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#### EFFECTS OF INTERNAL AND EXTERNAL FACTORS ON THE BUSINESS OF SMEs

#### Isidora Milošević, Danijela Voza, Anđelka Stojanović, Sanela Arsić, Ivan Mihajlović

University of Belgrade, Technical faculty in Bor, Serbia

**Abstract:** This paper examine the influence of internal and external factors on the business of small and medium enterprises (SMEs). Small and medium enterprises play an important role in development and economic growth of all countries. Small and Medium Enterprises face numerous challenges on the environment in their vicinity. SMEs should be alert and aware of the significant impact of external and internal environment on business, that enables them to become an effective actor in the economic growth of their country. The goal of this study is to determine external and internal indicators, that have an impact on the business of SMEs. The data used in this paper are obtained from the research conducted in Serbian SMEs in 2019. The applied statistical analysis was the structural equation modeling (SEM), which includes evaluating the measurement and structural model by using the appropriate statistical methods in software packages SPSS v. 17 and AMOS v. 8.0.

Keywords: effects, internal analysis, external analysis, SMEs

#### **1. INTRODUCTION**

Small and medium enterprises play an important role in social and economic development [1]. These roles are reflected in productivity obtained by technical and other forms of innovation, creating more workplaces for the unemployed, facilitating the transfer of technology, commercializing new inventions and products, making markets more competitive. One of the important role of SMEs is alleviating poverty by opening new jobs.

Mulhern (1995) stated that small and medium-sized enterprises are a major driver in economic growth, innovation and technological advancement [2]. They enhance production, achieve social goals, attract significant foreign exchange reserves in the country and have importance in securing employment, which means that they dominate the private sector around the world and employ about 60 percent of the total workforce in the world [3]. Small and medium-sized enterprises operate in various business areas, including manufacturing, services, trade, agriculture and the information technology industry that produce highly-developed products in the field of engineering [4]. Small businesses have great importance in service activities, especially in the area of personal, professional and some business services, where direct- personal contact of the service provider and client is of great importance for the quality of service and customer satisfaction.

One of the most prominent advantages of SMEs is their flexibility as the ability to quickly adapt to the changes from the environment. Flexibility of small and medium

enterprises is a result of many factors, such as: more direct contact with the market, informal organization that enables faster decision-making and their implementation, the use of universal rather than specialized means of work, lower degree of employee specialization, and so on.

The goal of this study is to determine external and internal indicators in environment that have impact on business of SMEs. The paper is divided into five sections including the introduction. The next section provides a brief review of relevante literature on small and medium-size enterprises (SMEs). In third section method by which the data were collected and processed. Further, the results and discussion of the main highlights are presented, while the last section is dealing with conclusions.

#### 2. THEORETICAL FRAMEWORK

The largest number of companies in each economy are small and medium enterprises. The advantage of small and medium businesses is evident in service activities, especially in the area of personal, professional and business services, in which the personal performances of the owners are of great importance for the quality of service and customer satisfaction. Performance of a business is influenced by personal performance of owner as well as internal and external factors in which company operate. All of these determinantes are entrepreneurships characteristics of the owners, their strategy, structure and business environment [5-6]. There are three strategic factors which determine business performance, they are entrepreneurship orientation, therefore personal performance; organization structure, hence, all internal factors; and external business environment. The integration of three factors above significantly influent business performance of company.

#### 2.1. PERSONAL PERFORMANCE

Personal performance of SME owners has an important role in achieving positive effects success business each firm. These performances include entrepreneurial orientations of owners consisting of three main dimensions: risk-taking, acting proactively and creativity, has a positive impact on the organizational performance and profitability [1].

Naffziger et al. (1994) argued that decision of individual to behave is an entrepreneurial result of the interaction of several factors which including: personal characteristics, personal and business environment, personal goals, sustainable business ideas, comparison of perceptions of possible outcomes and personal expectations of individuals [7-8]. According to Grigore (2012), this theory is called Temporary Motivational Theory, which was built on five key components of the theory of motivation: value, expectation, time, profit perceptions and loss [9]. For this purpose, the following hypotheses are formulated:

**Hypotheses 1:** Personal performans of the owner does not have influence on the external factors such as political, economic, technological, environmental and legal.

**Hypotheses 2:** Personal performans of the owner will contribute to develop of internal factors in terms of ability, competence and relative long term competitive advantages.

**Hypotheses 3:** Personal performans of the owner will contribute to positive effects on the business of SMEs.

#### 2.2. EXTERNAL FACTORS

Today, when small and medium enterprises play a key role in the world economy and the employment rate of countries, as a result, policymakers and governments are trying to create a better environment for attracting entrepreneurs and investors in order to build more and more small and medium enterprises [10]. A very important part of the strategic analysis of the environment is PESTLE analysis. It is a strategic planning tool used to assess the impact of political, economic, social, technological, environmental, and legal factors on the enterprise. Thus, the PESTLE analysis is an analytical and business measurement tool for strategic business planning [11]. Based on all of the above, the following hypothesis is formulated:

Hypotheses 4: External factors have direct influence on the business of SMEs.

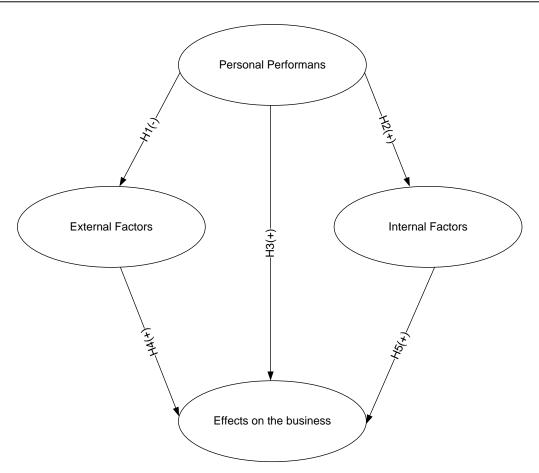
#### 2.3. INTERNAL FACTORS

There are a numerous of internal and external factors that contributing to the develop business, as well as their failure rate. SMEs have no direct control over external factors [12]. but have direct control over internal factors, such as access to capital in the start-up stage and for the future development of the business [13].

Internal factors in which activities are created comprise a value chain (for example, operations, marketing and sales and human resources management) and can serve as a means of discovering potential sources in which the company's competitive advantage lies. For this purpose, the following hypothesis is defined:

**Hypotheses 5:** Internal factors such as ability, competence and the possibility of achieving a competitive advantage will contribute to positive effects on the business of SMEs.

Having in mind the objectives of this research, the main variables that influence on effects of business are the personal pefrormances of owners, external factors such as political, economic, social, technological, environmental, and legal factors, as well as internal factors in the form of all the resources of a company. Accordingly, by following the defined hypothesys, the conceptual model consisting of four latent variables and 24 observed variables are crieted, Figure 1.



Figire 1. Measurement Model

#### **3. METHODOLOGY**

#### 3.1. SAMPLE

Focus group of the research are SMEs in Eastern Serbia in the 2019. 92 SMEs participated in the survey, chosen as the respondents, but 76 ballots were filled out correctly giving the 82.65 % respond rate. Respondents were tested personally with task was to evaluate the extent to which their personal performance influences business results. The questionnaire was consisted of 24 questions put into four groups. Likert five-point scale was used for gradation of the obtained results.

#### **3.2. DATA ANALYSIS**

|                       | The composition of t     | he sample      |
|-----------------------|--------------------------|----------------|
| Demographic variables | Categories               | Percentage (%) |
| Candan                | • Male                   | 59.2           |
| Gender                | • Female                 | 40.8           |
|                       | • < 30                   | 14.5           |
| Age                   | • 31-45                  | 44.7           |
|                       | • >46                    | 40.8           |
|                       | • B.Sc.                  | 39.6           |
|                       | • High school            | 50.0           |
| Education level       | • M.Sc.                  | 2.6            |
|                       | • Ph.D.                  | 28.5           |
|                       | • Professional education | 3.9            |
|                       | • < 1 year               | 23.7           |
| Entrepreneurial       | • 1-5 years              | 38.1           |
| experience            | • 6-10                   | 23.7           |
| -                     | • $> 10$ years           | 14.5           |

Table 1. Demographic profiles and descriptive statistics of respondents

Most of entrepreneur are male, 45 samples or 59,2%, while female just 34 samples or 40,8% from 76 samples. This composition shows that SME is more interesting for male than female. The age of the owner under than 30 is 14.5%, in the range of 31 to 45 it is 44.7%, while over 45 years 40.8%.

Among 76 samples, a half respondents (50%) have a high school degree graduates. While bachelor 39.6%, master stady are only 2,6%, doctorial degree have 3.9% and professional education 3.9%. This composition shows that educational background of sample are not relatively high.

As can be seen in table 1, 18 samples or 23.7% of owners have entrepreneurial experience less than 1 year as well as 6 to10 years. There 29 samples or 38.1% of sample ha experience 1 to 5 years, while only 11 samples or 14.5% have entrepreneurial experience more than 10 years. These figures depict that most of SMEs are young firms.

### 3.3. MEASUREMENT MODEL WITH VALIDITY AND RELIABILITY RESEARCH INSTRUMENT

To estimate the validity to question in the questionnaire used convergent validity [14]. The values of the load factors and a critical relation are shown in Table 2. and showing that all structures have not a high convergent validity (AVE  $\ge$  0.5).

Also, Table 2 depicts Cronbach's coefficient  $\dot{\alpha}$  which is used to assessing interconsistency [15].. Within each group of questions it is being suggested that the value of  $\geq 0.7$  is considered a priority, as to see in Table 2 [16].

|                  | Unstandardized | Standardized   |       | Critical   | Р   | AVE   | α     |
|------------------|----------------|----------------|-------|------------|-----|-------|-------|
| Constructs       | factor loading | factor loading | S.E.  | Ratio (CR) |     |       |       |
| Personal         |                |                |       |            |     | 0.415 | 0.831 |
| performans       |                |                |       |            |     |       |       |
| PP1              | 1.000          | 0.851          | 0.122 | 7.531      | *** |       |       |
| PP2              | 0.919          | 0.778          | 0.127 | 5.563      | *** |       |       |
| PP3              | 0.709          | 0.583          | 0.131 | 6.173      | *** |       |       |
| PP4              | 0.811          | 0.665          | 0.149 | 4.601      | *** |       |       |
| PP5              | 0.687          | 0.523          | 0.145 | 4.689      | *** |       |       |
| PP6              | 0.682          | 0.531          | 0.177 | 4.256      | *** |       |       |
| PP7              | 0.753          | 0.488          |       |            |     |       |       |
| External         |                |                |       |            |     | 0.303 | 0.697 |
| factors          |                |                | 0.250 | 3.127      |     |       |       |
| EF1              | 0.985          | 0.485          | 0.237 | 2.142      |     |       |       |
| EF2              | 1.311          | 0.684          | 0.324 | 3.901      | *** |       |       |
| EF3              | 1.263          | 0.701          | 0.360 | 3.638      | *** |       |       |
| EF4              | 0.508          | 0.305          | 0.307 | 3.208      |     |       |       |
| EF5              | 0.781          | 0.530          |       |            |     |       |       |
| EF6              | 1.000          | 0.500          |       |            |     |       |       |
| Internal factors |                |                |       |            |     | 0.265 | 0.779 |
| IF1              | 1.000          | 0.635          |       |            |     |       |       |
| IF2              | 0.791          | 0.481          | 0.159 | 4.965      | *** |       |       |
| IF3              | 0.996          | 0.667          | 0.235 | 4.239      | *** |       |       |
| IF4              | 1.047          | 0.683          | 0.275 | 3.811      | *** |       |       |
| IF5              | 0.798          | 0.497          | 0.232 | 3.442      | *** |       |       |
| IF6              | 0.399          | 0.248          | 0.212 | 1.881      |     |       |       |
| IF7              | 0.448          | 0.290          | 0.203 | 2.206      |     |       |       |
| IF8              | 0.656          | 0.430          | 0.211 | 3.105      |     |       |       |
| Efects on the    |                |                |       |            |     | 0.605 | 0.814 |
| business         |                |                |       |            |     |       |       |
| EB1              | 0.931          | 0.761          | 0.151 | 6.145      | *** |       |       |
| EB2              | 1.007          | 0.810          | 0.160 | 6.290      | *** |       |       |
| EB3              | 1.000          | 0.761          |       |            |     |       |       |

Table 2. Results of the Measurement Model

According to Table 2 it can be seen that Chi-square statistics for the measurement and structural model are significant (p> 0.5). Fitting indexes for the measurement and structural model for SMEs are: RMSEA = 0.041/0.045, GFI = 0.805/0.811, CFI = 0.965/0.942, IFI = 0.956/0.947, TLI = 0.942/0.930, indicating proper models fitting (Table 2).

| $\chi^2$                                      | $\chi^2/df$ | RMSEA  | GFI   | CFI   | TLI   | IFI   |
|---|-------------|--------|-------|-------|-------|-------|
| $\chi^2 = 256,3;$                             | 1.124       | 0.041  | 0.805 | 0.952 | 0.942 | 0.956 |
| df=228  |             |        |       |       |       |       |
| (p<0.05)                                      |             |        |       |       |       |       |
| Accepted fit                                  | <3          | < 0.08 | >0.90 | >0.90 | >0.90 | >0.90 |
| Fit indices for the structural model for SMEs |             |        |       |       |       |       |
| $\chi^2 = 262, 2;$                            | 1.1         | 0.045  | 0.811 | 0.942 | 0.930 | 0.947 |
| df=228  |             |        |       |       |       |       |
| (p<0.05)                                      |             |        |       |       |       |       |
| Accepted fit                                  | <3          | < 0.08 | >0.90 | >0.90 | >0.90 | >0.90 |

For testing the stuctural model, regression coefficients ( $\beta$  coefficient) and t-values were used (Tables 3 and Figure 2). In Table 4 path coefficients and t-values between observed and latent variables as well as coefficients of determination R<sup>2</sup> were used, that show influence of latent predictors on the effects on the business of SMEs.

| The relationship or path                                 | β coefficient | T-value | Causal relations |
|--|---------------|---------|------------------|
| Personal Performans→External Factors                     | 013 (c)       | 0.944   | R1: no           |
| Personal Performans $\rightarrow$ Internal Factors       | 0.36 (b)      | 2.226   | R1: yes          |
| Personal Performans $\rightarrow$ Efects on the business | 0.295(b)      | 2.058   | R1: yes          |
| External Factors $\rightarrow$ Efects on the business    | -0.315 (c)    | 0.143   | R1: no           |
| Internal Factors $\rightarrow$ Efects on the business    | 0.022 (c)     | -0.054  | R1: no           |

Table 4. Path coefficients and T-values

(a) Significant at the 99% level; (b) Significant at the 95% level; (c) Significant less than 95% level

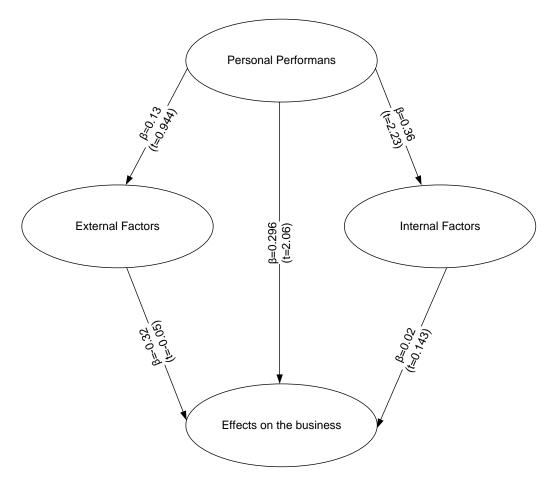


Figure 2. Structural model for SMEs

| Constructs             | Standardized factor loading | Critical ratio<br>or (t-value) | R <sup>2</sup> |
|------------------------|-----------------------------|--------------------------------|----------------|
| Personal performans    |                             |                                |                |
| PP1                    |                             |                                |                |
| PP2                    | 0.842                       |                                |                |
| PP3                    | 0.770                       | 7.265                          |                |
| PP4                    | 0.596                       | 5.306                          |                |
| PP5                    | 0.677                       | 6.202                          |                |
| PP6                    | 0.546                       | 4.778                          |                |
| PP7                    | 0.560                       | 4.921                          |                |
|                        | 0.464                       | 4.118                          |                |
| External factors       |                             |                                | 0.016          |
| EF1                    |                             |                                |                |
| EF2                    | 0.553                       |                                |                |
| EF3                    | 0.743                       | 3.188                          |                |
| EF4                    | 0.707                       | 3.490                          |                |
| EF5                    | 0.196                       | 3.568                          |                |
| EF6                    | 0.249                       | 1.416                          |                |
|                        | 0.468                       | 1.767                          |                |
| Internal factors       |                             |                                | 0.132          |
| IF1                    | 0.420                       |                                |                |
| IF2                    | 0.613                       | 4.333                          |                |
| IF3                    | 0.452                       | 2.558                          |                |
| IF4                    | 0.539                       | 2.786                          |                |
| IF5                    | 0.528                       | 2.740                          |                |
| IF6                    | 0.402                       | 2.332                          |                |
| IF7                    | 0.603                       | 2.870                          |                |
| IF8                    | 0.661                       | 3.000                          |                |
| Efects on the business |                             |                                |                |
| EB1                    |                             |                                | 0.167          |
| EB2                    | 0.768                       |                                | 0.107          |
| EB3                    | 0.714                       | 5.917                          |                |
|                        | 0.815                       | 5.777                          |                |

Table 5. Path coefficients and t-values between observed and latent variables

#### 4. RESULTS AND DISCUSION

The internal consistency of the group of questions was tested. Cronbach's alpha values for the above items obtained show a high reliance for the factor ranging from 0.697 to 0.831. Thus obtained data confirm the reliability of measurement scale. The values of the load factors and a critical relation are shown in Table 3. showing that all structures have a high convergent validity, approximately 0.5 (AVE  $\geq$  0.5). Chi-square goodness-of-fit statistics for the measurement and structural model are significant have statistical significance (p> 0.5).

We tested the hypothesis (H1) that personal performance of the owner does not have influence on the external factors such as political, economic, technological, environmental and legal by conducting a structural model using a thirteen-item scale as predictors. Based on obtined resultates, it can be seen beta coefficient is  $\beta$ =0.13 with very weak statistical significance (p <0.01), and has not been confirmed the suggested path because there is no

negative influence and hypothesis are not accept. Hypotheses (H2) that state personal performans of the owner will contribute to develop of internal factors in terms of ability, competence and relative long term competitive advantages is confirmed. For analysis it was used fifteen-item scale as predictors, where the beta coefficient is  $\beta$ =0.36 with high statistical significance (p <0.01). For tested hypothesis (H3) where personal performans of the owner will contribute to positive effects on the business of SMEs was used ten-item scale as predictors, where the beta coefficient is  $\beta$ =0.295 with high statistical significance (p <0.01). It could be concluded that this hyposesis confirmed. The tested hypotheses (H3, H4) where external and internal factors have direct influence on the business of SMEs are rejected, becouse statistical significances are very weak.

#### **5. CONCLUSION**

According to the obtined resultates, this paper makes important contributions to the study of effects of internal and external factors, as well as a perfosnal performance of owners on the success business of enterprises. As conclusion of this research is that internal factor especially management of claims, compliance with deadlines and long-term relationship with customers and suppliers, human resource policies, and the proper direction of financial flows contribute to the SMEs'S performance [17].. Perception of external environment is also one of the important causes of business operations of SMEs, this matter because of environmental change which deliver opportunity and threat. This enterprise environment, being a subenvironment of the general external environment, and the direct interface between enterprise and the external environment, consists of five entities that is very important for business success of SMEs, and those are: customers, suppliers, competitors, machinery, and location. And finally, personal performances of owner are oriented on: high propensity for risk-taking with strong sense of personal ability to perform business activities, self-confidence, need for achievements, creativity, self-control, independence and education.

Limitations for this study mainly rest on the size of the sample, however, the authors strongly beliefs that an increase in sample size would not have been bring different results, becouse Serbian enterpreneours are very indifferent in lead and run their business. As the results show that personal performance does not have an impact on external but also on the internal factors of the company, but they are making efforts for a successful business.

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#### **TABLE OF CONTENTS:**

#### XV INTERNATIONAL MAY CONFERENCE ON STRATEGIC MANAGEMENT – IMCSM19

#### **Plenary papers**

#### **RANKING OF ZINC CONCENTRATES FOR THE PRODUCTION OF CATHODE ZINC USING FUZZY LOGIC APPROACH**

| Marija | Panić, Živar | n Živković, Đorđe Niko | lić1 |
|--------|--------------|------------------------|------|
|--------|--------------|------------------------|------|

### **Conference papers**

| AN INTEGRATED FUCOM-EDAS MODEL FOR DECISION MAKING IN<br>TRANSPORTATION OF DANGEROUS GOODS   |     |
|--|-----|
| Željko Stević, Dragan Pamučar, Siniša Sremac   | 17  |
| DEAD-END DEVELOPMENT OR REAL PROGRESS? PARADIGM SHIFT<br>INITIATIVES IN MARKETING THEORY   |     |
| Anikó Kelemen-Erdős  | 26  |
| INTEGRATED STRATEGIC ALIGNMENT OF THE SOT FRAMEWORK: A<br>CASE STUDY FOR AN INTERNATIONAL CORP/MULTI-SBU MODEL IN<br>MANUFACTURING |     |
| Arthur Pantelides  |     |
| THE IMPORTANCE OF INVESTMENT IN ALBANIAN TOURISM   |     |
| Enea Stavre, Romina Radonshiqi   | 51  |
| INTRAPRENEURSHIP IN FUNCTION OF IMPROVING THE QUALITY OF<br>WORK IN ORGANIZATIONS  |     |
| Monika Markovska, Bozidar Milenkovski  | 59  |
| COMMERCIAL OPEN DATA APPLICATIONS: DATA PROCESSING<br>METHODS AND PRICING STRATEGIES   |     |
| Minna Jukka , Janne Saarikoski , Mikko Lampi   | 68  |
|  | 628 |

| THE COMMITMENT OF MANAGEMENT, THE FACTORS OF THE WORK      |
|--|
| ENVIRONMENT AND ATTITUDE OF EMPLOYEES AS INDICATORS OF THE |
| IMPACT OF OCCUPATIONAL SAFETY                              |

| Violeta Stefanović, Snežana Urošević, Nenad Milijić, Ivana Mladenović-Ranisavljević   | 76   |
|---|------|
| CONCEPTUAL BASE OF DEVELOPMENT OF TECHNOLOGICAL<br>INTEGRATION IN THE MANUFACTURING INDUSTRY OF RUSSIA  |      |
| Aleksandr Miller, Maksim Miller   | 87   |
| EXAMINATION OF HUMAN RESOURCE MANAGEMENT IMPACT ON<br>ESTABLISHMENT OF PROCESS ORIENTATION AND ACHIEVEMENT OF<br>HIGHER PROCESS MATURITY LEVEL IN ORGANIZATIONS |      |
| Andrea Dobrosavljević, Snežana Urošević   | 96   |
| ENTREPRENEURSHIP IN AGRITOURISM AND INTERNET MARKETING:<br>THE ANALYSIS OF THE SITUATION IN THE MUNICIPALITY OF IVANJICA  |      |
| Slavica Anđelić, Dušan Garabinović  | 107  |
| ENVIRONMENTAL MANAGEMENT IN RUSSIA AS A DRIVER TOWARDS A<br>GREEN ECONOMY   |      |
| Violetta Gassiy, Vasiliy Stoikov  | .118 |
| PERFORMANCE MEASUREMENT AND EVALUATION BASED ON PROCESS<br>APPROACH: EFFECTS OF BUSINESS PROCESS MANAGEMENT ON<br>ORGANIZATION'S PERFORMANCE                    |      |
| Zuzana Papulová, Andrea Gažová, Maroš Šlenker   | 127  |
| STRATEGIC DECISION-MAKING IN PHARMACEUTICAL INDUSTRY:<br>EVALUATION OF A NEW DRUG SUCCESS POTENTIAL   |      |
| Zuzana Papulova, Jan Papula, Andrea Gažova, Lucia Feldsam   | .137 |
| ROBOTS AND THEIR CONTRIBUTION TO THE HIGH STANDARDS OF<br>WELDING IN MINING AND MECHANISM   |      |
| Slobodan Radosavljević, Nikola Ille, Milan Radosavljević, Jovana Radosavljević  | 148  |
| DOMESTIC RESTRUCTURES OF LOCATIONS OF MINING AND POTENTIAL RISKS  |      |
| Slobodan Radosavljević, Nikola Ille, Milan Radosavljević, Jovana Radosavljević  | 159  |
| DOES INSURANCE MARKET ACTIVITIES PROMOTE STOCK MARKET<br>DEVELOPMENT IN NIGERIA?  |      |
| Onafalujo Akinwunmi Kunle   |      |

| COMPARISON OF RELIABILITY INDICATORS OF THE THERMAL POWER<br>SYSTEM OBTAINED BY DIFFERENT WEIBULL DISTRIBUTION MODELS |     |
|---|-----|
| Dragan Kalaba, Milan Đorđević, Marko Mančić   | 183 |
| DIGITAL RETAIL TRANSFORMATION Yulia Syaglova  | 195 |
| BREAK-DOWN COST ESTIMATION APPROACH IN INNOVATIVE<br>ENGINEERING  |     |
| Georgiana Vetrice, Luminița Pârv  | 204 |
| APPLICATION OF NEW INFORMATION AND TELECOMMUNICATION<br>TECHNOLOGIES IN RUSSIAN EDUCATIONAL MANAGEMENT                |     |
| Evgeniya Yazovskikh, Oksana Yatsenko  | 213 |
| INFLUENCE OF INVESTMENTS IN CORPORATE SOCIAL RESPONSIBILITY<br>ON MARKETING SITUATION OF COMPANIES                    |     |
| Alan Abaev, Madina Guriyeva, Natalia Safronova  | 217 |
| QUANTITATIVE APPROACH TO THE FORMATION OF CASE-STUDY<br>TEAMS   |     |
| Natalia Safronova, Alexey Urubkov, Tatyana Maslevich, Natalia Minaeva   | 222 |
| ENTREPRENEURSHIP IN THE MACEDONIAN BUSINESS ENVIRONMENT   |     |
| Berat Dehari  | 227 |
| "BRAND PLACE" MODEL IN OFFLINE CUSTOMER EXPERIENCE<br>Veronika Dubinina, Artem Eryshev                                | 239 |
| APPLICATION OF DIGITAL ECONOMY TOOLS IN THE DEVELOPMENT OF<br>CLUSTERS IN RUSSIA                                      |     |
| Iuliia Artamonova, Pavel Bilenko  | 244 |
| DETERMINING THE ENERGY EFFICIENCY OF HEATING MODULE WITH GREEN ENERGY   |     |
| Ivan Mitkov, Georgi Komitov   | 251 |
| STUDY OF THE OPPORTUNITIES FOR DEVELOPMENT OF URBAN TOURS<br>WITH AN ATTRACTION BUS IN PLOVDIV                        |     |
| Ivanka Lulcheva, Georgi Komitov   | 259 |
| FOOD QUALITY MANAGEMENT AND AGRIBUSINESS DEVELOPMENT  |     |
| Lela Ristić, Mirjana Knežević, Danijela Despotović  | 269 |

| PROCESSING GRAPE BY-PRODUCTS AS A SOURCE OF IDEAS FOR<br>ESTABLISHMENT OF CIRCULAR ENTREPRENEURIAL MODEL   |
|--|
| Vladimir Radovanović, Maja Ivanović-Đukić  |
| RELATIONS AMONG SOCIO – DEMOGARPHIC CHARACTERISTIC OF<br>TOURISTS AND QUALITY DIMENSIONS OF OUTDOOR SPORTS<br>ACTIVITIES IN STRUGA REGION                    |
| Liza Pantekovska, Kosta Hiohi  |
| ANALYSIS OF INFLUENTIAL FACTORS ON PRIORITIZATION OF MINING<br>PROJECTS  |
| Dejan Bogdanović, Ivan Jovanović, Nenad Milijić  |
| RISKS OF ATMOSPHERIC AIR POLLUTION BY FORMALDEHYDE IN<br>URBAN AREAS FROM MOTOR VEHICLES   |
| Olena Voloshkina, Rostyslav Sipakov, Tetiana Tkachenko, Olena Zhukova  |
| METHODOLOGY FOR ASSESSMENT AND MANAGEMENT OF INDUSTRIAL<br>RISKS   |
| Hunchenko Oksana, Bereznytska Yuliia, Chernyshev Denys   |
| THE RELATIONSHIP BETWEEN EMPLOYEES' PERCEPTION OF<br>LEADERSHIP STYLES AND THEIR WORKING PERFORMANCE IN MSMES<br>IN THE FEDERATION OF BOSNIA AND HERZEGOVINA |
| Senad Bušatlić, Edvin Sinanović, Šemsudin Plojović, Senadin Plojović   |
| THE CONCEPT OF A-MARKETING FOR MEASURING MARKETING<br>PERFORMANCE WITHIN A COMPANY   |
| Cella-Flavia Buciuman  |
| ANALYSING SUCCESSION MANAGEMENT CONTROL AND FINANCIAL VIABILITY  |
| Olatunji Fadeyi, Funminiyi Adeoye, Patrick Oladele, Micheal Afolayan, Chijioke Nwachukwu   |
| ANALYSIS OF THE SAFETY CLIMATE AS AN IMPORTANT SEGMENT OF<br>PROJECT EFFICIENCY: THE CASE OF INFRASTRUCTURE PROJECTS IN<br>SERBIA                            |
| Nenad Milijić, Ivan Mihajlović, Ivan Jovanović, Dejan Bogdanović, Anđelka Stojanović   |
| EXPLOITATION-ECONOMIC ASPECTS OF SHREDDING OF PLANT-<br>DERIVED BIOMASS FROM OIL-BEARING ROSE  |
| Ivan Zahariev, Dimitar Kehayov   |
| PROBLEMS OF HOUSING IN POLAND AND IN THE EUROPEAN UNION  |

| ANALYSIS OF CORPORATE SOCIAL RESPONSIBILITY MANAGEMENT IN<br>POLAND IN 2013-2018 |     |
|--|-----|
| Małgorzata Idasiak,Renata Stasiak - Betlejewska                                  | 391 |

## PERSONNEL OF HOSPITAL SATISFACTION IN THE LOYALTY ASPECT IN POLAND

Joanna Rosak-Szyrocka......400

# DIGITAL BUSINESS SERVICES CENTRE – AS THE FUTURE STATE OF MATURITY

| Robert Marciniak4 | 11 |  |
|-------------------|----|--|
|                   |    |  |

#### MACHINE LEARNING METHODS IN STRATEGIC MANAGEMENT

## FACTORS INFLUENCING THE TIMESHARE'S APPLICATION IN THE HOTEL PRODUCT OF THE BULGARIAN BLACK SEA COAST

| Georgina Lukanova, Hristina Filipova432 | Georgina Lukanova, | a, Hristina Filipova | 432 |
|---|--------------------|----------------------|-----|
|---|--------------------|----------------------|-----|

# THE INFLUENCE OF CORPORATE SOCIAL RESPONSIBILITY ON CONSUMERS BEHAVIOR IN SERBIA

# HOW DEMOGRAPHIC CHARACTERISTICS INFLUENCE THE FAILURE OF SMALL AND MEDIUM ENTERPRISES?

### EFFECTS OF INTERNAL AND EXTERNAL FACTORS ON THE BUSINESS OF SMES

#### FUTURE OF THE QUALITY, QUALITY MANAGEMENT – RISK OF (LOW QUALITY) QUALITY

Ivan Litvaj, Mario Drbul, Jaroslava Svobodova......471

#### HUMAN RESOURCES IN 4.0 INDUSTRY

#### THE IMPACT OF THE KNOWLEDGE MANAGEMENT FACTORS ON THE BUSINESS PERFORMANCE OF THE "CARNIVAL CRUISE LINES"

| Ivan Jovanović, Sanela Golubović |
|----------------------------------|
|----------------------------------|

| THE INFLUENCE OF THE KNOWLEDGE MANAGEMENT FACTORS ON THE    |
|---|
| REALIZATION AND ACHIEVING THE PROJECT GOALS AND BENEFITS IN |
| PROJECT-BASED ORGANIZATIONS                                 |

| Ivan Jovanović, Dejan Bogdanović, Nenad Milijić, Anđelka Stojanović  | 498 |
|--|-----|
| THE INFLUENCE OF ENTREPRENEURIAL ACTIVITIES ELEMENTS ON<br>PROFITABILITY OF MSMES IN TRANSITIONAL ECONOMY                  |     |
| Ivan Jovanović, Milica Veličković  | 510 |
| SEMANTIC WEB TECHNOLOGIES FOR DATA ORGANIZING AND<br>PROCESSING IN E-BUSINESS PROCESSES                                    |     |
| Ramona Markoska, Nikola Rendevski, Ilija Hristoski, Tome Dimovski  | 520 |
| SETTING UP A SPIN-OFF COMPANIES IN THE ENVIRONMENT OF THE<br>UNIVERSITY OF ŽILINA  |     |
| Veronika Šramová, Andrea Čorejová, Jaroslav Jaroš  | 530 |
| MODELLING OF SWITCHGEAR RELIABILITY USING BAYESIAN<br>NETWORKS BASED ON INTERVAL PROBABILITIES                             |     |
| Jelena D. Velimirovic, Lazar Z. Velimirovic, Aleksandar Janjic   | 539 |
| AN INTEGRATED METHOD OF ROUGH AHP AND PROMETHEE FOR<br>MULTI-CRITERIA RANKING THE COPPER CONCENTRATE SMELTING<br>PROCESSES |     |
| Ivica Nikolić, Nenad Nikolić, Isidora Milošević, Nenad Milijić, Anđelka Stojanović   | 546 |
| UNIVERSITY STUDENTS' ATTITUDE TOWARDS FAMILY BUSINESS: CASE<br>STUDY SERBIA  |     |
| Milica Veličković, Ivan Jovanović  | 560 |
| LATERAL CONCEPT OF MARKETING AS A STRATEGIC TOOL FOR<br>ACHIEVING COMPETITIVE ADVANTAGE                                    |     |
| Anđela Mikić, Sonja Milojević  | 568 |
| THE FUTURE OF ECO-ENTREPRENEURSHIP: THE EXPERIENCE OF THE EU AND OPPORTUNITIES IN RUSSIA                                   |     |
| Oksana Kozlova   | 576 |
| REGIONAL DIFFERENCES IN EMPLOYMENT IN THE REPUBLIC OF<br>SERBIA  |     |
| Aleksandra Fedajev, Radmilo Nikolić, Stefan Zimonjić   | 584 |
| TEACHER'S PROFESSIONAL DEVELOPMENT - SCHOOL MANAGEMENT'S PERCEPTION  |     |
| Milica Gerasimović, Uglješa Bugarić  | 595 |

#### GENDER ASPECTS OF THE TAX SYSTEM - HUNGARIAN CASE

| Kata Kevehazi  | 600 |
|--|-----|
| FAMILY BUSINESS HEIR'S CAREER CHOICE IN EUROPEAN COUNTRIES                           |     |
| Predrag Ljubotina  | 608 |
| MODERN STRATEGIES FOR TRANSITION TO E-GOVERNMENT<br>THROUGHCHANGES IN ADMINISTRATION |     |

| Najib Tanish, Mansur Jaba, Majdi Alashhb617 |
|---|
|---|