and the establishment of priority actions (Cagno et al., 2014). In other words, it is a guide for improving the performance of occupational safety within the organization.

The aim of the conducted research in manufacturing MSMEs in Serbia was to analyze the occupational safety factors through the perception of employees. Occupational safety model was tested to identify the weaknesses and deficiencies of certain occupational safety factors. In this way, the proposed model becomes a useful tool for improving of occupational safety performance in MSMEs.

2. LITERATURE REVIEW AND RESEARCH HYPOTHESES DEVELOPMENT

2.1. Occupational Safety Awareness and Competence

Generally, the employees dedicated to safety who have adequate perception of safety at their workplace experience significantly less injuries at work compared to the ones that are not adequately dedicated to this problem (Hayes et al., 1998). Of course, in order to ensure appropriate behavior of the employees at work, it is necessary that they possess certain knowledge related to work activities, as well as to occupational safety in general (Okun et al., 2016; Kontogianni & Moussiopoulos, 2017; Sønderstrup-Andersen & Bach, 2018). Actually, these competences and knowledge enable adequate

reception of information, problem solving, critical thinking, interpersonal relationships, communication and other factors increasing the dedication to conduct procedures of occupational safety (Okun et al., 2016).

However, in small companies, as well as other business segments, occupational safety is under the greatest influence of the owners. The owner is the one who deals daily on various business issues and a more systematic approach to occupational safety is omitted ((Jørgensen et al., 2010). Moreover, the owner often entrusts and conveys responsibility for the occupational safety to his employees (Jørgensen et al., 2010; Legg et al, 2015). If occupational safety is viewed as an individual problem, awareness of safety and competence is getting even more important. Based on the previous, the following hypothesis has been proposed:

Hypothesis H1: *Safety awareness and competences positively affect occupational safety performance.*

2.2. Occupational Safety Communication

Conditions of occupational safety can be considered through the relationship among employees and their work activities, through coordination and communication in the production process, as well as through the process of occupational safety implementation at workplaces (Niskanen et al., 2016). In this regard, effective communication channels need to be established among the hierarchical levels of management structure, as well as among the channels of the implementation of the information related to occupational safety for all job positions. In this way, a type of feedback is formed that enables management to take insight into any potential discrepancies in the implementation of occupational safety procedures, and it likewise enables taking the appropriate measures afterwards (Leveson, 2005). Finally, in the occupational safety communication system, each distributed information should be fully

understandable to its recipient. Only in this way can one expect a satisfactory occupational safety performance for all the workplaces in a company (Lay et al., 2017).

Observing micro, small and medium-sized enterprises, communication within the occupational safety management system is very often oral, and only rarely written. In addition, there is less knowledge of occupational safety laws, regulations and procedures. For these reasons, occupational safety communication in MSMEs is more complicated ((Legg et al, 2015). Therefore, the following hypothesis is suggested:

Hypothesis H2: *Communication about occupational safety has positive impact on occupational safety performance.*

2.3. Organizational Environment

Organizational environment is one of the key elements that reflect the safety culture, and consequently impact on occupational safety performance (Iqbal et al. 2019). Kwon and Kim conducted an investigation of the occupational environment to identify the elements that affect safety in the workplace. According to them, the competences and motivation of the employees do not have such a significant impact on safety in comparison with the safety characteristics of the occupational environment and safety procedures compliance with realistic demands (Kwon & Kim, 2013). On the other hand, some authors emphasize that the individual attitudes related to safety perception and subjective evaluation of the organizational environment are also important for the safety of employees at workplaces and behaving in accordance with the safety regulations, as well as to objective measures of safety in the organizational environment (Arezes & Miguel, 2008).

Some studies are based on the fact that there are organizational differences in large and small companies, i.e. public and private

companies, which require a different perspective on occupational safety. These conclusions can be applied to ergonomic, physical and chemical factors of the occupational environment related to occupational safety (Sorensen et al., 2007; Jørgensen et al., 2010). Moreover, occupational safety models designed for large companies, often cannot be adequately applied to MSMEs (Micheli & Cagno, 2010; Nyirenda et al., 2015). However, regardless of the size of the company, the organizational environment has the same significance in the occupational safety management system, in relation to the significance of human and technical factors ((Li & Guldenmund, 2018). Therefore, the following hypothesis is suggested:

Hypothesis H3: *The organizational environment has a positive effect on occupational safety performance.*

2.4. Management Support to Occupational Safety

Management support and commitment to the occupational safety belong to a group of key factors of occupational safety according to numerous authors (Cohen, 1977; Simonds & Shafai-Sahrai, 1977; Smith et al., 1978; Geldart et al., 2010; Amponsah-Tawiah & Mensah, 2016; Autenrieth et al., 2016). Therefore, the management of occupational safety should be one of the main tasks of the company's management (Steenkamp & Van Schoor, 2002). Occupational safety management is an adequate indicator of positive and supportive attitudes of the company's management towards the integrity and occupational safety of employees (Hsu et al., 2007). Employees' perception of positive attitudes and actions of the management leads to the reduction of the number of injuries at work and fixing the occupational safety situation in the workplace (Yule et al., 2007; Ali et al., 2009). The adequate operating of the occupational safety management system is the responsibility of the company's management (Okwiet & Nowak, 2015), therefore its support and dedication represent basis of high-quality occupational safety performance (Newaz et al., 2019). Additionally, the attitudes,

behavior and commitment of the management will have a positive effect on the attitudes and behavior of employees, thus creating a positive safety climate in the company (Reinhold et al., 2015; Stiles et al., 2018). On the basis of the previously stated facts, the following hypothesis has been suggested:

Hypothesis H4: *Management support has a positive effect on occupational safety performance.*

2.5. Risk judgment and risk management system

Risks represent accompanying subsidiaries of almost all production activities and may result from natural causes or human factor (Tchiehe & Gauthier, 2017). Risk is the possibility that someone or something is under the influence of an adverse event (Woodruff, 2005). In order to diminish the possibility and intensity of an adverse event, risk needs to be managed. In this process, the most sensitive activity is identifying risks. Occupational safety measures, i.e. occupational safety, will directly depend on the manner in which this activity is performed. Finally, a risk management process in its psychosocial dimension creates perception and assessment of risk by employees, which can contribute to a safer behavior (Tchiehe & Gauthier, 2017; Sheehan et al., 2016). Certainly, it should be kept in mind that the occupational safety management system is far more than a risk assessment and risk management system (Li & Guldenmund, 2018), as well as that its successful operation is management responsible for (Okwiet & Nowak, 2015). However, in order to improve occupational safety performance, a proper understanding of the factors that can cause workplace hazards and the correct perception of occupational safety risks are fundamental (Pandit et al., 2019). For these reasons, the following hypothesis is suggested:

Hypothesis H5: *Risk judgment has a positive effect on occupational safety performance.*

2.6. Occupational Safety Precautions

Working conditions, i.e. safety of employees at workplaces get to be enhanced by an effective application of occupational safety management system. Occupational safety management system is conducted by applying safety measures adopted by the top management of an organization (Gopang et al., 2017). In this way the number of work-related injuries is reduced and the performance and profitability of the organization improves, which is very important company's operations (Fernández-Muñiz et al., 2009).

Some research emphasize deficiencies in the occupational safety management system in MSMEs. In general, the involvement of employees in the conducting of occupational safety practices is not appropriately understood and applied in micro, small and medium-sized enterprises. These can be important reasons for increasing the number of work-related injuries (Legg et al, 2015). On the basis of the previously stated facts, the following hypothesis has been suggested:

Hypothesis H6: *Safety precautions have a positive effect on occupational safety performance.*

2.7. Occupational Safety Training

It was fairly a while ago, back in 1931, that Heinrich, one of the pioneers in the investigations of occupational safety, stated that the most important factors that cause work-related injuries include physical and psychological inadequacy of staff, carelessness, negligence, lack of supervision and control and, finally, the lack of or inadequate occupational safety training (Heinrich, 1931). However, the greatest responsibility lies with the management of the organization to prevent work-related injuries (Moore, 2007). To improve the safety of employees in the workplace, the organization of work should be improved. In addition to other elements in the sphere of work organization that have previously been discussed,

occupational safety training should be emphasized here. Besides informing employees about the technical aspects of performing tasks in a correct and safe way, occupational safety trainings have a psychological dimension in terms of raising awareness (Okun et al., 2016; Misiurek & Misiurek, 2017).

Beside traditional occupational safety training, it is also necessary to train staff to adopt good practice at the workplace. In addition to other elements, occupational safety training is an element of proactive occupational safety management and represents a part of the system of continuous improvement of occupational safety (Tremblay & Badri, 2018). Adequate training effectively impacts changes of workers' attitudes of occupational safety, which is the essence of proactive occupational safety management. In this direction, it is necessary to pay more attention to demographic characteristics (gender, age, education) during developing occupational safety training programs, and to adapt training to those characteristics. (Loosemore & Malouf, 2019). Based on the above facts, the following hypothesis has been suggested:

Hypothesis H7: *Occupational safety training has a positive impact on occupational safety performance.*

Based on the 7 proposed research hypotheses the conceptual model of positive impacts was formed (Figure 1).

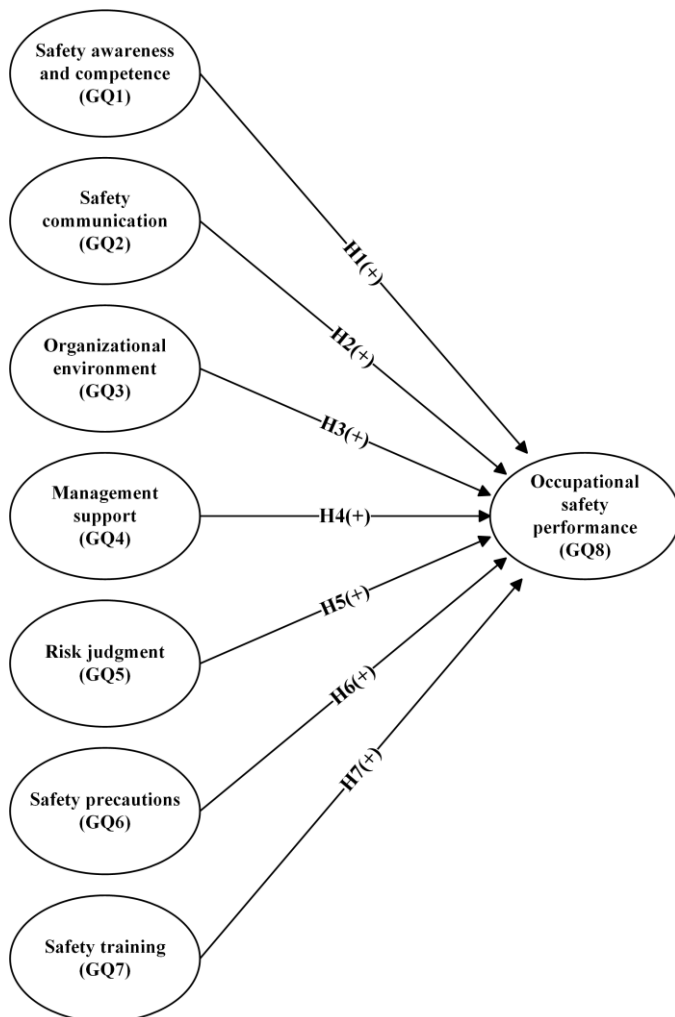


Figure 1. Conceptual model of occupational safety in manufacturing MSMEs

3. RESEARCH METHODOLOGY AND THE SAMPLE

In this research, the methodology of the questionnaire was used to collect data. The questionnaire was developed by Milijić et al. during the previous research of the issues of occupational safety in production companies (Milijić & Mihajlović, 2011; Milijić et al., 2013; Milijić et al., 2014) based on the available relevant literature (Zohar, 1980; Cox & Cheyne, 2000; Zohar & Luria, 2005; Baek et al., 2008; Lin et al., 2008; Hsu et al., 2008; Makin & Winder, 2008). The application of this questionnaire is universal (Milijić et al., 2013). The majority of this type of questionnaires have also universal application. On the other hand, a certain number of questionnaires is designed for the use in specific economic production activities. The questionnaire consists of two parts. The first part consists of 7 demographic questions. The second part consists of 23 questions divided into 8 groups related to the field of occupational safety.

The survey was conducted in 2018 in 18 micro, small and medium-sized enterprises at the territory of Serbia. Anonymous survey was conducted on a sample of 232 employees, 207 of which were properly filled out representing 89.22%. This high percentage of properly filled out questionnaires is a consequence of the personal approach of the author of this paper to the interview process. A five-point Likert scale was used for grading the responses (1 – strongly disagree, 2 – disagree, 3 – neither agree nor disagree, 4 – agree, 5 – strongly agree). The ratio of the size of the sample of 207 respondents and the number of questions (23 questions in the questionnaire) is 9.0, which is more than the recommended minimum level of 5, according to Hair et al. (2006).

Demographic characteristics of the participants of the research are presented in Table 1.

Table 1. Demographic characteristics of the studied sample

Variables	Category	N	Percentage %
Size of company	Less than 10 employees (micro enterprises)	45	21.7
	10 – 49 employees (small enterprises)	90	43.5
	50 – 249 employees (medium-sized enterprises)	72	34.8
Position in the company	Workers directly related to production	155	74.9
	Workers indirectly related to production	14	6.8
	Administrative workers	17	8.2
	Managers	21	10.1
Educational level	Elementary school	47	22.7
	High school	135	65.2
	Higher education	7	3.4
	University	18	8.7
Years of work experience	Less than 5 years	147	71.0
	6 – 15 years	32	15.5
	16 – 25 years	17	8.2
	Above 26 years	11	5.3
Gender	Male	139	67.2
	Female	68	32.8
Age	Less than 29 years	71	34.3
	30 – 44 years	92	44.4
	45 – 54 years	31	15.0
	Above 55 years	13	6.3
Accident involvements	Yes	41	19.8
	No accident	166	80.2

4. RESULTS

The set of collected data was analyzed using statistical tool software packages SPSS 18.0 and LISREL 8.80.

4.1. Descriptive Statistics

Within the descriptive statistics of the tested sample, standard statistical parameters are shown: sample size, range, mean, standard deviation and variance (Table 2).

Table 2. Descriptive statistics of the studied sample

Mark (Variable)	N	Range	Mean		Std. Deviation	Variance
			Statistic	Std. Error		
Q 1.1.	207	4	4.58	.050	.725	.526
Q 1.2.	207	4	4.59	.047	.676	.457
Q 1.3.	207	4	4.39	.055	.792	.628
Q 1.4.	207	4	4.32	.064	.923	.851
Q 1.5.	207	4	4.55	.060	.868	.753
Q 2.1.	207	4	3.90	.076	1.095	1.198
Q 2.2.	207	4	4.06	.073	1.043	1.088
Q 2.3.	207	4	3.56	.076	1.100	1.209
Q 2.4.	207	4	4.22	.070	1.004	1.009
Q 3.1.	207	4	2.83	.092	1.320	1.743
Q 3.2.	207	4	2.84	.090	1.289	1.662
Q 3.3.	207	4	2.79	.091	1.308	1.712
Q 4.1.	207	4	4.12	.068	.985	.971
Q 4.2.	207	4	3.76	.081	1.169	1.366
Q 5.1.	207	4	2.85	.097	1.402	1.966
Q 5.2.	207	4	2.69	.092	1.330	1.770
Q 5.3.	207	4	2.77	.090	1.294	1.674
Q 6.1.	207	4	3.58	.077	1.102	1.215
Q 6.2.	207	4	3.97	.065	.929	.863
Q 7.1.	207	4	4.20	.072	1.042	1.085
Q 7.2.	207	4	4.36	.063	.908	.824
Q 8.1.	207	4	2.23	.085	1.219	1.487
Q 8.2.	207	4	2.41	.089	1.281	1.641

4.2. The Reliability Analysis of the of Measuring Scale

In the continuation of the analysis the validity and reliability of the measuring scale was determined. Reliable and valid measuring scale enable the collection of quality data, as well as obtaining the quality results of their statistical processing (McDonald, 1999). For this purpose, the assessment of internal consistency of the instrument for data collection was carried out using Cronbach alpha test (Cronbach, 1951; Allen & Yen, 2002). Cronbach's formula is used to calculate the average values of the correlation between items of the measuring instrument (alpha coefficient) when the answers to questions are rated on the basis of the degree of the given threshold.

According to Cronbach alpha test, the values of the coefficient α greater than 0.70 represent a good possibility of modeling results of the questionnaire based on the considered population (Nunnally, 1994). Judging by the obtained Cronbach alpha coefficients of internal consistency of the groups of questions in the questionnaire (GQ1 - GQ8), the validity and reliability of the measuring scale for occupational assessment was proved (Table 3). After obtaining the satisfactory values of the Cronbach alpha test, reliable results of the conducted research of the occupational safety in manufacturing MSMEs can be expected.

Table 3. Interconsistency coefficients of the questionnaire

Groups of questions	Number of Items	Cronbach alpha coefficient
GQ1 (Safety awareness and competence)	5	0.779
GQ2 (Safety communication)	4	0.757
GQ3 (Organizational environment)	3	0.931
GQ4 (Management support)	2	0.761
GQ5 (Risk judgment)	3	0.820
GQ6 (Safety precautions)	2	0.796
GQ7 (Safety training)	2	0.780
GQ8 (Occupational safety performance)	2	0.720

4.3. Factor Analysis

4.3.1. Kaiser–Meyer–Olkin (KMO) and Bartlett test

In order to apply factor analysis, testing the adequacy of the sampling was performed (MSAs - Measures of Adequacy Sampling) using a Kaiser-Meyer-Olkin (KMO) test and Bartlett test of sphericity. According to literature recommendations, the minimum acceptable value for KMO indicator is 0.6, while the level of significance of the Bartlett's test is $p \leq 0.05$ (Kaiser, 1974; Cerny & Kaiser, 1977).

The obtained result of the KMO coefficient is 0.828, which indicates that the collected data are suitable for the application of the factor

analysis. Furthermore, the Bartlett test of sphericity indicates significance ($\chi^2 = 2517.351$, $p < 0.000$). This significance indicates that there are correlations among the items within the questionnaire (Tobias & Carlson, 1969; Hair et al., 2006).

4.3.2. Correlation Matrix of the Occupational Safety Factors

In the further part of the study, correlations between the 8 occupational safety factors in manufacturing MSEM were examined. For large samples, the correlation coefficients at the 0.01 level are considered acceptable, while with the smaller ones the level of acceptability of correlation coefficients is 0.05 (Stewart, 1981). In the studied sample, most of correlation coefficients in the matrix fulfill the eligibility level of 0.05. This result indicates a significant correlation between the the eight occupational safety factors. Hence, the application of factor analysis is justified. Correlation matrix of eight occupational safety factors in manufacturing MSMEs is shown in Table 4.

Table 4. Inter-correlations among eight occupational safety factors within proposed model

Coefficient	GQ1	GQ2	GQ3	GQ4	GQ5	GQ6	GQ7	GQ8
GQ1	1.00							
GQ2	0.59	1.00						
GQ3	0.57	0.51	1.00					
GQ4	0.52	0.55	0.61	1.00				
GQ5	0.51	0.53	0.55	0.52	1.00			
GQ6	0.47	0.40	0.52	0.61	0.54	1.00		
GQ7	0.56	0.41	0.57	0.46	0.61	0.51	1.00	
GQ8	0.42	0.49	0.44	0.48	0.54	0.57	0.47	1.00

4.3.3. Exploratory Factor Analysis (EFA)

Exploratory factor analysis was carried out with the aim of extracting the main occupational safety factors in manufacturing MSMEs. The relations between the measured variables are such that on the basis of

the recorded correlations the regrouping into a smaller set of variables can be performed, which represents a concise and understandable structure of the studied field (Hair et al., 2006).

By EFA analysis conducted over the set of 23 variables connections and relationships among the proposed groups of questions were established. The obtained results of conducted factor EFA (factor loadings and communalities) are shown in Table 5. Factor loading represents the correlation coefficient between the original variable and the extracted factor. Communality variable (h^2) is defined as a proportion of its total variance calculated on the basis of common factors (Hogarty et al., 2005).

Table 5. Results of Exploratory Factor Analysis

Variable	Factor loading						Communalities
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	
Q 1.1.	.650						.809
Q 1.2.	.627						.816
Q 1.3.	.625						.715
Q 1.4.	.625						.685
Q 1.5.	.331						.552
Q 2.1.	.503						.555
Q 2.2.	.703						.743
Q 2.3.	.511						.652
Q 2.4.	.691						.598
Q 3.1.		.699					.829
Q 3.2.		.608					.856
Q 3.3.		.626					.857
Q 4.1.			.607				.688
Q 4.2.			.590				.682
Q 5.1.		.632					.729
Q 5.2.		.492					.704
Q 5.3.		.655					.693
Q 6.1.				.599			.616
Q 6.2.				.565			.580
Q 7.1.					.552		.689
Q 7.2.					.438		.719
Q 8.1.						.545	.620
Q 8.2.						.413	.482

4.4. Structural Model

In accordance with the conceptual model shown in Figure 1, analysis of the structural model was performed (Figure 2.). Above the arrow the value of the regression coefficients (β -path coefficient) is shown. They explain the strength of the relationship between the dependent and independent variables (Jovanović et al., 2018) and are related to the effect of independent variables Safety awareness and competence (GQ1), Safety communication (GQ2); Organizational environment (GQ3), Management support (GQ4) Risk judgment (GQ5), Safety precautions (GQ6) and Safety training (GQ7) on the dependent variable Occupational safety performance (GQ8). Below the arrows (in parentheses) the values of the t-test are provided. The coefficient of determination (R^2) is presented on a graphical symbol of the dependent variable. It signifies the participation of the explained variance in total, i.e. how the variations of the dependent variable are explained by the predictor variable.

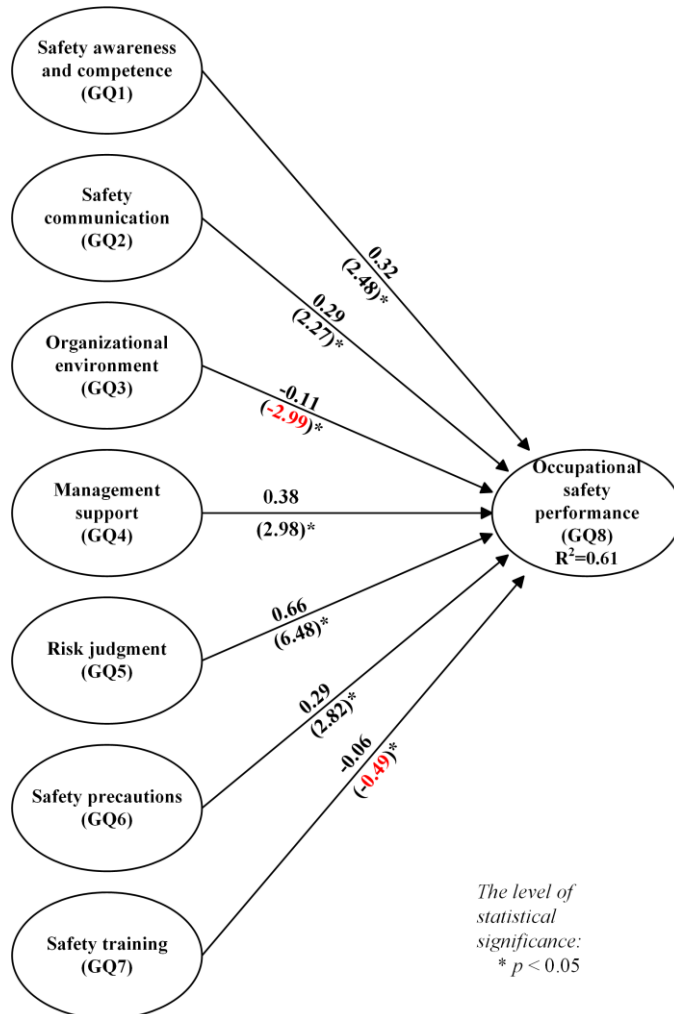


Figure 2. Structural model of occupational safety in manufacturing MSMEs

In the continuation, Goodness-of-fit measures of structural models were performed, and the values of the most significant indicators are shown in Table 6. Based on the obtained results the values of the FIT

indicator were analyzed, according to which the model satisfactorily or unsatisfactorily fits the initial data (by comparing the obtained values with recommended values).

RMSEA (Root Mean Square Error of Approximation) indicator is based on the approximate error that occurs due to the expected degree of freedom in the studied population. The lower the value of RMSEA indicator, the greater the correspondence, ie the better the fitting of the model to the input data. The acceptable congruence is below (Bentler & Bonett, 1980).

GFI (Goodness-of-Fit Index) indicator determines whether the model is more applicable compared to the situation when there is no model. This indicator belongs to the range [0, 1] where 0 denotes poor, and 1 signifies perfect matching. Acceptable values are the ones greater than 0.8 (Molina, 2007).

Indicators AGFI (Adjusted Goodness-of-Fit Index), CFI (Comparative Fit Index), IFI (Incremental Fit Index), NFI (normed Fit Index), NNFI (Non-normed Fit Index) and RFI (Relative Fit Index) indicate whether the considered model shows a solid increase in correspondence. The values of these indicators are considered acceptable if they are greater than 0.9.

Parsimony of the proposed model is regarded based on the average value of chi-square ($\chi^2/d.f.$). Fitting of data is considered satisfactory if the value is greater than 1 and smaller than 3. Additionally, this confirms that the data are representative (Hair et al., 2006; Molina, 2007).

Table 6. Summary of FIT values (Structural model)

Fit indicators	Values of FIT indicators	Recommended values
Chi-Square (χ^2)	897.59	-
Degree of freedom (d.f.)	408	-
Relative Chi-Square ($\chi^2 / d.f.$)	2.19	< 3.0
Root Mean Square Error of Approximation (RMSEA)	0.085	0.08 – 0.10
Goodness-of-Fit Index (GFI)	0.94	> 0.9
Adjusted Goodness-of-Fit Index (AGFI)	0.92	> 0.9
Normed Fit Index (NFI)	0.91	> 0.9
Non-Normed Fit Index (NNFI)	0.91	> 0.9
Comparative Fit Index (CFI)	0.92	> 0.9
Incremental Fit Index (IFI)	0.92	> 0.9
Relative Fit Index (RFI)	0.92	> 0.9

5. DISCUSSION

The research was conducted in such a way that the companies where the survey was conducted were distributed throughout the whole territory of the Republic of Serbia in order to make the sample as representative as possible. Observing the results shown in Table 1, it can be noted that out of 207 respondents who filled the questionnaire correctly, 32.8% were female and 67.2% male. In the survey, the majority of respondents were with completed high school (65.2%), while on the other side the lowest number of respondents had completed higher education (3.4%). 44.4% of the respondents are in the most productive age group, from 30 to 44 years of age, while only 6.3% of the most experienced employees was over 55 years of age. Out of the total number of surveyed employees, 71.0% have less than 5 years of work experience. The largest number of the participants in this study (43.5%) is employed in small enterprises (10 - 49 employees). On the other hand, the least respondents are employed (21.7%) in micro enterprises (less than 10 employees). In observing accident involvements (injuries at workplace), it is noticeable that their percentage is relatively high (19.8% of the respondents experienced an injury at workplace). According to many studies, the rate of work injuries is higher in micro, small and medium-sized

enterprises than in large enterprises (Micheli & Cagno, 2010; Top et al., 2016; Milijić et al., 2017). The explanation may be that MSMEs have serious problems in the occupational safety management system due to limited human, economic and technological resources (Hasle & Limborg, 2006; Micheli & Cagno, 2010). On the other hand, the rate of injuries registered in this survey is lower in relation to the injuries rate among employees in project-based organizations in Serbia, which primarily deal with the implementation of infrastructure projects (Milijić et al., 2016).

The results of the descriptive statistics (Table 2) show that the mean value of the questions worst assessed by the respondents was 2.23. On the other hand, the mean value of the best assessed item was 4.59. The employees have an expressed negative attitude towards a number of issues belonging to particular groups (Organizational environment - GQ3, Risk judgment - GQ5 and Occupational safety performance - GQ8). On the other hand, respondents positively assessed the questions from the groups Safety awareness and competence - GQ1 and Safety training GQ7. A very similar result was recorded in a previous survey in which, besides employees in MSMEs, were also involved employees in large enterprises - over 250 employees (Milijić et al., 2017).

Based on the results of the reliability and validity of the measurement scale (Table 3), it can be concluded that there is an internal consistency of the variables within all 8 groups of control models (values of Cronbach alpha coefficients for all 8 groups of questions are higher than the recommended value of 0.7).

In order to apply factor analysis, the testing of the adequacy of sampling was performed using KMO and Bartlett test of sphericity. The value of KMO indicator of the tested sample was 0.828. Additionally, Bartlett test of sphericity indicates significance ($\chi^2 = 2517.351$, $p < 0.000$) (Table 4). Based on the results of these tests, it is evident that the data collected are suitable for the application of factor

analysis. The results of the Exploratory Factor Analysis (Table 5), indicate the correctness of the formation of the conceptual model.

The results of the structural analysis of the occupational safety model in MSMEs are shown in Figure 2 and Table 6. The Root Mean Square Error of Approximation (RMSEA = 0.085) of the structural model and Goodness-of-Fit Index (GFI = 0.94) indicators indicating that there is a favorable congruence with the proposed model. The obtained values of the indicators of the structural model AGFI=0.92; NFI=0.91; NNFI=0.91; CFI=0.92; IFI=0.92 and RFI=0.92, indicate that the models show a solid increase of concurrency. Parsimony of the proposed model is measured based on the relative value of chi-square ($\chi^2/d.f.$) which equals 2.19, belonging to the recommended value of 1 to 3. This results confirms that the initial data are truly representative. Based on the obtained indicators of fitting of the structural model, proposed the model can be characterized as absolutely appropriate.

The results of the hypotheses testing (Fig. 2) show that five of the seven hypotheses were confirmed, acceptable and statistically significant (H1, H2, H4, H5 and H6). Within these hypotheses, the regression coefficients (β -coefficients of the path) have positive values, and the values of the t-test are higher than the recommended value of 1.96 (H1($\beta=0.32$; $t=2.48$; $p<0.05$); H2($\beta=0.29$; $t=2.27$; $p<0.05$); H4($\beta=0.38$; $t=2.98$; $p<0.05$); H5($\beta=0.66$; $t=6.48$; $p<0.05$); H6($\beta=0.29$; $t=2.82$; $p<0.05$)). On the other hand, hypotheses H3 and H7 have not been confirmed (H3($\beta=-0.11$; $t=-2.99$; $p<0.05$); H7($\beta=-0.06$; $t=-0.49$; $p<0.05$)).

The explanation to the question why, according to the opinion of respondents, organizational environment in MSMEs does not affect occupational safety (H3), may most likely be found in the fact that there is a high unemployment rate in Serbia. Therefore, workers are forced to do their job even in poor organizational conditions, all for fear of losing their jobs. Also, and another studies, as one of the major

occupational safety deficiencies, emphasized an inadequate organizational environment (unrealistic daily workload, dynamic work, the use of a lot of tools and equipment, etc.) (Reinhold et al., 2015; Mohammadi et al., 2018).

Finally, the H7 hypothesis (occupational safety training has a positive impact on occupational safety performance.) has not been confirmed even though employees consider that safety training is very important. This can be explained by the fact that employees have the opinion that safety training is not the most appropriate for their jobs. The inadequate and insufficient safety training in MSMEs, as a problem in improving of occupational safety performance, is also the result of other studies (Reinhold et al., 2015; Unnikrishnan et al., 2015).

6. CONCLUSION

The evaluation of the occupational safety factors in manufacturing MSMEs in Serbia, as an important element in achieving competitiveness, points to certain conclusions. Occupational safety in manufacturing MSMEs can be reliably described using 23 questions arranged in 8 groups, which represents the proposed conceptual model. The study found that all the variables describe the formed groups in a reliable and valid way. The analysis of the structural model found satisfactory coincidence, that is, good fitting of the initial data. By testing the hypothesis based on the conceptual model, the final conclusion was derived.

Safety awareness and competence, safety communication, management support, risk judgment and safety precautions show positive impact on occupational safety performance in manufacturing MSMEs.

With aim to improve the safety performance of employees at their workplaces, it is necessary to improve occupational safety trainings. In order to generate the knowledge required to modify existing or

create new, adequate training on occupational safety, it is necessary to systemically analyze each position in the company. This involves a detailed study of all the activities and movements in a given workplace, analysis of the ergonomics of the work space, resources and tools etc., in order to establish a potential risk of injury. Only after the performed risk assessments of each position is it possible to create adequate training on occupational safety. As adequate training effectively influences the change of employees' attitudes about occupational safety, it is necessary to pay special attention to demographic characteristics when developing occupational safety training programs. This will enable a more complete individualization of occupational safety training, which should affect their higher efficiency.

Finally, in order to ensure a high-level occupational safety, it is necessary to enhance the organizational environment. In such conditions, with highly occupational safety trained workers, occupational safety performance could be significantly improved and work-related injuries could be reduced to a very minimum, or ideally be completely eliminated.

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CORPORATE SOCIAL RESPONSIBILITY AMONG SMEs IN SERBIA

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Abstract

In recent years, corporate social responsibility (CSR) has attracted much interest in both the academic and professional world, where proof of this are many studies on this topic that have been made. However, most of CSR studies focus on larger organizations, while the focus of this study is on small and medium enterprises (SMEs). This paper presents the results of an empirical investigation of the impact of CSR concept on doing business in small and medium-sized enterprises in Serbia. Theoretical structural model and hypothesis of the impact of CSR concept on the employees' satisfaction were defined. Path coefficients in the structural model were determined using LISREL v.16 software, which proved all defined sets of hypothesis. Performed research shows that, under the conditions of transitional economy in Serbia which have been present for a long time, and according to the opinion of the employees, the CSR concept significantly influences the improvement of entrepreneur's performance, which contributes to the satisfaction of employees in SMEs.

Keywords: *CSR, Business performance, SMEs, Employee's Satisfaction*

1. INTRODUCTION

Corporate social responsibility (CSR) has been a major focus among researchers and business practitioners during the past few decades, because a growing number of firms have invested considerable financial resources implementing corporate social responsibility strategies, i.e., developing a process to integrate social, environmental, ethical and human rights concerns into their business operations and core strategy in close collaboration with their stakeholders. While different approaches have been taken to study the topic of CSR, its impact on various business functions has been of particular interest. Corporate social responsibility, corporate social performance and environmental management have received increasing amounts of attention from both academics and practitioners (Lloret, 2016; Martinez-Conesa et al., 2017).

Given the variety of perspectives and views in the academic and professional literature, no single, generally accepted definition of CSR exists, but the most general view is that CSR concerns the responsible role of business in the society, assuming that in an interconnected world, no business can afford to operate in isolation from the society and its constituencies (Moon et al., 2017).

Two groups of complementary reasons have been identified to explain the firm's engagement in CSR: on one hand, those of a normative perspective, concerned with the moral correctness of firms and their managers, and on the other, those arising from an instrumental perspective, more related to the traditional performance goals of profitability and business growth (Madueño et al., 2016).

The main weaknesses of CSR studies are that (1) they impose certain assumptions about what CSR means based on theoretically developed measurement scales; (2) they often share the instrumental perspective on CSR as a business case; and (3) they do not consider that a particular understanding of CSR can come through a "local

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adaptation”, rooted in factors significant to a certain society (Golob et al., 2018).

Research on corporate sustainability shows that it is necessary to consider three dimensions (economic, social, and environmental) as well as their impact and interrelations (Martinez-Conesa et al., 2017).

Most of the existing studies focus on large multinational corporations (Baumann-Pauly and Scherer, 2012), however, little attention has been given to the roles that small and medium sized enterprises (SMEs) can play in corporate sustainability (Mousiolis et al., 2015).

Small and medium-sized enterprises or small and medium-sized businesses (SMBs) are businesses whose personnel numbers fall below certain limits. The abbreviation “SME” is used by international organizations such as the World Bank, the United Nations and the World Trade Organization (WTO). The European definition of SME is: “The category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding 50 million euro, and/or an annual balance sheet total not exceeding 43 million euro.” (European Commission, 2011). The European Commission in 2011 said it would open a consultation on the definition of SMEs in 2012. In Europe, there are three broad parameters which define SMEs: Micro-enterprises have up to 10 employees; small enterprises have up to 50 employees; and medium-sized enterprises have up to 250 employees.

SMEs play an important role in different economies. This is confirmed by numerous reports on the importance of SMEs for different countries. According to the report of European Commission, small and medium-sized enterprises are the backbone of Europe's economy. They represent 99% of all businesses in the European Union (EU). In the past five years, they have created around 85% of new jobs and provided two-thirds of the total private sector employment in the EU. The European Commission considers SMEs and entrepreneurship as key to ensuring economic growth, innovation,

job creation, and social integration in the EU (https://ec.europa.eu/growth/smes_en).

Firms of all types and sizes are invited to become socially responsible, ecologically sustainable and economically competitive. However, the real development that CSR has experienced in small and medium enterprises (SMEs) is different than that in large corporations (Orlitzky et al., 2011).

Despite the existence of extensive CSR literature on consumer behavior and firm performance, less attention has been given to the research that attempts to elucidate the implications of CSR for employees and their satisfaction (Chen et al., 2012; Song et al., 2013; Saner and Eyupoglu, 2015).

There is a gap between the scientific literature and the implementation of the CSR concept in practice, because it is very often that the concept of CSR is interpreted in the wrong way. Considering the fact that the manner of managing and using the concept of CSR in Serbia in SMEs has not been sufficiently explored, the main motive of the author is to examine the degree of knowledge of the CSR concept among employees in Serbia, as well as to explore the impact of CSR activities, CSR dimension and company's performance, which together affect the satisfaction of employees. Considering that the human factor is the most important resource in any organization it is very important to explore what has an impact on the employees' satisfaction.

The remainder of the paper is organized as follows: Section 2 contains theoretical framework related to CSR practices in SMEs within which empirical evidence and research hypotheses are analyzed; Section 3 describes the methodology (data collection and sample), the variables and model used for testing the hypotheses; Section 4 provides the results of testing the hypotheses; and Section 5 summarizes the obtained findings and presents the main conclusions.

2. LITERATURE REVIEW AND CONCEPTUAL MODEL

Baumgartner (2014) developed an integrated framework for corporate sustainability management. The framework consists of different management levels and is supplemented with the classification of management instruments to support planning, implementing, reviewing, and controlling corporate sustainability activities.

The academic community has shown that CSR orientation is the key for stimulating long-term stability, growth and sustainable performance in a dynamic and changing environment (Martinez-Conesa et al., 2017). The lack of knowledge that SME managers usually show concerning CSR, the close relations with stakeholders, and the tendency to use informal communication mechanisms, were identified as the reasons for the limited research conducted so far (Russo and Tencati, 2009).

The most of the academic research on management was concentrated on large companies, including that concerning the matters of corporate social responsibility (Baumann-Pauly et al., 2013). The main focus of CSR in small and medium sized enterprises received a limited consideration by researchers and authors (Torugsa et al., 2012; Battagli et al., 2014; Mousiolisa et al., 2015).

Coppa and Sriramesh (2011) conducted one of the first studies of CSR among SMEs in Italy, while, Pastrana and Sriramesh, (2014) in their study, provided insights of CSR practices among SMEs in Colombia based on a theoretical framework with the hope of contributing to the global body of knowledge. They showed that Colombian SMEs practice informal internal and external CSR characterized by being influenced by cultural and contextual aspects of the country's society (Pastrana and Sriramesh, 2014).

Matinaro et al., (2019) investigated the objective to develop a business model that helps SMEs operate in a more sustainable way. Table 1 presents the scientific literature that deals with CSR in SMEs.

Table 1. State-of-the-art scientific literature

Authors	Year	Research method
Martinez-Conesa, I., Soto-Acosta, P., Palacios-Manzano, M.	2017	The paper assesses the relationship of CSR activities with organizational innovation and firm performance in a single integrative model by using structural equation modelling.
Madueño, J.H., Jorge, M.L., Conesa, I.M., Martínez-Martínez, D.	2016	The author investigated the relationship between corporate social responsibility and competitive performance in Spanish SMEs. This research includes empirical evidence from a stakeholders' perspective.
Castejón, P.J.M., López, B.A.	2016	The objective of this research is to determine whether there are differences in orientation towards CSR between family owned SMEs and not family owned ones, and if this fact can be influenced by manager's gender and level of formal studies, among other factors.
Mousiolis, D.T., Zaridis, A.D., Karamanis, K., Rontogianni, A.	2015	The purpose of this paper is investigation on how the strategic decisions are affected by CSR's factors, and how different strategies are being adopted by the SMEs compared to the MNEs.

Pastrana, N.A., Sriramesh	2014	This study is dealing with perceptions and practices of Corporate Social Responsibility (CSR) among a sample of Colombian SMEs.
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Based on the analysis of the scientific literature, it can be noticed that, in the field of CSR application in SMEs in Serbia, there is still not enough strong synergy between theory and practice, because there are still no significant scientific publications dealing with CSR in SMEs. One of the main reasons for this is the fact that the implementation of the CSR concept in Serbia is still under development. That was the main reason to investigate the situation in Serbian SMEs.

2.1. CSR activities

Along with the acceleration of CSR strategies, scholars have pursued in-depth studies which analyze the determining factors of CSR activities (Baumgartner and Ebner, 2010; Petrenko et al., 2016) and their impact on firm outcomes, primarily in terms of profitability, innovation, productivity, market value, and total and idiosyncratic risks as well (Jo and Na, 2012; Fatemi et al., 2017; Lins et al., 2017). A large part of these studies suggests that CSR activities contribute positively to various aspects of a firm's success by providing better access to valuable resources, attracting higher quality employees and allowing for better marketing of products and services (Cheng et al., 2014). However, the empirical evidence shows mixed results and several studies indicate that CSR is a waste of resources that reduces profits and shareholder's value (Barnea and Rubin, 2010).

While many studies focus on CSR engagement within large companies, scarce attention has been paid to the importance of CSR activities for SMEs. Three main factors have been identified as reasons for the limited research conducted thus far (Madueño et al., 2016): the poor familiarity of SMEs managers with CSR activities, the

close relations with stakeholders and the inclination to use informal communication mechanisms (Gangi et al., IN PRESS). However, this statement should not be taken as a proof of absence of CSR actions' implementation because, as demonstrated by various empirical studies (Jamali et al., 2009), SMEs are often “unknowingly” or “silently” socially responsible. Moreover, the idea that CSR can create real advantages for SMEs in particular, especially by reducing information asymmetry, attracting high qualified employees, supporting innovation and winning contracts from large companies that face strict ethical standards is becoming more popular. Therefore, the first hypothesis for testing in this paper is the following:

H1 – CSR activities of SMEs have a positive impact on business performance.

2.2. CSR dimensions

Economic, social and environmental constraints are not simply analytical concepts, but represent main CSR dimensions that an entrepreneur can use to align the business model to business strategy (Baumgartner, 2014; Duthler and Dhanesh, 2018).

Economic dimension refers to the development of enterprises by means of ethical management of the business, and it also refers to the accomplishment of laws and codes of good government (Suárez, 2013). Thus, it involves the development of honest business practice which aim is to offer safe and good quality products by means of innovation and improvement of production processes (Castejón and López, 2016).

Social dimension includes the following practices: hiring people in danger of social exclusion, improvement of employee's living standard, involvement with the creation of employment, encouragement of the staff's professional development, maintenance and improvement of people's living standards and support of the social issues (Aguinis and Glavas, 2012).

Environmental dimension refers to the impact that companies' actions can have on nature, ecosystems, the Earth, air and water. In this sense, we can point out that eco-efficiency and environmental information of the company determine its level of implication and respect to the environment (Suárez, 2013). Based on that, the second hypothesis for testing in this paper is the following:

H2 - CSR dimensions of SMEs have a positive impact on business performance.

2.3. Business performance

In the field of SMEs, most studies, that have analyzed the CSR-performance link, have only made suggestions about strategic CSR adoption and implementation, or have explained some theoretical implications in regards to translating the integration of a socially responsible behavior in business strategy into an improved performance (Tomomi, 2010). Only a few authors have been concerned with providing empirical evidence to corroborate these theoretical implications (Niehm et al., 2008; Hammann et al., 2009; Torugsa et al., 2012; Battaglia et al., 2014; Turyakira et al., 2014). A part of the empirical outcomes support the social impact hypothesis and lead to the rejection of any negative relationship between CSR and business performance (Madueño et al., 2016). Aguinis and Glavas (2012) highlighted the gap that exists in the literature in regards to the relationship between CSR and business performance, and encouraged researchers to clarify some of the “mechanisms” that make this association possible. While the relationship between CSR and business performance measures has already been scrutinized in several works, most of them focused on large corporations, the focus in this study is on SMEs. The managers who are able to establish the appropriate objectives and join efforts to accomplish a socially responsible behavior, will contribute to the short-term benefit and to the competitiveness and long-term business growth (Revell et al., 2010). From these arguments, the following hypothesis is proposed:

H3 - Business performance has a positive impact on employee's satisfaction.

2.4. Employees' Satisfaction

Locke (1969) defined employee's satisfaction as the pleasurable emotional state resulting from the appraisal of one's job as achieving or facilitating the achievement of one's job values. Dawis and Lofquist (1984) defined job satisfaction as the result of the worker's appraisal of the degree to which the work environment fulfills the individual's needs, and Porter et al., (1975) defined job satisfaction as one's reaction against his/her occupation or organization. In general, it can be said that job satisfaction is an affective reaction to a job that results from the person's comparison of actual outcomes with those that are desired, anticipated, or deserved (Oshagbemi, 2000).

Morgan (2011) in her study used a method which involved using employee satisfaction survey to reveal company's problems, to correct the drawbacks and to achieve the management goal (Chen et al., 2012).

Based on the defined hypotheses, a conceptual model was developed (Figure 1). The model consists of 31 observed variables and 4 latent variables, one of which is exogenous and 3 are endogenous. The conceptual model determines the links between latent and observed variables.

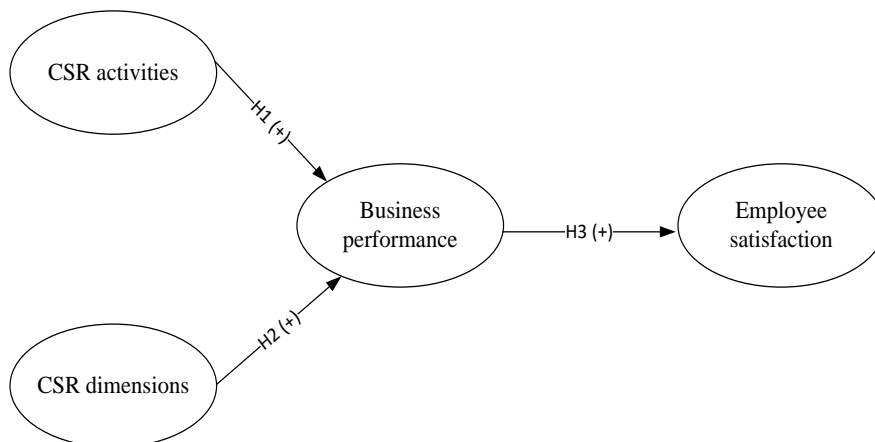


Figure 1. The conceptual model

3. METHODOLOGY

CSR in SMEs is influenced by numerous factors, therefore, the research part represents the employees' attitudes about the level of knowledge of the CSR concept, the demographic characteristics of the respondents, as well as those of the company. In addition, how CSR activities and dimensions affect the performance of companies and whether the company's performance has a positive impact on employees' loyalty will be analyzed as well.

The aim of this research is to determine the level of participation of corporate social responsibility in SMEs and to what extent this practice is used, employee's awareness and perception of CSR, and the impact of this concept on employee's satisfaction.

In order to examine the opinions and attitudes of employees in SMEs in Serbia, a survey was conducted in 2018 on the territory of whole Serbia. The survey was conducted using an anonymous questionnaire which contained 167 questions divided into three groups.

The questionnaire consists of three parts, which is shown in the Appendix. The first part of the questionnaire contains 96 questions,

which reveal the understanding of the CSR, to what extent this concept is applied and what activities it is related to. The second part of the questionnaire consists of 33 questions that analyze the impact of CSR dimensions on the company's business. The third part of the questionnaire includes 11 questions that relate to the employees and enterprises' demographic data.

A total of 250 employees were surveyed, of which the number of valid surveys is 236 (94.4%), while the number of non-valid surveys is 14 (5.6%). The structure of respondents in the sample is heterogeneous since the survey involves employees of different levels of education, working in different sectors, companies of different sizes, etc.

For the grading of the answers received, Likert's five-point scale was used, where 1 denotes "I do not agree", while 5 means "I completely agree".

Validation of the theoretical model was carried out with the software package SPSS st. 18 and LISREL V. 16. For the empirical validation of the hypothetical model in this paper, the Structural Equation Modelling (SEM) methodology was used. In order to test the reliability and validity of the research model the measurement model was conducted with the Confirmatory Factor Analysis (CFA).

3.1. Results and Discussions

The first part analyses the structure of the demographic data. Regarding the demographic data of the employees (Table 2), attention is focused on the following four criteria: age of the respondents; gender of respondents; level of education of respondents; position in the company and work experience. In addition, Table 2 also shows the demographic structure of the analyzed enterprises.

Table 2. The demographic characteristics of the respondents and enterprises

Variables	Category	N	Percentage (%)
Age	18-25	17	7.2
	26-35	85	36.0
	36-45	49	20.8
	46-55	71	30.1
	55-65	10	4.2
	Over 65	4	1.7
Gender	Male	99	41.9
	Female	137	58.1
Level of education	High school diploma	13	5.5
	Diploma of the Vocational Education	125	53
	BSc	65	27.5
	MSc	20	8.5
	PhD	9	3.8
	Other (please specify)	4	1.7
	Position in the company	Worker	180
	Headworker	40	16.9
	Supervisor	16	6.8

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Years of work experience	Up to 5	86	36.4
	6-10	51	21.6
	11-20	47	19.9
	21-30	22	9.3
	Over 30 years	30	12.7
Firm age (years since in corporation)	0-5	14	5.9
	6-10	18	7.6
	11-15	72	30.5
	16-20	45	19.1
	21-50	52	22.0
	>50	35	14.8
Current firm size (number of employees)	4-10	18	3.8
	11-50	41	8.7
	51-100	76	16.1
	101-250	101	21.4
Development of the number of employees in the past	Increasing	148	62.7
	Decreasing	88	37.3
Industry	Chemical industry	8	3.4
	Electronics	4	1.7
	Engineering	11	4.7
	Infrastructure	9	3.8
	IT/media	10	4.2
	Professional services	27	11.4

Retail	11	4.7
Financial	8	3.4
Education	39	16.5
Footwear industry	55	23.3
Textile industry	37	15.7
Other	17	7.2

Based on the results shown in Table 2, the highest number of respondents (36%) was between 26-35 years. Most of them are female (58.1%). When it comes to the demographic structure of the enterprises, most of them were workers (76.3%) who work in different industries, and have up to 5 years of work experience (36.4%). Just over a third of companies surveyed (30.5%) are on the market between 11-15 years. 21.4% of respondents work in enterprises which employ between 101-250 workers, and 62.7% of employees stated that the number of employees in their enterprises have increased in recent years.

In order to examine the opinions and attitudes of SME employees, how many respondents were familiar with the concept of CSR was analyzed. The obtained results are presented in Table 3.

Table 3. Answers of respondents to the question: How familiar are you with the concept of CSR?

	Frequency	Percent	Cumulative Percent
I have never heard of it before taking this survey	51	21.6	21.6
I've heard of the concept, but don't really know what it is	96	40.7	62.3

I know what it is and could explain its importance to someone	76	32.2	94.5
I am interested in CSR and actively participate in my company	13	5.5	100.0
Total	236	100.0	

Of the total number of respondents, 40.7% said that they had heard about the CSR concept, but they cannot define it precisely. A slightly lower percentage, 32.2%, is familiar with the concept of CSR and its way of functioning. In addition, even one-fifth of respondents had never heard to the concept of CSR.

In addition to the knowledge of the concept of CSR, the attitude of employees, and whether they consider it an advantage or disadvantage for doing business was investigated in this paper as well. The obtained results are presented in Table 4.

Table 4. Answers of respondents to the question: To your opinion is CSR an advantage or disadvantage?

	Frequency	Percent	Cumulative Percent
Advantage	191	80.9	80.9
Disadvantage	20	8.5	89.4
Has no influence	25	10.6	100
Total	236	100,0	

Most of the respondents (80.9%) consider that the CSR is a big advantage for the enterprise while 8.5% have a negative attitude, and 10.6% think that the implementation of CSR has no impact on the company's operations.

For the empirical validation of the hypothetical model, Figure 1, the SEM methodology was used (Bou-Llusar et al., 2009; Milošević et al., 2018; Đorđević et al., 2018).

In order to define a model using confirmatory factor analysis (CFA), data reliability was first performed. The reliability of the measurement scale from the questionnaire and internal consistency were verified by using the Cronbach α coefficient. All obtained values in each group of questions are considered to be acceptable, since they are above the recommended values according to the relevant literature (Cronbach, 1951, Nannally, 1978; Milijić et al., 2013). All obtained values for the groups, which are shown in Table 5, indicate that the requirement for the internal consistency is fulfilled.

Table 5. Internal consistency coefficient

Variables	No. of items	Mean	Variance	Cronbach's alpha
CSR activities	5	2.97	1.94	0.773
CSR dimensions	5	3.07	1.78	0.863
Business performance	9	3.51	1.61	0.866
Employee satisfaction	12	3.66	1.45	0.893

In the next step, the Confirmatory Factor Analysis was conducted. The results show that the standardized factor loadings are over 0.5, which shows good loadings (Hair et al., 2006), while the average variances extracted (AVE) show that one structure have a high convergent validity, approximately 0.5 ($AVE \geq 0.5$), whereas in three groups of questions AVE is ≤ 0.5 (Table 3).

Table 6. Results for the measurement model

Variables	Standardized factor loading	Critical ratio (t-value)	AVE	Discriminant Validation	P
CSR activities	0.68				
Q5_1	0.73	10.73			
Q5_2	0.48	11.94	0.42	0.646	***
Q5_3	0.68	7.19			
Q5_4	0.63	10.91			
Q5_5		9.77			
CSR dimensions					
Q13_1	0.78	13.77			
Q13_2	0.83	14.92	0.57	0.757	***
Q13_3	0.82	14.80			
Q13_4	0.74	12.64			
Q13_5	0.59	9.37			
Employee satisfaction					
Q14_1	0.55	8.62			
Q14_2	0.63	10.28			
Q14_3	0.64	10.32			
Q14_4	0.61	9.86	0.42	0.648	***
Q14_5	0.69	11.42			
Q14_6	0.69	11.56			
Q14_7	0.75	12.81			
Q14_8	0.65	10.59			
Q14_9	0.60	9.69			
Business performance					
	0.72	12.23			
Q18_1	0.67	11.22			
Q18_2	0.56	8.87			
Q18_3	0.51	7.94	0.42	0.645	***
Q18_4	0.51	9.96			
Q18_5	0.61	10.61			
Q18_6	0.64	12.26			
Q18_6	0.72	10.06			

Q18_7	0.62	12.42			
Q18_8	0.72	11.51			
Q18_9	0.68	7.69			
Q18_10	0.49	12.81			
Q18_11	0.74				
Q18_12					

*** (p<0.01)

The measurement model for the framework was developed by combining 31 items based on each final individual measurement model. According to the results, all load factor indicators (p<0.01) are higher than 0.50, as shown in Table 6, and their structures are statistically significant, indicating that the convergent validity was achieved (Hair et al., 1998), i.e. the indicators used in this study adequately represent concepts to which they refer.

By looking at the model fit indices, it can be observed that the model adequately fits the data, as shown through the absolute fit indices and incremental fit indices, the RMSEA values. Measurement model fitting is represented by the indices shown in Table 7. The model used in this paper shows the fit indices are higher than the recommended values, thus the construct validity for the measurement model is acceptable.

Table 7. Fit index for the measurement model

Fit index	χ^2/df	RMSEA	RMR	CFI	NFI	NNFI	IFI	RFI
$\chi^2=1055.96$ df=428 (p<0.001)	2.467	0.079	0.06	0.94	0.90	0.94	0.94	0.90
Accepted fit	<3	<0.08	<0.10	>0.90	>0.90	>0.90	>0.90	>0.90

Goodness-of-fit index (GFI) is defined as the extent to which the model is applicable in comparison to the situation when there is no model. Good fitting is indicated by the value of GFI above 0.90 (Molina et al., 2007). In addition to GFI and RMSA indicators for assessing the quality of fitting, the following indicators are also used: Comparative Fit Index (CFI), Normed Fit Index (NFI), Non-Normed Fit Index (NNFI), Incremental Fit Index (IFI), and Relative Fit Index (RFI). The following results were obtained in the investigated model: 0.94, 0.90, 0.94, 0.94 and 0.90, respectively. The obtained values were greater than or equal to the value of 0.9 and, thus, they can be considered as absolutely satisfactory. It is also necessary to consider the indicator Minimum Fit Function Chi-Square/Degree of Freedom χ^2/df which in this case is 2.467, while the required value should be less than 3.

Before testing the structural model, it is necessary to define the correlation model, which establishes correlational connections among defined groups of questions, in order to confirm that the 32 measurable variables reflect the 4 latent variables in a reliable manner. Table 8 shows the results of the discriminant validity and correlations between 4 groups of questions.

Table 8 shows the correlation between the observed constructs, where a positive correlation with statistical significance can be found to be approximately $p < 0.01$. The diagonal presents the result of testing discriminatory validity. Since the values of discriminatory validity are higher than the values of mutual correlation among the observed constructs, existence of discriminatory validity can be noticed.

Table 8. Correlation Matrix and Discriminant Validity

	CSR activities	CSR dimensions	Business performance	Employee satisfaction
CSR activities	0.646			
CSR dimensions	0.60* (0.06)	0.757		
Business performance	0.56* (0.06)	0.51* (0.03)	0.648	
Employee satisfaction	0.56* (0.06)	0.49* (0.06)	0.59* (0.05)	0.645

*Correlation are significant at $p < 0.01$

If the measurement model does fit the data well and is sufficiently valid, then it can be transformed into a full structural model using a theoretical basis, which will be further explained in this paper. The structural model can be tested using SEM analysis (Figure 3). The SEM basically combines path analysis and measurement model. Path analysis assesses the relationships between observed variables or indicators of latent constructs, and SEM examines the relationships among latent constructs.

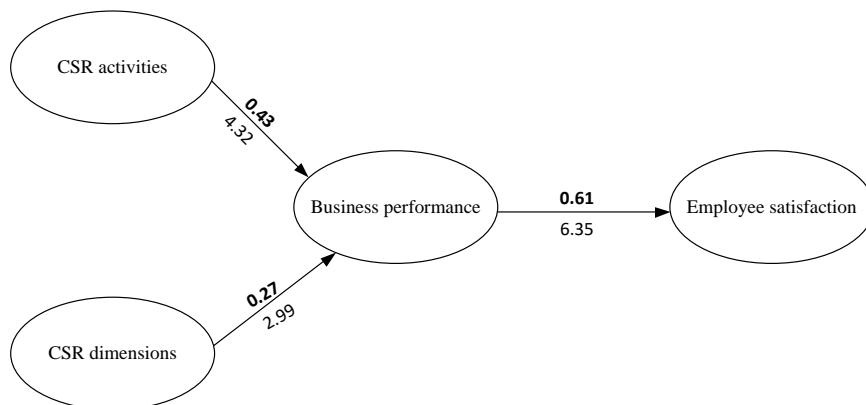


Figure 2. Structural model for measuring impact of CSR on employee satisfaction

The obtained results, which are shown in Figure 2 show regression coefficients - paths (the correlations between the defined groups of latent variables in the model which is shown in Figure 1).

The structural model in Figure 2 shows the proposed relationship between the exogenous variables and the endogenous variables. Exogenous variables are synonymous with independent variables in regression analysis and they cause fluctuations in the values of other variables in the model. Changes in the values of exogenous variables are not explained by the model. In contrast, endogenous variables are similar to dependent variables and are influenced by the exogenous variables in the model, either directly or indirectly. CSR activities, CSR dimensions and Business performance are the exogenous variables in the model. Employee satisfaction is the endogenous variable in the model. Each of these endogenous variables is seen as an outcome for a basis on which the hypotheses can be developed within the study. In other words, the proposed relationships between research variables, as shown in this path diagram, can be accessed through the statistical outcome of the model.

The regression coefficients (β coefficient) and coefficients of determination R^2 for testing the models were used. The regression coefficients (β) explain the strength and character of the relations between the dependent and independent variables for both observed groups, which are shown in Table 9.

Table 9. Path coefficients and T-values between observed and latent variables

Variables	n	Standardized factor loading	Critical ratio or (t-value)	R²
CSR activities				
Q5_1	5	0.68	10.72	/
Q5_2		0.75	12.18	
Q5_3		0.47	7.02	
Q5_4		0.69	10.94	
Q5_5		0.62	9.59	
CSR dimensions				
Q13_1	5	0.78	13.74	/
Q13_2		0.83	14.92	
Q13_3		0.82	14.75	
Q13_4		0.74	12.65	
Q13_5		0.59	9.40	
Employee satisfaction				
Q14_1	9	0.57		0.39
Q14_2		0.64	7.59	
Q14_3		0.63	7.53	
Q14_4		0.64	7.57	
Q14_5		0.68	7.90	
Q14_6		0.67	7.86	
Q14_7		0.69	7.99	
Q14_8		0.69	8.00	
Q14_9		0.64	7.59	
Business performance	12			0.38

Q18_1	0.68	
Q18_2	0.67	9.49
Q18_3	0.52	7.44
Q18_4	0.51	7.29
Q18_5	0.61	8.62
Q18_6	0.64	9.06
Q18_7	0.72	10.02
Q18_8	0.62	8.76
Q18_9	0.72	10.05
Q18_10	0.69	9.60
Q18_11	0.50	7.07
Q18_12	0.74	10.23

The coefficient of determination R^2 is used to show the participation of the explained variance in total, and how many variations of dependent variable is explained by the independent variable as well. The values of the coefficient of determination for each observed construct are presented in Table 9, while the total value of the variance in the model is $R^2 = 38.5\%$.

Table 10. Fit index for the structural model

Fit index	χ^2/df	RMSEA	RMR	CFI	NFI	NNFI	IFI	RFI
$\chi^2=1090.36$ df=440 (p<0.000)	2.478	0.079	0.08	0.94	0.90	0.94	0.94	0.90
Accepted fit	<3	<0.08	<0.10	>0.90	>0.90	>0.90	>0.90	>0.90

All load factors and chi-square goodness-of-fit statistics of the structural model $\chi^2 = 1090.36$, $df = 440$, $\chi^2/df = 2.478$, have statistical significance ($p < 0.05$). Fit indices the Root Mean Square Error of Approximation (RMSEA) = 0.079, (CFI) = 0.94, (NFI) = 0.90, (NNFI) = 0.94, (IFI) = 0.94, (RFI) = 0.90, satisfy accepted fit (Table 10).

Based on obtained fit indices the structural model can be considered appropriate for the observed variance-covariance matrix in relation to the measurement model as well as the fulfilment of conditions for the interpretation of structural coefficients (Byrne, 2004).

4. HYPOTHESES TESTING

A hypothesis is a statement that the researcher sets out as to whether to accept or reject based on the data collected. This section discusses the results of the structural model that was derived from the SEM and the results of hypotheses testing. Table 11 demonstrates the summarized results of the three hypotheses.

Table 11. Path coefficients and T-values

The relationship or path	Standardized parameters	T-value	Causal relations
H1. CSR activities → Business performance	0.43	4.32	R1: yes
H2. CSR dimensions → Business performance	0.27	2.99	R1: yes
H3. Business performance → Employee satisfaction	0.61	6.35	R1: yes

The results of the structural model shown in Figure 2, provide information on the values of the path coefficients with degrees of significance, t-values and coefficients of determination R2. The presented results suggest that the CSR activities have a positive impact on the Business performance (b = 0.43, t = 4.32, p < 0.05), and CSR dimensions have a positive impact on the Business performance (b = 0.27, t = 2.99, p < 0.05) as well, which confirm the hypothesis H1 and H2. Business performance has a positive impact on Employee

satisfaction ($b = 0.61$, $t = 6.35$, $p < 0.05$), which confirms the hypothesis H3.

The results of the structural analysis indicate the power of predictions for the variables in the model, as well as the fact that all hypotheses in the model are confirmed.

The results of this study are partially in concurrence with the observations reported by researchers Pastrana and Sriramesh, (2014), who investigated the perceiving benefits of CSR practices within SMEs such as improved organizational culture, attracting and maintaining best employees, improving image and reputation and improve customer loyalty (Pastrana and Sriramesh, 2014; Castejón and López, 2016; Martinez-Conesa et al., 2017).

Hsieh et al. examined the influence of entrepreneurial characteristics – experience, rationales and innovation strategies – on multiple dimensions of internationalization speed, while on the other hand Martinez-Conesa et al., 2017 investigated the link between CSR and business value and concluded that results supported a partial mediation effect of innovation performance on the relationship between CSR and firm performance, since the effect of CSR on firm performance shrank upon the addition of innovation performance to the model. Castejón and López, 2016 were focused on family owned SMEs and they wanted to determine whether there were differences in orientation towards CSR between family owned SMEs and not family owned ones, and if this fact could be influenced by gender and the level of formal studies of the manager, among other factors. The results, on a sample of 123 SMEs, indicated that family owned SMEs were more socially responsible than not family owned ones. Pastrana and Sriramesh, 2014 investigated the perceiving benefits of CSR practices within SMEs, such as improved organizational culture, attracting and maintaining best employees, improving image and reputation and improving customer loyalty.

The outcomes of the quantitative analysis in this research should contribute to the analysis of the relationship between the CSR

activities, CSR dimensions, Business performance and Employee satisfaction under the conditions of transitional economy in doing business in SMEs.

Some limitations regarding the results of this study should be taken into consideration. The sample used as a basis for the quantitative analysis is relatively small compared to many other quantitative studies on the impact of CSR concept on the doing business in SMEs in the developed economies. The reason for this is that the number of enterprises which have implemented CSR concept is still much smaller compared to the developed countries.

It would be very interesting to examine the impact of nature of the organization's business, material and nonmaterial competence and other relevant factors on the employee's satisfaction considered in this study. This would be rather difficult to achieve, especially due to the lack of centralized data collection performed by the relevant institutions in Serbia, nevertheless, this is certainly one of the next steps in the continuation of the research on the analyzed issues, given that, in Serbia all SMEs do not publish annual reports on CSR implementation in their enterprises.

5. CONCLUSION

The primary purpose of this study was to empirically analyze Corporate Social Responsibility practices among SMEs in Serbia. The outcome of the research presented in this paper is related to the impact of the elements of CSR concept on employee's satisfaction which works in the SMEs.

The obtained results indicate that the employees who are working in SMEs are still not familiar enough with the CSR concept, but they showed great interest in getting better acquainted with the benefits of this concept. The obtained results indicate that CSR activities and dimensions have positive influence on Business Performance, which has a direct positive impact on employee's satisfaction, thus confirming all three examined hypotheses.

Based on the findings of the present study, following recommendations can be made. First, it is believed that the importance of the use of CSR in SMEs should be emphasized in organizations because it has a positive impact on business performance and it has beneficial influence on competitive advantages as well. Hence, organizations should provide employees with additional courses about implementation of CRS so that all employees would be familiar with the benefits of this concept. Last, this study aspires to make a number of suggestions that can be implemented by future researchers. First of all, the current model created for this study can be further developed through the integration of additional relevant constructs and research, and it can be expanded on the bigger sample.

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APPENDIX

- Q5_1 Workforce development activities
- Q5_2 Workforce stimulation activities
- Q5_3 Stimulating sustainable local economy and community activities
- Q5_4 Stakeholder engagement in decision making
- Q5_5 Measures to protect the environment

- Q13_1 Environmental
- Q13_2 Social
- Q13_3 Economic
- Q13_4 Stakeholder
- Q13_5 Voluntariness

- Q14_1 Sales (long-term increase)
- Q14_2 Profit
- Q14_3 Image
- Q14_4 Customer loyalty
- Q14_5 Better conditions to attract qualified employees
- Q14_6 Employee loyalty/engagement
- Q14_7 Trust (employees, customers, ...)
- Q14_8 Cost reduction
- Q14_9 Marketing

- Q18_1 How happy are you at work?
- Q18_2 How would you rate your organization's culture?
- Q18_3 How valued do you feel at work?
- Q18_4 How would you rate your colleagues and team members?
- Q18_5 How would you rate the performance of your direct supervisor?
- Q18_6 How much opportunity do you have for professional growth in this organization?
- Q18_7 I am inspired to meet my goals at work.

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- Q18_8** I feel completely involved in my work.
Q18_9 I get excited when going to my work.
Q18_10 How likely is it that you would recommend our organization's products or services to a friend or colleague?
Q18_11 How well do you think the company services its customers?
Q18_12 Do you talk about your company with pleasure, sometimes with proudness outside of your working place talking with other people within your private neighborhood or at parties?

CONDITIONS OF DEVELOPMENT OF SMALL AND MEDIUM ENTERPRISES IN CLOTHING INDUSTRY

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Abstract

In the case of SMEs in the clothing industry in Serbia and in developing countries, we can notice certain correlation relations between technological and technical innovations, ICT implementation, knowledge and entrepreneurship as key parameters that influence the strengthening of competitiveness of SMEs, but also the basic elements of sustainability and stimulation of economic growth and development of every society. Fast and efficient implementation of ICT in production processes is the basis of the successful work and development of every economy today, so all the recommendations and trends in the business of SMEs of the garment industry are focused on this segment. Efficient application of quality innovations can be considered as the outcome of the development of scientific research capacities, but with the necessary security and other requirements for capitalizing knowledge, i.e. for their transformation into economic value, which will be implemented by a quality and well-trained professional staff. The lack of quality, qualified and well-trained personnel, with the implementation of ICT, occupies a very high position in the hierarchy of the conditions of modern, high-quality and efficient business of SMEs in the clothing industry.

Keywords: *SMEs, Clothing Industry, Innovation, Human Resources, Education*

1. INTRODUCTION

Under modern business conditions, companies must find new solutions on a daily basis to maintain and increase their competitiveness, which is the basis for the success or failure of each company (Porter, 2009). As Tehseen & Ramayah (2015) state the entrepreneurs must be competitive enough in order to develop successful relationships with their suppliers and customers, then, accordingly, the sustainable competitive advantage can be achieved, which will, undoubtedly, ensure the long term success of SMEs businesses. It is possible for projects based on new knowledge, skills and innovations to achieve the competitiveness of the company, as well as the development of the sectors in which they operate. The SME sector is the leader in the development of innovative activities, and the medium size of the organization slowly becomes decisive for business success. Reducing the average size of the company is conditioned by the necessity of various forms of networking and cooperation between companies that operate on the international market in the function of achieving a synergistic effect. In the final outcome this implies that the creation of unions or alliances is a necessity not only for the SME sector, but for large enterprises (Urošević & Đorđević, 2010).

One of the more significant trends in the last fifteen years is also the reduction in the average size of the company. According to Drucker (1996), a shift from a large enterprise to a medium-sized one which represents the focus of the economy is a radical shift in a trend that has dominated in developed countries for over a century. Drucker (2005) believes that in the future "to be great" in itself will not be desirable. In the time to come, achieving successful results will be related to the adequate size of the organization - the medium size of the company will be imperative.

Small and medium-sized enterprises (SMEs) are considered one of the leading forces for the sustainable economic development of every

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economy. They stimulate private ownership and entrepreneurial abilities that, thanks to flexibility, can quickly adapt to changes in the market, generate employment, create diversified economic activity, contribute to exports and trade, and thus represent the pillar of the development of the economy in transition. The development of the SME sector is one of the key factors in the process of European integration of the Republic of Serbia. SMEs are an important source of business links with other European countries and greatly help the process of integration of the Republic of Serbia into wider European economic frameworks (Urošević & Stamatović, 2011).

Out of the total number of small and medium-sized enterprises in the manufacturing industry, production of clothing includes 9.7%, and 8.6% of the total number of employees in the manufacturing industry in the production of clothing. In the production of clothing in Serbia in the quarter of 2017, the number of employees was 36,328, which is by 3.7% more than in the same quarter of 2016. Also, clothing production in 2017 increased by 3.5% (Serbian Chamber of Commerce Republic Statistical Office of the Republic of Serbia).

According to the Statistical Office of the Republic of Serbia, the Serbian fashion industry in 2017 exported goods for more than one billion euros and generated a surplus of 101.4 million. More than 70 percent of our products are being marketed by our fashion industry on the European Union market, and after the fall in 2014, exports to Russia are growing. The recovery of this sector started in 2005, with the beginning of the implementation of the "Textile Agreement", which allowed the EU to provide free taxation for our country. In the last few years, exports of Serbian textiles and shoemakers averaged about 10% annually (Republic Statistical Office of the Republic of Serbia).

Knowledge in modern society today - the society of technology, informatics, communication and information - is the main driving factor in the economic and social growth and development of the

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modern state, and as such it has become a key resource in a new society in which the level of knowledge defines the level of economic and social development (Dimitrijević et al., 2018).

The role and importance of human resources and their competences in the clothing industry sector is high, because this sector can be, for some of its characteristics, included in the sector of creative industrial branches, where the competence of employees is especially important and has a decisive influence on their performance. The clothing industry is an industry that is characterized by a highly developed and demanding market both on the supply side and on the demand side (Urošević, 2017). The importance of human capital in the clothing industry is reflected in their role in improving efficiency and effectiveness, as well as in achieving long-term development goals of the company, because human capital includes the skills and abilities of employees working in the company, their experience, motivation, leadership, etc., and it represents the basic category (Orčić & Urošević, 2016). It must be borne in mind that if one company wants to achieve its objectives, it is necessary to pay maximum attention to the employees and achieve the atmosphere which results in satisfaction and motivation, and which is crucial for achieving of specific goals (Urošević & Milijić, 2012).

The lack or the minimum existence of continuous education programs, with the existing relationship between the main bearers of economic and development activities, shows that SMEs do not have a favorable business environment and appropriate staff. Gwendolyn O'Neal's (2007) research on new ways and learning strategies aimed at creating an expert for the future of SMEs of the dressing industry, and Lussier and Phifer (2001) research highlights the importance and impact of human resources on competitiveness, with a critical overview of SMEs in Eastern Europe, for whose owners claims to have prejudices about the importance of human resources.

2. SPECIFICATIONS OF THE CONDITIONS OF OPERATIONS OF SMEs

The development of the SME sector significantly influences the improvement of the competitiveness of the national economy and is one of the important priorities of the domestic economy. The most important role of the SME sector should be reflected in the development of competitiveness at the level of the national economy in the function of improving the international business of the domestic economy.

Small and medium-sized enterprises (SMEs) represent a specific form of organization of economic entities that, with their quantitative and qualitative characteristics, are separated from the sector of large economic entities. The most important characteristic of small and medium-sized enterprises is certainly their organization, the volume of available resources, as well as the relationships they form with their business environment. SMEs were created as a consequence of the current tendency to reduce the size of the organization, which was due to a very pronounced change in the conditions of business. Under such conditions, a small organization has proven to be more responsive, more manageable and more capable of motivating its employees to engage in solving new problems. Famous theoretician Peter Drucker (2005) thinks that the medium-sized company is optimal for business in modern conditions because it is more innovative and open to change. Thus, Bee-Yan Aw (2002), using Taiwan-based company data, explores the relationship between enterprise size and growth, and shows that firms grow because they are more productive, not because they are larger.

Focusing on the specificity and necessity of development of the SME sector stems from the fact that this group of companies, although not a decisive factor of economic development, is very important from the point of view of achieving the goals of economic development, but also from the point of view of realization of certain social goals. Such

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a role for SMEs is significantly contributed by their flexibility, both market-based and technological. Technological flexibility is largely based on the willingness of this group of companies to innovate, i.e. to introduce new measures, procedures, processes and products into the process of doing business and managing these operations. Thanks to this, SMEs provide important logistical support to large business systems, and their preference for innovation can contribute to increasing both their own and increasing the efficiency of large enterprises with which they are associated in their business process. Small and medium-sized enterprises are distinguished by their strong business flexibility, which is reflected in the speed of responding to the requirements of the environment, as well as in the way of risk reporting. Sustainable development of SMEs which are active in the sector of clothing industry, as well as textile and leather segments of the processing industry, is practically impossible without an adequate risk assessment method, because identifying risks allows both managers and employees to create a better cooperation system in order to mitigate the possible disturbances, which may chain react from an operation malfunction to overall business continuity threat (Dumitrescu et al., 2015). While large firms, in general, avoid taking risks, smaller firms find risk taking beneficial as they enjoy more flexibility in choosing how to adapt to new conditions in order to survive and perform outstandingly in their business environment (Talebi et al., 2015). Developing innovation in small and medium-sized enterprises would contribute to the improvement of these features, especially from the point of view of reducing costs and increasing their price competitiveness.

An important feature of small and medium-sized enterprises is the fact that this group of companies is involved in many business relationships in broader business flows, that it depends on other business entities, but also that other entities depend on it. Therefore, it is necessary for small and medium-sized enterprises to permanently maintain a certain level of development and appropriate activities to support the process of introducing innovations and continuous

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innovations of employees' knowledge. All this contributes to increasing the competitiveness, survival and remaining of these companies on the market (Urošević, 2011).

According to Perry & Towers (2009) SMEs are considered to be comparatively more innovative than large companies, as well as more amenable to undergoing evolution and change. The tendency towards innovativeness of SMEs is reflected in their ability to adapt to technological changes through the introduction of new products, faster adoption of new technological processes, and through greater ability to diversify product assortment. It should not be forgotten that small and medium-sized enterprises also represent a very suitable organizational form for the realization of trial production and for testing new products and processes. In co-operation with large production systems, these entities represent a very important partner and a very important link in the chain of the reproduction process.

From the point of view of the speed of application of new technology, it is important to note that small and medium-sized enterprises are lesser natural environment polluters than large systems.

A consequence of the limited resources that this group of companies has and which forces them to maximize and efficiently use the resources is also stressed. The introduction of innovations in these companies would enable the expansion of their opportunities for hiring new workers, as well as the possibility of absorbing a number of workers released from large, privatized enterprises. This is especially important given the fact that the price of a job in small businesses is about two times lower than in large business systems.

Improving the competitiveness of SMEs implies active application of knowledge, improvement of productivity of knowledge, and application of modern management techniques. In order for the SME sector to achieve an adequate performance on the international market, it is necessary to accept the experience from developed countries, which indicates that the association is the most important factor of the

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internationalization of the operations of small and medium-sized enterprises.

What makes small and medium enterprises, and especially those that are classified as a micro-enterprise group, are special resources. These businesses operate with very limited business resources. Therefore, the basic features that makes managing SMEs so specific is the lack of resources. The management of small and medium-sized enterprises takes the form of enterprise management in conditions of limited resources. Korsakienė & Tvaronavičienė (2012) state that smallness of SMEs is seen as disadvantage in internationalization, as SMEs often lack resources and capabilities that restrict possibility to capture business opportunities.

This affects the definition of the organizational structure of small and medium-sized enterprises - there is a small number of employees (especially in micro companies), employees perform several functions in the company (it is not a rare case that the owner performs several functions), and some functions/activities are extracted outside enterprises. In this regard, it should be highlighted that SMEs are characterized as mainly operated by the owners, so, it can be clearly stated that decisions at different levels are made by the owner in SME, and although this makes operations within one SME rapid and vital and keeps it away from too broad organizational structure success of that SME depends on the owner's view, also it is important for owners to perform their own personal development especially in the area of business management skills through training and take greater responsibility for their own learning (Savrul et al., 2014; Fatoki, 2014). In the final outcome this implies that creating an alliance is a necessity and a market reality. In relationships between university and industry, for instance, small firms use cooperative activities for problem solving in core technological areas, as Blind & Mangelsdorf (2013) state. Mokhtar (2013), finds that cooperative strategies are of crucial importance for the survival, also growth, of SMEs, while explains that is exactly because many of SMEs suffer from a relatively

limited resource base which is especially visible in vital areas, such as R&D and international marketing, and which is consequently their limitation for competing in the global market. Within their limited resources, SMEs must find ways to achieve production economies of scale, to market their products effectively, and to provide satisfactory support services (Bandinelli et al., 2014). Entrepreneurs and other smaller companies expect a close association with the university, other similar businesses on site and the managerial services provided by the Science - Technology Park staff (Dobrosavljević & Živković, 2018). Science - Technology Park are perceived to be beneficial for high-tech SMEs, since scientific parks are property-based initiatives that provide resources and services in logistical, administrative, marketing and financial areas, most of which are essential yet difficult to access for high-tech SMEs (Cheng et al., 2014).

3. THE POSSIBILITIES AND LIMITATIONS ON THE STRENGTHENING THE INNOVATION OF SMEs IN SERBIA

SMEs as generators of economic development of developing countries should have to continuously monitor innovation in business, that is, they should be modernized. As an essential element of the development and modernization policy of each state, the establishment of a balanced long-term development program that is complementary to strategic priorities and national peculiarities, as well as to the real situation and perspectives of technical and technological development of science and industry, it is therefore necessary, due to various specificities and differences to develop their own, original and autochthonous ways of functioning and development (Atilgan et al., 2011; McGovern 2006; Yilmaz & Atilgan 2016).

Specific sectors, such as the textile and clothing industry, have always been locomotive sectors in developing and growing countries. These sectors have contributed to the development of the entrepreneurial structure and the accumulation of necessary capital, which is

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necessary for the development of other sectors. This labor-intensive sector generally takes on this role in developing countries. As far as the labor-intensive sectors are concerned, the textile sector is the most important and the most successful sectors integrated with the industry. The textile sector successfully assumed this role in Turkey, China and Western Europe, and began to give way to other sectors. Today, the textile and clothing sector continues to play a role in developing countries. However, with the acceleration of globalization, the conditions of rivalry quickly became more serious and began to get new forms (Atilgan et al., 2011).

That is why the very current issue of redefining the strategic program of economic development of developing countries, which must include the stimulation of research and development processes of companies with a focus on four areas of operation, from product innovations and technological processes to innovations in the organization of the production system or marketing, and their fast and efficient implementations. Within the research of authors Stanisławski & Olczak (2010) it is stated that foreign surveys show that over 70% of German and Italian companies conduct research and development activities and that notably below this percent are the Benelux countries with around 50%, and Poland, where the factor is less than 13%, while about 50% of companies, covered by the survey, believe that it is important from the point of view of competitiveness.

In addition to the final activities of the transition process to the market conditions of business, the economy of Serbia is characterized by express crisis conditions of business. In such conditions, the SME sector represents a significant backbone of the revival and development of economic activity. Small and medium-sized enterprises are a significant segment of the Serbian economy. This is evidenced by the data from 2016 that the total number of SMEs in Serbia is 340.112. Of the total number of registered companies, small and medium enterprises in Serbia account for 99.9% of total of active enterprises, employ almost 2/3 employees in the non-financial sector

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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and participate with 35% in the formation of GDP of Serbia, while in the total export value these companies participate with 50.2% and the value of total imports from 64%. For such a place and role in the Serbian economy, the SME sector has largely won, among other things, its flexibility, innovation and readiness to change (Serbian Chamber of Commerce).

Table 1. Indicators of business performance within non-financial sector recorded in 2016. (Serbian Chamber of Commerce)

2016.	SME	Large	Total
Number of enterprises	340.112	501	340.613
Number of employees	837.532	437.910	1.275.442
Turnover*	6.609.879	3.539.947	10.149.826
GDP*	1.222.519	953.383	2.175.902
Export*	669.259	969.179	1.638.438
Number of exporters	14.770	326	15.096
Import*	1.180.263	914.431	2.094.694
Number of importers	22.415	399	22.814

*in millions of dinars

Their participation in investments in the non-financial sector amounts to 51.2%. For this place and role in the Serbian economy, the SME sector has largely won, among other things, its flexibility, innovation and readiness for change.

Despite the fact that the SME sector represents a significant factor in the economic life of Serbia, this group of companies is faced with a large number of problems and difficulties in their business and development. The development problems that this group of economic entities faces are particularly marked. The resulting problems are, first of all, the following factors (Kokeza, 2010):

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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- Fragmentation of the resources they have,
- Insufficient dilemma of the financial market,
- Inadequate labor market structures,
- Unfavorable regional resource allocation,
- Inadequate administrative regulations, etc.

The very poor purchasing power, the inaccessibility of working capital and loans, as well as the high costs of reproduction material, pose additional problems for this group of companies, which make it difficult for them not only the current business, but also the process of their development. Low liquidity as well as the low profitability of these companies lead to the problem of the inability to procure new, modern equipment, which negatively affects their costs and competitiveness. This is why the process of innovation in these companies is highly endangered, and consequently their further development and survival on the market are at stake.

Relatively low level of innovation with the largest number of domestic enterprises is one of the most important factors of their low competitiveness. The main obstacles in the development of the competitiveness of domestic enterprises are the following (Urošević et al., 2011):

- Lack of knowledge,
- Outdated equipment and technology,
- Inadequate use of modern methods and techniques of management,
- Insufficiently stimulating business environment,
- Lack of financial capital,
- Internationalization of the operations of domestic enterprises.

The following activities had a positive impact on the improvement of the competitiveness of domestic enterprises:

- Continuous improvement of the knowledge of management and employees,
- Standardization of business quality,
- Development of entrepreneurial culture in the business environment,
- Investing in the development of national brands,

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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- Development of the concept of corporate enterprise entrepreneurship.

The continuous improvement of employees' knowledge as well as the standardization of business quality, whose influence on improving competitiveness according to also represent the elements of innovation in enterprises, so that it can be concluded that the role and importance of innovation for the development of this group of business systems is very important in modern business conditions.

The SME sector is characterized by exceptional connectivity and inter-connectivity between innovation and entrepreneurship. In the realization of these two processes, the ability and the skills of the managers who manage the processes are of crucial importance and depend on the efficiency of carrying out the given processes. Therefore, proper attention must be paid to education and permanent education of managers. The process of educating managers should be given to enable the continuous acquisition and innovation of managerial knowledge, as well as the development of their creativity, problem solving, and the development of entrepreneurial styles and entrepreneurship. Raising the level of managerial knowledge would increase their ability to manage businesses with existing entrepreneurs and executives.

When it comes to the state of innovation of the SME sector in Serbia, there are many indicative data obtained through the research of the Ministry of Economy and Regional Development that studied the situation, problems and needs of these companies. According to the results of this research in the SME sector, innovation is not sufficiently represented in their business. Only about 25% of small and medium-sized enterprises apply innovative activities, primarily in a group of medium-sized enterprises. In addition, less than 10% of this group of companies cooperates with other companies and institutions in the field of innovation and technology transfer, and only one third have introduced new products or processes. As for transfer of technology, as the only possible way to obtain modern knowledge in

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
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this field, this group of companies directs less than 7% of its total investments for that purpose (Competitiveness and Innovation Strategy for Small and Medium Enterprises for the period of 2008-2013).

In modern economic conditions, innovation is one of the most important factors for the business success of economic entities. However, innovation based on knowledge development is not an activity that is immanent to develop itself, so it is necessary for its development to have a long-term, strategic determination of both society as a whole and its economic entities. In the domestic economy, burdened with transitional and crisis processes, the small and medium enterprises sector plays a particularly important role. The given sector has proved to be very vital, flexible and adaptable in relation to market demands. This sector has also greatly contributed to the development of innovation and the application of innovations in its business. Since innovation plays a very important role in the operations of small and medium-sized enterprises, it is necessary to adequately address them, so that the knowledge can be the basis for solving the problems that the SME sector meets in this field, as well as the basis for providing support to these enterprises in the process of their development.

Innovation is immanent to the entire human activity, but its significance in modern conditions of life and business has increased significantly since in many areas it is the most important factor of development. Innovation is reflected in the ability to generate new ideas and transform them into new inventions. In contemporary conditions, the role of innovation in economic development is unavoidable and often crucial. The impact of innovation on social and economic development is complex, multidimensional, and long-term. Innovation is at the heart of all developmental changes because it represents a clue between invention and its practical application. For economic operators, innovation is the basis for the establishment, maintenance and improvement of competitive advantages in the

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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market. The basis of innovation is human knowledge, whose process of creation, expansion and application is continuous.

Gomes et al. (2015), by performing research within textile industry, find that sustainability of a company is derived from its organizational culture, since the ability to innovate rests in the skills and attitudes of the employees. According to that, culture is one of the most influential factors of innovation in an textile SME. The results of stated research confirm that one of the factors that can stimulate a propensity to innovate is a organizational culture focused on innovation.

The human society has an immanent desire to satisfy its needs on an ever-increasing level. As a consequence, there has been an industrial revolution, as well as an increasing application of scientific achievements in the field of social reproduction. However, the development of science and technology is not immanent to spontaneously take place, so the given processes require a long-term, strategic approach. The significance of development changes is particularly intensified in the conditions of business characterized by the processes of transition to market conditions of business as well as during crisis disorders. A modern environment is characterized by turbulent, often unpredictable disorders. As a result, discontinuous business conditions, the globalization of the world market and the economy imposed the necessity of diversification and rapid changes in the production programs of business entities. Under such conditions, the position of business entities is constantly compensated and they are forced to constantly adjust to the new changes. The given adjustment is more successful if it is based on long-term, strategic planning for the creation and implementation of knowledge in business. For economies in transition, such as the domestic economy, the intensification of the creation and application of knowledge could contribute to the revival and stabilization of business flows. Today, science has become an integral element of the productive forces of each country, and a long-term commitment to the development of

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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science and technology has become one of the most important economic policy fields in each country.

The new technological and informatics revolution led to an economic revolution. Innovation has resulted in new ways of doing business, new ways of creating and using resources, and creating a new value system. All this led to a much greater dynamic of the environment, whose requirements are much more volatile and much more unpredictable, and which companies may find it much more difficult to adapt. One of the ways to adapt to environmental requirements is the development and application of knowledge in its business process. If there is adequate knowledge management in the enterprise, it will strengthen its innovative potential, and thus strengthen its competitiveness and adaptability. For countries in transition, such as Serbia, the basis for strengthening competitive potential is precisely the acceleration of technological development, which is based on the strengthening of the scientific and research and research and development bases, both economic entities and the economy and the state as a whole. Considering that, according to the results of the research, Serbia is technologically lagging behind developed countries for 30-35 years, that it is lagging behind 3-5 technological generations and that less than 0.4% of gross domestic product is now allocated for research and development in Serbia, and given the fact that knowledge is the most important resource in the struggle for the revival and development of the economy, knowledge management and the strengthening of innovation will have a key role in the process of reviving the Serbian economy in the future.

From the point of view of the process of innovation, knowledge is its basis and its imperative. Knowledge enables the creation, strengthening and development of the innovative potential of the company, which is the basic means of improving the organization's flexibility and building its ability to respond in a timely and appropriate manner to the requirements of the environment. Since knowledge is not immanent to generate itself, the enterprise must

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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define appropriate goals, policies, strategies, plans, and programs for which intellectual capital is created and applied in the business. As a result, knowledge management is the basis of innovative management that has the task of developing openness, adaptability, creativity, as well as developing the application of modern management methods. Innovative management contributes to creating an innovative organization focused on business opportunities, adapting to changing business conditions and achieving optimal business success in the given conditions.

In the Serbian economy, investment in knowledge and scientific research is still treated as a luxury rather than a condition of survival, recovery and development of the economy. This is evidenced by this low investment of gross domestic product in this area, as well as the structure of these investments and the number of registered patents. In that sense, it is necessary to radically change attitude towards knowledge, science, research and development in the domestic economy, and to give innovations an appropriate place both in the activities of economic entities and in the activities of the state as a whole, because without state support there are no significant achievements in this area. Only in this way investment in this area will be treated not as an expense but as a highly profitable investment in the future.

In order for innovative business or modernization to be useful, that is, innovations would be useful, efficient and cost-effective, they should be adapted as soon as possible, introduced into the production system and used their potential, and this is only possible with the comprehensive interaction of science, education and economy. The performance of small and medium-sized enterprises is influenced by investments in research and development (R&D) and intangible investments by Cucculelli and associates (2014) and associates in research conducted in the Italian clothing industry. Italy, France, Turkey, Germany and Great Britain are the leaders in investment in

clothing, and textile and clothing industries are important for the economy of each country.

What is the impact on the clothing industry and the real need for the application of IT technologies, as well as the need for creation of experts for such industries, have been explored and shown in the papers of Rhee (2008), Stjepanović & Fakin, 2010, and Peltier et al., (2012). The widespread use of new information and communication technologies (ICTs) is crucial for the business success of small and medium-sized enterprises, especially in developing countries, found Song with associates (2009). The difference between small and medium-sized companies and large companies, in terms of ICT utilization, is being stated by the Tarutė & Gatautis (2014) which state that, unlike the large ones, small companies do not fully exploit the potential of ICT. While researching potential determinants of ICT adoption in SMEs Giotopoulos et al. (2017) found that being involved in R&D and innovation activities, also participating in research projects or collaborations increase the likelihood of adopting ICTs in SMEs.

Globalization and IT technologies directly affect global trends in the clothing industry, but also indirectly through changes in the way of thinking and lifestyle. Research shows that product innovation is more common than process innovation. Today, SMEs face great challenges and difficulties in applying technological innovations, and competition and cooperation are ways of effectively applying the process, in its study on the combined effect of innovation and market orientation on product innovation and enterprise performance, calls for an "objective measure of application of innovation" (Hamdania & Wirawanb, 2012). Proposals for changes in the traditional organization - organization innovation, technology and product innovation - showed in his paper Lanza and Passareli (2014), while the problems of adopting new technologies in large companies, and the need for inevitable changes based on the application of high technologies were investigated by Scott et al., (1996).

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
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Quantitative factors that influence the conditions for creating comparative advantages of the company are: professionalism of employees, good infrastructure, domestic demand, while qualitative factors: interconnection of the economy, flexible strategies, new ways of managing, accidental circumstances and events, incentive economic policy of the government, etc. Fatoki (2011) explores the impact of human, social and financial capital on the performance of small and medium-sized enterprises (SMEs) in South Africa and the results show that there is a significant positive relationship between human, social and financial capital and the impact of SMEs.

Naala et al., (2016) defines the business performance as an entrepreneur or organization's ability to realize its objectives such as high profit, quality products, good financial results, long-term survival and high market share, using relevant strategies for action, while entrepreneurs have to perform creativity for the survival of the invigorates (Ayoade, 2018).

Problems and specifics of the work and business of SMEs of the clothing industry, which are continually appearing in almost all SMEs and all developing countries, which significantly influence the quality and successful work and development, as well as the competitiveness of SMEs, such as (Đorđević et al., 2011; Urošević & Stamatović, 2011; Dimitrijević et al., 2018):

- Obsolete equipment (for example, in Serbia, the average age of production machines is about 35 years old, while still buying new equipment, the equipment is being purchased - Serbia's Development Strategy, 2010-2020);
- Low level of education of employees - the largest number of small enterprises has one, and medium to three textile engineers;
- Needs of continuous learning,
- Work-integrated and lifelong learning,
- Non-formal learning,

- The relationship between human resources and production capacities,
- The need for active learning and increased practical training,
- Lack of cooperation with educational institutions,
- Lack of cooperation with line ministries,
- Lack of organizational innovation,
- Lack of planned performance,
- Possibilities and needs of the cluster manner of organization and business.

According to Dimitrijević and associates (2015), the cause of poor modernization, low-cost CAD systems in the garment industry are not their inefficiency, but they are other types of problems (problems with CAD systems, lack of professional staff, size of series and types of assortments, LOHN jobs, cheap labor, poor knowledge, specificity of the clothing industry, markets, etc.).

4. FAILURE FACTORS AND FAILURE PREVENTION OF SMEs IN THE CLOTHING INDUSTRY

Organizational failure can be closely explained as complete cessation of work of the entire organization, also as a steep drop which leads to the loss of legitimacy and an inability to meet obligations (Amankwah-Amoah, 2015). By literature search it is possible to come to the knowledge of the state of the failure of small and medium-sized enterprises in the world, therefore Fatoki (2014) present the situation of SMEs in South Africa, where the high SMEs failure rate is recorder due to the mix of internal and external factors, such as lack of management experience, lack of functional skills (e.g., planning, organizing, leading and controlling) and poor staff training and development and poor attitudes towards customers, as well as non-availability of a logistics chain and a high cost of distribution, competition, rising costs of doing business, lack of finance and crime. Chancharat (2011) also reports high failure rate of small business in Australia, and gives information that in the first year nearly one third

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
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of all start ups failed on the average. The proportion of failures then declined for each subsequent year but the cumulative failure rates are high at 62 percent after three years and 74 percent after five years. In other words, no more than about one quarter of enterprises have survived five years.

Ropega (2011) finds that a certain pattern is visible while analyzing the sources and processes of failure, namely, management does not notice the critical situation in time, which due to delayed or incompetently carried out repair actions, ends in company collapse. Further, he states that the analysis and understanding of failure symptoms by entrepreneurs may help reduce the number of crises in companies of the SME sector and unintentional economic failure. Failure factors have been studied by many researchers but there are two particular researches which draw authors attention. First, Arasti et al. (2014) perform their study upon viewpoints of successful and unsuccessful entrepreneurs in order to generate the basic factors of failure from these two positions. This resulted in both groups stating that inappropriate economic situation is one of the most important business failure factors, unsuccessful entrepreneurs solely answered based on their experience of failure in business that the factor of strategy and investment appeared as important, except that, rest of the reported factors are poor sales model, inadequate business financing strategy, lack of correlation between production and marketing strategies and inappropriate pricing. Second, Ihua (2009) tried to explore ten failure factors, which he considered to be “key factors” of failure, based on previous researches found from other researches and citations in various articles. Thus, variable and key factors found by this author are: disasters and crises, fierce market competition, infrastructural inadequacy and lack of social support, multiple and high taxes, poor accounting and book-keeping practices, management inability, poor marketing and sales efforts, poor economic conditions, improper and poor planning, financial problems. Based on these research results, authors of this paper are forming an illustration of stated failure factors, as shown in figure 1. This presents a form of

comparative illustration in which we are able to isolate the most influential factors of failure, regardless of where they are recognized, or which are characteristic for several countries.

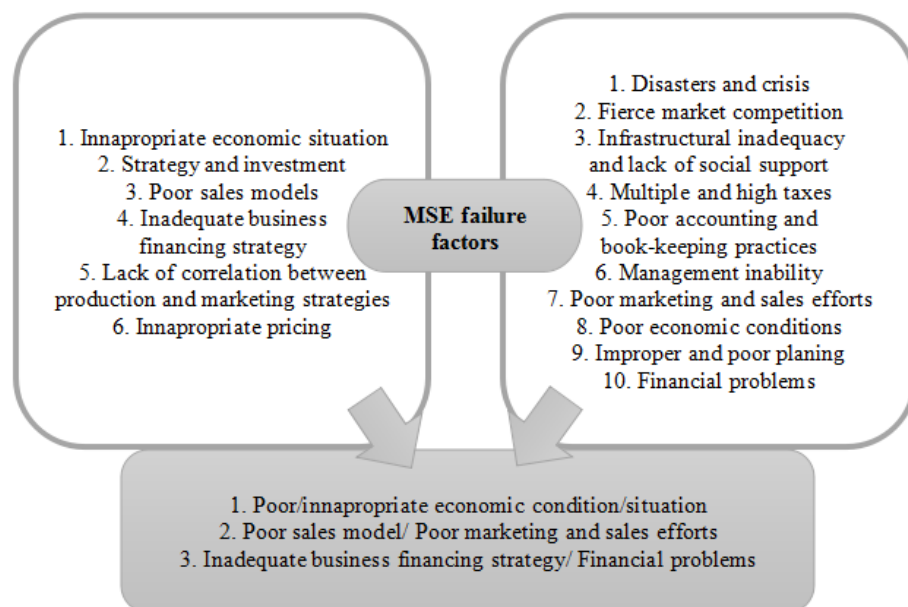


Figure 1. Isolation of mutual SMEs failure factors based on research results of authors Arasti et al. (2014) and Ihua (2009)

Another, unclassified possible factor for causing the failure is that entrepreneurs have a greater tendency to be over-optimistic, but experienced entrepreneurs with prior business ownership experience, particularly business failure experience, may be less likely to subsequently report comparative optimism (Ucbasaran et al, 2010). Also, an specific case which can be the cause of failure in textile sector, and clothing sector as well, as stated by Shafi (2014), may be within inventories management, mainly because possessing high amount of inventory for long periods of time is not usually good for a business because of inventory storage, obsolescence, and expiry, spoilage costs and, on the other hand, the possessing of too little inventory isn't good either, because the business can face the risk of

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
<https://www.visegradfund.org/>

losing out on potential sales and potential market share as well. Shafi (2014) concludes that undoubtedly more business failures are caused by an overstocked or under stocked condition than any other factor and that inventory management strategies, such as just-in-time, can help minimize inventory costs because goods are created or received only when needed. Dos Reis & Freitas (2014) tend to identify the critical factors of success and failure in the presence and use of IT in clothing segment of the Brazilian industry. Their research results in obtaining the evidence that the aspect of knowledge transfer between the supplier and the buyer information system is critical to the use of the system, both in the form of training and the form of technical support after sale. The inadequate application of IT systems within the small and medium-sized enterprises in the clothing industry can be just another of the causes of failure.

Bearing in mind previously stated factors and causes of failure, importance of forecasting potential failure of SMEs becomes crucial. Ability to forecast potential failure provides an early warning, so that timely decisions are allowed to be made and appropriate adjustment in resource allocation can take place (Xu et al. 2014). As El Kalak & Hudson (2016) confirm, measuring and tracking the probability of failure of SMEs can be a difficult task.

Life cycle stages highlight the specific development, stagnation and decrease points of small business at each stage. Escrivão Filho et al. (2017) try to identify small business mortality factors which existence in the specific life cycle stage should be recognized by owner or manager. This enables a better understanding of the factors that contribute to the continuity or mortality of small businesses. Table 2., which is positioned bellow, presents the summarized mortality factors according to their appearance within stages 1 - genesis, 2 - existence and 3 - survival, based on the above mentioned research.

Table 2. Summarized mortality factors within various life cycle of SME (Escrivão Filho et al., 2017)

Groups of SMEs mortality factors	Specific SMEs mortality factors	Life cycle stages		
		1	2	3
Individual characteristics	Vision	•	•	•
	Dedication		•	•
	Liveliness		•	•
	Persistence		•	•
	Risk taken			•
Experience	Discipline			•
	Industry sector	•	•	•
Managerial knowledge	Managerial			•
	Finance		•	•
	Marketing and organizational structure			•
Abilities	Technical: Purchase	•	•	•
	Negotiation		•	
	Finance, IT and sells		•	
Attitudes	Human			•
	Conceptual	•	•	•
	Sense of opportunity	•	•	•
	Family motivation	•	•	•
	Values	•	•	•
Social ties	Financial support	•	•	•
	Managerial support			•
	Moral support	•		
	Operational support		•	

Many researches about predicting success or failure of SMEs take financial criteria into account. Ogunyomi & Bruning (2016) stress out that human resource management emerges as a key variable in the performance of SMEs. Roles of the human capital in different life cycle stages are provided by authors Muda & Rahman (2016). According to them, owners role is critical in initial life cycle stage in

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
<https://www.visegradfund.org/>

order to create a viable business, to attract potential customers, to build relationship with external stakeholders and to instruct and supervise employees. As the small business develops owners and managers divide the role of achieving high number of production, sales and profit, to penetrate wider market, handle formal systems and structures, ensure the efficiency in resources allocation and strategic planning.

Finally, in the stage of maturity the roles of ensuring the well-maintained wealth, control and department coordination are assigned to managers and employees. This kind of description of roles through different life cycle stages is indeed beneficial and clearly points to the necessity of application of educational programs for human resources in clothing industry SMEs for the sake of gaining the abilities for timely recognition of failure factors in different stages of business, and ultimately as devices of failure prevention. Bearing in mind that knowledge and entrepreneurship is one of the key parameters for strengthening the competitiveness of SMEs we have to address this question, taking into consideration the clothing industry case, more closely. Shirley & Kohler (2012) point out that the clothing and textile industry employs individuals in a variety of fields including design, manufacturing, distribution, marketing, retailing, advertising, communications, publishing, and consulting, so there is a necessity for wide variety of educational programs for enhancing the level of knowledge of employees at different organizational levels, and having a course that develops future employees' comprehension of a process in the sector of clothing industry would be beneficial. Employee training is, thus, important for clothing and textile companies to gain competitiveness (Gomes et al., 2015). In terms of technical and technological innovations and investments in the construction of modern production facilities of SMEs within the garment industry Crinis (2012) has made an interesting comparison between the ones called "survivors" and the ones called "losers", accordingly those who upgraded to higher levels of technology, and

those who failed to introduce higher levels of technology to sustain growth as costs rose against falling profit margins.

Further text discusses the development of SMEs through a deeper understanding of the elements of competitiveness enhancement.

5. DEVELOPMENT OF SMALL AND MEDIUM ENTERPRISES OF THE CLOTHING INDUSTRY

Regardless of the fact that they are the generators of the development of the clothing industry and the state in general, the "survival" of most SMEs in developing countries, with the current constellation of power and business efficiency, is not certain, since, in order to be competitive on the market, SMEs must respect the "current business rules", must be qualitative (maintaining quality continuity), quantitatively (making a large number of models, series and pieces) and financially (low prices) competitive.

In order to respond to such a challenge, SMEs must first of all have efficient and quality production, and quality and cheap - competitive products, that is, they have to modernize the production process. Special cases of production of products and individual production volumes requires a large number of products with a relatively small volume of production - the case of SMEs. Unfortunately, such cases of small scale production with small batches are the basis of the work of SMEs of the garment industry, and "by definition" are not optimal. Because of this, SMEs have to select the production program, i.e. reduce the number of products and increase the volume of production, which is often not possible in the clothing industry, because the market requires originality or small series, and constant changes in fashion, which are only some of the specific performance of SMEs' industry. Creation of industrial infrastructure requires a long-term planning of technological development, extensive investments, and permanent education of the necessary workforce (with a special

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
<https://www.visegradfund.org/>

emphasis on higher education and knowledge of new technologies), with the creation of a database of quality professional personnel.

Modern and current formulation of the concept of development and prosperity of each state is a knowledge society, knowledge economy or knowledge-based industry, which in essence represents the ability to create, transfer and apply new knowledge or innovations. Of course, innovative business would be useful, i.e. in order to make innovations useful and efficient, they need to be adapted as soon as possible, implemented into the production system and exploited their potential, which is possible only with the necessary comprehensive and comprehensive interaction between science, education and economy. Therefore, the emergence and efficient application of quality innovations can be considered as the outcome of the development of scientific-research capacities, but with the necessary provision of other requirements for capitalization of knowledge, ie for their conversion into economic value.

Good concepts and strategies of work are usually a necessary basic element and an important factor of successful business and the creation of a strong, efficient and competitive SME on the market, good bases for creating better conditions for better and more efficient operations SMEs are the basis of regional development with its affirmation of regional centers of national importance, the beginnings of corporate governance, and the operation of professional clusters, incubator centers and expert teams. Đorđević & Urošević (2010) state two types of politics within clusters, first of which is supporting the growth of the existing cluster that needs to be developed into regional cluster, and second involves spreading knowledge about how industrial development takes place in relation to the information which is essential for creating the general politics. In addition, Villa & Taurino (2018) highlight the key feature of the SME cluster aggregation which is the existence of effective cooperation among various SMEs.

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
<https://www.visegradfund.org/>

In order for a company to successfully choose and implement a strategy that will enable it to achieve long-term and sustainable competitiveness, it is essential that the analysis of an adequate industry branch is properly and systematically done, whereby the strategy must be consistent with the mission, vision and goals of the company, but also maximally respect the needs and consumers' wishes, and should be harmonized with the company's capabilities, while respecting and using forces to overcome the potential weaknesses of the company (Urošević, 2011).

In addition, the strategy must focus on the right products-services and markets, while providing a quality and attractive product, or motivating employees, while providing competitive advantages and long-term survival. Different concepts of work and business of SMEs in the clothing industry of developing countries arise due to different specifics, as well as influential parameters of work and business, such as: number of series and models, specialized production, degree, type and mode of automation - CAD and CAM systems application or CIM concepts, and are obvious at every level (local, regional, national or international). It is important to note that the results of modernization or the flexible and optimal application of the CAD/CAM system, as well as many other specifics of the SMEs of the clothing industry in developing countries, show that the current strategies of work and development of SMEs, which are generally the strategies of large enterprises and SMEs in the economically developed and rich countries, are not harmonized with the real situation and specific requirements of the work and business of SMEs in developing countries.

Therefore, it is necessary to constantly point to the specifics of the modus operandi of SMEs' clothing industry in developing countries, since the neglect of these specifics leads to the creation of inadequate SME development strategies in developing countries, as well as the fact that the influence of the "other" factors when, market size, purchasing power, size of the company, number of series and models,

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
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organizational innovation, degree of motivation, number of employees, etc.) is very important for work and development, but also modernization and quality and efficient operation of SMEs, and creation of conditions of sustainable competitiveness. In other words, new trends in the world market lead to the fact that, for example, even direct increase and improvement of productivity, efficiency and profitability, as well as improvement and continuity of quality of human resources do not individually mean secured competitiveness, but only by the compatibility of all mentioned factors, and above all the implementation of innovation and flexible and fast business (Just InTime) (Dimitrijević et al, 2018 a).

The specifics of the clothing industry are reflected in the following:

- Continuous model changes (permanent model changes are due to the demand for changing fashion, so modern clothing industry has more collections per year);
- Types of products (originality is one of the important factors of good business, and therefore SMEs are striving for as many models and collections as possible with several types of products);
- The specificity of the material - the lack of form and firmness, ruffling, patterns, etc., are only some of the specificity of textile materials that require a special treatment;
- Grading - the production of items by size, additionally complicates the production process and is a unique feature of the clothing industry;
- Labor-intensive branch - a distinctive feature of the clothing industry with attempts to change into a capital-intensive branch, primarily by automating or using ICT;
- Relatively short production deadlines - due to the constant change in fashion and model, today, more collections are produced each year, which places the apparel industry in industries with the shortest production deadlines;
- Competition - the fashion market is unified and completely globalized, with no boundaries and limitations, so the competition is literally world-class.

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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As the modernization of the clothing industry is now reflected above all in the quantitative and qualitative representation of ICT (CAD / CAM system), it follows that good business, that is, the competitiveness of SMEs depends on these parameters. The effects of the application of computer systems in the clothing industry have been studied and analyzed in many surveys, but these researches concerned application, primarily in large world companies and developed and rich countries, with completely different initial parameters and conditions of work and development, which are for SMEs in developing countries are very specific.

These specifics, with the possibilities and needs of flexible use of computer systems, and on the basis of this generated optimization and modernization of production, indicate the need for a special study of these specifics, all for the purpose of developing new strategies for the work and development and strengthening the competitiveness of SMEs of the dressing industry in developing countries. Therefore, modernization, i.e. the appearance and efficient application of quality innovations can be considered as the outcome of the development of scientific research capacities, but with the necessary provision of other requirements for capitalization of knowledge, i.e. for their conversion into economic value, which in the field of clothing industry today is primarily related to the efficiency and implementation of computer (Dimitrijević et al., 2018c).

Also, the big problem of business and the development of SMEs in the garment industry is the act of "Industrial Development and the New European Strategy", according to which the textile industry is classified as old and depressed, or industries that are "in the disappearance or restructuring", so accordingly " new-industrialized countries ". On the other hand, it is known that most of the economically developed EU countries have reached their status through labor-intensive industries, or that today the countries with the greatest economic development are China, Turkey, India, Brazil, etc., countries that have strong and developed labor-intensive industries

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*

(among which is the clothing industry at the very top), as well as the fact that in an industrial superpower - the United States, about 10 million people work in the textile and clothing sector, which all points to the inequity of these qualifications.

However, the fact that SMEs are the main driver and generator of progress (by volume of production, number of employees, financial effects), or that the European Commission in 2010 changed its attitudes and carried out the revision of the Lisbon Strategy, and as one of the three areas of action encouraging a high-employment economy are data in favor of the stated attitude and the needs of the generally changed attitude towards the SMEs of the clothing industry, as well as the necessity of generating new, more flexible and more suitable concepts of the work and development of SMEs of the garment industry, on the basis of automation and optimization of production as well as the implementation of ICT , with respect to all specifics.

Investigating the utilization of ICT within SMEs Elghany (2015) finds that ccompanies need to emphasize more on the role of information technology to enhance business activities, and have to pay more consideration to the interfering issues of fully utilized information technology system. As this author further notes, the best utilization of ICT will lead to a significant impact on business process, therefore, addressing issues that impose challenges for automated infrastructure would support decision makers in SMEs.

By analyzing and compilation of previous studies of the problems of SMEs' business in the clothing industry in developing countries, which explicitly affect the work, development and progress, as well as the conditions for creating comparative advantages of SMEs, which need to be incorporated into new business strategies, one can anticipate specify the following (Dimitrijević et al., 2018 b):

- Poor or insufficient use of ICT (CAD / CAM system)
- Lack of qualified workforce

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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- Low purchasing power of the population and domestic demand - quantitative and qualitative aspect;
- Limited access to the financial market;
- High labor costs and so called *brain drain* towards the more economically developed countries;
- Lack of cooperation with educational institutions;
- Lack of organizational innovation;
- Lack of planned performance, etc.

The particularly bad educational level and the state of poor modernization of the clothing industry, and especially the state of modernization of SMEs in developing countries, confirm that formal education today is only the basis for upgrading a number of educational activities throughout the entire working life, with the aim of adapting existing knowledge and skills of employees to new requirements (Atilgan & Kanat, 2012; Dimitrijević et al., 2018b).

As Morrow (2001) explains specialists in clothing industry are faced with many new opportunities and challenges, thus training and development of employees skills could provide a easier adaptation of employees to current working conditions and challenges on their way towards achieving performances which would contribute to the development of a SME within clothing industry. Xavier et al. (2015) by performing researches within clothing industry find that the level of staff education also has a positive effect on technical efficiency, and shows the importance of correct employee motivation through an appropriate wage level. In other words, human resource management policies and practices are of vital importance for management, combining wage levels and education/ training levels for employees, adequate staffing of stores, fostering team work and establishing practices designed to enhance approach to customers and gain of customer loyalty.

Urošević and associates (2010) in their work state that one of the key factors in achieving the competitive advantage of small and medium-sized enterprises in the textile industry is improving the knowledge of

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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employees. The way of achieving national education goals is to apply the concept of lifelong learning and the learning society. The main reason for the emergence and application of the concept of lifelong learning are the ever-faster technological and social changes that make existing knowledge, skills, values, attitudes and habits more obsolete.

Capabilities are based on the creation of knowledge and may represent an important source of competitive advantage for SMEs in clothing industry considering that capabilities enable firms to integrate, build, and reconfigure internal and external competencies in order to respond to rapid changes in the environment (Ceptureanu et al., 2016). Findings of the study performed by Sulisty (2016) indicate that innovation capabilities and performance can be enhanced through the development of entrepreneurship, marketing capabilities, relational capital and empowerment.

The state of the economy, education system and professional staff varies in developing countries in terms of the number of experts, the state of technical equipment of SMEs, general economic development, the economic power of society, readiness and ability to carry out reforms, the times of the beginning and the scope of the implementation of structural reforms, many other factors, but it is essentially and practically very similar. On the similarity of the problems and business of European SMEs of the garment industry, Zelinski (2008) points out the problem of the Eurasian expansion of the clothing industry, but also the problem of human resources and the lack of interest of SME owners for the application of specialized ICT innovations or improvement, while Zvane et al., (2002) in his work on the business and problems of the SMEs of the clothing industry speaks about different approaches and interpretations of adult education and lifelong learning from the national angle, while emphasizing the problem of the lack of local leadership in companies, all indicating the similar or the same situation, problems and ways of functioning of SMEs industry of developing or countries in transition. The situation in Serbia, viewed through the three research triangle

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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holders, is currently such that economics and science are insufficiently interested in better co-operation, and the state is insufficiently engaged in the necessary change of situation.

The lack or the minimum existence of continuous education programs, with the existing relationship between the main bearers of economic and development activities, shows that SMEs do not have a favorable business environment and appropriate staff. It should also be noted that the development activities of products and technologies in privatized companies with foreign capital are mainly dislocated from developing countries (Serbia), so business activities in such enterprises are reduced to only the production with the only goal - cheap labor. This also implies a lack of interest in the education of new or upgrading old professional staff. Thus, the state of interaction of the industry and the bearer of development and research activities and education, where investments in scientific research and professional development are insufficient, and technical and technological innovations are realized through the import of equipment, can be defined as unsatisfactory (Economic Development Strategy of the Republic of Serbia, 2010-2020).

It should be noted that "Industry 4.0" is present in the garment industry for more than a decade, especially when it comes to supplying finished products to customers.

There was a sharp rise in patents from "Industry 4.0", and in particular cloud computing, robotics, intelligent sensors, 3D printers. Many companies in the clothing industry apply modern technologies, with the aim of increasing productivity, quality, introducing innovations, increasing creativity and better design of their products, and thus making them competitive on the global market. New technologies allow them to retain the company's headquarters in their home country, but also to establish the production process in other countries. The development of new technology and the use of new materials in

the textile and clothing industry requires new production lines as well as new ways of presenting new products on the market. The diversity of the application of new technologies is increasing, which requires flexible automation in all industries, including the garment industry, as well as reducing the time of production of high quality clothes (Karabegović, 2018). Introduction to innovative technologies in the clothing industry will: enable greater flexibility, increase productivity, increase product quality and cooperation with customers in order to increase the sales of finished products. Chen & Xing (2015) state that key technologies of automation in spinning, weaving and other aspects are essential to upgrade the textile industry, and that industry 4.0 in the textile industry (as authors quote textile 4.0) would be a process chain of independent production as demonstrated on the figure 2. presented bellow.

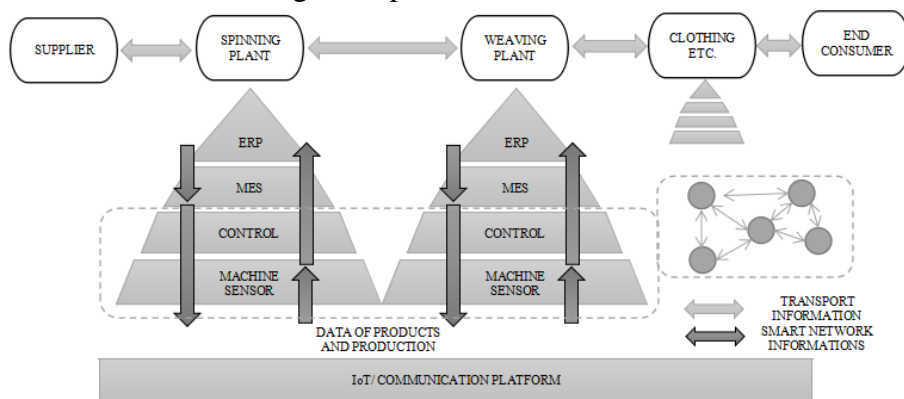


Figure 2. Schematic representation of information transformation of “industry 4.0” in the textile industry (Chen & Xing, 2015)

The development and implementation of "industry 4.0" in the textile industry is increasingly present as new types of smart materials are introduced, i.e. materials in which smart sensors are already installed, while the clothing industry emphasizes the trend of intelligent clothing intended for special purposes: the elderly, the military, the sick, athletes, the police, etc. As far as the clothing industry is concerned,

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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the solutions have been developed to produce garments manufactured at the customer's request. Therefore, the application of modern technologies in the clothing industry, i.e. "Industry 4.0" leads to "Smart" production processes.

6. CONCLUSION

Innovation, as one of the most important factors of development and competitiveness in modern business conditions, has a very important role in the domestic sector of small and medium-sized enterprises, but that all necessary conditions for its development have not been met, both from the point of view of the necessary financial, material and human resources, as well as from the point of view of the support of the wider community and the long-term, strategic determination in this field. Therefore, in the future, it is necessary to define for such a development strategy that will support innovation both at the level of large economic systems as well as at the level of the small and medium-sized enterprises sector, which provide significant support to large systems and the necessary link in rounding the cycle of reproduction.

Since innovation involves significant resource investment, and since modern business conditions make innovation one of the necessary prerequisites for a more efficient and competitive operation, the state as a whole has to allocate a long-term critical amount of resources to support innovation and all entities identified for it. Bringing innovation to small subjects would result in tiny improvements, which are necessary, but on which the economic activity of a serious economy cannot rest.

The implementation of ICT and modernization, and hence the improvement of the work of SMEs in the garment industry, is a necessary professional staff, as well as permanent work with lifelong continuing education programs and solving many other problems of expertise, education and human resources in general.

The tendencies for the development of the clothing industry must include specific programs for stimulating innovative activities in the domain of SMEs, then programs for popularizing and stimulating young scientists in starting their own business activities in high-tech industries as well as ways to stimulate research and programs to improve the qualitative performance of experts, first of all quantitative and qualitative increase of training in higher vocational schools and faculties, increase of information and continuous training of experts in work with ICT-CAD/CAM systems, organization of lifelong continuous education of experts, and other similar directions of action.

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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FINANCIAL DISTRESS CHARACTERISTICS: AN ANALYSIS OF FINANCIAL RATIOS FOR THREE INDUSTRIES IN ALBANIA¹

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Abstract

We compare financial distress characteristics for the energy, telecommunication, and construction sector in Albania through ratio analysis. We compare the bankruptcy potential and trends of the three industries through the five financial ratios used in the Z' model suggested by Altman (2000), Working Capital/Total Assets, Retained Earnings/Total Assets, EBIT/Total Assets, Book Value of Equity/Book Value of Debt, Sales/Total Assets. We divide the companies in each sector in two groups, the “bankrupt” and “non-bankrupt” group. The methodology of dividing companies in bankrupt and non-bankrupt, to the best of our knowledge, is used for the first time. The study includes 32 construction businesses, 35 energy companies and 12 telecommunication firms. The financial data are provided by the official website of the National Business Center. Based on the results of this study, the construction industry shows the highest exposure to potential default during the period 2011-2014, based on the five financial ratios estimated.

¹ This research is mainly based on the publication with title “Falimenti i Biznesit ne Shqipëri: Një Analizë e Raporteve Financiare për tre Industri”, with co-authors Zhaklina Dhamo and Vasilika Kume. The paper is published in Albania, from the journal “Albanian Socio-Economic Review”, volume 97, No. 4, 2018. The journal is published every quarter, from the Albanian Center for Economic Research (ACER).

Keywords: *Financial Distress, Ratio Analysis, Industry Solvency Characteristics.*

1. INTRODUCTION

Through this research, we aim to study the financial characteristics of “bankrupt” and “non-bankrupt” businesses in three industries in Albania. Beaver (1966) shows how ratio analysis can be used to assess bankruptcy potentials. The author uses univariate analysis. Altman (1968) is the first author who determines the probability of default based on multivariate ratio analysis. The author studied the linear combination cumulative effect of financial characteristics, proxy through ratios, which best allocated companies in the failed and non-failed categories.

The five ratios that offered the best prediction combined were Working Capital/Total Assets, Retained Earnings/Total Assets, EBIT/Total Assets, Market Value of Equity/Book Value of Debt, Sales/Total Assets. The study identified a model that predicted 94% of the cases correctly (default/non-default) one year ahead. Altman (1968) proposes that bankruptcy can be predicted with high accuracy up to two years before failure.

Altman (2000) suggests a model for predicting bankruptcy risk, high accuracy for a five year horizon, which is applicable to retail firms as well. The exclusion of the market data offer an appropriate alternative for bankruptcy assessment in developing countries, who lack market information.

Chava and Jarrow (2004) assess bankruptcy predictions through monthly intervals. Liou and Smith (2007) uses macroeconomic explanatory variables to assess financial distress.

Altman et al. (2017) re-estimate the Z” model, by introducing other explanatory variables, in different countries. The authors show that the

original Z” model has still high explanatory power in most of countries, although re-estimation can improve it in the local context.

Dhamo and Kume (2015) study the bankruptcy potential of the construction, energy and telecommunication sector in Albania during the period 2011-2013.

This research is a continuation of Dhamo and Kume (2015). We assess the bankruptcy potential of the telecommunication, energy and construction sector in Albania based on the classification methodology to bankrupt and non-bankrupt businesses. The analysis is based on the financial ratios used to estimate the Z’ score proposed by Altman (2000). We use four years of financial data, and classify businesses as bankrupt and non-bankrupt, inspired by the work of Pindado et al. (2008).

This paper follows with a brief description of methodology. Section three describes the data and sources of data used in sector assessment. Section four analyses the bankruptcy potentials and trends of the construction, energy and telecommunication sector in Albania. Concluding remarks are presented in section five.

2. METHODOLOGY

Inspired by Pindado et al. (2008), and, due to lack of financial information and/or bankruptcy information for firms operating in Albania, we define a business in deep financial distress or “de-facto bankrupt” if:

1. It shows negative capital in the financial statements.
 - If capital is negative, then book value of assets is not enough to liquidate all liabilities. Even though shareholders take into consideration market value instead of book value of assets and liabilities, negative book value of capital is a signal that in the short run market value of assets may not be enough for liquidating all

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liabilities, which may oblige shareholders to declare solvency. Otherwise, they would go beyond the commitment “limited liability”.

2. Has reported net loss in at least three consecutive years
 - Earnings or losses are operating performance indicators of the firms. If a business files a loss for three years or more, then operating deficiency is not just a case, and the probability that market value of assets to go below the market value of liabilities (market value of capital decreases every time a loss is reported) increases. As a result, the probability of filing for bankruptcy increases.

3. A commercial bank has blocked the shares of the company in the National Registration Center, because of the default in fulfilling their obligations.
 - Commercial banks blocks company shares in cases when a loan has been declared “unpaid” by a court decision. Commercial banks file an unpaid loan case in court, if a business has not fulfilled its obligations towards the bank for at least 90 days. If a business has delayed fulfilling its obligations for more than 3 months, than it is feasible to consider it de-facto default.

4. Has more than one active block order of shares in the National Registration Center from other entities, because of default in fulfilling their obligations.
 - A third party files for blocking the shares of the business in the national registration center if the latter has delayed fulfilling its obligations toward the third party. If a business has a burden of two block orders from third parties for its shares, than it cannot be considered as an accident that the business has delayed fulfilling its obligations.

5. Has more than four active and inactive block orders of shares in the National Registration Center, because of default in fulfilling in their obligations

- A third party files for blocking the shares of the business in the national registration center if the latter has delayed fulfilling its obligations toward the third party. If the company has four active/inactive orders for blocking shares from third parties, this is considered as a sign for consistently delaying the obligations, which makes the company de-facto insolvent.

6. A penalty is registered in the National Registration Center from the Tax Authorities, and is not fulfilled yet.

- If a fine/penalty from the tax authority is delayed in payment, than the business has default in fulfilling its obligations, which makes it bankrupt.

7. More than one media in different period confirms the suspension of the business activity.

- If more than a media confirms suspension of business activity, the company is considered as operationally deceased by the authors, which makes it de-facto bankrupt.

8. The business has registered more than once temporary suspension in the National Business Center.

- Based on the current legislations, businesses operating in Albania have the right to temporary suspend their activity at the National Business Center. A firm suspending the operational activity more than once, should have as primary motivation the lack of enough revenues to cover its expenses and liabilities. The inability to generate revenues and fulfill its obligations makes such business de-facto bankrupt.

9. The business has started the bankruptcy procedure, based on the information provided in the National Registration Center.

10. Official documentation that proves the firing in a short time for a high number of employees.

- A business that suspends a large number of employees in a short period of time, according to the author, shows a signal of inability to pay its administrative costs, which are transformed into liabilities. As a result, such business can be considered as de-facto bankrupt.

Based on the criteria described above, we classify businesses as “Bankrupt” and “non-bankrupt”. Then, we analyze the mean and variability of the five financial ratios for each of the three sectors included in this study. The five financial ratios are based on the Altman (2000) proposed Z’ score model:

$$Z' = 0.717(X_1) + 0.847(X_2) + 3.107(X_3) + 0.420(X_4) + 0.998(X_5) \quad (2.1)$$

Where,

X_1 = Working Capital/Total Assets (a measure of liquid assets relative to total capitalization)

X_2 = Retained Earnings/Total Assets (a measure of relative cumulative profitability over time)

X_3 = EBIT/Total Assets (a productivity measure of firms’ assets)

X_4 = Book Value of Equity/Book Value of Total Debt (a measure of the relative tolerance regarding decline in value of assets until the company becomes insolvent)

X_5 = Sales/Total Assets (a measure of the sales generating ability of company's assets)

Z' = Overall index value

Trends in different periods, from 2011 to 2014, are analyzed for each of these ratios in the construction, energy, and telecommunication sector. Then, trends of financial ratios for bankrupt and non-bankrupt companies in each sector are compared. Section three describes the data used in this paper.

3. DATA

We include in this study the biggest businesses in the construction, energy and telecommunication sector that have declared the highest sales in Albania in fiscal years 2014.

Financial data are provided by the official website of the National Business Center of the Republic of Albania². We use the financial statements of 31 construction businesses, 35 energy businesses and 12 telecommunication firms.

The financial inputs of the Z' model are current assets, current liabilities, total assets, total liabilities, sales, EBIT, retained earnings, book value of equity, for the years 2011, 2012, 2013 and 2014.

Section four analyses the financial ratios that impact bankruptcy probability for the construction, energy and telecommunication sector.

² <http://www.qkb.gov.al>

4. FINANCIAL RATIO ANALYSIS

Table 1 shows the average, minimum and maximum ratios for the construction, energy and telecommunications sector. The ratios included in the analysis are Working Capital/Total Assets, Retained Earnings/Total Assets, EBIT/Total Assets, Book Value of Equity/Book Value of Debt and Sales/Total assets for the 32 construction companies, 35 energy businesses and 12 telecommunication firms during the years 2011-2014.

By far, the construction companies have the lowest mean ratios among the three industries during all the time period considered in this research. As a matter of fact, Altman et al. (2017) considers this industry as high risky, which proves to be the case even in Albania. The liquidity problems, timing and cash flows, and clearing transaction (the latter in the Albanian case) increase the probability of default for the construction sector, as compared with other sectors in the Albanian economy. The lower the ratios, the higher the probability of default, based on the Z' model.

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Table 1: Summary Statistics of the financial ratios for the three main industries

		2011					2012				
		X1	X2	X3	X4	X5	X1	X2	X3	X4	X5
Construction	Avg	-0.24	-0.32	-0.37	0.84	1.02	-143.25	-107.21	-107.26	0.8	0.83
	Min	-11.42	-11.42	-11.42	-0.92	0	-4,159.04	-3,112.05	-3,112.05	-1	0
	Max	0.68	0.69	0.36	7.91	4.11	0.66	0.65	0.21	6.36	3.66
Energy	Avg	0.18	0.17	0.1	4.06	3.37	0.28	0.2	0.11	5.39	4.13
	Min	-0.69	-0.1	-0.05	0.01	0.12	-0.48	-0.13	-0.04	-0.02	0
	Max	0.96	0.94	0.3	40.38	25.47	1	0.96	0.32	82.38	48.04
Telecommunications	Avg	-0.04	0.11	0.05	1.41	2.72	0.05	0.22	0.15	2.51	3.66
	Min	-0.35	-0.40	-0.30	-0.25	0.11	-0.33	-0.66	-0.22	0.14	0.14
	Max	0.65	1.03	0.49	4.32	14.76	0.68	0.97	0.57	11.97	26.21
		2013					2014				
Construction	Avg	0.15	0.12	0.04	0.91	0.96	0.03	0.02	-0.06	0.77	1.01
	Min	-0.3	-0.29	-0.27	-0.22	0.06	-1.41	-1.27	-1.56	-0.56	0.16
	Max	0.68	0.7	0.22	5.68	3.89	0.66	0.67	0.24	6.6	7.45
Energy	Avg	0.15	0.15	0.09	3.79	2.77	0.25	0.23	0.13	2.1	4.72
	Min	-0.59	-0.68	-0.4	-0.21	0	-0.42	-0.12	-0.06	-0.02	0.24
	Max	0.97	0.96	0.97	73.44	15.35	0.85	0.96	0.89	41.79	49.19
Telecommunications	Avg	0.16	0.28	0.20	7.58	14.58	0.07	0.22	0.11	5.28	9.97
	Min	-0.27	-0.97	-0.17	-0.03	0.00	-1.10	-1.44	-0.22	-0.24	0.14
	Max	0.98	0.96	1.07	57.19	121.32	0.97	0.91	0.69	37.45	95.92

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Regarding fluctuations, construction sector shows the highest fluctuations in 2011 and 2012 for the ratios Working Capital/Total Assets, Retained Earning/Total Assets, EBIT/Total Assets. During the same period, the energy sector shows the highest fluctuation among the three industries for the Book Value of Equity/Book Value of Debt and Sales/Total Assets Ratios.

Year 2013 generally shows lower ratio fluctuations, as compared with previous years. In this year, the energy sector shows the highest variability for the Working Capital/Total Assets, EBIT/Total Assets, and Book Value of Equity/Total Asset ratios, while the telecommunication sector shows the highest variability for the Retained Earnings/Total Assets and Sales/Total Assets ratios.

The highest risk, referred to fluctuations, is shown by the telecommunication sector in year 2014. This shows the highest variability in the Working Capital/Total Assets, Retained Earning/Total Assets and Sales/Total Assets ratios.

The Construction sector shows an increasing of probability of default trend, regarding financial ratios. Both in year 2012 and 2014 all financial ratios have decreased, as compared with previous year. They increased only in 2013, which was a year of general elections in Albania, where is known the volume of infrastructure works increases for electoral purposes.

The energy sector has slightly lowered its probability of default from year to year, except year 2013, while the telecommunication sector has increased its probability of default only in year 2014, when one of the main players in the market faced considerable financial trouble.

Table 2 shows the ratio averages and trend of failed and non-failed businesses in each of the three sectors considered in this research, during the period 2011-2014. A business is classified as “failed” based

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on the criteria described in the methodology section, if such criterion is met any of the years considered in the sample.

The construction industry shows the highest difference of financial ratios between failed and non-failed businesses for year 2011, regarding Working Capital/Total Assets, Retained Earnings/Total Assets and EBIT/Total Assets. Energy shows the highest difference between failed and non-failed firms regarding Book Value of Equity/Book Value of Debt and Sales/Total Assets ratios in year 2011. The same tendency is shown in year 2012 and 2012 as well.

In year 2013, the energy sector shows the highest difference among financial ratios of non-failed and failed firms. This means that the difference in financial performance between bankrupt and non-bankrupt businesses is more visible in the energy industry in 2013.

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Table 2: Average ratios of failed and non-failed businesses in the three sectors.

	2011					2012					
	X1	X2	X3	X4	X5	X1	X2	X3	X4	X5	
Construction	Non-Failed	0.21	0.16	0.07	0.75	1.12	0.21	0.16	0.06	1.05	0.94
	Failed	-1.13	-1.25	-1.19	0.93	0.72	-378.01	-282.91	-282.89	0.38	0.64
Energy	Non-Failed	0.19	0.19	0.10	5.61	3.72	0.29	0.24	0.12	7.68	5.10
	Failed	0.15	0.12	0.10	0.75	2.64	0.25	0.11	0.08	0.55	2.08
Telecommunications	Non-Failed	0.02	0.23	0.13	1.98	2.81	0.08	0.31	0.16	3.39	3.96
	Failed	-0.19	-0.17	-0.15	0.08	2.51	-0.01	-0.02	0.10	0.13	2.16
		2013					2014				
Construction	Non-Failed	0.22	0.18	0.06	1.01	0.85	0.21	0.19	0.05	0.76	0.71
	Failed	0.06	0.03	0.03	0.76	1.11	-0.24	-0.24	-0.21	0.79	1.45
Energy	Non-Failed	0.28	0.22	0.14	5.89	3.43	0.30	0.26	0.15	2.62	5.65
	Failed	-0.08	0.02	0.02	0.24	1.65	0.09	0.15	0.06	0.44	1.80
Telecommunications	Non-Failed	0.11	0.28	0.14	4.09	5.61	0.09	0.26	0.12	3.10	2.15
	Failed	0.26	0.26	0.32	14.56	32.53	0.02	0.12	0.11	9.65	25.60

Since there are fewer cases and is a highly regulated industry, the telecommunication sector does now show visible difference in terms of financial performance between bankrupt and non-bankrupt companies, through all the period under consideration.

The construction sector shows a decreasing trend among all ratios of non-failed firms in year 2013 and 2014, as compared with previous years, implying an increase of the probability of default of this sector. The businesses classified as failed in the construction sector show a higher probability of default, compared with previous year, in years 2012 and 2014.

The probability of default of the energy sector is higher in 2013, for both failed and non-failed companies, based on the financial ratio change. The telecommunication sector experiences an increase in bankruptcy potential for failed and non-failed firms in 2014.

Next section introduces the concluding remarks of this research.

5. CONCLUDING REMARKS

This research studies the financial distress characteristics of the telecommunication, construction and energy sector operating in Albania. The financial ratios proposed by Altman (2000) are chosen to define the differences in the bankruptcy potential between the three industries.

We select 32 construction businesses, 35 energy businesses and 12 telecommunication businesses in this research. Financial data for the period 2011-2014 are used to compare the performance of bankrupt and non-bankrupt groups within each sector and from sector to sector.

The highest exposure for financial distress among all period is shown by the construction industry. Higher fluctuation among financial ratios for the energy sector in 2013 and telecommunication sector in 2014. The latter shows an increase in probability of default in 2014, while

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the energy sector shows an increase in probability of default in 2013. Construction sector shows the highest difference in financial performance between firms classified as failed and those classified as non-failed, referring to the Working Capital/Total Assets, Retained Earnings/Total Assets and EBIT/Total assets through most of the years under consideration.

The energy industry shows highest difference in performance between failed and non-failed firms referring to the Book Value of Equity/Book Value of Debt and Sales/Total Assets ratio through all years under consideration. Due to the fact that is a regulated industry, the telecommunication sector does not show clear differences in financial performance between failed and non-failed firms.

One of the extensions of this study is the quantitative assessment of local financial data with the goal of achieving a characteristic Z model for the Albanian market. A higher number of businesses would be needed for the quantitative re-assessment of Z' and Z'' model for the case of Albania. The methodology used for re-estimating the score coefficient is logistic regression, or artificial neural network. Other qualitative variables may be used to increase the forecasting power of the bankruptcy model. Such qualitative variables may include company characteristics such as age, industry, size, and/or manager characteristics assessed from questionnaires/surveys.

Another extension is the assessment of more financial ratios in comparing/contrasting characteristics of bankrupt v.s. non-bankrupt firms. It may include cash flow ratios, s.a. Operating Cash Flow/Net Income, liquidity ratios, such as acid test ratio, receivable turnover, inventory turnover, or solvency ratios, such as Long-Term Debt/Capital.

Another extension may include studying bankruptcy v.s. non-bankruptcy financial characteristic differences in other industries such

as pharmaceutical, fast-moving consumer good, accommodation, manufacturing, health care, media, etc.

Last, but not least, future research should focus also on the effect of the business cycle on differences between financial ratios of bankrupt and non-bankrupt firms. Such study may include different industries, countries, and company size categorization (micro, SME, corporate). The analysis may focus both on the effect of the recession and expansion on individual company financial ratios, and effect of the recession and expansion on the differences of financial ratios between bankrupt and non-bankrupt companies in different countries, industries and company size.

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MOBILE APPLICATION MARKET

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Abstract

In this article we introduce the mobile era, in which applications play an important role in our economy and lives. After introducing the relevance and greatness of the topic, we examine how these applications are made and who are the companies which make them in Hungary. As many of the successful developer companies are small and medium-sized enterprises, we also introduce these kinds of companies, always highlighting Hungarian data. Then we have a look at the kind of applications which are available and we also mention the possible risks of using them. In the last section of the article, we present two short research results: results of a survey which shows us details about users' awareness of security and data handling and results of a focus group interview which shows us how these applications can be chosen by users. These could give businesses valuable insight on how to develop applications and how to become successful with them.

Keywords: *Mobile Applications, SMEs, Security*

1. INTRODUCTION, MOBILE ERA

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You don't exist until you have your own application. This might seem an overstatement, but we must notice that our lives have changed a lot, and our mobile devices have become a great part of our new lifestyle. ISQ Online and Google have studied the role of smartphones in our lives in Hungary. According to the survey, if we go to work or school in the morning, the second most frequently checked thing (72%) after our wallet is our mobile phone, far ahead of the house key, which was only said in 57%. (Blog, 2019) Looking at the statistics we can get an idea of how deeply the world is affected by this phenomenon. According to KSH (Hungarian Central Statistical Office), 89% of the Hungarian population used the internet daily and there were 120 mobile subscriptions per 100 Hungarians in 2016. (KSH.hu, 2017) These numbers aren't different from the European Union's average, although if we consider the total population of the world, there are only 101 subscriptions per 100 people. (Worldometers, 2017) (Worldbank, 2017) Nowadays, there is a trend that we use our phones more frequently than our laptops or computers because they are more convenient, so being present via mobile applications is very important for every business on the market.

Mobile phones can affect almost every aspect of our lives through applications. Apple's famous ad, „There's an app for that” describes this as well. There are apps for almost every topic and problem of life. In 2017, March Android users were able to browse between 2.8 million apps, while Apple users could choose between 2.2 million apps. (Statista.com, 2017) In 2015, more than half of the world's population were mobile users and the average daily time spent on accessing online content from a mobile device reached over 3 hours among youths. (statista.com, 2017) In December 2016 the most popular downloaded category were games (24.8%), followed by business (9.96%), education (8.55%), lifestyle (8.44%) and later on the list, health and fitness (2.97%). (statista.com, 2017) We will go into more details of these categories later on.

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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We also have to mention the difference between mobile optimized browsers and applications. There are companies who don't develop a mobile app for their business, they just optimize their content so it is easily accessible via mobile phones as well. The arguments for mobile apps are that they increase customers' commitment, they are quicker, can be designed to be more attractive, personalized and with them ads can be more specific as well. Mobile apps are like a digital business card, says Garcon.hu, a Hungarian catering software company. Apps provide one-click access to the menu, with payments in just under 2 minutes for customers, and for businesses built-in push messages that reach 97% of users more successfully, unlike emailing them about the latest promotions and discounts. (Blog, 2019) Nowadays convenience is a very important expectation, and apps can help companies delivering a more convenient and personalized experience.

Another interesting question is how these apps can be successful in the long run, as we know that users are deleting those apps which are not used regularly after a while and we also know that there is only a limited number of applications that people use at a time. So it is very hard to stay relevant and in the top lists or suggestions of applications. According to Gartner, those who think that by creating an app, they can generate huge profits, might be disappointed by reality. The reality is that the majority of mobile applications do not generate any profit at all, and even many developments are not yet generating revenue. Of course, some of them are about building brand awareness, product awareness, or simply created as a hobby, they are not always worth the effort. (Bitport, 2019) We have to note that most of the available apps are free or can be downloaded for a very small amount of money. I will mention this as well later in this article.

Many sites question the necessity of creating an application for our businesses. There are cases when it is not really important, for example if your content is simple, you can easily share it with an optimized browser. However, if your content and transactions are more complex, it can be presented in a nicer way via an application,

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and it can also be made more convenient and personalized as we already know.

Ágoston Hényel, project manager of ARworks Ltd., said that although application development is cheap, a simple version can be compiled from one million forints (approximately 3150 EUR). This is a more serious investment first, especially for smaller companies, but the software can be expanded later with either a multilingual version or a product range enhancement, and it is also possible to rethink the basic application even during profile switching. According to the expert, if we are clever with our opportunities, our investment will be rewarded. Developing a more complex, graphically challenging mobile application can take months, but is not usually the case. Generally speaking, the software is ready within a few weeks after the order is created and the details are clarified. (Profit, 2019) Of course the price of application development depends on a variety of factors which can modify the above amount a lot. We also have to mention that after the app is ready, it has to be maintained and issues have to be fixed, which is also generating costs.

2. HOW IT'S MADE- APPLICATIONS

The starting point of an application is an idea. After we have that, we can ask for an offer. This can be done in several ways, we can contact the companies via e-mail, phone or their designated offer request forms which are specially designed for this. Obviously we have to be very precise with our description of the desired outcome. Companies are also able to help to create specifications as an added service, where all the information related to the implementation of the project is settled in advance. The specification is usually prepared by the customer in order to obtain an accurate picture of the functions and operation of the application or software to be developed. In many cases, however, there is only one general idea, and the customer wants to see clearly whether it is fully operational, if so, how exactly it will work, what the respective functions will be and how the project will

be built, that's when the developer company can offer its help. A functional specification is good if it is understood by the customer and the developer. Continuously agreeing with the customer, these companies can prepare a specification frame to see what parts should be covered and what functional requirements there are regarding the client-side and server-side functions and discuss the hardware, software environment or design. After this is settled and they have reached the agreement, the contract can be signed.

The second big phase is the realization and publication of the app. During the development phase, the companies create a bug free core version, and after it is done, they add the required features. There are some companies which allow customers to participate in the development and testing, they give customers access to their test server and the customer can see for themselves what the current status is. After the app is reported to be ready, customer has to check and test the app and all its features to see if there is anything to be updated or fixed. The last step is publishing the application. This can be done from the customer's own account for example at Google or iTunes, but also from the developer's account. The app can be stored on the customer's or developer's server as well.

The third phase is when the app is operational, it has to be kept updated, bugs have to be fixed and in general, we have to make customers use it. (App-árak, 2019)

3. SMALL AND MEDIUM-SIZED ENTERPRISES

Now that we had a look at the customers of developer companies, we will have a look at the other side, the application developer companies themselves. In the following sections, I will introduce the market of those companies which are producing these applications briefly. As these companies are in many cases small and medium-sized enterprises with only a small number of employees, we have to take a closer look at them first.

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SMEs, or small and medium-sized enterprises, by Hungarian law, are organizations which can be described with a maximum of 249 employees, an annual net sales below EUR 50 million or a balance sheet total which does not exceed EUR 43 million, and the ownership directly or indirectly of the state or the local government separately or together does not exceed 25%. The statistical classification in the following lines is based on the headcount. Organizations employing up to 49 people are small businesses –within this group, micro-enterprises operate with less than 10 people, and medium sized firms operate with 50–249 people. (KSH, 2014) This clarification is important because as we will see, many of the application producer companies belong to this category and operate with a small number of employees.

In Hungary, as well as in the European Union, most of the enterprises belonging to the group of SMEs. As the below table shows, almost 99% of the companies were SMEs based on data from 2016, of which 94 % were micro enterprises (KSH, 2016). They are important players on the market as they employ more than a third of workers both in Hungary and in the EU 28. Their contribution to GDP is very important as well, though not as significant as their share. According to KSH, almost 80% of SMEs are in the service sector, including 19% of trade and car repair, 18% of professional, scientific and technical activity, which includes application development services.

Table 1. Ratio of SMEs in Hungary, 2016 (www.vosz.hu/data/file)

	Number of enterprises			Number of employees			Contribution to GDP		
	In Hungary		EU 28	In Hungary		EU 28	In Hungary		EU 28
	Quantity	%	%	Quantity	%	%	Billion EUR	%	%
SMEs	519,648	98.8%	98.8%	1,745,916	68.7%	66.8%	27.7	52.5%	57.4%
Large enterprises (except financials)	877	0.2%	0.2%	757,678	30.3%	33.2%	25.1	47.5%	42.6%
Total	520,525	100.0%	100.0%	2,503,594	100.0%	100.0%	52.9	100.0%	100.0%

Despite the predominance of micro-enterprises among SMEs, their sales revenue represented only 32.1% of the SME turnover in 2016 in Hungary. In parallel with the growth of the size of businesses, sales are also rising. In 2016, micro companies posted a net revenue of 19 million forints on average, small businesses 392 million forints and medium sized enterprises' revenue was 2.5 billion forints. The gross value added created by small and medium-sized enterprises has been steadily increasing since 2013 (From HUF 6.8 billion to HUF 8.1 thousand billion in 2016). In 2016, the share of the SME sector 42.8% of the gross value added of all enterprises. Small businesses - with an increasing trend – added 30.6% to 33.6% of the total value of the company in each year, while the contribution of medium-sized enterprises was added continued to decline between 2013 and 2016, reaching 31.1% in 2016. In 2016, SMEs account for about 27% of the total national investment and 34% of businesses investment in Hungary. (KSH, 2016) In summary, we can see that these companies play an important role in our economy.

4. APP DEVELOPER COMPANIES

Where are the apps from? Who are these companies developing applications and what are they like? In this section, we try to find a few examples of these.

Based on a list set up by Clutch.co, there are several companies which develop apps in Hungary. We can also get countless hits if we try typing the 'Hungarian developer app' keywords in Google. Based on these two, the majority of them are operating in Budapest, the capital city, which is not surprising as Hungary's centre of business is there as well. Many of the companies on the list offer other services, not just mobile app development and almost all of them belong to the group of SME-s based on the number of their employees (most of them have even less than 50 of them, so they are small businesses). If we consider the European market leaders selection of Clutch.co, we can observe that these companies in the list have more employees in

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general, but in the top 20 there are mostly SMEs here as well. (Clutch.co, 2019) It's also interesting that almost a third of these companies are located in the UK.

The FT 1000 list is a list of Europe's fastest-growing companies by Financial Times. They study companies from 31 European countries with the highest compound annual growth rate in revenue between 2013 and 2016. Technology is the most represented category, which is not surprising in my opinion. If we consider cities, London (74 companies of the list), Paris (62) and Milan (25) hosted most of these firms (Financial Times, 2018).

The best Hungarian company in this list (also top on Clutch.co's list) was Supercharge from Budapest with the 103rd place and with 1124% revenue growth, which is also ranked among the top ten in the region.. It started 8 years ago as a garage company and was founded by Hungarian students. The team is designing and developing strategic applications for market-leading companies, including OTP Bank, Santander Bank and NetPincer. The company employs nearly 100 software developers, designers and other digital experts in its offices in Budapest and in their newly opened office in London.

Attrecto, also a mobile app developer, has been added to the list too. It was 132nd with 902% growth. Earlier, this development company in Győr received Jeremie capital, and X-Ventures Alpha invested in the company from EU funds too. (Index.hu, 2018)

Deloitte also has a top list called Deloitte Technology Fast 50 Central Europe and they examine the region's fastest growing tech companies (based on their applications). Based on the record high growth data, we can see that the sector continues to expand in the region. Unlike in previous years, when only new players were added to the first five, this year the top two companies that were already in the elite rankings are in the lead this year, which shows that there are some companies which can be successful in the long run. From the 50 companies, 32

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work in software, 11 in media and entertainment, and 7 in hardware categories. It is also interesting that 30 of the companies are new on the list, which shows that this is a very fast changing market with a lot of opportunities but also with possibilities of failure. On the below figure copied from the report, we can see the share of countries represented on the list.



Figure 2. Deloitte Technology Fast 50 CE 2018, countries
(www.deloitte.com)

Hungary is also represented in this list by Supercharge and SmartFont. With 740 % growth, Supercharge was the 12th. Founded in 2011, SmartFront develops flexible web-based enterprise management solutions for small and medium-sized businesses. Between 2014 and

2017, the company was able to increase its sales by 288 percent, making it the 45th in this year's Fast 50 list. It is very interesting to mention that the average revenue increase was 1290 percent between 2014 and 2017 for the companies on the list (Deloitte, 2018).

So in summary, based on these few examples, we can see that the application market is very big, complex and there is a huge competition. Among these SMEs in this sector, there are a many highly innovative companies and they can become successful just as quickly as they can disappear from the market. We can also observe that the Central European developer businesses are quite relevant worldwide and they represent a high quality relatively low cost workforce in this area.

5. TYPES OF APPLICATIONS

Since we had a look at almost every aspect of the application market, let's examine the apps. What are they, what types of apps we can differentiate?

As I wrote before, there is an app for almost every aspect of our lives. We can group them, for example, based on type, topic or price.

Based on the type (Thinkmobiles.com, 2019):

- Native applications: these apps are developed for a single mobile operating system exclusively, they are native for a certain platform or device. (For example you won't be able to use an Android app on an iPhone.) They perform better and can be developed in higher quality, but their cost is also higher as providers have to develop them for each platform they would like to use.
- Web applications: they are basically responsive versions of websites which work on any device. They use a browser so their performance is linked to the browser's performance, but they cost less and there are no store restrictions.

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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- Hybrid applications: these apps are built with multi-platform web technologies (like HTML5 or JavaScript for example), and they are mainly website applications using the appearances of native applications. They are less customizable to platforms, but they are easier to develop and relatively low-maintenance compared to other types.

Based on the topic: there are 24 categories in the App Store (Apple) and 33 categories in Google Play. According to Statista.com, some of the most popular categories are the following with a few examples:

- Games (the most popular segment)
- Business (make business life easier, productivity apps)
- Education (language, coding or any other topic)
- Lifestyle (for social life, organizing personal life)
- Entertainment (chatting, events, online content watching)
- Utilities (translate, service apps)
- Travel (maps, accommodation, transportation)
- Health and fitness (workout, healthy diet)

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*

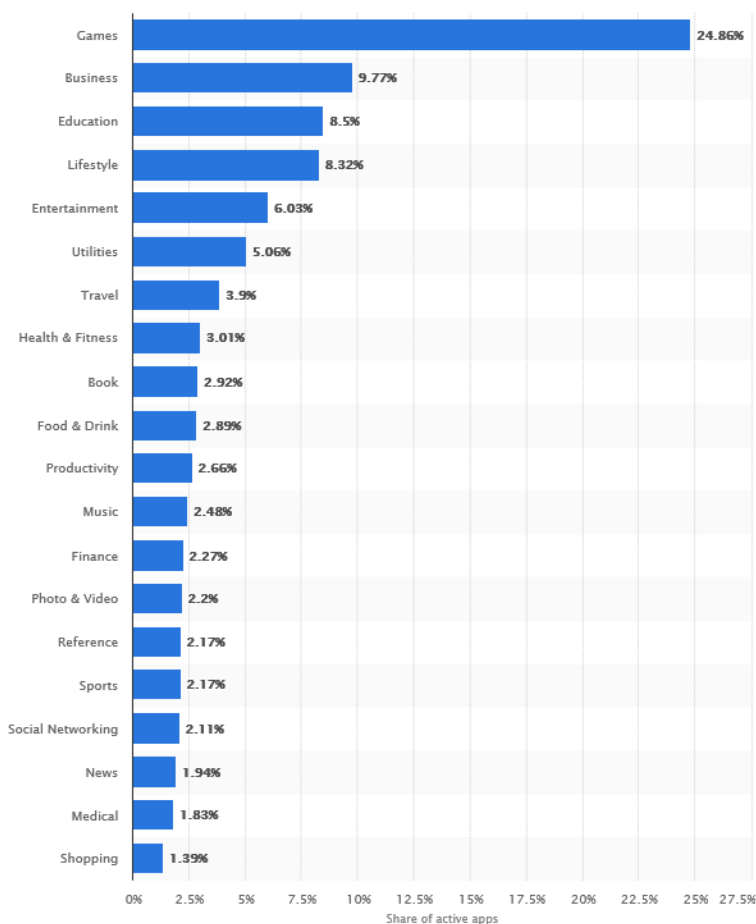


Figure 3. Most popular Apple App Store categories in September 2018, by share of available apps (www.statista.com)

Based on price:

- Paid apps: users have to pay a certain amount of money either once at the time of the download or periodically
- Free applications: users don't have to pay for downloading these. They are more popular than paid ones. Although users don't pay with money for these, they share data with

companies which is also valuable and they also generate income with ads placed in them.

There are apps which combine the above two options, there is a basic free version which can be upgraded by payment for extra features.

6. RISKS OF USING APPLICATIONS (FOR CUSTOMERS)

As we saw earlier, almost each of us is a customer and user for these applications, so it is very useful to mention that they can have risks.

As I wrote above, most of the applications which are downloaded, are free which means companies have to generate income in some other way. This situation can be risky for users. How?

Privacy is the right that the owner of the information (i.e. about whom it is) decides who can use it, and how they can use it, who can pass on that information based on which they are identifiable. This expectation seems particularly legitimate against for example health data, which should enjoy a higher level of safety. Confidentiality is the expectation that those who have access to these data will treat it in accordance with data protection requirements. On the other hand, the question of security is about how, from a physical, technological or administrative point of view, we protect this information from being misused or published. (Arora, Yttri, & Nielsen, 2017) Based on these, the risks can fall into one of the following three categories:

- Privacy and confidentiality: there are a lot of stories about app provider companies selling users' data without users' consent, which is obviously a high risk factor. We have to note that if cumulated user data is sold, it can provide valuable source of statistics, but if it is sold with identifiable personal details, buyers can abuse it. General Data Protection Regulation, GDPR is a new regulation in the European Union which aims to minimize these kinds of risks, to give users more power over their own data and to

make data handling entities behave in a more responsible way.

- Security: in this category we have to think about protecting our data with the help of technology, for example with firewalls, encryption or passwords, and also physically, placing them in a safe place. To this point we can also add administrative protection, which means that we can decide who has the right to access or publish certain information.
- Other risks: which don't belong to any of the above categories.

7. RESEARCH

The strategies of businesses are highly affected by customers so researching their needs and thoughts is a very important aspect of this topic. The developer companies obviously don't succeed on their own, the ordering firms have to know their customers and the greater picture. In the following section, I will introduce two main researched topics, security and design.

Security is an important and relevant topic in this area. I conducted an online survey to find out more about it. I gathered 620 forms back and after we filtered out the unusable ones we got a total of 554. In this article we won't have time to analyse the whole survey, but the following three questions will give us an idea about the picture.

Before I introduce the findings, let me mention generations, a group of people born at the same time period which means they have to reach their important points of life at around the same time (e.g. finishing education, getting married or having children). (Kolnhofer-Derecskei & Reicher, 2016) There are X, Y and Z generations. The X generation is born before 1982 (and after 1961) which means they are between 35 and 56 years. The Y generation, also called as the millennials are born between 1983 and 1997. Finally, Z generation is born after 1997. As people are born later, they become more familiar with the technology, so for example gen Z can adapt to technologies quicker and easier than generation X. (Kolnhofer-Derecskei & Reicher, 2016)

The majority of the respondents were from generation Y: 62%, 34% was from generation Z and the rest, 4% were from generation X.

The first question I'm going to analyse is "Do you use paid applications?". 81% of the respondents said they never use these kinds of apps, 17% of them rarely, and only 2% of them reported to use them often.

The second question is: "Do you know what happens with the data you upload into your apps?" The answers are visible in the below table. We can observe that in general most of the respondents don't know the answer. After chi-squared testing, I found out that there is no significant relationship between age and data consciousness in this sense.

Table 2. Do you know what happens with the data?

Generation	Yes	No	I don't care	Total
X	1%	3%	0%	4%
Y	16%	40%	5%	62%
Z	11%	20%	3%	34%
Total	28%	63%	9%	100%

The third question I'd like to introduce is "Do you read the privacy and data protection statements of the apps you download?" You can see the answers in the below table. Almost half of the respondents never read these statements.

Table 3. Do you read the privacy and data protection statements?

Generation	Often	Always	Rarely	Never	Total
X	0%	0%	2%	1%	4%
Y	6%	2%	24%	30%	62%
Z	5%	1%	12%	17%	34%
Total	11%	3%	37%	49%	100%

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Although my survey is not representative, we can see that these 3 questions give us an interesting insight. We pay with our data for the applications and in the same time, we don't really care or know about how they are handled afterward. This picture can be greatly modified by the new GDPR regulation of the EU, which gives clearer instructions and rights to both user and app provider. Based on the survey however, we must notice that app providers have to be more transparent and open about their data handling policy and we also have to mention that they have to find other ways of monetizing than making apps paid.

The other topic is a softer one: design. I assumed that we choose considering four main factors, design, ratings, functions and permission requests. Obviously, users have some goal with the app they want to find, they have priorities and expectations but there are several things that can influence their decision beyond these too. I conducted focus group interviews to find out more. The total number of participants was 28, they were questioned in smaller groups. There were 6 women and 22 men which is an interesting split considering that I showed them 9 different health and fitness applications. I checked three main categories with the groups, the first one was design, looks and ratings, the second was functions and the third was permission requests the app is requesting. They were able to choose from 8 apps for the experiment, all of them are health and fitness related, 6 of them are good for diets and 2 of them are better for sports activities. These apps were chosen randomly, but they were among the most popular in the stores and on blogs. We only considered free apps and free functions (based on the earlier findings, this was the most relevant kind.) At first, we had a conversation about the general app usage habits and the opinion about the health and fitness apps with the participants. As a second step, I showed the groups the 8 chosen apps, 3 screenshots and 2 ratings for each (for Android and iOS) and asked the participants to share which they would have chosen and why. After this, I showed them the functions of the apps and asked them

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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again to choose one and give us an explanation. As the third step, they were showed the requested permissions by the apps and asked them for a third time to choose one. The aim of asking the participants to choose 3 times was to identify the main influencing factor of their decision and to see if this decision is changed during the experiment. In summary, 10 of the 28 participants changed their minds during the interviews, which shows that each category can be important while choosing apps. 5 participant changed their minds because of permission requests, 3 because of better functions and 2 in every round (possibly carried away by the experiment). The rest of the respondents stayed with their first decisions till the end of the experiment and they considered their decisions confirmed with every feature revealed. I also experienced that participants don't rely on ratings but their previous knowledge matters a lot. This can be an important finding for companies: if they want to succeed with their applications, they have to get them into common knowledge. I found that design and well-chosen screenshots are also important when companies are trying to convince a user to download their apps. If data visualization (graphs, easily distinguishable information) and pleasant colors (suggesting the theme or the quality of the app) are visible, they are likely to win users. Regarding functions I'd like to mention that the groups reported that too many functions can be just as unattractive that too small amount of functions. Finally, regarding permission requests, I found that this category influences people less than others, they easily accept that they have to share certain details to be able to use the app properly.

8. SUMMARY

In summary, we can see that applications play an important role in our economy and life. There are many participants in the market who contribute to an app before it comes into our hands and we have to be careful and have to use them well as they can improve our lives but also can mean risk to us. From the developers' and app owners' point

of view, we can see that there are endless possibilities in this field so it is worth studying it in the future as well. My future plans are to conduct expert interviews with the representatives of app developer SMEs who managed to stay successful in the market because for SMEs this is a very tricky topic. It would be also interesting to interview those who disappeared from the market to see what went wrong in their cases.

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(Actions based on comparative analysis in
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HOW TO ADDRESS AND UNDERSTAND THE FAILURE OF SMES: FRAMEWORK AND FACTORS

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Abstract

In order to increase the probability of survival of SMEs, it is necessary to have a comprehensive understanding of factors contributing to the success or failure of the enterprise. Peculiarities of the observed economic environment should be also considered. Precisely because of peculiarities in economic level of development, phase in the transition process, government commitment and understanding the importance of strong SMEs sector, a unique model of SMEs success, applicable everywhere, has not been established. The objective of this study was systematic research in which was investigated the wide range of factors influencing SMEs success or failure. A comprehensive literature review had been made an initial list of factors has been identified. Based on that, the preliminary questionnaire was been developed and through numerous interviews with scholars and practitioners the final version of questionnaire was derived and presented in this paper.

Keywords: *Small and Medium Enterprises, Success, Failures, Questionnaire*

1. INTRODUCTION

In the 20th century, numerous disciplines in management have been developed in order to increase the efficiency of business operations. However, the statistics are still ruthless when the rate of SMEs failure is on the table. SMEs account for a large number of enterprises ranges from Micro businesses that are commonly self-employment oriented trough Small enterprises that are basically established within the family members and, finally, Medium enterprises which go beyond families business but still don't reach the sizes of large companies. Among scholars and practitioners doesn't exist consensus over the strict boundaries between SMEs. Often used definition in European Union is from the recommendation of European Commission. According to the recommendation: „Micro-enterprises are defined as enterprises that employ fewer than 10 persons and whose annual turnover or annual balance sheet total does not exceed EUR 2 million. Small enterprises are defined as enterprises that employ fewer than 50 persons and whose annual turnover or annual balance sheet total does not exceed EUR 10 million. Medium-sized enterprises are defined as enterprises that employ fewer than 250 persons and either have an annual turnover that does not exceed EUR 50 million, or an annual balance sheet not exceeding EUR 43 million.” (European Comission, 2003) Independently of definitions, the main characteristics of SMEs are the structure with a small number of management layers, one or a few locations of operations, predominant constraints in available assets, a huge number of competitors with similar customer pool, limited strategic and operational flexibility, inability to resist global financial crisis and trends (Upson & Green, 2017).

1.1. The Significance of SMEs

According to statistics in the USA: “Four out of five establishments that started in 2016 survived until 2017 (79.8%). From 2005 to 2017, an average of 78.6% of new establishments survived one year. About

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half of all establishments survive five years or longer. In the past decade, this ranged from a low of 45.4% for establishments started in 2006, and a high of 51.0% for those started in 2011. About one-third of establishments survive 10 years or longer.” (U.S. Small Business Administration, 2018)

According to the Eurostat in the European Union, in current composition, the birth rate of enterprises in 2016 was 8.88% in relation to existing enterprises. The number of enterprises deaths in the same year was 7.44%. Aggregate changes in survival rate after 3 or 5 years periods are not available in Eurostat report for the whole EU, but by reviewing the states in particular the rate of survival in 3 years period is highest in Malta (104.13%) followed by Sweden (74.32%), and lowest in Portugal (44.9%) and Lithuania (36.70%). In 5 years, the highest percent of enterprise survival among the EU members has Malta (118.55) while the lowest rates have Portugal (28.49%), Lithuania (32.34%) and Denmark (34.72%) (Eurostat, 2018) . So, looking average, about 61% of established enterprises in EU succeed to operate 3 years after birth and about half of them survive 5 years (48.38%).

In order to improve competitiveness of SMEs in EU various financial instruments had been introduced that had a purpose to help SMEs to access finances for investments, targeted business support, access to global market, exploit new sources of growth, invest in human capital and nurturing the connections with universities to promote innovation (European Commission, 2019).

In Serbia, the same as in other countries, SMEs are the largest segment in the national economy with 99.8% of total active enterprises and employ 2/3 of employees in the non-financial sector. Serbia had and has an important economic role in the region since is one of the largest countries in West Balkan. The transitional period was aimed privatize of state-owned property, reduce corruption and stabilization of macroeconomic environment in order to transform its

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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economy towards the private sector (Wojciechowski, 2013). However, incomes from selling the state and social capital were, in great part, used for financing the deficit in the balance of payments and the budget deficit therefore was not created stable and stimulating business environment for SMEs (Paunović, 2017). After 2000 and transition period SMEs sector in Serbia started to raise. Many new entrepreneurs began their ventures, and small and medium enterprises opened massively. However, the SMEs sector didn't succeed to strength sufficiently to resist the global economic crisis and, more important, to deficiency of a stable economic system with strong industry and developed, regulated and well-targeted institutional support. All of this has led to the drastic deterioration of the ratio between newly founded and extinguished small and medium-sized enterprises in the years after. Numerous small and medium-sized companies suffered from huge financial losses and were forced to reduce the number of employees or even to close the business. The number of business entities in the SME sector in 2015, compared to 2008, increased by 21 150, or by 7.0%. However, the total number of employees in the SMEE sector was reduced by 14.7% (Chamber of Commerce and Industry of Serbia, 2016).

Statistical Office in Serbia SMEs sector divides according to the number of employees: micro enterprises - the number of employees up to 9, small enterprises - the number of employees 10-49 and medium enterprises - the number of employees 50-249. Entrepreneurs (businesses) as self-employed individuals are involved in micro-enterprises. By observing the data in recent years (Figure 1., Table 1.) can be noticed a slight increase in the number of companies each year (0,10% in 2015, 4.78% in 2016) but although the number of employees increased in total it showed decrease in overall (5.28% in 2015, 4.47% in 2016), and Gross value added- GVA (6.53% in 2015, 11.47% in 2016). This can be explained with improvements in the economic environment after the crisis.

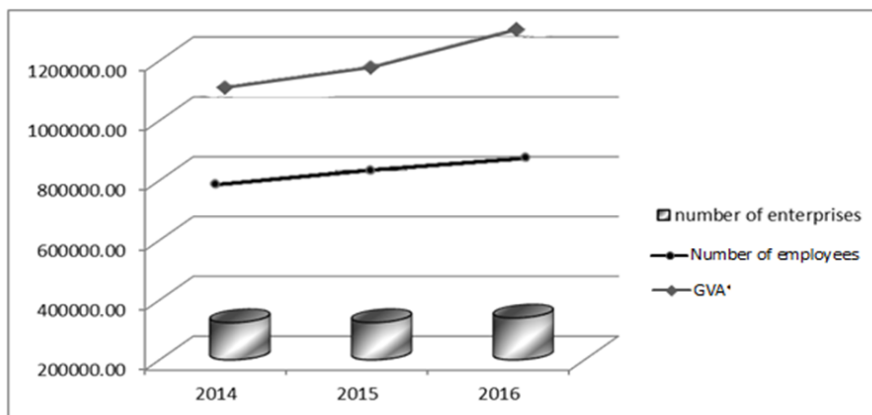


Figure 1. Changes in the SME sector

In 2015 and 2016 the largest grow in number of companies in SMEs sector had small enterprises which was showing the positive trend in this area. Also the highest percent of number of employees occurred in small companies with 6.7% in 2016.

In 2016, 42 044 enterprises were established, and 24 728 of the SMEE was extinguished (net growth 17.316). The concentration of SMEE is the most developed in the Belgrade region and least developed Eastern Serbia.

Table 1. SME sector in Serbia 2014-2016

2014.	Entrepreneurs	Micro	Small	Medium	SMEE
no of enterprises	231 616	81 327	9 198	2 131	324 272
no of employees	207 748	147 641	185 206	220 944	761 539
turnover	958 563	1 363 463	1 727 909	1 949 462	5 999 397

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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GVA	236 081	179 422	279 323	334 737	1 029 563
2015.	Entrepreneurs	Micro	Small	Medium	SMEE
no of enterprises	232 765	80 122	9 531	2 182	324 600
no of employees	236 359	150 919	190 936	223 505	801 719
turnover	1 040 226	1 358 207	1 786 105	2 118 332	6 302 870
GVA	261 343	171 156	293 711	370 541	1 096 750
2016.	Entrepreneurs	Micro	Small	Medium	SMEE
no of enterprises	243 590	84 105	10 154	2 263	340 112
no of employees	247 775	154 073	203 681	232 003	837 532
turnover	1 116 068	1 476 356	1 952 475	2 064 981	6 609 879
GVA	284 154	188 521	338 364	411 480	1 222 519

Source: Report on small and medium enterprises and entrepreneurship, 2014,2015,2016

The level of competitiveness of the SMEE sector in Serbia significantly lags in relation to the EU-28 average, as indicated by a comparative analysis of quantitative indicators of business (employment per enterprise, GVA per employee). In the SMEE sector of Serbia, the number of employees per company is 2.5, and in the EU-28, this ratio is 4. Also, the productivity of the MESP sector in Serbia is significantly lower (3.7 times lower) compared to the EU-28 average (Report on small and medium enterprises and entrepreneurship, 2014,2015,2016).

Global Competitiveness Index 2017-2018 report set Serbia on 78th out of 137 countries. Compared with previous report where Serbia was on 90th place it is significant improvement but still all measured factors are lower than Europe average (Figure 2.). The most important areas for SMEs performance are poorly rated. As most problematic

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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factors, as it is showed in Figure 3, were stated high tax rates, access to financing, inefficient government bureaucracy, corruption and policy instability (World Economic Forum, 2019).

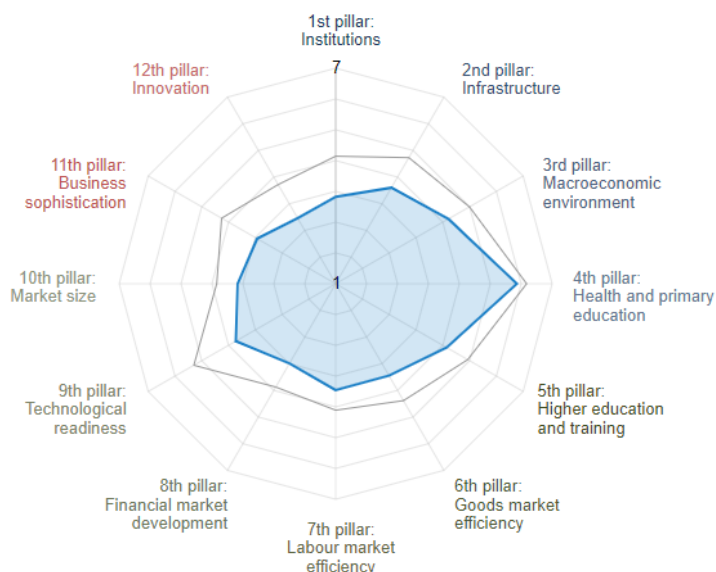
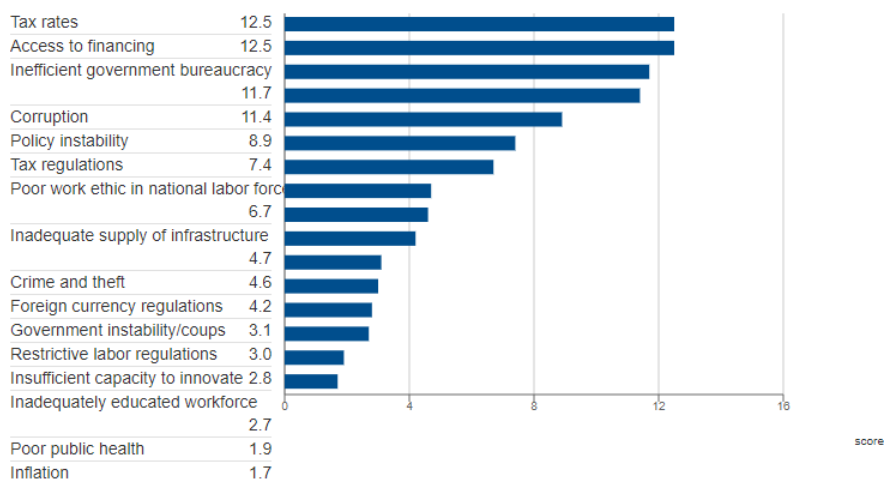


Figure 2. GCI score range for Serbia across the 12 pillars (source: World Economic Forum, 2019)

As in the rest of the world, new and existing entrepreneurs in Serbia have been facing the various challenges in establishing a business and operating on the market. Serbia nowadays has proactive approach in creating the policies for the development of SMEs sector. Some of concretely measures undertaken in the direction of business environment mitigation and support for entrepreneurs are facilitation the setting up of the company, implementing the geographic information system (GIS), adoption of the law on execution of the contract, facilitating the obtaining of building permits, the abolition of some taxes and ease the payment of taxes by introducing an electronic system (World Bank Group Flagship Report, 2019).

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(Actions based on comparative analysis in
Visegrad countries and Serbia)***

Most problematic factors for doing business



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Figure 3. Most problematic factors for doing business in Serbia
(source: World Economic Forum, 2019)

In period of the transition process, the government made improvements in market liberalization, competence improving, administration and promotion of free market competition (Culkin & Simmons, 2018). As two key obstacles in the entrepreneurship sector in Serbia Culkin and Simmons (2018), in their report, stated difficulties and costs of access to finance and possibility to connect with national, regional and international markets. In 2015, the Government of the Republic of Serbia adopted the Strategy for supporting the development of small and medium enterprises, entrepreneurship and competitiveness for the period from 2015 to 2020, with the Action Plan. The main goals are to increase the number of economic entities, employment and improve the performance of small and medium-sized enterprises.

Besides analyzing the mere statistics, greater attention of scientists, governments and entrepreneurs should be focused on the reasons for

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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this state. This paper has an objective to develop the analytical framework which could help in the identification and classification of failure factors and determine the base for further researches. This is essential because by finding the set of the most important triggers for a failure of SMEs those elements could be removed or avoided in the cases of an existing or new entrepreneurial venture.

Why this is so important? All business could suffer the failure, but SMEs are more affected than large companies due to the fact they have very limited financial resources and low possibilities to quickly obtain new finances (Ropega, 2011). Especially after the big global financial crisis, and consequently decrease in demand and reduced access to funding sources, the abilities of SMEs to adapt and survive are significantly reduced. Considering that SMEs are mostly being established with the purpose to make money for the owner and his family the failure of an entrepreneur can have far-reaching consequences for his family and the whole society. Existence and success of SMEs has become an important issue for socio-economic development of countries since SMEs are the most numerous of all types of companies (9 out of every 10 enterprises in EU, and even higher per cent in USA) and provide a great number of jobs (two out of every three jobs in EU and USA) (U.S. Small Business Administration, 2018) (European Commission, 2016). SMEs notably influence the employment growth, reduction of poverty, mitigating the social inequalities, innovations, and altogether contribute to higher GDP of the countries (Shafique et al., 2011). The unemployment rate in Serbia is very high 12.7% but the statistic is even worse when the young people from 15 to 24 years are observed, 29.7% unemployed (Bulletin- Labor Force Survey in the Republic of Serbia, 2018, 2019). The stimulating of SMEs sector is often perceived as a cure for low-income countries (Poole, 2018) where the design of policies should be in the direction of providing the entrepreneurs with institutional, financial and educational assets in order to start and persist in business ventures.

2. LITERATURE REVIEW

The first step in defining the factors that influence the failure of enterprise has to be the definition of the failure itself. Many authors had given their interpretation of business failure. The most obvious case of business failure is the bankruptcy and closing the business when the legal status of the firm ends because it cannot repay debts (Tobback et al., 2017). However, this should not be the only interpretation of failure because bankruptcy itself does not have to mean failure. The failure should not necessarily mean the closing up the business and interruption of all business activities. Failure can be observed as the natural step in the life cycle of a business venture (Pretorius, 2009) and could be a rational choice in the moment of high gains in fast-changing sectors, based on the acquired knowledge (Coelho, 2005) or in the case of better business opportunity. Failure of one business venture could leave the valuable assets and experience for changing the direction of business activities or for establishing a completely new enterprise. Watson (2003) classified the SMEs failure as bankruptcy that means interruption of business operation; discontinuance in order to prevent further losses; giving up because of unfulfilled personal goals; and, retirement or withdrawal because of objective reasons.

In one comprehensive research conducted by Pretorius, the author abstracted variations in definitions of the term failure as *Decline*, the worsening of financial, market, human resources and other business performances; *Discontinuance*, ceasing the operations and closing the business; and *Turnaround*, changing operations in direction of more profitable venture and recover (Pretorius, 2009).

Especially in fast-changing sectors the quick failure after establishing SMEs, mainly of start-ups, is considered a learning opportunity. An approach "Fail fast, fail often" is being promoted to the entrepreneurs

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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as a way to observe and detect early signs and warnings in the operations toward the failure and to encourage them not to stay long in business with no prospects, but to move towards developing of new business (Khanna et al., 2015). From failure can be learned about the causes, errors and the process itself. According to Lee and Miesing these are the four causes of failure: mechanical, accidental, intentional and inadvertent causes and those factors are being considered internal and consequence of poor management, lack of the organizational culture, incompetence and insufficient experience. On the other hand, many factors can be attributed to the external environment. Entrepreneurs, often, the cause of own failures find in external rather than internal deficiencies.

However, failure cannot be seen as a good thing. Failure is lack of performances, non-fulfillment of desired outcomes, financial lost and cause of psychological stress, mindset changes and loss of credibility.

Failure is not an unexpected incident. It can be rather understood as a dynamic process which has causes and symptoms. Ropega described five general trajectories of failure (Ropega, 2011):

An Unsuccessful Start-up failure arises as a consequence of poor management and a lack of appropriate planning. The new entrepreneurs often start their businesses driven with wrong personal reasons like more money, more flexible time, personal challenge, need for personal development (so-called “pull motives”) or job loss, avoidance of bad jobs, family pressures (so-called “push motives”) (Wang et al., 2007). The problems occur also due to not having business skills and expertise in vital areas such as market awareness, underestimating the business requirements... (Valdiserri & Wilson, 2010). Researches showed that the most important motivating factor for starting a business was the opportunity to be independent. The financial gain was also a highly rated factor, and among top factors, a

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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good idea for business ventures had a notable place (Ritchie & Brindley, 2005).

Often there is no market need for the products because the focus of an entrepreneur is on the idea of starting a business rather than research of customers needs. The choice of the wrong target group has been often the consequence of the lack of marketing skills of an entrepreneur. Also, insufficiency of knowledge concerning pricing, purchasing and financing as well as experiences in administrative work are very common causes that lead to failure.

A Dazzled Growth Company, as a failure reason, appears after the initial success of an enterprise when the entrepreneur becomes unrealistically optimistic and underestimates the revenues and importance of tracking the cash flows and future expenditures. The owner and management of SME can higher the expectations as a consequence of buster self-confidence. New goals are being set unachievable and the sustainability of operations and resources becomes questionable. Blind commitment to unachievable goals leads to ignoring the obvious signs of overinvestments, overuse and depletion of business assets (Lee & Lee, 2018).

An Apathetic Established Company, that means the lack of monitoring of changes in the surrounding and planning the adequate adjustments. Mentioned personal characteristics of an entrepreneur are not the only ones responsible for the success of SMEs. The significant factor for SMEs success, or failure, is the competitive dynamic of the environment. SMEs operations are usually focused on the close vicinity from which the most often originate their customers, suppliers, competitors etc. Accordingly, the center of attention is on the needs of that group of customers and only their problems are being solved. When the new competitor appears, which can be other SME or some big company, the problem of entrepreneur incompetence to deal with the larger context of competitions occurs (Upton & Green,

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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2017). Even more broadly observed, SMEs ignore the developing of new strategies, do not follow the implementation of new technologies, do not develop innovative potential, cooperate with a limited number of immediate partners, do not amplify marketing canals, do not investigate new customer demands, affinities and megatrends.

An Ambitious Growth Company, leads to failure because management focuses on the rapid expansion and overlooks market capacity, expenditures, present and future operating funds and other risks connected with rapid growth. The assumption that the positive relations between factors that lead to success in one period or one place will necessarily lead to success in other cases is obviously misleading and cause serious problems to SMEs. An expectation that the customers, suppliers and the whole environment behave in the same manner and the successful formula is applicable anywhere is been increased with the self-confidence of the one-time success of SMEs management. Entrepreneurs forget that changes in the environment are uncontrollable by SMEs and they set goals that are unable to fulfill, therefore, by exhausting the resources, lead their business ventures in failure (Lee & Lee, 2018).

Excessive Internal Consumption, occurs when the owner uses the resources of the enterprise for own promotion or other personal needs. Business ownership is often challenging because it is tied with personal lives of entrepreneur add his family. For this reasons, decisions are often driven with personal reasons more than financial (Wang et al., 2007).

The theme can be observed from another perspective. The factors of success can be analyzed in order to enhance performances and thus prevent the failure of SMEs. Due to complex relations in SMEs operations, there are still numerous attempts to identify a model that uniquely mark the factors critical for success. Success as a term can be defined as a measure of meeting or exceeded set goals that are mainly

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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viewed through business performance (Simpson et al., 2012). The important issue among researchers in the field of entrepreneurship has been the measures of success or failure of SMEs. The performance measurements that are traditionally used in research are efficiency, growth, profit, size, liquidity, success/ failure rate, market share and leverage (Freel & Robson, 2004; Murphy et al., 1996). There was an opinion that satisfaction of main stakeholders is the measure of success and performances in a sense of growth or long-term survival are no longer of crucial importance (Jennings & Beaver, 1997). The complexity of measuring performances of success is caused by additional important objectives, such as taking in concerns all stakeholders, achieving the balance between long-term and short-term goals, and efficiency and effectiveness of decision making, so already taken action are being analyzed and appropriate monitoring of performances and measures would be planned (Simpson et al., 2012; Tangen, 2004).

Some of the most often highlighted factors of success or failure of SMEs are: personal characteristics of the entrepreneur, level of the organizational development, entrepreneur's management abilities and economic environment (Gibb & Davies, 1990). Simpson et al., (2012) pointed characteristics of the business, owner-managers, and the business environment as the three categories where factors of success can be classified. Some comprehensive literature researches indicate that SMEs performances are differently observed in economies of different level of development (Wang, 2016). Also, the number of criteria that describe the success of SMEs may significantly vary even between the small and medium-sized enterprises. Ndiaye et al., (2018) modeled five performance indicators derived from firm characteristics, finance, informality, infrastructure, innovation, technology, regulation, taxes, trade and workforce concerning SMEs and those are capacity utilization, annual employment growth, percent of firms buying fixed assets, annual labor productivity growth and real annual sales growth (Ndiaye et al., 2018). Data analysis showed that

firms with a bank loan hire a larger number of employees and also, more often buying the fixed assets that mean the access to finances is one of the major constraint in SMEs success. The government interventions should support the SMEs to diminish the financial stress and to enable an adequate operating environment in order to reach preferred financial potential and sustainability (Bouri et al., 2011).

2.1. Personal Characteristics and Management Abilities of The Entrepreneur

One of the mentioned internal reasons for the failure of SMEs, besides poor managerial skills and experience, is the entrepreneur mindset. The successful entrepreneur has been the theme of numerous researches (Harada, 2003). Entrepreneurship addresses some important features for SMEs success or failure; a little bit of risk-taking, self-confidence, creativity, innovativeness and a certain attitudes of self-employment (Jovanović et al., 2018; Ritchie & Brindley, 2005). Entrepreneurs are often very emotional about their businesses and their decisions can't at the right way answer faced challenges and opportunities. Numerous studies have dealt with the emotional intelligence of managers as a reason for managerial effectiveness. Emotional intelligence has been described as a set of capabilities of using emotions to benefits business performances. Côté pointed out four capabilities that can be the core of emotional intelligence that and can influence effectiveness: self-awareness - refers to the way in which managers identify and regulate their emotion; social perception-refers the capability to identify the emotion of others, that can be very useful in collecting the reactions of customers, employees and business partners; emotion understanding - refers to understanding emotions and capability to anticipate how some occurrence will affect the emotion of others; and emotion regulation - refers to the control of magnitude or duration of personal and emotion of other people (Côté, 2017). By improving emotional intelligence, managers can better understand their surrounding,

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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develop solid relationships with people and more effectively respond to opportunities and challenges.

Behavioral patterns embedded in an entrepreneur mindset also play an important role in the ability to respond to different business challenges. Dominant beliefs and power structure that is expressed is also in many ways embedded through institutional structure and business community (Ritchie & Brindley, 2005). The entrepreneur shares business practices that reflecting the industrial structure, local institutional frame and examples of common practice.

Individual characteristics which influence the entrepreneurial mindset derive from family history and entrepreneurial tradition, social context, educational opportunities and support of surrounding (Greenbank, 2001; Dolz et al., 2018; Ritchie & Brindley, 2005).

Another group of factors influencing the success or failure of a business venture concerns the need that an entrepreneur develops his personal and managerial skills. At the beginning of the entrepreneurial venture, an entrepreneur may have a great idea and, as business is still small, the capability to manage the firm and assets. With time the challenges become more intense due to the growth of the firm and, in parallel, the entrepreneur should be able to evolve and his management competencies to grow (Ahmad & Seet, 2009). It is wrong thinking that entrepreneurial skills can't be learned and improved (Jovanović et al., 2018). The learning process depends on interaction with other stakeholder groups because from relations that entrepreneurs built with others they absorb the knowledge. Another important part of knowledge transfer is the capability of practical use of new-gained know how and creating new innovative solutions for problems (Amabile et al., 1996).

Contrary to larger firm managers and owners have close interactions or, in most cases, that is the same person. According to the facts that

SMEs are resource constrained, the key decisions regarding the liquidity, distribution of assets, level and scope of employee cutting down are results of one or small group of individuals who are directly involved in making the strategic orientation of the firm (McGuinness et al., 2018). As such, it is necessary for entrepreneurs to develop the skills for interpreting the information and sensing abilities of the firm to shape in the direction of innovation. This demands constant learning, acceptance of failure, the capability of personal development and thinking “outside the box” (Teece, 2007).

For the entrepreneurs, the focus is mainly on the current business operations and performances and the long-term planning and strategies has been often neglected. In this way, the SMEs can't reach their full potential and even their survival is jeopardized. In order to achieve sustainability, it is an important understanding of long term planning, implementation of plans and provision of resources for realizing set goals. Strategic planning supports the innovativeness, efficiency and growth through which the competitive advantages could be gained. Researches findings support that strategic planning contributes to better performances and is essential for SMEs success (Gibbons & O'Connor, 2005; O'Regan & Ghobadian, 2002; Wang et al., 2007). Researches showed that management strategies that have been integrating social, environmental, workers and in general human rights had gained better outcomes in profitability, productivity, firm value possibility to access resources, realizing marketing plans and employees satisfaction (Cheng et al., 2014; Fatemi et al., 2018; Lins et al., 2017).

2.2. Level of the Organizational Development

Label "SMEs" carries a lot of challenges related to size, assets and capacities. Organizational development, in this case, refers numerous internal factors that can influence the ability of SMEs to identify the changes, quickly adapt on market demands and gain competitive

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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advantage important for companies' success (Hovanyi, 2002). Possession of intangible assets such as unique organizational design models, skilled and professional workforce, know-how which all are qualitative factors allow the improvements in firms performances that can be quantified.

Literature shows that the business model design does influence the performances of an enterprise. SMEs whose business design is related to novelties, that means introducing the new product/service contents, changeable structure, and new ways of managing the activities showed a positive influence on firm performance. If a firm is an efficiency-oriented that means the replication of changes with aim of reducing transaction costs, performances are not been ameliorated. However, the mature SMEs that seek higher efficiency through business model show better performances over time than younger SMEs. Younger SMEs that practice novelty business model had better results in environments with high levels of dynamism (Patiet al., 2018; Zott & Amit, 2008).

In some point of venture development, the entrepreneur may reach his limit ability to manage the firm and if does not provide additional professionals in management level, that can cause the failure (Fatoki, 2014). SMEs have been constrained by resources since access to plenty of finance sources is more difficult comparing to big companies (Beck & Demirguc-Kunt, 2006). Consequently, this shortage disables, at first place, hiring and retaining the quality and experienced managers, moreover, the owners are forced to work various tasks and do not have time for expertize the one managerial area or skill. Management of SMEs has a lot of peculiarities compared with large companies. Even in the case of experts' management engagement, managers only occasionally has the opportunity of making important decisions, while the owner keeps a lot of decisional rights, including strategic decisions. This circumstance strongly influences the

capability of SMEs to reach the full potential (Ožegović & Pavlović, 2012).

SMEs have also disadvantage related to the capability to respond to changes in customers' demands due to the narrow scope of products/services and lack of funds for intense marketing and investments in distribution canals. SMEs are considered to be very flexible in complying with the customers' requests because they have tinier decision-making network, shorter lines of communications and have greater focus and adaptability than large companies (Aragon-Correa et al., 2008). However, the lack of developed strategic, planning and organizational levels of management as well as requirements to increase performances and on another side responsibility toward the environment, generally become a burden for SMEs.

2.3. Business Environment

The business environment is commonly perceived as complex and differently structured even within the same industries or geographical position. The existing business environment is very influential on SMEs since the chances for SMEs to make changes in the environment are very limited but vice versa are not the case. However, constant monitoring and adaptation to external conditions is essential for business success (Kotler & Keller, 2006). Only, in special cases, when SMEs form clusters they can influence the business environment in own favor (Dimitriadis et al., 2005).

One very important thing to address in SMEs is competition (Porter, 1980; Simpson et al., 2012). The context of business operations of SMEs is extremely dynamic and changeable. Besides competing in the range of the same size, for SMEs, the most challenging is the facing with large companies (Upson & Green, 2017). Large companies have advantages related to significantly larger market access, lower

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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operational cost due to the greater product/service scope, experienced and skillful management, recognizable brand, a wide network for cooperation, and the most important, better access to finance market. Besides large companies, a significant group of competitors are the other SMEs. They operate in the same region, offer very similar or the same product/service set, target the same customers, buying raw materials from similar suppliers and strongly compete for the success of their businesses. One new expanding type of competitors are Internet competitors. They are not territorially limited, have the possibility of fast adaption to customers' demands, the opportunity to lower the prices due to decreased operational expenses, moreover, high presence and recognizable marketing by which reach a large number of customers. With developed managerial skills, adequate business planning and systematical monitoring of changes in the environment, SMEs could strengthen their market position and gain advantages of being small and flexible, in spite of the competition. The SMEs can achieve the influence on the business environment, to some extent, in localized economies, in some industries, trough forming the clusters that can cover the large markets and achieved high competitiveness through innovation, skill and resources accumulation (Dimitriadis et al., 2005).

Important external factors that influence the capability of SMEs to survive are the business environment and peculiarity of a certain country. Within this context research conducted by Gaganis et al., (in press) showed that national culture has a significant impact on the profitability of SMEs. For example, the cultures with explicit individualism have a negative influence on proactive firm behavior while the influence of risk-taking is positive (Li et al., 2013). Relations between Uncertainty avoidance and power distance are found negative towards risk-taking (Kreiser et al., 2017). Also, in the countries with more expressed collectivism and high uncertainty avoidance the firms are more apt to have shorter debts (Zheng et al., 2012). Nowadays in the era of globalization, widely communications,

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*

therefore free access to the global market, the factor of national culture a little bit is fading and some cultural patterns are being distorted.

Also, the results of researches indicate a strong relationship between political stability and institutional development, and changes in business culture. The activities and attitudes of institutions can facilitate or aggravate entrepreneurship through government policies and support mechanisms. This is important due to the fact that financial stress on SMEs can be diminished with the appropriate role of financial and legal institutions (Iwanicz-Drozowska et al., 2018). Geographical position, current socio-economic context of state, historical political and cultural development, level of business ethics awareness and competitiveness are the factors that predetermined business environment and differences in entrepreneurial settings (Ritchie & Brindley, 2005).

In previous research conducted in Serbia by (Nikolić et al., 2018) the factors of failure were divided into two groups: individual characteristics of entrepreneur and characteristics related to SMEs. According to this research, although the individual characteristics are numerous, should be considered together as they form the ability of the entrepreneur to recognize the opportunities, identify threats and predict the further steps for adequate adaptation on changes in business environment. The results showed that the motivation of the entrepreneur towards success is more important than other personal characteristics.

Non-individual factors that were referred to as characteristics related to SMEs were divided into two sub-groups, internal and external. Nikolić et al., (2018) pointed that internal non-individual failure factors can be influenced by appropriate managing of SMEs but results showed the opposite due to the fact that recovery in case of high rate on these factors is very low. In the opinion of entrepreneurs

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
<https://www.visegradfund.org/>

presented in mentioned research, the greatest influence over the failure and capability of recovery have external factors such as political, economic and social. The overall conclusion of research by Nikolić et al. (2018), was that current economic problems in Serbia, as the economy in transition, with a lot of social and legal insufficiencies, had had the strongest negative influence on SMEs performances.

The general economic environment in Serbia still can be considered as unfavorable (World Economic Forum, 2019). Bobić, (2017) listed the most important barriers entrepreneurs in Serbia face as: *Importance and potential of entrepreneurship not fully recognized by the state* - besides the undertaken measures, those measures are too generalized not adequate for addressing the right problems of entrepreneurs; *Problem of choosing the right business form* - due to the fact that in Serbia the term “entrepreneur” stands for both, an entrepreneur and a business form that define different possibilities and obligations; *Overregulated and unpredictable business environment* - as one of the most important barriers for entrepreneurs is the obligation to keep up with frequent changes to the regulatory framework and cumbersome bureaucracy; *Unfair competition*- an additional problem for small businesses because can be easily pushed out by disloyal competition; *Lack of institutional protection (particularly for uncollectable receivables)*-therefore no solution for protecting from abusing the partnerships and intentional pushing partners into liquidity problems; and finally, *Complicated exit*-that additionally can be costly and complicated. The same author pointed out also the lack of capital and lack of experience, information and practical skills as key issues for unsuccessfulness of businesses, besides the mentioned economic environment (Bobić, 2017).

3. QUESTIONNAIRE DEVELOPMENT

It is noticed that researches on success and failure factors are complex and greatly depend on the opinion of researchers and perceptions of entrepreneurs (Simpson et al., 2012).

The aim of this paper is to set the solid literature base for further research in the area of SMEs success or failure factors (Nikolić et al., 2015).

Also is emphasized that the motive for this research is the high failure rate of SMEs in Serbia and need to identify the problems that entrepreneurs are faced most often, taking into account specific socio-economic state in the country. In response to this situation, after collecting complex knowledge from the literature and experiences of V4 countries (Czech Republic, Hungary, Poland and Slovakia), a conceptual framework for research was developed and presented. The questionnaire consists of 51 questions that cover a wide range of issues either qualitatively or quantitatively. The focus was on defining the main factors for SMEs failure and possibilities and conditions for recovery after the failure.

The methodology of questionnaire development was adopted from previously conducted researches in related, but also from different study fields, that included peculiarities in transitional countries such as Serbia (Milijić et al., 2013; Nikolić, et al., 2018; Savić et al., 2017). The questions had been adapted for the needs of current research and analyzed by experts in the field of entrepreneurship and management from Serbia and V4 countries.

A failure was defined as shutdown, but also as changing the direction of business operation due to low performances of previous business venture. This more flexible definition of failure is adopted because narrow approach can be inappropriate due to the intentions that

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*

entrepreneurs after one failure should be encouraged to start a business venture again.

The questions were divided in accordance with previously mentioned SMEs failure factors classification in three groups: personal characteristics and management abilities of the entrepreneur, level of the organizational development and business environment.

The questions concerned the personal characteristics of an entrepreneur and entrepreneur's management abilities are presented in Table 2.

Table 2. Personal characteristics and management abilities of the entrepreneur

Age
Gender
Level of education
Vocation/Field of study
Is the field of study in connection with the activity of enterprise?
Marital status
Importance of personal characteristics
Motivation for entrepreneurship start-up
Attitudes toward business failure
Influence of failure on personal and professional life
Experience in related sector
Entrepreneurial experience
Position or the job title in the company
The way of spending free time
How many hours were spent, on average, strategic problems?
How many hours were spent, on average, with administrative work?

Level of the organizational development is being studied through questions presented in Table 3.

Table 3. Level of the organizational development

Business sector
The age of firm in the time of the financial distress
Business life cycle in the time of financial distress
Number of employees at the moment of financial distress
Difficulties for business created by internal factors
Who was the decision maker for the cash management?
What was the main use of gained profit?
Was the main place where the business operations are conducted a property of the firm?
Factors relevant for new investments
What was the strategy for recovery in the time of financial distress?

Various factors which arise from business environment are studied through questions presented in Table 4.

Table 4: Business environment

Who were the customers of firm?
Difficulties for business created by external factors
Importance of the infrastructure

It is expected feedback from former entrepreneurs, existing managers and entrepreneurs, and potential future entrepreneurs.

4. CONCLUSIONS AND RECOMMENDATIONS

Entrepreneurs and managers should have comprehensive insight into factors influencing SMEs success or failure and prepare adequate strategies for adapting to the different internal and external influences and challenges. Another important issue for managers concerning these factors is the insufficiency of resources that SMEs have disposable so all aspects of business can't be improved at once but some of them, probably the most relevant, will be in focus of management concerns.

It is important to highlight that once when the factors of failure were abstracted and feedback from entrepreneurs was collected, various techniques and methods can be proposed in order to modify the behavior of entrepreneurs and ameliorate the effects on the business environment.

Future research will be focused on both qualitative and quantitative analysis of data collected from questionnaires in cross-sectional studies and deriving the adequate conclusions and propositions for future SMEs development and preventing failures.

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*How to prevent SMEs failure
(Actions based on comparative analysis in
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International Visegrad Fund
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Visegrad countries and Serbia)*



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*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
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THE DIFFERENCES IN BUREAUCRATIC CONSTRAINTS FOR SMES DEVELOPMENT IN VISEGRAD COUNTRIES AND SERBIA

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Abstract

In the era of intensified globalization and frequent economic shocks the main goals of policymakers in any economy is accelerating of economic growth and improvement of competitiveness in global market. Although process of internationalization emphasized the importance of multinational corporations (MNC) for economic growth and development, SME sector still play significant role in both developed and developing economies.

Visegrad countries and Serbia are still faced, in greater or lesser extent, with implementation of reform processes aimed at fully establishment of a market economy. One of very important reform aspects is removing bureaucratic constraints for doing business, in order to enhance establishment of new business entities, create new jobs and accelerate economic growth. This is particularly true after global economic crisis, when mentioned countries strived to support the implementation of anti-crisis measures by acceleration of economic activity in SME sector.

In that sense, the aim of this research is to evaluate differences in bureaucratic constraints for starting business, registering property and paying taxes in the period 2008-2018, by usage of Shannon entropy

index. The results pointed out that the difference in minimum capital for starting a business reached the highest level at the end of period. The indicators with relatively higher differences are the cost and time for starting business, registering property cost and number of tax payments. Based on that, some guidelines and recommendations for improving the state in mentioned areas are defined.

Keywords: *SME sector, Bureaucratic constraints, Shannon entropy index, Reforms, Economic growth.*

1. INTRODUCTION

The continuous improvement of the national competitiveness in regional and global environment is one of the major imperatives of all transition economies, especially after the world economic crisis (Fedajev et al. 2014). Also, the crisis negatively affected the growth and employment in these countries and policy makers strived to define measures aimed at acceleration of economic growth. Visegrad countries and Serbia, as former command economies, were particularly hit by the crisis.

The increase in the number of enterprises in SMEs sector was considered as a key factor of economic growth in former command economies, given that it leads to an increase in employment and number of taxpayers, as well as the creation of new products and services in the local, regional and world markets. In addition, this sector encourages competition, innovation and entrepreneurial behavior, which is very important, having in mind that innovativeness is considered to be an essential tool for achieving a competitive advantage in the world market in the era of rapid technical progress (Radulescu et al. 2018). For that reason, the authorities in these countries should motivate entrepreneurs to open new enterprises in this sector, by improvement of the business environment.

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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At the beginning of transition, the policymakers in mentioned countries strived to improve business environment to attract FDI, because this type of investment was viewed as a most important factor of growth and development (Makojevic et al. 2013). But, very soon it has become clear that they cannot base their development only on FDI inflow. Consequently, the policymakers emphasized in their long-term development strategies the necessity of obtaining the favorable business environment for attraction FDI as well as development of domestic SMEs sector.

It should be borne in mind that only comprehensive and radical reforms can trigger economic growth, since no reform area individually can create favorable business climate. The obvious evidence for this is statement of the World Bank representatives that country which implement the business environment reforms that will enable it to shift from the last quarter to the first quarter of the country rankings in the "Doing Business" report, can increase its annual growth rate by 2.3 % (Donor Committee for Enterprise Development, 2008), and for this, it is certainly necessary to implement a comprehensive set of measures.

The so-called "guillotine of regulations" in former command economies requires considerable time and costs considering that it is a long-term and complex process including the legal, institutional and organizational aspect of reforms (OECD, 2006). Having that in mind, it can be concluded that increasing the efficiency of regulations in this area requires the formulation of a long-term strategy for continuous improvement of the legislation and institutions involved in bureaucratic procedures. In that sense, the aim of this paper is to identify differences in the bureaucratic constraints for SMEs development in Visegrad countries and Serbia in the period 2008-2018, as the period from the beginning the crisis until now, by using the Shannon entropy index. The identification of these differences will enable to gain insight in divergences in implemented reforms among

mentioned countries and to define measures for improving the state in the areas with high differences, by benchmarking the practice of countries that have made the greatest progress in certain area.

2. THE IMPORTANCE AND POSITION OF SMEs SECTOR IN VISEGRAD COUNTRIES AND SERBIA

In order to gain insight in importance and position of this sector in Visegrad countries and Serbia, Table 1 summarize data on share of SMEs sector in total number of enterprises, employment and value added in 2016, as a last available data.

It is obvious from Table 1 that all observed countries had very high share of SMEs sector in total number of enterprises (amounting almost 100%). The greatest share within this sector had micro enterprises (which share was over the 90% in all countries), while the medium sized enterprises had the lowest share (below 1%). However, the existence of a certain number of productive small and medium-sized enterprises is not a sufficient condition for rapid growth and development, but it is also necessary to increase the share of this sector in employment to improve the performance of the economy as a whole (Kolodkin et al. 2006).

Table 1 indicates that SMEs sector greatly contributed to employment generation in all considered countries. The share of this sector in total employment amounted over 60% and it is highest in Slovakia (72.1%), while the lowest share is recorded in Serbia (64.8%). As in the previous case, micro enterprises had the greatest and the medium-sized the lowest share in employment in all countries, but the differences between three types of enterprises by size were much lower than for aforementioned indicator.

In order to gain comprehensive insight in SMEs sector importance, the share in value added should be taken into consideration. It was over

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*

50% in all countries, but it was highest in Serbia (55%) and the lowest in Poland (52.5%). Having in mind that Serbia had the lowest share in employment and highest share in value added, it can be concluded that large enterprises in Serbia still generate substantial employment, but do not contribute in the same extent to value added. This fact indicate the low productivity level of large enterprises, especially the public enterprises that make up the large part of large companies in Serbia (Nikolic et al. 2017). Bearing in mind that the share in value added and employment amounting 40% is considered as the lower limit that enable new enterprises to absorb the resources of old ones and contribute to sustainable development, it can be concluded that observed countries implemented largest part of market-oriented reforms and use SMEs development to good advantage.

Table 1. Share of SMEs in total number of companies, employment and value added in observed countries

Country	Class size	in number of enterprises	Share (in %)	
			in total number of employees	in value added
Serbia	Micro	96.0	30.5	20.7
	Small	3.2	16.0	15.3
	Medium	0.7	18.3	19.0
	SMEs	99.9	64.8	55.0
Poland	Micro	95.3	36.8	18.4
	Small	3.6	13.9	13.8
	Medium	0.9	17.8	20.4
	SMEs	99.8	68.4	52.5
Slovakia	Micro	96.8	41.8	22.8
	Small	2.6	14.8	14.2
	Medium	0.5	15.5	17.4
	SMEs	99.9	72.1	54.4
Hungary	Micro	94.1	33.9	18.0
	Small	4.9	18.9	16.7

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
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	Medium	0.8	15.7	18.2
	SMEs	99.8	68.5	52.9
Czech Republic	Micro	96.0	31.0	19.6
	Small	3.1	17.2	14.4
	Medium	0.7	18.6	20.5
	SMEs	99.8	66.8	54.5
EU average	Micro	93.0	29.8	20.9
	Small	5.8	20.0	17.8
	Medium	0.9	16.7	18.2
	SMEs	99.8	66.6	56.8

Source: European commission, Small Business Act for Europe - SBA Fact Sheets.

However, for gaining the more comprehensive insight in exploitation of the potentials for the development of entrepreneurship, it is necessary to analyze data on unemployment rate and share of population employed in SMEs in total working population in observed countries (Table 2).

Table 2. Working age population, unemployment rate and share of population employed in SMEs in total working population in 2016 in Serbia and Visegrad countries

Country	Unemployment rate (in %) ¹	Share of population employed in SMEs in total working population (in %) ²
Serbia	15.26	16.44
Poland	6.16	22.95
Slovakia	9.67	27.89
Hungary	5.11	27.38
Czech Republic	3.95	34.89

Source: 1 – World Bank, World Development Indicators; 2 - European commission, Small Business Act for Europe - SBA Fact Sheets.

The macroeconomic indicators presented in Table 2 point out that Czech Republic most efficiently used of its potentials for the development of entrepreneurship, having in mind that it has the lowest unemployment rate (3.95%) and the highest share of population employed in SMEs in total working population (34.89%). On the other hand Serbia, with unemployment rate amounting 15.26% and share of population employed in SMEs in total working population of 16.44%, had the greatest unused potentials for SMEs sector development. The remaining countries have unemployment rate below 10% and mentioned share above 20%, but there are still room for progress, especially in Slovakia where unemployment rate is rather high.

3. THE BUREAUCRATIC CONSTRAINTS FOR SMES DEVELOPMENT

SMEs in Visegrad countries and Serbia are faced (to a greater or lesser extent) with large number of bureaucratic constrains in doing business, but most important are those in the area of starting a business, registering property and paying taxes.

3. 1. Starting a Business

The beginning of the transition is characterized by removing the barriers for the entry of new players from the private sector in the market. Reforms in this area were aimed at reducing the activities of long-standing state monopolies and their successful restructuring through increased competitive pressures (Cooper & Berkowitz, 1997). The barriers in this area are related to numerous administrative procedures for the establishment and registration of companies, which consist of obtaining various permits and licenses, performing all necessary enrollments and authentication, and submitting the necessary information to state authorities, which enable the company to officially start its operations (Begovic, 2008).

*How to prevent SMEs failure
(Actions based on comparative analysis in
Visegrad countries and Serbia)*



International Visegrad Fund
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Considering that this process often involves a large number of institutions, making the establishment of enterprises difficult and expensive, potential entrepreneurs may be discouraged to start a business or to decide to operate in the informal sector, which have numerous negative effects for the economy as a whole. In order to access the characteristics of bureaucratic processes in this area, in the Table 3 are presented data on number of procedures, their duration and costs and minimal capital required in considered countries in 2018.

On the basis of data presented in Table 3 it can be noticed that Serbia have made the greatest progress in reducing the number of procedures and their duration, as well as in reducing the minimum capital for establishing the company. Poland has also has cut the number of procedures to 5, but their duration and costs are the highest among considered countries. On the other hand, Slovakia and Czech Republic had the largest number of procedures and these procedures last 4.8 and 4.5 times longer than in Serbia, respectively, but they had the lowest cost of performing these procedures.

Table 3. The data on number of procedures, their duration and costs and minimal capital required for starting a business in Visegrad countries and Serbia in 2018

Country	Number of procedures	Starting business indicators		
		Duration of procedures (in days)	Cost of procedures (% of income per capita)	Minimum capital (% of income per capita)
Serbia	5	5.5	2.2	0.0
Poland	5	37.0	11.8	10.0
Slovakia	8	26.5	1.0	16.4
Hungary	6	7.0	4.9	40.1
Czech	8	24.5	1.0	0.0

Republic

Source: World Bank, 2018. Doing business 2019.

On the basis of these indicators, the World Bank ranked Serbia at 40th position for this area of reforms in its latest “Doing business” report and it is followed by Hungary (92nd), Czech Republic (115th), Poland (121st) and Slovakia at 127th place (World Bank, 2018). Having in mind the position of these countries on “Doing business” rankings, it can be concluded that there is great room for progress in this area in the future.

3.2. Registring Property

The basic postulate of market economy is the existence of private ownership. Given that most transition economies face many problems in implementing ownership transformation, the protection of property rights is the main driving force for the acceleration of this process. Property registration enables the protection of property rights and the transparency of assets, since unregistered assets are exposed to greater risk of theft and/or expropriation. The higher probability that property will be safe, the estimated return rate will be higher as well as the probability that investment will be realised (Begovic, 2008). On the other hand, inadequately protected property rights and complicated regulations in this area hamper the allocation of resources for the most productive purposes and create conditions for the development of the shadow economy and corruption. In order to take insight in the results of reforms in this area in observed countries, data on number of procedures, their duration and costs in Visegrad countries and Serbia are shown in Table 4.

It is obvious from Table 4 that Slovakia has made the greatest progress in this aspect of reform, having in mind that it has the lowest number of procedures, their duration and costs. On the other hand, Poland had the most unfavorable conditions for performing this

procedures. This country has the highest number of procedures for registering property and the longest duration of these procedures. Serbia had the same number of procedures, but other two indicators are somewhat lower than in Poland and Hungary.

Table 4. The data on number of procedures, their duration and costs of registering property in Visegrad countries and Serbia in 2018

Registering property indicators			
Country	Number of procedures	Duration of procedures (in days)	Cost of procedures (% of property value)
Serbia	6	21.0	2.8
Poland	6	33.0	0.3
Slovakia	3	16.5	0.0
Hungary	4	17.5	5.0
Czech Republic	4	27.5	4.0

Source: World Bank, 2018. Doing business 2019.

Considering such values of observed indicators, the World Bank ranked Slovakia at 9th position for this aspect of reforms in its latest “Doing business” report and it is followed by Hungary (30th), Czech Republic (33th), Poland (41st) and Serbia at 55th position (World Bank, 2018). Such rankings indicate that analyzed countries have made considerable progress in this area in the previous period, especially Slovakia.

3.3. Paying Taxes

Although the tax administration in the central-planning economies was underdeveloped, a relatively small number of taxpayers, administered prices and wages, numerous restrictions on the payment system and the monopolistic position of state banks enabled the

smooth collection of tax revenues. This heritage from the central-planning period made these economies unprepared for the transition process, since taxation in market conditions implies a large number of different taxes, the abolition of the clearing system of payments through state banks and a number of other institutional changes (Martinez-Vazquez & McNab, 1997).

As the stability and efficiency of tax policy are considered a key factor for restructuring the real sector, the development of the SME sector and the attraction of foreign investors, the countries in transition first focused on achieving this goal, while the development of the tax administration at the beginning was relatively neglected. After some progress in the reform of the tax rate policy has been made, most transition economies have focused the reform programs on minimizing the complexity and duration of the procedures for paying taxes. Analyzing the importance of tax administration reforms and the simplification of tax procedures, Max Baucus, one of the US senators, concluded that the complexity of tax procedures itself is a kind of tax (OECD, 2006).

In that sense, data on number of procedures and their duration, as well as tax rates in considered countries in 2018 are presented in Table 5.

Table 5. The data on number and duration of procedures for paying taxes and total tax burden in Visegrad countries and Serbia in 2018

Country	Paying taxes indicators		
	Payments (number per year)	Time to comply procedures (hours per year)	Total tax and contribution rate (% of profit)
Serbia	33	225.5	36.6
Poland	7	334.0	40.7
Slovakia	8	192.0	49.7
Hungary	11	277.0	40.3

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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Czech Republic	8	230.0	46.1
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Source: World Bank, 2018. Doing business 2019.

By analyzing the data presented in Table 5, it can be concluded that Serbia had the larger number of procedures for paying taxes, but it had the lowest tax burden. Poland had the lowest number of procedures for registering property, but these procedures were longest lasting among observed countries. On the contrary, Slovakia had the lowest duration of these procedures, but the highest tax burden.

Beside the level of total tax burden, it is very important to consider the structure of tax burden in each country. In that sense Table 6 presents data on profit tax, labor tax and contributions and other taxes in considered countries in 2018. The data shown in Table 6 indicate that Poland had the highest profit rate (14.5%), while this tax burden is the lowest in Czech Republic had (5.6%). Since lower profit rate provides greater opportunities for SMEs to invest in capacity expansion, it is very important for any country to reduce this tax rate. The lower labor tax and contributions, however, reduce operating costs of SMEs and their motivation to be involved in shadow economy activities, while encourages employment and new job creation. In that sense, it should be noted that business entities in Serbia were faced this tax burden was the highest in Slovakia. Beside aforementioned tax rates, every country has some specific types of tax burden, like interest income tax, business license tax, capital gains tax rate and a like. These types of taxes were the highest in Serbia and the lowest in Slovakia.

Table 6. The data on profit tax, labor tax and contributions and other taxes in Visegrad countries and Serbia in 2018

Country	Tax rates
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Visegrad countries and Serbia)*



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	Profit tax (% of profit)	Labor tax and contributions (% of profit)	Other taxes (% of profit)
Serbia	13.0	20.2	3.4
Poland	14.5	25.2	1.0
Slovakia	9.1	39.7	0.9
Hungary	9.1	29.0	2.1
Czech Republic	5.6	38.4	2.6

Source: World Bank, 2018. Doing business 2019.

At the end it should be pointed out that, according to analyzed characteristics of tax system, Czech Republic had the most favorable position in the World Bank' latest "Doing business" rankings (45th) and it is followed by Slovakia (48th), Poland (69th), Serbia (79st) and Hungary at 86th place (World Bank, 2018). Generally observed, it can be concluded that considered countries have made greater progress in this area in comparison to starting business, but they were ranked more favorable than in registering property.

4. METHODOLOGY

Having in mind that considered countries have made divergent progress in reduction of bureaucratic constraints for SMEs development, it is interesting to measure differences in each indicator among them. The entropy method is very suitable indicator for identification of such differences, since it can measure the amount of useful information with the data provided (Radulescu et al. 2017).

There are various entropy statistics, but one of the most commonly used is Shannon entropy index. In accordance to approach of Czyz & Hauke (2015) the Shannon entropy index is calculated as follows. Shannon entropy measure the amount of uncertainty about event associated with appropriate probability distribution. In this case those

“events” are considered indicators from “Doing business” report and they are marked by x . The information obtained from appearance of certain event is determined by the monotonically decreasing function with probability p , which can be displayed in the form $\log 1/p = -\log p$. For a series of events x_i and with probabilities p_i it can be defined that

$$0 \leq p(x_i) \leq 1, \sum_{i=1}^n p(x_i) = 1, \quad (1)$$

where x_i is appropriate “Doing business” indicator for country i , where $i = 1, 2 \dots n$ (in this case $i=1,2,\dots,5$).

The measure of entropy $H(x)$, defined by Shannon (1948), is the expected value of this series that can be presented as:

$$H(x) = - \sum_{i=1}^n p(x_i) \log p(x_i) \quad (2)$$

Or

$$H(x) = - \sum_{i=1}^n p(x_i) \log p(x_i) \quad (3)$$

The use of the logarithm function with the base 2 implies the measurement of information in bits.

Presented Shannon entropy function has the following characteristics (Czyz & Hauke, 2015):

1. $H(x) \geq 0$, i.e. it is a positive value,
2. $H(x)$ assumes the value of 0 with $p(x_i)=1$ for a certain i , which means the absence of uncertainty among indicators,

3. $H(x)$ assumes the highest value equal to $\log_2 n$ when all values of $p(x)$ are equal for $i=1,2,\dots,n$. The maximum value $H(x)$ implies a complete uncertainty or disorder.

The entropy statistics $H(x)$ gives the basis for creating a Shannon entropy index $I(x)$ the measure of differences among countries according to certain “Doing business” indicator x . It is calculated as follows:

$$\begin{aligned} I(x) &= H(x)_{max} - H(x) = \log_2 n - \sum_{i=1}^n p(x_i) \log_2 \frac{1}{p(x_i)} \\ &= \sum_{i=1}^n p(x_i) \log_2 [n p(x_i)] \end{aligned} \quad (4)$$

for $0 \leq I(x) \leq \log_2 n$

Where $I(x)=0$ shows the absence of inequality, while $I(x)=\log_2 n$ denotes maximum inequality.

5. RESULTS AND DISCUSSION

Visegrad countries and Serbia implemented various measures aimed at overcoming the global economic crisis. The pace of these reforms differed among observed countries. In order to identify differences in the trend of reforms after global economic crisis, the Shannon entropy index is calculated for each observed indicator in the period 2008-2018. The first aspect of bureaucratic constrains are those for starting business and value of Shannon entropy index is presented in the Figure 1.

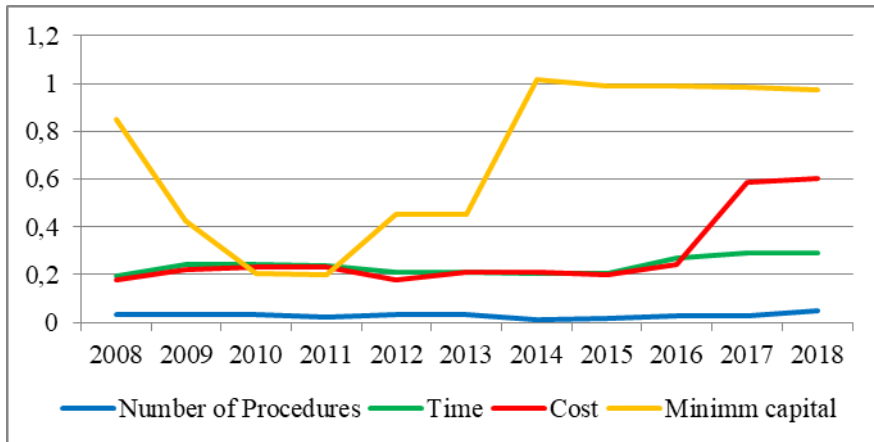


Figure 1. The Shannon entropy index for starting business indicators in Visegrad countries and Serbia in the period 2008-2018

It is obvious from Figure 1 that there was considerable difference among considered countries in minimum capital for starting business in 2008, while differences in the time and costs for starting business were less pronounced. On the other hand, difference in number of procedures was the lowest. There are considerable decrease of differences among considered countries in the post-crisis period and during 2010-2011 they were somewhat lower than for time and costs. After 2011, the differences in minimum capital started to grow again because Serbia cut its costs to zero and Czech Republic has done the same in the next year. After 2014 difference in this indicator was relatively stable and the highest among all observed indicators. It is interesting to note that differences in costs started to grow after 2016, as a result of significant cost reduction in Czech Republic, while other countries haven't made such radical changes.

In the area of registering property some important reforms have been implemented, which caused the changes in values of considered indicators and difference among observed countries during the period. These differences are shown in the Figure 2.

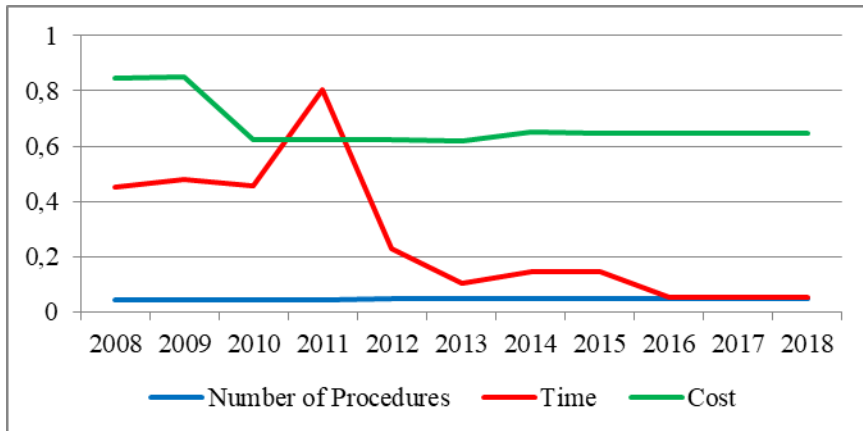


Figure 2. The Shannon entropy index for registering property indicators in Visegrad countries and Serbia in the period 2008-2018

Figure 2 indicates that there was considerable difference among considered countries in duration of registering property procedures and, especially, in costs of their performing in 2008, while difference in the number of procedures was the lowest and almost unchanged. The difference in cost for registering property was reduced in 2010 due to slight decrease in Poland, Serbia and Slovakia and then it remain relatively stable and the highest until the end of the period. The difference in duration of registering property procedures recorded the most pronounced variations during the period. It started to grow in 2009 and considerable high level reached in 2011, when Serbia and Czech Republic significantly reduced time necessary for performing mentioned procedures, while other countries haven't made any changes in this area. After 2011 considerable decrease of difference in this indicator was recorded until the end of the period due to significant improvements in Serbia, Poland and Czech Republic. In 2016 differences in mentioned indicator reached almost the same level like those in the number of procedures.

The differences in efficiency of tax administration and tax burden in great extent influence development of SME sector. In that sense, the

calculated Shannon entropy index for paying taxes indicators is presented in the Figure 3.

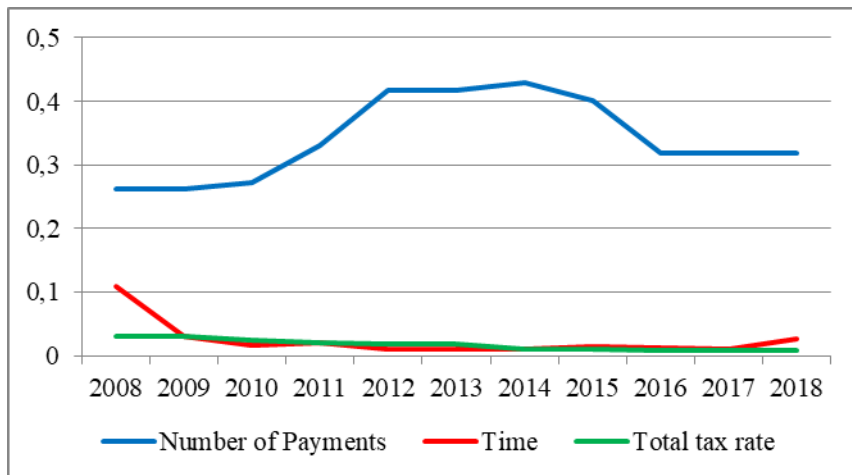


Figure 3. The Shannon entropy index for paying taxes indicators in Visegrad countries and Serbia in the period 2008-2018

Figure 3 unequivocally suggest that difference in number of payments was the highest during the entire period, while differences in remained indicators were considerably lower. The difference in number of procedures was particularly high during the period 2011-2016, due to considerable decrease in number of payments in Poland and Czech Republic.

The tax burden structure also play significant role in analysis of bureaucratic constrains, so the trend of differences in main types of taxes are shown.

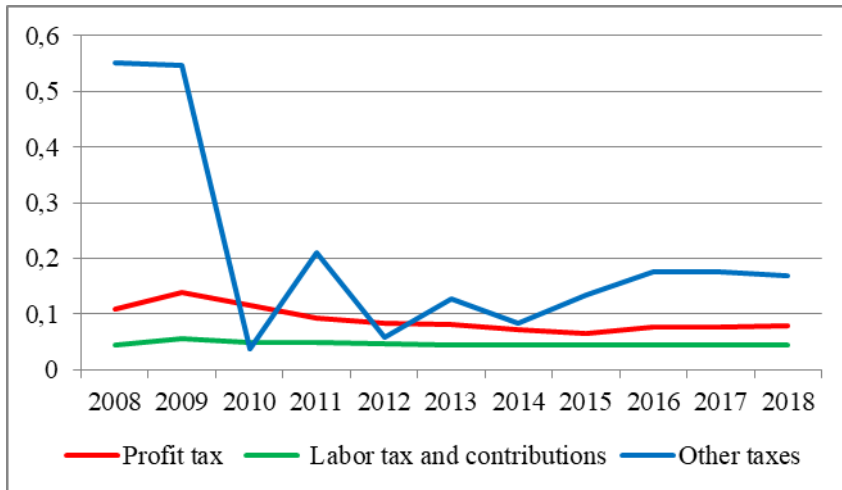


Figure 4. The Shannon entropy index for main types of tax rates in Visegrad countries and Serbia in the period 2008-2018

Figure 4 points out that difference in other taxes recorded significant variations during the period. It was the highest at the beginning of the period, but it was sharply reduced in 2010. After the period of significant oscillations, the differences in this indicator was increased in 2016 (due to some improvements in Slovakia) and remained at the same level until the end of the period. The difference in profit tax recorded slight decrease from 2009 until the end of period. Finally, the difference in labour tax and contributions remained stable during the period.

After the analysis of the Shannon entropy index trend during the period, the difference between the beginning and the end of the period should be taken into consideration. In that sense, the value of Shannon entropy index in 2008 and 2018 are shown in Figure 5.

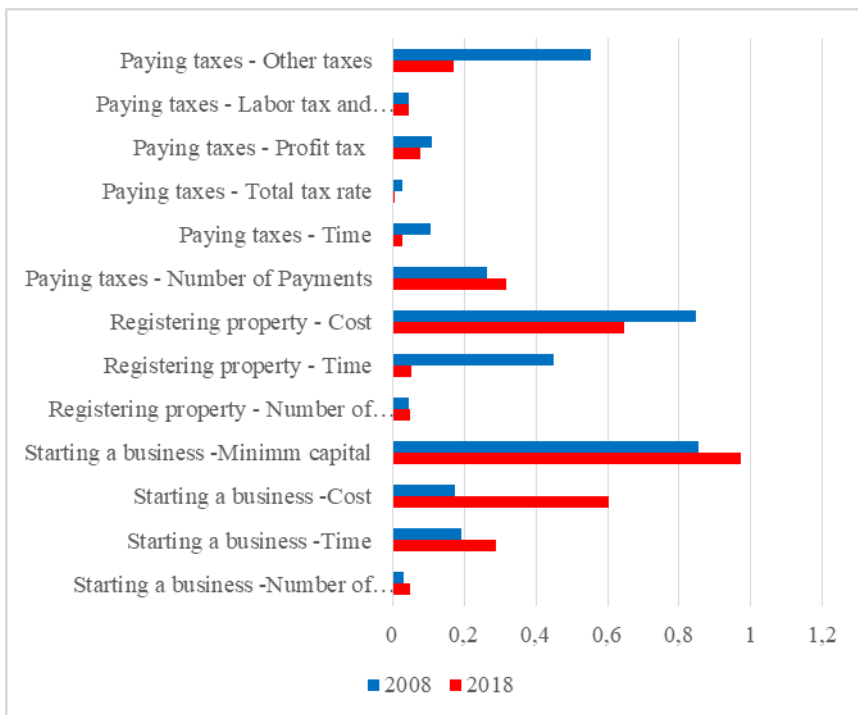


Figure 5. The differences among Serbia and Visegrad countries in observed indicators in 2008 and 2018

On the basis of Figure 5 it can be concluded that the differences in 7 indicators were reduced - all paying taxes indicators except number of payments and registering property indicators except number of procedures. On the other hand, the differences for remaining 6 indicators were increased – all starting business indicators and number of tax payments and number of registering property procedures. However, on the average situation is improved in all areas except in number of starting a business procedures and profit tax, while average number of registering property procedures remained unchanged during the period. Also, it should be noted that the highest Shannon entropy index at the end of the period was recorded for minimum capital for starting a business and it was increased during the period.

The relative high Shannon entropy index was recorded also for the cost and time for starting business, registering property cost and number of tax payments. In these areas there are significant room for improvement, by benchmarking the practice of countries which have made the greatest progress in certain area of reforms.

6. THE GUIDELINES AND RECOMMENDATIONS FOR REMOVING BUREUCRATIC CONSTRAINES IN CONSIDERED COUTRIES

According to obtained results, the appropriate set of measures can be defined for each aspect of reforms characterized by considerable differences in 2018, based on the best practice of advanced countries.

In the area of minimal capital for starting business the best results are achieved in Serbia and Czech Republic by eliminating the paid-in minimum capital requirement. Minimum capital requirements significantly slow development of entrepreneurship, hinders business development and growth and in numerous cases failed to serve their intended purpose – protection of consumers and creditors from hastily established and potentially insolvent firms. Mentioned two countries recognized these constrains arising from this obligation faced by potential entrepreneurs and abolished minimum capital requirement. So, other considered countries that still require minimum capital for starting a business, should eliminate this obligation.

In the area of starting business considerable differences exist in costs and time for preforming necessary procedures. Czech Republic and Slovakia reduced costs of these procedures to 1% of income per capita, while Serbia made starting a business the least time consuming (it last 5 days). Having that in mind, other analyzed countries should benchmark practice of Czech Republic and Slovakia and implement measures like lowering fees for establishing limited liability companies, allowing notaries to directly register companies through

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Visegrad countries and Serbia)*



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an online system, eliminating the fee for the verification of signatures by a notary public and introducing the one-stop shop. On the other hand, the measures aimed at decreasing the duration of starting a business that has been implemented in Serbia were reducing the time to register a company and creating a one-stop shop for company registration. Implementation of mentioned measures will increase the number of new businesses in formal sector, which have numerous positive effects which are reflected in increase of economic growth, tax revenue and employment.

Another bureaucratic constrain where significant difference were recorded is registering property costs. Slovakia has made the greatest progress in this area, considering that performing registering property procedures do not imply any costs. Having in mind that other observed countries cannot make such radical change in the near future, they can follow example of Poland, which has made significant cut in these costs (amounting 0.3% of property value). This country reduced costs of registering property by reducing notary fees and switching from variable registration fees to a fixed fee schedule. These countries that make property registration less costly have more properties registered formally, which leads to greater access to finance and greater opportunities to invest (having in mind that entrepreneurs can obtain mortgages for loan if they have formal property titles).

Finally, the relative high level of Shannon entropy index and, accordingly, high difference among observed countries was recorded for number of tax payments. The greatest improvement in this area was achieved by Poland which cut number of payments to 7 in 2018, but also by Czech Republic and Slovakia that had 8 payments. Such improvement is achieved by revising tax legislation to simplify provisions relating to administrative procedures and relationships between tax authorities and taxpayers, promoting the use of electronic filing and payment systems, but also by making electronic filing mandatory for all taxes and introducing a single tax institution and

unified filing. The implementation of these measures contribute to fight against shadow economy and acceleration of economic growth and employment, considering that countries with more payments have fewer formal businesses per capita and lower rates of business entry. The incorporation of mentioned measures in long-term strategies of considered countries will lead to SME sector development, with long lasting impact on growth and employment.

7. CONCLUSION

The global economic crisis emerged in 2008 caused sharp decline in economic activity and employment in almost all countries worldwide. The former command economies were particularly hit by crisis, considering that they were also faced with transformation of their economies, besides negative effects of crisis. One of very important reform measures is regulatory reform aimed at removing the bureaucratic constraints for doing business. The "guillotine of regulations" in these economies required a lot of time and costs, especially in the post crisis period. At the beginning of the crisis, Visegrad countries and Serbia as a former centrally planned economies had a difficult task to overcome their inherited and current imbalances. In such circumstances, the development of SME sector was considered as the main factor of employment and growth acceleration.

As a result of different efficiency in implementation of reform processes, share of SME sector in employment and value added was divergent among considered countries, while share in total number of enterprises was almost the same. The micro enterprises were the fastest growing part of SME sector in terms of number of enterprises and employment in all observed countries. Visegrad countries overperformed EU average share of SME sector in total employment and it was the highest in Slovakia. In Serbia, the share of this sector in total employment was lower than EU average, but the contribution to value

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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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added was the greatest among considered countries, although it is still below EU average. However, it should be emphasized that this country still has the greatest room for progress in development of SME sector in the future, while Czech Republic most efficiently exploited its potentials for entrepreneurship development.

In order to support SME sector development, Visegrad countries and Serbia implemented numerous reforms aimed at removing bureaucratic constraints in the areas very important for acceleration of economic activity in SME sector – starting a business, registering property and paying taxes. According to achieved results Serbia had made the greatest progress in starting a business, Slovakia in the area of registering property and Czech Republic had the most favorable position in paying taxes in 2018. The pace of reform processes in previous period was divergent which shaped the reform results. In that sense, the Shannon entropy index has been employed to measure differences in effect of implemented reforms expressed by appropriate indicators.

The obtained results pointed out that in the area of starting a business the differences in minimum capital and costs recorded significant increase during the observed period, while differences in number procedures and their duration remained almost the same. The implemented reforms in the area of registering property resulted in decrease of differences in duration and cost of procedures. The reforms aimed at speeding up of necessary procedures was the most intensified and at the end of the period differences in this indicator were almost equal like those in number of procedures, which was the lowest in this area during the period. Tax system reforms, however, resulted in increase of differences in number of payments and their decrease in the case of other taxes.

Finally, it should be emphasized that there are significant room for improvement in all observed area in the future. Observed countries

should follow the example of Serbia and Czech Republic for reduction the minimum capital requirements, Czech Republic and Slovakia for decrease of the costs for starting business, Serbia for speeding up starting a business procedures, Slovakia and Poland for reduction of registering property costs and Poland, Czech Republic and Slovakia for decrease of number of tax payments. Implementation of defined set of measures should result in removing of bureaucratic constrains and decrease in differences among this group of countries.

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(Actions based on comparative analysis in
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(Actions based on comparative analysis in
Visegrad countries and Serbia)*



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