

АНАЛИ

ЕКОНОМСКОГ ФАКУЛТЕТА У СУБОТИЦИ

THE ANNALS OF THE FACULTY OF ECONOMICS IN SUBOTICA



Vol. 56

ISSN 0350-2120

УДК 330

44
2020



ЕКОНОМСКИ
ФАКУЛТЕТ
У СУБОТИЦИ

Универзитет
у Новом Саду

Анали

Економског факултета

у Суботици

број **44**

Суботица, 2020. године

Назив издања: **Анали Економског факултета у Суботици**
Journal: The Annals of the Faculty of Economics in Subotica
Vol. 56, број 44/2020, ISSN 0350-2120, e-ISSN 2683-4162, УДК 330

За издавача: **Александар Грубор**, декан - dean
For Publisher: aleksandar.grubor@ef.uns.ac.rs

Редакција: **Немања Бербер**, главни и одговорни уредник - editor in chief
Editorial Office: nemanja.berber@ef.uns.ac.rs

Радмила Бјекић, секретар редакције – journal secretary
anali@ef.uns.ac.rs

Извршни уредници: **Емилија Бекер Пуцар**, Универзитет у Новом Саду, Економски факултет у Суботици
Associate Editors: **Ирен Габрић Молнар**, Универзитет у Новом Саду, Економски факултет у Суботици
Небојша Гвозденовић, Универзитет у Новом Саду, Економски факултет у Суботици
Станислав Зекић, Универзитет у Новом Саду, Економски факултет у Суботици
Никола Милићевић, Универзитет у Новом Саду, Економски факултет у Суботици
Агнеш Славић, Универзитет у Новом Саду, Економски факултет у Суботици
Вера Мирковић, Универзитет у Новом Саду, Економски факултет у Суботици
Кристина Мијић, Универзитет у Новом Саду, Економски факултет у Суботици
Предраг Матковић, Универзитет у Новом Саду, Економски факултет у Суботици
Горан Вукмировић, Универзитет у Новом Саду, Економски факултет у Суботици

Национални редакциони одбор: **Отилија Седлак**, Универзитет у Новом Саду, Економски факултет у Суботици
National Editorial Board: **Мартон Сакал**, Универзитет у Новом Саду, Економски факултет у Суботици
Александар Чучковић, Универзитет у Новом Саду, Економски факултет у Суботици
Вера Мирковић, Универзитет у Новом Саду, Економски факултет у Суботици
Томислав Сударевић, Универзитет у Новом Саду, Економски факултет у Суботици
Станислав Зекић, Универзитет у Новом Саду, Економски факултет у Суботици
Славица Томић, Универзитет у Новом Саду, Економски факултет у Суботици
Горан Петковић, Универзитет у Београду, Економски факултет
Саша Вељковић, Универзитет у Београду, Економски факултет
Никола Ђурчић, Институт за Економику пољопривреде Београд
Јонел Субић, Институт за Економику пољопривреде Београд
Биљана Ђорђевић, Универзитет у Нишу, Економски факултет
Дејан Петровић, Универзитет у Београду, Факултет организационих наука
Винко Лепојевић, Универзитет у Нишу, Економски факултет
Марко Бацковић, Универзитет у Београду, Економски факултет

Међународни редакциони одбор: **Ágnes Hofmeister Tóth**, Corvinus University of Budapest, Faculty of Business Administration, Hungary
International Editorial Board: **Miklós Losoncz**, Széchenyi István University, Kautz Gyula Faculty of Economics, Hungary
Valentin Munteanu, West University Timisoara, Faculty of Economics and Business administration, Romania
Gábor Rappai, University of Pécs, Faculty of Business and Economics, Hungary
Vladimir Surový, University of Economics, Faculty of Business Informatics, Slovakia
Zdravko Todorović, Univerzitet u Banjoj Luci, Ekonomski fakultet Banja Luka, Republic of Srpska, Bosnia and Herzegovina
Gordana Trajkovska, University "St. Kliment Ohridski", The Faculty of Economics Prilep, Macedonia
Ljudmila N. Ivanova, Economics Faculty, State University F.M. Dostojevsky, Omsk, Russia
Peter Best, University of Southern Queensland, Faculty of Business and Law, Australia
János Honvári, Széchenyi István University, Kautz Gyula Faculty of Economics, Hungary
Nils-Henrik M. von der Fehr, University of Oslo, Faculty of Social Sciences, Norway
Slavica Ročeska, University „St. Kliment Ohridski“, The Faculty of Economics Prilep, Macedonia
Срђан Лалић, Економски факултет Брчко, Универзитет Источно Сарајево
József Poór, Szent István University, Faculty of Economics and Social Sciences, Hungary
Andrei Jean Vasile, Petroleum-Gas University of Ploiesti, Romania
Dorel Dusmanescu, Petroleum-Gas University of Ploiesti, Romania
Michale J. Morley, University of Limerick, Kemmy Business School, Ireland

Техничка подршка: **Александар Вугделија**, Универзитет у Новом Саду, Економски факултет у Суботици
Technical support:

Језичка редакција: Лектор и коректор за енглески језик:
Language lector: **Жељко Буљовчић**

Издавач: **Универзитет у Новом Саду**
Publisher: **Економски факултет у Суботици**
<http://www.ef.uns.ac.rs>

Корице: **Економски факултет у Суботици**
Front cover:

Тираж: 100 примерака
Issue:

Штампа: Бирограф цомп д.о.о., Атанасија Пуље 22, 11080 Земун
Press:

ISSN: 0350-2120
e-ISSN: 2683-4162

По решењу Министарства за информације Републике Србије бр. 651-576/96-03

Адреса редакције: Економски факултет у Суботици
Editorial Office: Сегедински пут 9-11, 24000 Суботица
Телефон: 024/628-000

Садржај / Contents

ОРИГИНАЛНИ НАУЧНИ РАД / Original scientific article

Branimir Kalaš, Vera Mirović, Jelena Andrašić

Cointegration analysis of indirect taxes and economic growth in the Republic of Serbia

Коинтеграциона анализа индиректних пореза и економског раста у Републици Србији

003-010

Srđan Lalić, Amra Gadžo, Benina Veledar

Analysis of the prevalence of strategic management accounting techniques and the level of development of the cost system in large companies in Bosnia and Herzegovina

Анализа заступљености техника стратешког управљачког рачуноводства и нивоа развијености трошковног система у великим босанскохерцеговачким компанијама

011-020

**Sanja Stankov, Jasmina Poštin, Marko Konjikušić,
Aleksandra Jagodić Rusić, Daliborka Mičić**

The impact of financial performance on workplace bullying and mistreatment in Serbian organizations

Утицај финансијских перформанси на мобинг и малтретирање на радном месту у организацијама у Србији

021-035

Goran Petrović

Measuring business process performance in the seed industry

Мерење перформанси пословних процеса у семенској индустрији

037-048

Marija N. Marčetić, Gordana T. Prlinčević, Biljana Grujić Vučkovski

An assessment of the effects and influences of the concept of entrepreneurial learning in Serbia

Процена ефеката и утицаја концепције предузетничког учења у Србији

049-061

Mile Vasić

Challenges of teleworking during the COVID-19 pandemic

Изазови рада на даљину у току COVID-19

063-079

Slavica Tomić, Ksenija Leković, Pernille Eskerod, Eva Zedlacher

Profile of rural tourism consumers in Serbia and Austria

Профил српских и аустријских потрошача руралног туризма

081-095

ПРЕГЛЕДНИ РАД / Review article

Vuk Miletić, Nikola Ćurčić, Zoran Simonović

Quality standardization - a factor of sustainable competitiveness of companies in Serbia

Стандардизација квалитета - фактор одрживе конкурентности предузећа у Србији

099-114

Miloš Srzentić

Mutual conditioning of factors of regional economic integration in Europe

Међусобна условљеност фактора регионалне економске интеграције у Европи

115-130

ИСПРАВКЕ / Corrections

Correction

Influence of digital banking channels on the number of branches in European Union countries and Serbia (2020, Vol. 56, No. 43, pp. 67-84)

Исправка: Утицај дигиталних банкарских канала на број филијала у земљама Европске уније и Србије (2020, вол. 56, бр. 43, стр. 67-84)

133-134

Списак рецензената часописа Анали Економског факултета у Суботици

135-137

Техничко упутство за форматирање радова / Technical instructions for paper formatting

139

Оригинални научни рад

Original scientific article

Cointegration analysis of indirect taxes and economic growth in the Republic of Serbia

Коинтеграциона анализа индиректних пореза и економског раста у Републици Србији

Branimir Kalas*

University of Novi Sad, Faculty of Economics, Subotica, Serbia, branimir.kalas@ef.uns.ac.rs

Vera Mirović

University of Novi Sad, Faculty of Economics, Subotica, Serbia, vera.mirovic@ef.uns.ac.rs

Jelena Andrašić

University of Novi Sad, Faculty of Economics, Subotica, Serbia, jelena.andrasic@ef.uns.ac.rs

Abstract: This research examines the relationship between indirect taxes and gross domestic product per capita in the Republic of Serbia from 2005 to 2019. The aim of this paper is to evaluate the long-run relationship between value added tax, excises and gross domestic product per capita based on Johansen cointegration test. The empirical analysis includes descriptive statistics, unit root test, cointegration test and FMOLS model. The results reveal a long-run relationship between indirect taxes such as value added tax and excises and the gross domestic product per capita in the Republic of Serbia for the observed period. Empirical findings confirm that revenues of value added tax and excises have positive and significant effect on the gross domestic product per capita in the long-run.

Keywords: value added tax, excises, economic growth, cointegration, Republic of the Serbia

JEL classification: C32, H20, O40

Сажетак: Истраживање испитује однос између индиректних пореза и бруто домаћег производа по глави становника у Републици Србији од 2005. до 2019. године. Циљ овог рада је оценивање дугорочне везе између пореза на додату вредност, акциза и бруто домаћег производа по глави становника на основу Јохансеновог теста коинтеграције. Емпиријска анализа укључује дескриптивну статистику, тест јединичног корена, тест коинтеграције и FMOLS модел. Резултати указују на дугорочну везу између индиректних пореза као што су порез на додату вредност и акциза и бруто домаћег производа по глави становника у Републици Србији за посматрани период. Емпиријски налази потврђују да порез на додату вредност и акцизе имају позитиван и значајан ефекат на бруто домаћи производ по глави становника у дугом року.

Кључне речи: порез на додату вредност, акцизе, економски раст, коинтеграција, Република Србија

ЈЕЛ класификација: C32, H20, O40

* Corresponding author

Introduction

Taxes reflect economic expression of the state existence (Andrašić et al. 2018) where taxation involves an exchange relationship between citizens and government (Castañeda Rodríguez, 2018). In modern government, taxes play an essential role in their programs and they are a powerful tool for achieving main goals in the economy (Kalaš et al. 2018). Collection of taxes allows the government to create maximum development projects for the public interest and improve the basic infrastructure of health, education, as well as people's quality of life (Streimikiene et al. 2018). For the optimal design of taxes it is essential to be aware of its built-in revenue capacity which implies that automatic revenues respond to changes in the economy (Sanz-Sanz et al. 2016). Government expenditures are supposed to be financed by increasing taxes, changing the consumption of expenditures or raising public debt (Iyidoğan et al. 2017).

It is very important for the tax policy holders to determine potential effects that changes in individual tax forms will have on overall economic performance (Grdinić et al. 2017). Hodžić et al. (2018) indicate that tax system should be business-friendly so it can have an essential positive effect on the economy. Milasi and Waldmann (2017) argue that raising top marginal tax rates which are below their growth maximum has the greatest positive effect on growth when the related additional revenues are used to finance public expenditures and reduce budget deficits. Feher et al. (2019) argue that value added tax is the most effective tax during the crisis to reduce budget deficits.

The structure of this paper is as follows. After the introduction, there is theoretical background about relationship between economic growth and taxes with focus on indirect taxes such as value added tax and excises. The third section includes an analysis of value added tax and excises in the Republic of Serbia from 2005 to 2019. The greatest part of this paper includes empirical analysis and results which consist of descriptive statistics, ADF test, Johansen cointegration test, as well as FMOLS model in order to identify long-run effect of indirect taxes on the gross domestic product per capita in the Republic of Serbia.

1. Literature review

Many empirical studies suggest that there is a robust link between tax structure and economic growth (Xing, 2011). Prichard (2016) highlighted that direct taxes such as personal and corporate income tax are bad for growth compared to indirect taxes. On the other hand, there are many empirical studies that have estimated the relationship between indirect taxes and economic growth (Alm & El-Gannainy, 2012; Li & Lin, 2015; Simionescu et al. 2016; Loganathan et al. 2017; Kalaš & Milenković, 2017; McNabb, 2018; Dobranschi & Nerudová, 2018).

Alm and El-Gannainy (2012) examined relationship between value added tax and consumption in fifteen EU countries for the period 1961-2005. Results of dynamic panel GMM-System estimator indicated that effective value added tax rate is negatively correlated with the consumption. Namely, a one percentage point increase in the tax rate leads to about a one percent reduction in the consumption.

Around that, Benkovskis and Fadejeva (2014) investigated the effect of value added tax rate on inflation in Latvia using the CPI microdata provided by the Central Statistical Bureau of Latvia. Their findings reflect that changes in the VAT rate could have an essential effect on price movement in Latvia.

Li and Lin (2015) examined the impact of sales tax on economic growth in the United States for the period 1960–2013. Results of empirical study confirmed that economic growth in the United States responds negatively to sales tax in the long run, although it produces positive impact in the short run. Empirical analysts Simionescu et al. (2016) analyzed the impact of standard value added tax rate on economic growth in Bulgaria, Czech Republic, Hungary, Poland and Romania for the period 1995–2005. Their findings showed bidirectional causality between these variables and negative effect of value added tax rate on economic growth in most observed countries. Namely, value added tax rate had positive impact only in Hungary, while other countries recorded lower gross domestic product rates.

Loganathan et al. (2017) researched the nexus between taxation and economic growth for emerging Asian countries, namely China, India, Indonesia, Republic of Korea, Malaysia and Thailand for the period 1990–2014. Their findings indicate bidirectional causality between growth and taxation, as well as unidirectional causality from stock traded to taxation in observed countries. Kalaš and Milenković (2017) examined the relationship between value added tax and economic growth measured by gross domestic product rate in the Republic of Serbia for the period 2005–2014. Their findings indicated strong and positive correlation between observed variables, which implies that revenues of value added tax are significantly related to gross domestic product rate in the Republic of Serbia. McNabb (2018) analyzed panel relationship between tax structure and economic growth for 100 countries and confirmed that revenue-neutral increases in income taxes are related to lower GDP in the long-run. On the other hand, results showed that revenue-neutral reductions in trade taxes have not always had positive impact on economic growth.

Dobranschi and Nerudová (2018) analyzed the effect of value added tax and excise duties in the European Union and their findings indicated that tax burden resulting from ad valorem and ad unit taxes imposed on goods tend to be borne more by the final consumers than by the seller. On the other hand, the excise duty burden is close to fully shifted towards consumers. Using the common correlated effects (CCE) panel cointegration approach, Durusu-Ciftci et al. (2018) estimated the long-run effect of taxes on economic development in thirty OECD countries for the period 1995–2016. Their findings indicated that only consumption tax has a statistically significant negative impact on long-run income.

Laković et al. (2019) argue that an increase in excise taxes could be a very efficient tool in decreasing the adverse effect on household members' health, productivity and budget. Luong and Vu (2020) highlighted that excises are identified for specific goods and services that are not encouraged due to their bad effects on health.

2. Methodology and data

This research analyzes value added tax and excises as two most generous taxes in the Republic of Serbia. The analysis included annual data available for the Republic of Serbia and measures these taxes in local currency value (RSD). On the other hand, economic growth is measured by gross domestic product per capita which is also expressed in local currency value (RSD).

The data was obtained from the Ministry of Finance of the Republic of Serbia and the International Monetary Fund. Likewise, the data series is annual, ranging from 2005 to 2019 for 15 years.

FMOLS was proposed by Phillips and Hansen (1990) and this model was applied to estimate the long-run effect of value added tax and excises on gross domestic product per capita in the Republic of Serbia since cointegration test confirmed the presence of long-run relationship between selected variables.

$$LGDPp_{cit} = \alpha + \beta_1 LVAT_{it} + \beta_2 LEXC_{it} + \varepsilon \quad (1)$$

where i refers to the cross-section, t refers to the time, α refers to the constant term, $LGDPp$ refers to logarithmic value of gross domestic product per capita, $LVAT$ – logarithmic value of value added tax, $LEXC$ – logarithmic value of excises and ε refers to the error or residual term.

3. Empirical analysis and results

This segment includes analysis trend of gross domestic product per capita, as well as indirect taxes such as value added tax and excises in the Republic of Serbia for the period 2005-2019. After presenting descriptive statistics of observed variables, we proceed to ADF unit root test, as well as Johansen cointegration test. Finally, a fully modified ordinary least Squares model is presented in order to determine the long-run effect of value added tax and excises on the gross domestic product per capita in the Republic of Serbia.

Table 1: Descriptive statistics

| Variable | GDPpc | VAT | EXC |
|-----------|---------|--------|--------|
| Mean | 515668 | 368265 | 186734 |
| Median | 529242 | 367472 | 181097 |
| Maximum | 753544 | 550563 | 306546 |
| Minimum | 248207 | 216008 | 71275 |
| Std. Dev. | 155688 | 100381 | 77665 |
| Skewness | -0.1576 | 0.1518 | 0.0645 |
| Kurtosis | 1.9467 | 2.0626 | 1.7274 |

Source: Authors calculation

Results of descriptive analysis show that average gross domestic product per capita was 515668 RSD for the period 2005 to 2019. The highest value of gross domestic product per capita was recorded in 2019, when it was 753544 RSD, while the smallest level was

identified in 2005 (248207 RSD). On the other hand, average revenues of value added tax are 368265, where this tax form represents the most generous tax in the Republic of Serbia. Excises are second tax form which contribute to budget more than other tax in the Republic of Serbia. It is necessary to highlight that value added tax and excises have share more than 60% in the total tax structure and manifest two most important tax in the Republic of Serbia.

Table 2: Augmented Dicky-Fuller (ADF) test

| Variable | Level | First difference | Critical value (5%) | I(D) |
|-----------|-----------|------------------|---------------------|-------|
| Intercept | | | | |
| GDPpc | -1.315185 | -3.58544 | 5% | I (1) |
| VAT | 1.277150 | -4.328078 | 5% | I (1) |
| EXC | 0.150827 | -4.071807 | 5% | I (1) |

Source: Authors calculation

The results of ADF test reflect that selected variables are not stationary at level, but variables are stationary at first difference. It implies that null hypothesis can be rejected at the 5% level of significance when applying each variable at first difference. We can conclude that these variables are stationary at first difference and integrated of order one process or I (1).

Table 3: Unrestricted Cointegration Rank Test (Trace)

| Hypothesized No. of CE(s) | Eigenvalue | Trace Statistic | Critical Value | Prob.** |
|---------------------------|------------|-----------------|----------------|---------|
| None* | 0.903208 | 49.93758 | 29.7907 | 0.0001 |
| At most 1* | 0.785451 | 21.91532 | 15.49471 | 0.0047 |
| At most 2 | 0.249532 | 3.444694 | 3.84146 | 0.0635 |

Source: Authors calculation

Table 3 shows that there is long run relationship between gross domestic product per capita, value added tax and in the Republic of Serbia for the period 2004-2019. The result of Johansen cointegration test shows that these variables converge in the long-run.

Table 4: Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

| Hypothesized No. of CE(s) | Eigenvalue | Trace Statistic | Critical Value | Prob.** |
|---------------------------|------------|-----------------|----------------|---------|
| None* | 0.903208 | 28.02226 | 21.13162 | 0.0046 |
| At most 1* | 0.785451 | 18.47062 | 14.26460 | 0.0102 |
| At most 2 | 0.249532 | 3.44694 | 3.84146 | 0.0635 |

Source: Authors calculation

The long-run relationship exists at 5% level of significance according to the trace test statistics which implies that there is existence of long-run relationship between indirect taxes and gross domestic product per capita in the Republic of Serbia.

Table 5: Fully Modified Least Squares (FMOLS model)

| Variable | Coefficient | Std. Error | t-Statistic | Prrob. |
|--------------------|-------------|------------|-------------|--------|
| Δ VAT | 0.590405 | 0.147328 | 3.939530 | 0.0028 |
| Δ EXC | 0.587636 | 0.144250 | 4.073733 | 0.0022 |
| C | -0.011280 | 0.008642 | -1.305348 | 0.2210 |
| R-squared | | | 0.722609 | |
| Adjusted R-squared | | | 0.627131 | |
| S.E. of regression | | | 0.013487 | |
| Long-run variance | | | 0.000101 | |
| Mean dependent var | | | 0.031412 | |
| S.D. dependent var | | | 0.017819 | |
| Sum squared resid | | | 0.001819 | |

Source: Authors calculation

Table 5 shows Fully Modified Least Squares model which examined the long-run impact of value added tax and excises on gross domestic product per capita in the Republic of Serbia. From the FMOLS results above, the adjusted R-squared of 0.63 indicates that these variables jointly explain 62.71% variations in the gross domestic product per capita in the Republic of Serbia. The probability value of the individual explanatory variable reveals that value added tax and excises are statistically significant at level of 5%. Namely, in the long run, 1% increase of revenues by these taxes would rise gross domestic product per capita for 0.59% and 0.58%.

Conclusion

This research investigates the relationship between indirect taxes such as value added tax and excises and gross domestic product per capita in the Republic of Serbia for the period 2005 to 2019. The aim of this paper is to estimate the long-run relationship between these variables based on Johansen cointegration test.

The analysis includes descriptive statistics, unit root test, cointegration test, as well as, fully modified ordinary least squares model. Empirical results reveal long-run relationship between indirect taxes and gross domestic product per capita in the Republic of Serbia for the analyzed period. Empirical findings confirm that revenues of value added tax and excises have positive and statistically significant effect on economic growth measured by gross domestic product per capita in the long-run. Results of FMOLS model reflect that a 1% increase in revenues of indirect taxes increases GDPpc for 0.59% (in case of value added tax growth) and 0.58% (in case of excises growth). The contribution of the research is presented in fact that we have ensured the quantitative measurement of relationship between indirect taxes and gross domestic product per capita in the long-run. The paper has provided a better understanding of the relationship between this type of taxes and economic growth, as well as, their effect on gross domestic product per capita in the long-run.

References

- Alm, J., & El-Ganainy, A. (2012). Value-added taxation and consumption. *International Tax and Public Finance*, 20(1), 105-128. Doi: <https://doi.org/10.1007/s10797-012-9217-0>
- Andrašić, J., Kalaš, B., Mirović, V., Milenković, N., & Pjanić, M. (2018). Econometric modelling of tax impact on economic growth: Panel evidence from OECD countries. *Economic Computation and Economic Cybernetics Studies and Research*, 52(4), 211-226. Doi: <https://doi.org/10.24818/18423264/52.4.18.14>
- Benkovskis, K., & Fadejeva, L. (2014). The effect of VAT rate on inflation in Latvia: evidence from CPI microdata. *Applied Economics*, 46(21), 2520–2533. Doi: <https://doi.org/10.1080/00036846.2014.904492>
- Castañeda Rodríguez, V. M. (2018). Tax determinants revisited. An unbalanced data panel analysis. *Journal of Applied Economics*, 21(1), 1–24. Doi: <https://doi.org/10.1080/15140326.2018.1526867>
- Dobranchi, M., & Nerudová, D. (2018). Tax collision: the effect of VAT and excise duties on the retail price of unleaded gasoline. *Ekonomický časopis*, 66(7), 643-664.
- Durusu-Ciftci, D., Gokmenoglu, K. K., & Yetkiner, H. (2018). The heterogeneous impact of taxation on economic development: New insights from a panel cointegration approach. *Economic Systems*, 42(3), 503–513. Doi: <https://doi.org/10.1016/j.ecosys.2018.01.001>
- Feher, A., Condea, B.V. & Harangus, D. (2019). Impact of harmonization on the implicit tax rate of consumption. *Prague Economic Papers*, 28(4), 449-464. Doi: <https://doi.org/10.18267/j.pep.705>
- Grdinić, M., Drezgić, S., & Blažić, H. (2017). An empirical analysis of the relationship between tax structures and economic growth in CEE countries. *Ekonomický časopis*, 65(5), 426-447.
- Hodžić, S., Keček, D., & Mikulić, D. (2018). Sectoral linkages of taxes: An input-output analysis of the Croatian economy. *Ekonomický časopis*, 66(6), 598-620.
- Iyidoğan, P., Balıkcioğlu, E., & Yılmaz, H. (2017). The tax effects of health expenditures on aging economies: empirical evidence on selected OECD countries. *Romanian Journal of Economic Forecasting*, 20(1), 116-127.
- Kalaš, B., & Milenković, N. (2017). The role of value added tax in the economy of Serbia. *Ekonomika*, 63(2), 69-78.
- Kalaš, B., Mirović, V., & Andrašić, J. (2018). Empirical analysis of value added tax and inflation rate: Tuckey's HSD test in selected Western Balkan countries. *Ekonomika*, 64(2), 99-109.
- Laković, T., Mugoša, A., Čizmović, M., & Radojević, G. (2019). Impact of taxation policy on household spirit consumption and public-finance sustainability. *Sustainability*, 11(20), 1-15. Doi: <https://doi.org/10.3390/su11205858>

- Li, J.F., & Lin, Z.X. (2015). The impact of sales tax on economic growth in the United States: an ARDL bound testing approach. *Applied Economic Letters*, 22(15), 1262-1266. Doi: <https://doi.org/10.1080/13504851.2015.1023933>
- Loganathan, N., Taha, R., Ahmad, N., & Subramaniam, T. (2017). Taxation, growth and the stock traded nexus in emerging Asian countries: heterogeneous and semi-parametric panel estimates. *Economic Research-Ekonomska istraživanja*, 30(1), 566-580. Doi: <https://doi.org/10.1080/1331677x.2017.1305789>
- Luong, L. & Vu, L.H. (2020). Impacts of excise taxation on non-alcoholic beverage consumption in Vietnam. *Sustainability*, 12(3), 1-13. Doi: <https://doi.org/10.3390/su12031092>
- McNabb, K. (2018). Tax structure and economic growth: new evidence from the government revenue dataset. *Journal of International Development*, 30(2), 173-205. Doi: <https://doi.org/10.1002/jid.3345>
- Milasi, S. & Waldmann, R.J. (2017). Top marginal taxation and economic growth. *Applied Economics*, 50(19), 2156-2170. Doi: <https://doi.org/10.1080/00036846.2017.1392001>
- Phillips, P. C. B., & Hansen, B. E. (1990). Statistical inference in instrumental variables regression with I(1) processes. *Review of Economics Studies*, 57(1), 99-125. Doi: <https://doi.org/10.2307/2297545>
- Prichard W, Goodall A, & Cobham A. (2014). *The ICTD Government Revenue Dataset*. In: ICTD Working Paper 19. International Centre for Tax and Development: Brighton.
- Sanz-Sanz, J. F., Castañer-Carrasco, J. M., & Romero-Jordán, D. (2016). Consumption tax revenue and personal income tax: analytical elasticities under non-standard tax structures. *Applied Economics*, 48(42), 4042-4050. Doi: <https://doi.org/10.1080/00036846.2016.1150951>
- Simionescu, M., & Albu, L.L. (2016). The impact of standard value added tax on economic growth in CEE-5 countries: econometric analysis and simulations. *Technological and Economic Development of Economy*, 22(6), 850-866. Doi: <https://doi.org/10.3846/20294913.2016.1244710>
- Streimikiene, D., Raheem Ahmed, R., Vveinhardt, J., Ghauri, S. P., & Zahid, S. (2018). Forecasting tax revenues using time series techniques – a case of Pakistan. *Economic Research-Ekonomska Istraživanja*, 31(1), 722-754. Doi: <https://doi.org/10.1080/1331677x.2018.1442236>
- Urban, I. Čok, M., & Verbič, M. (2019). The burden of labour taxation in Croatia, Slovenia and Slovakia in the period 2011-2017. *Economic Research-Ekonomska istraživanja*, 32(1), 1430-1456. Doi: <https://doi.org/10.1080/1331677X.2019.1638291>
- Xing, J. (2011). Tax structure and growth: How robust is the empirical evidence? *Economic Letters*, 117(1), 379-382. Doi: <https://doi.org/10.1016/j.econlet.2012.05.054>

Analysis of the prevalence of strategic management accounting techniques and the level of development of the cost system in large companies in Bosnia and Herzegovina

Анализа заступљености техника стратешког управљачког рачуноводства и нивоа развијености трошковног система у великим босанскохерцеговачким компанијама

Srdjan Lalic

University of East Sarajevo, Faculty of Economics, Republika Srpska, Bosnia and Herzegovina,
srdjan.lalic.efb@gmail.com

Amra Gadžo

University of Tuzla, Faculty of Economics, Bosnia and Herzegovina, amra.gadzo@untz.ba

Benina Veledar

University of Sarajevo, School of Economics and Business, Bosnia and Herzegovina,
benina.veledar@efsa.unsa.ba

Abstract: The paper has two research goals. The first goal is to investigate the prevalence of certain techniques of strategic management accounting in large companies in Bosnia and Herzegovina (hereinafter BiH), while the second research goal is to analyze the dependence of the number of strategic management accounting techniques used and the degree of development of the cost system in the company. For the purposes of this research, we collected survey questionnaires from 110 large companies based in BiH. The results of the research show that the three most common techniques of strategic management accounting in large companies in BiH are: Quality Costing (52.73%), Strategic Pricing (51.82%) and Benchmarking (50.91%), while the least common techniques are: Life Cycle Costing (11.82%), Attribute Costing and Integrated Performance Management Systems (with 12.73% each), and Activity Based Costing/ Management (17.27%). One-way analysis of variance (ANOVA) tested the differences in the number of strategic management accounting techniques used and the level of development of the cost system in companies. Companies that applied on average two techniques of strategic management accounting belonged to the first level of development, those that applied on average four techniques belonged to the second level of development, while companies that have the third level of cost system development on average applied six techniques of strategic management accounting. There were no companies in the sample with the fourth and fifth level of development of the cost system.

Keywords: strategic management accounting, representation of techniques, level of development of the cost system, Bosnia and Herzegovina

JEL classification: M40, M41

Сажетак: Рад има два циља истраживања. Први циљ је истражити преваленцију одређених техника стратешког управљачког рачуноводства у великим компанијама у Босни и Херцеговини (БиХ). Други циљ

истраживања је анализирање зависности броја коришћених техника стратешког управљачког рачуноводства и степена развијености трошковног система у предузећу. За потребе овог истраживања прикупљени су анкетни упитници у 110 великих компанија са седиштем у БиХ. Резултати истраживања показују да су три најчешће технике стратешког управљачког рачуноводства у великим компанијама у БиХ: *Quality Costing* (52,73%), *Strategic Pricing* (51,82%) и *Benchmarking* (50,91%), док су најмање уобичајене технике: *Life Cycle Costing* (11,82%), *Attribute Costing* и *Integrated Performance Management Systems* (са по 12,73%) и *Activity Based Costing/ Management* (17,27%). Једносмерном анализом варијансе (АНОВА) тестиране су разлике у броју коришћених техника стратешког управљачког рачуноводства и нивоа развијености трошковног система у компанијама. Компаније које су примењивале у просеку две технике стратешког управљачког рачуноводства припадале су првом степену развоја, оне које су примењивале у просеку четири технике припадале су другом степену развоја, док су у просеку шест техника стратешког управљачког рачуноводства примењивала предузећа која имају трећи ниво развијености трошковног система. У узорку није било предузећа са четвртим и петим нивоом развијености трошковног система.

Кључне речи: стратешко управљачко рачуноводство, заступљеност техника, ниво развијености трошковног система, Босна и Херцеговина

ЈЕЛ класификација: М40, М41

Introduction

Strategic management was created as a result of the increased interest of management to get to know the external environment in which the company operates. Such a shift in focus from the internal to the external environment has resulted in the emergence, development and refinement of the strategic dimension of governance. Strategic management is achieved through a set of business decisions aimed at long-term management of company profitability. Profitability management is based on the chosen market strategy and the creation of competitive advantages. And for that to happen, a company must be able to know well the internal processes, costs, value chain, and drivers of its performance. That is, in order to realize strategic management, management decisions must be based on relevant and timely accounting information. This part of the accounting activity is known as Strategic Management Accounting (hereinafter SMA). SMA instruments for strategic planning, control and performance measurement, we objectify through strategic business decision making, are based on a number of associated strategic management accounting techniques. The number of adopted techniques of SMA depends primarily on the needs of management, which also forms the backbone of the development of the company's cost system.

1. Literature review

SMA is an accounting and organizational solution for the formation of a relatively independent, strategically appropriate, accounting and information database and strategic management calculation aimed at top management of the company, to select, develop, implement, control and change competitive strategies (Janjic, 2006: 113). The official definition of SMA, published in 2005 by the Chartered Institute of Management Accountants (hereinafter CIMA), defines SMA as a form of management accounting in which the emphasis is on information linking external factors to the firm, non-financial information and internally generated information (Drury, 2008: 570). Starting from such an

understanding of SMA, its market orientation stands out in the foreground. Therefore, in the professional literature there are also alternative names for this part of management accounting, such as market-oriented and market-driven accounting.

A large number of authors have confirmed through their research that companies must adopt various innovative SMA techniques if they are to survive in the market (Simmonds, 1981; Shank, 1989; Bromwich, 1996; Roslender, 1995; Kaplan & Norton, 1992, and others). Also, a large number of authors have argued that a similar level of enterprise performance can be achieved using different business strategies and different designs of management accounting techniques used (Miles, et al. 1978; Bensaou & Venkatraman, 1995; Marlin, Ketchen, Lamont, 2007; Short, Payne, Ketchen, 2008). Authors Cinquini and Tenucci (2010) based on a survey conducted on a large sample of companies in Italy confirmed that companies (regardless of the type of business strategy) mostly use management accounting information regarding costs, customers and competition. It was concluded that there are no differences between business strategies and the SMA techniques used, and that the same techniques can support different business approaches of companies.

In their reports to CIMA, Bromwich & Bhimani (1989; 1994), emphasize the importance of qualitative and non-financial measures for the management of manufacturing enterprises. According to research by Akenbor & Okoye (2013), SMA improves the competitive advantage of manufacturing companies. The results of the research by Gadžo & Lalić (2019) confirmed that there is a direct link between the level of development of cost systems of manufacturing companies in the Federation of Bosnia and Herzegovina and the business performance of companies. It is also important to emphasize that the management accounting function in BiH companies is not sufficiently developed (Puškarević & Gadžo 2014a, Puškarević & Gadžo 2014b). According to Milićević (2003: 429), the SMA must make an effort to make life information about the costs and benefits of product attributes, i.e. everything that makes the product attractive to potential customers and to enable the identification of certain functions in the company's value chain which increase the values for the end user who is willing to buy the company's products because of them.

According to research in Croatia, Ramljak & Rogošić (2012), it has been proven that the implementation of more than one technique provides a better insight into activities that do not add value, which leads to better cost control. The authors conclude that firms looking to increase their market share and profitability rate need to adopt more sophisticated SMA practices.

The CIMA research in the paper "Management Accounting in Support of the Strategic Management Process", resulted in the following most significant conclusions:

- Accounting information is significantly used in the process of making strategic decisions and formulating organizational strategy. However, a large number of respondents stressed that decisions are made not only on the basis of quantitative

accounting information, but also on the basis of other available information. The most common strategic decisions include decisions about prices, business and market development, new product development, and decisions on mergers and acquisitions.

- The most commonly used management accounting techniques are: target costing, net present value, cost-benefit analysis, benchmarking and customer profitability. At the same time, the most popular technique is the analysis of customer profitability. However, it is not based on an adequate scientific basis. No modern techniques are used to allocate indirect costs to customers. The focus is on customer classification and price difference control. Those who use ABC use it in a simplified measure, only to allocate indirect costs by product. Within benchmarking, the position of companies within the branch of activity, who the competitors are, and the products and prices they offer are mainly measured.

2. Research objectives

The first objective of the research is to determine the presence of certain techniques of SMA in large companies in BiH. Here it is necessary to emphasize that the representation of certain techniques of SMA directly depends on the affiliation of the company in the sample to certain industries. Therefore, when forming the research sample, care was taken about the percentage of companies from the production, service and trade activities.

The second research objective is to analyze the dependence of the number of SMA techniques used and the level of development of cost systems for companies. Our goal is to investigate how many SMA techniques are used by companies with different levels of cost system development.

3. Research methodology

Research of the prevalence of certain SMA techniques first required the creation of a research sample of large companies separately for the Federation of Bosnia and Herzegovina (hereinafter FBiH) and the Republic of Srpska (hereinafter RS). The reasons are significant inequality in the number of large enterprises by individual structural activities in FBiH and RS. The classification of companies into large ones is based on the currently valid criteria from the Law on Accounting and Auditing of FBiH and RS. Data collection was conducted by survey. Although the number of surveyed legal entities was 168, due to the need to unify the structure of activities, the final sample consisted of 110 large companies (67 from FBiH and 43 RS).

For the purpose of researching the dependence of the application of SMA techniques and the level of development of the cost system of enterprises, we first had to classify enterprises according to the level of development of cost systems. In this process, we relied on a multiphase model of cost systems development set up by Robin Cooper and Robert Kaplan (1991; 1999). Their four-phase model was subsequently upgraded by Gary Cokins (2001). We published a detailed explanation of the methodology for classifying the level of development of the cost system in the paper (Gadžo & Lalić, 2019). The classification of

the level of development of the cost system was made on the basis of four criteria: data quality, quality of external financial reporting, structure of cost allocation by cost center and quality of operational/ strategic control (Figure 1).

Figure 1. Classification criteria for cost system development

| System Aspects | Stage 1 Broken | Stage 2 Financial reporting driven | Stage 3 Customized / stand-alone | Stage 4 Integrated | Stage 5 Decision Support |
|---------------------------------------|--|--|--|---|--|
| Data Quality | <ul style="list-style-type: none"> • Many errors • large variances | <ul style="list-style-type: none"> • No surprise • meets audit standards | <ul style="list-style-type: none"> • Shared databases • stand-alone systems • informal linkages | <ul style="list-style-type: none"> • Fully linked databases and systems | <ul style="list-style-type: none"> • Fully linked databases and systems |
| External Financial Reporting | <ul style="list-style-type: none"> • Inadequate | <ul style="list-style-type: none"> • tailored to financial reporting need | <ul style="list-style-type: none"> • Stage 2 System for financial transactions and periodic reporting | <ul style="list-style-type: none"> • financial reporting systems | <ul style="list-style-type: none"> • financial reporting systems |
| Product/ Customer Costs | <ul style="list-style-type: none"> • Inadequate | <ul style="list-style-type: none"> • inaccurate • hidden costs and profits | <ul style="list-style-type: none"> • PC-based ABC models | <ul style="list-style-type: none"> • integrated ABC/M systems | <ul style="list-style-type: none"> • integrated ABC/M systems • predictive costing |
| Operational/ Strategic Control | <ul style="list-style-type: none"> • Inadequate | <ul style="list-style-type: none"> • financial feedback only • delayed/ aggregated | <ul style="list-style-type: none"> • Kaizan costing; pseudo profit centers, timely non-financial | <ul style="list-style-type: none"> • Operational & Strategic Performance measurement systems | <ul style="list-style-type: none"> • Operational & Strategic predictive scenario • links to scorecards |

Source: Cokins, 2001. The upgrade of the four-phase cost system development by Cooper & Kaplan (1991)

Within our research, we asked a series of questions for each criterion, which, in the end, represent the level of development of an individual criterion. Enterprise classification by level of cost system development, by all four criteria, we have conducted using the Artificial Neural Networks –ANN. It is an adaptive statistical model for data processing inspired by structure and activity of a biological nervous system. ANN has conducted mapping between input-output from connections that have been presented to them in sets of data during training of the network. These sets of data have included a matrix of 200 possible variations in given answers, classified by levels of cost system development. We created a feedforwardnet neural network with 20 neurons in the hidden field. Classification of data for training, validation and testing is random. The network uses 60% of data for training, and 20% for validation and 20% for testing. When training, the network uses Levenberg-Marquardt algorithm, and it works through Mean Squared Error method. Lavenberg-Marquardt algorithm serves for finding optimal solution of an overdetermined system of non-linear equations in the last-square sense. Following the results, we used one-way analysis of variance (ANOVA) to test the difference in the number of SMA techniques used and the level of development of the cost system.

4. Research results and discussion

4.1. Prevalence of SMA techniques

The results of the research on the representation of certain SMA techniques are presented in Table 1. The research shows that the three most common SMA techniques in large BiH companies are: Quality Costing (52.73%), Strategic Pricing (51.82%) and Benchmarking (50.91%), while the least represented techniques are: Life Cycle Costing (11.82%), Attribute Costing and Integrated Performance Management Systems (with 12.73% each), and Activity Based Costing/ Management (17.27%).

Table 1. Prevalence of SMA techniques

| Management accounting methods | No of companies | % in sample |
|---|-----------------|-------------|
| Activity Based Costing | 19 | 17.27 |
| Attribute Costing | 14 | 12.73 |
| Benchmarking | 56 | 50.91 |
| Competitive Position Monitoring | 45 | 40.91 |
| Competitor Cost Assessment | 34 | 30.91 |
| Competitor Performance Appraisal on public financial statements | 23 | 20.91 |
| Customer-focused Accounting | 35 | 31.82 |
| Integrated Performance Management Systems | 14 | 12.73 |
| Life Cycle Costing | 13 | 11.82 |
| Quality Costing | 58 | 52.73 |
| Strategic Costing | 52 | 47.27 |
| Strategic Pricing | 57 | 51.82 |
| Value Chain Costing | 22 | 20.00 |

Source: Authors' processing

The participation of certain SMA techniques in BiH, the presence of SMA techniques indicates the struggle for survival in the market through quality management and strategic pricing with corrective actions resulting from observation and comparison with competitors. In general, large companies in BiH use only four SMA techniques on average (Table 2).

Table 2. Descriptive statistics on SMA techniques used

| Sectors | n | F | Average | Min | Max | St.Dev |
|---------------|-----|-----|---------|-----|-----|--------|
| Manufacturing | 47 | 210 | 4.468 | 1 | 10 | 1.282 |
| Merchandising | 33 | 139 | 4.212 | 1 | 8 | 1.916 |
| Services | 30 | 93 | 3.100 | 1 | 7 | 1.373 |
| Total | 110 | 442 | 4.018 | | | 1.524 |

Source: author's processing

Companies in the field of manufacturing industry, which are in the sample structure and the most numerous, have the highest value of the frequency of use of various SMA techniques, and the average number of techniques used of 4.47. On the other hand, the

lowest number of used SMA techniques is recorded in the service sector, where the total frequency of used techniques is 93, and the average number of used techniques is 3.1.

4.2. Analysis of the dependence of the number of applied SMA techniques and the level of development of the cost system

According to the methodology for assessing the degree of development of cost systems in BiH companies, in a sample of 110 companies we had that 58.18% of them belong to the second level of cost system development, 28.18% to the third level of cost system development and 13.64% have the first level of cost system development. There were no companies in the sample with the fourth and fifth level of cost system development.

One-way analysis of variance (ANOVA) tested the differences in the number of users of SMA techniques applied by companies and identified three levels of development of enterprise cost systems in the sample. Companies that applied on average two techniques of SMA belonged to the first level of development, while the second level of development belonged to companies that applied on average four techniques of SMA. On average, six techniques were applied by companies that belonged to the third level of development of the cost system. The differences are statistically significant with a probability of $p < 0.000$ ($F = 8.270$), which is shown in Table 3. Based on the results we can say that companies that apply a number of SMA techniques have a higher level of cost system development in the company, and vice versa (Graph 1).

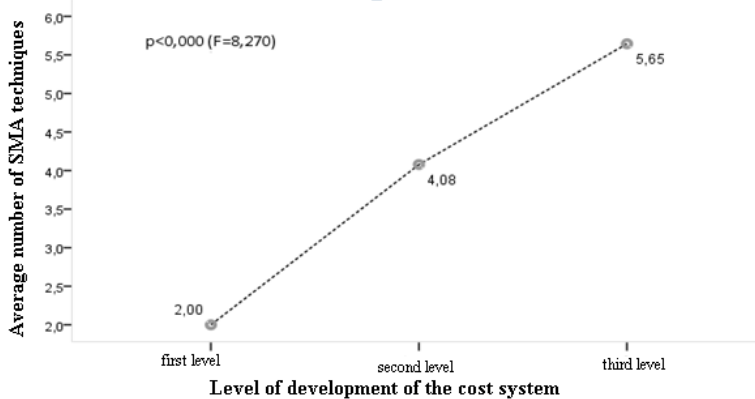
Table 3. Average number of SMA techniques according to the levels of development of the cost system

| | n | Mean | SD | 95% CI for Mean | | F | p |
|--------------|----|------|------|-----------------|-------------|-------|-------|
| | | | | Lower Bound | Upper Bound | | |
| First level | 15 | 2.00 | 2.24 | 0.76 | 3.24 | | |
| Second level | 64 | 4.08 | 3.31 | 3.25 | 4.91 | 8.270 | 0.000 |
| Third level | 31 | 5.65 | 2.11 | 4.87 | 6.42 | | |

Mean-arithmetic mean, *SD*-standard deviation, *n*-sample size, *95% CI*-confidence interval for arithmetic mean with 95%, *F*-Fisher F test (ANOVA), *p*-probability of rejecting the null hypothesis with a risk of 5%

Source: the authors' processing

Graph 1. Positions of the average number of accounting instruments and techniques according to the stages of development of the accounting system



Source: author's processing

Looking at the trend line, it is to be expected that companies that have higher levels of development of the accounting cost system also have a more developed management accounting function and use a larger number of tools and techniques in the process of creating accounting information.

Conclusion

Based on the conducted research, the most common techniques of SMA in large companies in BiH are: Quality Costing (52.73%), Strategic Pricing (51.82%) and Benchmarking (50.91%), while the least common techniques are: Life Cycle Costing (11.82%), Attribute Costing and Integrated Performance Management Systems (12.73% each), and Activity Based Costing/ Management (17.27%). On average, all companies in the sample use 4 SMA techniques, with the average number of techniques used in manufacturing companies 4.47, in merchandising companies 4.21, while in the service sector it is 3.1.

Companies that applied on average two techniques of SMA belonged to the first level of development, those that applied on average four techniques belonged to the second level of development, while companies that have the third level of cost system development on average applied six techniques of SMA. There were no companies in the sample with the fourth and fifth level of cost system development.

In future research, it would be good to do a regional survey on the levels of development of cost systems in companies by different sizes and industries to which they belong, the frequency of use of certain techniques of SMA and selected market positioning strategies. It is recommended to compare the dependence of these variables at the level of the countries of Southeast Europe. A similar research study has never been conducted before.

References

- Akenbor, C. & Okoye, E (2012). The adoption of strategic management accounting in Nigerian manufacturing firms. *AFRREV IJAH: An International Journal of Arts and Humanities*, 1(3), 270-287.
- Bensaou, M., & Venkatraman, N. (1995). configurations of interorganizational relationships: a comparison between U.S. and Japanese automakers. *Management Science*, 41, 1471-1492. Doi: <https://doi.org/10.1287/mnsc.41.9.1471>
- Bromwich, M., & Bhimani, A. (1994). *Management Accounting: Pathways to Progress*. London: The Chartered Institute of Management Accountants.
- Bromwich, M. (1996). *Strategic Management Accounting in Management Accounting Handbook*. In: Drury, C. (Ed). The Chartered Institute of Management Accountants, pp.203-227.
- Bromwich, M., & Bhimani, A. (1989). *Management Accounting: Evolution not Revolution*. London: The Chartered Institute of Management Accountants.
- Chartered Institution for Managerial Accountants (CIMA) (2015). *Management accounting in Support of the Strategic Management process*. Available at: <https://www.cimaglobal.com/Research--Insight/Management-accounting-in-support-of-the-strategic-management-process/> (Accessed on 04/10/2020)
- Cinquini, L., & Tenucci, A. (2010). Strategic management accounting and business strategy: a loose coupling?. *Journal of Accounting & Organizational Change*, 6(2), 228-259. Doi: <https://doi.org/10.1108/18325911011048772>
- Cokins, G. (2001). *Activity-Based Cost Management*. USA: John Wiley & Sons, Inc.
- Cooper, R., & Kaplan, R. (1991). *The Design of Cost Management Systems*, 2ed. USA: Prentice Hall, Inc.
- Drury, C. (2008). *Management and Cost Accounting*. 7-th ed. UK: Path Bond.
- Gadžo, A., & Lalić, S. (2019). Researching impact of cost system genesis on profitability level of manufacturing enterprises. In Šimurina, Načinović Braje, Pavić (Eds.), *Proceedings of FEB Zagreb 10th International Odyssey Conference on Economics and Business*, pp.570-583. <https://doi.org/10.22598/odyssey/2019.1>
- Janjić, V. (2006). Strategijsko upravljačko računovodstveni balansna karta rezultata. *Ekonomski horizonti*, 1-2, 113-133.
- Kaplan, R. S., & Norton, D. P. (1992). The balanced scorecard: measures that drive performance. *Harvard Business Review*, 71-79.
- Marlin, D., Ketchen, D.J., & Lamont, B. (2007). Equifinality and the strategic groups—performance relationship. *Journal of Managerial Issues*, 19(2), 208-232.

Miles, R.E., Snow, C.C., Meyer, A.D., & Coleman, H.J. (1978). *Organizational strategy, structure and process*. New York: McGraw-Hill.

Milićević, V. (2003). *Strategijsko upravljачko računovodstvo*. Beograd: Ekonomski fakultet – Centar za izdavačku delatnost.

Puškarović, S., & Gadžo, A. (2014). (Dys) functionality of accounting cost systems in manufacturing companies of Tuzla canton. *Ekonomski vjesnik*, 27(2), 409-422.

Ramljak & Rogošić (2012). Strategic management accounting practices in Croatia. *The Journal of International Management Studies*, 7(2), 93-100.

Roslender, R. (1995). Accounting for strategic positioning: responding to the crisis in management accounting. *British Journal of Management*, 6(1), 45-57. Doi: <https://doi.org/10.1111/j.1467-8551.1995.tb00085.x>

Puškarović, S., & Gadžo, A. (2014b). Place of accounting information in business decision making within Tuzla Canton companies. *TEM Journal*, 3(1), 68.

Shank, J. K. (1989). Strategic cost management: new wine or just new bottles. *Journal of Management Accounting Research*, 1, 47-65. Available at: https://www.academia.edu/956538/Strategic_cost_management_new_wine_or_just_new_bottles (accessed on 1st February 2020).

Short, J.C., Payne G.T., & Ketchen D.J. (2008). Research on organizational configurations: past accomplishments and future challenges. *Journal of Management*, 34(6), 1053-1080. Doi: <https://doi.org/10.1177%2F0149206308324324>

Simmonds, K. (1981). Strategic management accounting, *Management Accounting*, 59(4), 26–29 .

The impact of financial performance on workplace bullying and mistreatment in Serbian organizations

Утицај финансијских перформанси на мобинг и малтретирање на радном месту у организацијама у Србији

Sanja Stankov, PhD Student

University of Novi Sad, Technical Faculty "Mihajlo Pupin", Zrenjanin, Serbia, sssanja89@gmail.com

Jasmina Poštin*

University "Union - Nikola Tesla", Beograd, "Faculty of Management", Sremski Karlovci, Serbia, famzr.edu@gmail.com

Marko Konjikušić

University "Union - Nikola Tesla", Beograd, "Faculty of Management", Sremski Karlovci, Serbia, markozr1979@yahoo.com

Aleksandra Jagodić Rusić

University "Business Academy", Faculty of Economics and Engineering Management, Novi Sad, Serbia, aleksandra@aio.rs

Daliborka Mičić

University "Union - Nikola Tesla", Beograd, "Faculty of Management", Sremski Karlovci, Serbia, micicdaliborka@gmail.com

Abstract: This paper presents the results of research into the impact of organizational financial performance items (and financial performance dimension) on workplace bullying and mistreatment. The research was conducted in organizations in Serbia, and the respondents were employees in these organizations. A total of 536 questionnaires were collected, which were valid for further analysis. The results showed that most of the observed financial performance items did not have a statistically significant impact on workplace bullying in organizations. However, the item Salaries; statistically significantly, strongly and negatively affects all observed workplace bullying dimensions and self-labelling (mistreatment) items. Thus, low employee salaries provide fertile ground for the development of workplace bullying. Conversely, with an increase in employee salaries, there is a decrease in all aspects of workplace bullying. The paper gives explanations for these phenomena. It is important for leaders and managers in business organizations to know the processes and relationships researched here. Special care should be taken in conditions of unfavourable organizational financial performance, and especially low salaries of employees.

Keywords: Organizational financial performances, Salaries, Workplace bullying, Mistreatment, Serbia.

JEL classification: D23, J50, J70.

Сажетак: У раду су приказани резултати истраживања утицаја ајтема организационих финансијских перформанси (и димензије финансијских перформанси) на мобинг и малтретирање на радном месту. Истраживање је реализовано у организацијама у Србији, а испитаници су били запослени у овим

* Corresponding author

организацијама. Сакупљено је укупно 536 упитника, који су били валидни за даље анализе. Резултати су показали да већина посматраних ајтема финансијских перформанси нема статистички значајан утицај на мобинг у организацијама. Међутим, ајтем Плате статистички значајно, снажно и негативно утиче на све посматране димензије мобинга и ајтем малтретирање. Дакле, ниске зараде запослених представљају плодно тло за развој мобинга. Супротно томе, са повећањем плата запослених, долази до смањења свих аспеката мобинга. У раду су дата образложења за ове појаве. За лидере и менаџере у пословним организацијама је важно да познају овде истраживане процесе и релације. Посебан опрез треба да постоји у условима неповољних организационих финансијских перформанси, а нарочито ниских зарада запослених.

Кључне речи: Организационе финансијске перформансе, плате, мобинг, малтретирање, Србија.

ЈЕЛ класификација: D23, J50, J70.

Introduction

Over two decades of international research has provided sufficient evidence of the negative effects of workplace bullying on employees and the organizations in which they work. Workplace bullying is today considered one of the most harmful stressors in modern work life (Niedhammer et al., 2013) and is defined as a global interest phenomenon (Nielsen & Einarsen, 2018). Bullying is a long-term aggression directed at a person who is unable to defend himself/herself, which leads to the victimization of that person. The victim, who is unable to escape from the social situation and thus, his tormentor, is exposed to escalating harassment leading to loss of self-esteem and a gradual increase in mental stress (Björkqvist et al., 1994). Björkqvist, Österman and Hjelt-Bäck (1994) note that it is important to keep in mind that harassment does not start with the victim, but with the attacker, so without the attacker there would be no harassment.

Brodsky (1976) presents perspectives on psychological injuries at work, addressing the problems: Who is responsible for harassing workers? What is the statistical evidence of harassment? How can the harassment system change? Brodsky (1976) reports three sources of harassment: (1) by humans, (2) work pressure, and (3) by the system. He gives examples of his theory, describing a series of cases in which employees at all organizational levels claimed to have been harassed by superiors or colleagues, resulting in destructive effects on their productivity, health and well-being. However, this pioneering examination of harassment at Brodsky's work did not attract significant attention at that time. The first scientific paper on the concept of harassment at work, published in 1989 in Norwegian (Matthiesen et al., 1989), studied the extent and frequency of harassment in the workplace, reports of harassment, and the effects of abuse on mental and physical health and job satisfaction. The studies of the Swedish psychologist and psychiatrist, of German descent Leymann, whose major works appeared in the early 1980s, are important. His first major article on workplace bullying (Leymann, 1990a) discusses targeting the employee and subjecting the employee to psychological harassment, while one of his more important contributions was the development of one of the first questionnaires for examining workplace bullying - the Leymann Inventory of Psychological Terror (LIPT.) (Leymann, 1990b).

Dealing with workplace bullying can be especially difficult where it is accepted as part of organizational culture. Thus, organizational culture has been identified as a possible cause of workplace bullying (Rayner et al., 2002; Hoel & Salin, 2003). Workplace bullying has a greater potential to occur in organizations with a culture that allows or rewards such behaviour (Brodsky, 1976). In organizations where there is an established clear policy, code of ethics, clearly defined responsibilities and authorities, it will be more difficult for violence to occur. However, in any case and situation, it is important to stop the violence at the earliest stage. Abuse leads to several adverse outcomes for organizations (Hoel et al., 2003), such as: reduced organizational efficiency, which may be partly due to the increased intention to leave the organization (Djurkovic et al., 2006), and then the need for the organization to deal with complaints, investigations, disputes, as well as poor publicity (Hoel et al., 2003). However, above all, abuse primarily leads to negative influences and psychosomatic symptoms on victim (Djurkovic et al., 2004). As the effects of abuse do not stop at the victim alone, it further harms the victim's family and friends, as well as witnesses to the abuse (Hoel et al., 2002; Rayner et al., 2002). Various social factors can make the workplace prone to violence.

What is particularly important for this work is linking organizational performance and workplace bullying. Studies (Sheehan et al., 1998; McCarthy & Barker, 2000) reveal poorer work performance of employees who have experienced workplace bullying, and this specifically includes reports of reduced productivity, efficiency, lower performance, and quality of work. Workplace bullying is associated with absenteeism followed by reduced productivity (Magee et al., 2017). Empirical evidence between workplace bullying and productivity is scarce, in part because it is difficult to measure productivity, except in self-reporting studies, where respondents observe changes in organizational performance due to abuse (Hoel et al., 2010). A moderate negative correlation was found between self-assessed performance and abuse (Hoel et al., 2001). Finally, there is no doubt that harassment at work seriously damages organizational performance. If an official procedure or a court case is initiated, the loss of time and energy is huge. If these processes reach the public eye, the image of the organization suffers great damage. This is even more important if we keep in mind that some research in Serbia (Aničić et al., 2020; Vojteski-Kljenak et al., 2019) shows that, in general, it is very important to provide efficiently manage revenues, costs, profits, assets, and financial structure in order to improve the organizational performance of companies.

The aim of this paper is to examine whether organizational financial performance has an impact on workplace bullying and mistreatment, and if so, what is the direction of that impact. In other words, the question arises: does the success of the organization and its good financial results increase the pressure on employees, competition among colleagues, and thus create conditions for more explicit workplace bullying, or does it actually happen when the success of the organization is low, so there are fears of losing jobs, salary cuts, etc.? A similar dilemma arises in the recent work (Salin & Notelaers, 2020), where the direction of the impact of high-performance work practices (HPWPs) on workplace bullying is examined. The results showed that HPWPs reduced the risk of workplace bullying. This is a challenge for research in which HPWPs are described as a factor for

stress and burnout (Kroon et al., 2009; Ogbonnaya & Messersmith, 2019; Zhang et al., 2013), and also as a factor for abuse and workplace bullying (Ashkanasy et al., 2016; Lewis & Rayner, 2003; Salin & Hoel, 2011; Samnani & Singh, 2014). Salin and Notelaers (2020) conclude that “a more nuanced discussion” on this topic is necessary. In that sense, this paper can be accepted as a contribution to this discussion, which is, practically, just open. The impact of certain organizational financial performance items on workplace bullying dimensions and mistreatment item was examined in organizations in Serbia. This paper presents the results of that research, as well as their discussion.

1. Theory and hypothesis

1.1. The relationship of power and victim traits

Workplace bullying can be seen as an unresolved social conflict, which has reached a high level of escalation and which involves an imbalance of power between the parties (Zapf & Gross, 2001). Einarsen, Hoel, Zapf and Cooper (2010) talk about predator abuse, where the victim has done nothing provocative that can justify the perpetrator's behaviour, and only by coincidence finds himself in a situation where the predator abuses power, or exploits the weakness of someone who accidentally became victim. Sources of power for the perpetrator, in relation to the victim, can be: higher hierarchical position, better access to resources in the organization, belonging to a privileged group of employees and the possibility of using other people as “performers” of abuse (Tehrani, 2012).

There has been much speculation about whether personality traits that are typical of victims can be identified. According to (Björkqvist et al., 1994), anyone can become a victim, but provided that the individual has less power than the attacker. One of the reasons why the victim has fewer opportunities to defend himself or herself in the workplace is usually of a hierarchical-organizational nature, for example, when a person in a higher position harasses a subordinate or when a group of employees wants to get rid of a competitor (Leymann, 1992). While some have characterized victims as introverted, conscientious, literal, who reflect a bad self-image, and are occasionally successful (Matthiesem & Einarsen, 2001), other authors suggest that there is no difference between victims and non-victims, and that the question of who will become victim to workplace bullying is entirely a matter of chance and unfortunate circumstances (Leymann, 1992).

It should also be kept in mind here that what one person may see as abusive behaviour does not necessarily mean that the other person would experience the same (Coyne et al., 2004). Thus, Painter (1991) states that any assessment of abusive behaviour should take into account the subjective assessment factor.

1.2. Some of the consequences of workplace bullying

The intention to leave the organization. Among the potential organizational outcomes of workplace harassment, turnover was particularly interesting for researchers. Numerous studies have shown a positive relationship between harassment in the workplace, intention to leave the organization and turnover (Quine 1999; Hoel & Cooper, 2000; Djurkovic et al., 2004). A study in Ireland (O'Connell et al., 2007) has shown that 60% of respondents exposed to workplace bullying considered leaving the organization, while 15% actually did so. Although "the intention to leave an organization" is considered a key predictor of turnover (Begley, 1998), Hoel, Sheehan, Cooper and Einarsen (2010) note that, with a few exceptions, most studies focus on research of "the intention to leave an organization", and not on the actual turnover or giving up the work. A longitudinal study, conducted in Norway (Berthelsen, Skogstad, Hauge, Nielsen, Einarsen, 2009), has shown that although some victims of abuse actually left the organization two years after they first reported experiencing abuse, most victims were still at the same job, even after two years. The strong connection between workplace bullying and the intention to leave the organization can be seen from the angle of coping strategy, which can be positive for victims because it completely removes them from the source of the problem, which is in accordance with the advice that victims often give to other victims (Zapf & Gross, 2001).

Health issues. However, negative influences in the workplace are primarily manifested through negative emotions, such as anger, nervousness, worry, anxiety, guilt (Watson & Clark, 1984). Workplace bullying has been shown to cause a variety of psychological and physical symptoms (Hoel et al., 2004; Fox & Stallworth, 2005). Psychological symptoms include stress, anxiety, depression, and difficulty concentrating (Vartia, 2001; Mikkelsen & Einarsen, 2002), while physical symptoms include sleep disturbance, stomach upset, headaches, body aches, exhaustion, and rapid heartbeat (O'Moore et al., 1998; Vartia, 2001). Workplace bullying is a causative factor for many mental health problems and can make victims susceptible to serious physical conditions, such as cardiovascular disease (Kivimaki et al., 2003).

Those who experience violence may feel anxious, intimidated and humiliated. Violence can cause feelings of frustration and anger and lead to stress, loss of self-confidence and self-esteem. There is strong evidence that negative psychological states cause the disease, for example: stress is contributing to the development of the disease because it disturbs the balance of the body, and anxiety can eventually lead to stomach disorders (Đurkovic et al., 2006). Violence also reflects on business motivation, work performance and the level of absence from work. Other symptoms may include headache, high blood pressure and insomnia. In addition to the costs associated with abuse, it can cost employers in other ways as it can affect the culture of the entire organization, which ultimately can have a very bad impact on the reputation of the organization.

This paper raises two hypotheses and one research question:

H1: There is a statistically significant correlations between the financial performance items (and financial performance dimension) and the workplace bullying dimensions and self-

labelling (mistreatment) item.

H2: There is a statistically significant predictive effect of the financial performance items (and financial performance dimension) on the workplace bullying dimensions and self-labelling (mistreatment) item.

RQ: What is the direction of the impact of financial performance items (and financial performance dimension) on the workplace bullying dimensions and self-labelling (mistreatment) item?

2. Methods

2.1. Survey instruments (measures)

Workplace bullying. Workplace bullying was measured by the Negative Acts Questionnaire-Revised instrument, NAQ-R (Einarsen et al., 2009), which was validated into Serbian in the reference (Vukelić et al., 2015). The questionnaire consists of 22 items (3 dimensions: Work related bullying, Person related bullying and Physically intimidating bullying). In addition, the workplace bullying dimension (NAQ-R total) was used in the analysis, and it includes all of 22 items. Respondents answered how often they were exposed to each item in the last six months, offering five categories of responses: “never”, “occasionally”, “monthly”, “weekly” and “daily”.

Self-labelled victim of bullying (mistreatment item). Self-labelling (mistreatment) was measured by one item, based on a reference by Einarsen, Hoel, Notelaers (2009). Respondents answered the question whether and to what extent they were harassed at work during the last six months (before that, the definition of harassment was given). Five categories of answers were offered: “no”, “yes, occasionally”, “yes, several times a month”, “yes, several times a week” and “yes, almost every day”.

Financial performance. In order to measure financial performance, a questionnaire of 7 items was compiled: Productivity, Profitability, Market Share, Sales Growth, Competitive Status, Asset Growth and Employee Salaries. References were used in the selection of these items (Tan & Litschert, 1994; Wang et al., 2003; Wang et al., 2011). All financial performance items were measured using a seven-point Likert scale. Also, all seven items make up one dimension: Financial performance.

2.2. Participants and data collection

The research was carried out in Serbian organizations. The research was realized in such a way that respondents were completing questionnaires. Respondents were employed in organizations in Serbia, at various organizational levels. A total of 536 questionnaires were collected, which was valid for further analysis.

3. Results

3.1. Descriptive statistics

Table 1 shows the results of descriptive statistics (workplace bullying dimensions, self-labelling item, financial performance items and financial performance dimension). The table gives the names for dimensions and items, short name for each dimension and item, mean values and standard deviation of all dimensions and items, as well as Cronbach's alpha for each dimension. Cronbach's alpha values range from 0.755 to 0.964.

Table 1: Descriptive statistics

| Dimensions and items | Short name | N | Min | Max | Mean | Std. Deviation | Cronbach's alpha |
|-----------------------------|------------|-----|------|------|------|----------------|------------------|
| Work related bullying | WRB | 536 | 1.00 | 5.00 | 2.15 | .969 | 0.903 |
| Person related bullying | PRB | 536 | 1.00 | 5.00 | 1.86 | .865 | 0.948 |
| Physically intimid. bull. | PIB | 536 | 1.00 | 5.00 | 1.55 | .714 | 0.755 |
| Workplace bullying | WB | 536 | 1.00 | 5.00 | 1.91 | .831 | 0.964 |
| Self-labelling (mistreatm.) | SLM | 536 | 1.00 | 5.00 | 1.88 | 1.060 | - |
| Productivity | FP1 | 536 | 1 | 7 | 4.90 | 1.595 | - |
| Profitability | FP2 | 536 | 1 | 7 | 4.84 | 1.698 | - |
| Market share | FP3 | 536 | 1 | 7 | 4.64 | 1.770 | - |
| Sales growth | FP4 | 536 | 1 | 7 | 4.49 | 1.817 | - |
| Competitive status | FP5 | 536 | 1 | 7 | 4.60 | 1.781 | - |
| Asset growth | FP6 | 536 | 1 | 7 | 4.16 | 1.618 | - |
| Salaries | FP7 | 536 | 1 | 7 | 3.95 | 1.577 | - |
| Financial performance | FP | 536 | 1.00 | 7.00 | 4.51 | 1.416 | 0.927 |
| | Valid N | 536 | | | | | |

Source: Authors

3.2. Correlation analysis

The results of the correlation analysis between financial performance items (and financial performance dimension) and workplace bullying dimensions and self-labelling (mistreatment) item, are given in Table 2. The results refer to the total sample N = 536 respondents. Pearson's correlation was used. In Table 2, statistically significant correlations were marked: * $p < 0.05$; ** $p < 0.01$.

Table 2: Coefficients of correlation between the financial performance items (and financial performance dimension) and the workplace bullying dimensions and self-labelling (mistreatment) item

| | WRB | PRB | PIB | WB | SLM |
|-----|-------|-------|--------|-------|-------|
| FP1 | -,077 | -,074 | -,100* | -,082 | -,033 |
| FP2 | -,044 | -,039 | -,051 | -,044 | ,004 |
| FP3 | -,022 | -,007 | -,054 | -,019 | ,000 |
| FP4 | -,004 | ,002 | -,009 | -,001 | ,038 |
| FP5 | -,004 | -,019 | -,052 | -,018 | -,022 |

| | | | | | |
|-----|---------|---------|---------|---------|---------|
| FP6 | -,057 | -,043 | -,021 | -,048 | -,004 |
| FP7 | -,279** | -,272** | -,228** | -,285** | -,260** |
| FP | -,079 | -,073 | -,085* | -,081 | -,044 |

Source: Authors

3.3. Regression analysis

The predictive effect of the financial performance items (independent variables) on the workplace bullying dimensions and self-labelling (mistreatment) item (dependent variables) was examined using Multiple Regression analysis (Table 3). Dimension FP - Financial performance is not taken into account here due to the possibility that, as an overall dimension, it takes on a significant part of the predictive effect. The results in Table 3, for which there is a statistically significant predictive effect, are marked by a bold font.

Table 3: Regression analysis (independent variables: financial performance items; dependent variables: workplace bullying dimensions and mistreatment item)

| Depend. | Indep. | | | | | | | R ² | F | Sig. |
|---------|---------|-------|---------|---------|---------|-------|----------------|----------------|-------|-------|
| | FP1 | FP2 | FP3 | FP4 | FP5 | FP6 | FP7 | | | |
| | | | | β | | | | | | |
| WRB | - 0,068 | 0,021 | 0,024 | 0,114 | 0,060 | 0,016 | - 0,347 | 0,099 | 8,317 | 0,000 |
| PRB | - 0,080 | 0,017 | 0,069 | 0,112 | 0,005 | 0,044 | - 0,345 | 0,097 | 8,086 | 0,000 |
| PIB | - 0,133 | 0,055 | - 0,046 | 0,152 | - 0,043 | 0,118 | - 0,278 | 0,075 | 6,095 | 0,000 |
| WB | - 0,086 | 0,024 | 0,042 | 0,124 | 0,020 | 0,044 | - 0,357 | 0,104 | 8,786 | 0,000 |
| SLM | - 0,031 | 0,062 | - 0,018 | 0,161 | - 0,057 | 0,094 | - 0,363 | 0,102 | 8,613 | 0,000 |

Source: Authors

4. Discussion

4.1. Discussion of the results of correlation analysis

Based on the results from Table 2, it is easy to see that only the item *FP7 - Salaries* does have statistically significant effects on workplace bullying dimensions and self-labelling (mistreatment) item. However, these impacts are negative. This means that low employee income provides fertile ground for the development of workplace bullying. Low employee income is an indicator of poor business operations of the organization, and this often means reduced workload and absence of important jobs, but also reduced job satisfaction. All this contributes to the employees having excess time and lack of satisfaction, which leads to a redirection of attention to the political processes in the organization. In such conditions, it is easy to create an atmosphere in which individuals are unjustifiably favoured and, at all costs, the company is looking for the culprits for the bad situation. Threats and blackmails are possible in terms of fear for keeping a job, earning a salary, so some employees begin to feel threatened and scared for their job, salary, etc.

Conversely, with an increase in employee's income, there is a decrease in all aspects of workplace bullying. Relatively high salaries create a strong perception of justice, motivate people to work harder and better, they then have neither the time nor the need to deal with (re)distribution of power in the organization, blackmail and, in general, to deal with subordinates or superiors in a way that is not related to doing the job. Most employees are focused on their job. A well-paid and satisfied worker finds it much harder to end up in a situation where he or she suffers from workplace bullying, and if that happens, he or she will have more self-confidence and organizational tools to resist such occurrence.

Another statistically significant and negative correlation between item FP1 - Productivity, and dimension PIB - Physically Intimidating Bullying should be noted. In other words, high productivity can reduce physical intimidation. This phenomenon can be explained by the fact that in conditions of high productivity, employees simply have an increased volume of work and do not have time to deal with physical intimidation. In addition, high productivity is a sign of the efficiency of people in lower positions, and in such circumstances, superiors have no need (or justification) to be angry at subordinates, shout at subordinates, physically threaten them, etc. Due to this result, there is a statistically significant (negative) impact of dimension FP - Financial performance on dimension PIB - Physically Intimidating Bullying.

Other correlations in Table 2 are not statistically significant. Based on the previous considerations, it can be stated that hypothesis H1 is partially confirmed, more precisely, it is confirmed in the influences of items FP7 - Salaries and FP1 - Productivity on workplace bullying dimensions as well as self-labelling (mistreatment) item. At the same time, this is the answer to the research question RQ: where there are statistically significant effects of financial performance items (and financial performance dimension) on the workplace bullying dimensions and self-labelling (mistreatment) item, these effects are negative. This puts this research on the side of the study (Salin, Notelaers, 2020), which shows that high work performance reduces workplace bullying.

According to the results from Table 3, of the financial performance items, only item *FP7 - Salaries* has statistically significant predictive effects on workplace bullying dimensions. These effects are negative in all cases, so this result is fully consistent with the results of the correlation analysis. The explanations for this phenomenon, which are given in the discussion of the results of correlation analysis, are also valid in the results of regression analysis.

The corrected determination indexes R^2 have slightly lower values (ranging from 0.075 to 0.104), but all these values are statistically significant (Table 3). Based on these findings, hypothesis H2 can be considered confirmed. Although the values of R^2 are quite close, it can be said that the strongest predictive effect occurs on the dimension WB - Workplace bullying and item SLM - Self-labelling (mistreatment), and the weakest on the dimension PIB - Physically Intimidating Bullying. This is a consequence of the fact that the dimension WB - Workplace bullying and item SLM - Self-labelling (mistreatment) have a more general character, so they attract different influences. On the other hand, the

dimension PIB - Physically Intimidating Bullying is still represented to a much lesser extent, it refers to some very extreme situations, which (fortunately) do not seem to be common (average score for dimension PIB - Physically Intimidating Bullying is only 1.55 (Table 1 Descriptive statistics)).

4.2. Limitations

The limitation of this research is that it was conducted in companies in Serbia, so the results, in the first place, are valid for the observed subject of research. At the same time, the results are logical, so based on the given discussions, we can rightly assume the general character of the obtained results, i.e. that the results are applicable in different conditions, and thus in different countries.

Conclusion

Organizational financial performance items, in general, do not have a large impact on the occurrence of workplace bullying in organizations. However, one financial performance item stands out from this group. This is item FP7 - Salaries, which statistically both significantly and negatively affects all observed workplace bullying dimensions and self-labelling (mistreatment) item. This was confirmed by both the results of the correlation analysis and the results of the regression analysis. In a situation where the salaries of employees are low, dissatisfaction with work and excess time for employees are present. This can be further linked to various forms of political processes in the organization, the phenomena of unfair rewarding and punishment, promotion and restraint, as well as the phenomena of threats, blackmail, intimidation and, finally, workplace bullying. In this way, the answer to the research question is given, as well as the dilemma from the beginning of work: low performance of the organization, poor financial performance, and especially low salaries of employees, are what leads to increased workplace bullying.

It is important for leaders and managers in business organizations to know the processes and phenomena researched here. In that way, they qualify themselves for successful recognition and understanding of potential and real workplace bullying situations, and afterwards for their efficient and effective overcoming. Special care should be taken in conditions of unfavourable organizational financial performance, especially low income of employees.

References

- Aničić, D., Aničić, J., Miletić, V. (2020). Cost management efficiency factors of enterprises in Serbia. *Ekonomika*, 66(1), 37-51. Doi: <https://doi.org/10.5937/ekonomika2001037A>
- Ashkanasy, N., Bennett, R., Martinko, M. (2016). *Understanding the high performance workplace: The line between motivation and abuse*. New York: Routledge.
- Begley, T.M. (1998). Coping strategies as predictors of employee distress and turnover after an organizational consolidation: A longitudinal analysis. *Journal of Occupational and*

- Organizational Psychology*, 71(4), 305-329. Doi: <https://doi.org/10.1111/j.2044-8325.1998.tb00679.x>
- Berthelsen, M., Skogstad, A., Hauge, L.J., Nielsen, M.B., Einarsen, S. (2009). *Mobbing og ustøtning fra arbeidslivet* (Bullying and exclusion from working life). Bergen, Norway: University of Bergen.
- Björkqvist, K., Österman, K., Hjelt-Bäck, M. (1994). Aggression among university employees. *Aggressive Behavior*, 20(3), 173-184. Doi: [https://doi.org/10.1002/1098-2337\(1994\)20:3%3C173::AID-AB2480200304%3E3.0.CO;2-D](https://doi.org/10.1002/1098-2337(1994)20:3%3C173::AID-AB2480200304%3E3.0.CO;2-D)
- Brodsky, C.M. (1976). *The Harassed Worker*. Toronto: Lexington Books, DC Heath and Company.
- Coyne, I., Craig, J., Smith-Lee Chong, P. (2004). Workplace bullying in a group context. *British Journal of Guidance and Counseling*, 32(3), 301-316. Doi: <https://doi.org/10.1080/03069880410001723530>
- Djurkovic, N., McCormack, D., Casimir, G. (2004). The physical and psychological effects of workplace bullying on intention to leave: A test of the psychosomatic and disability hypotheses. *International Journal of Organization Theory and Behavior*, 7(4), 469-497. Doi: <https://doi.org/10.1108/IJOTB-07-04-2004-B001>
- Djurkovic, N., McCormack, D., Casimir, G. (2006). Neuroticism and the psychosomatic model of workplace bullying. *Journal of Managerial Psychology*, 21(1), 73-88. Doi: <https://doi.org/10.1108/02683940610643224>
- Einarsen, S., Hoel, H., Notelaers, G. (2009). Measuring exposure to bullying and harassment at work: Validity, factor structure and psychometric properties of the negative acts questionnaire-revised. *Work and Stress*, 23(1), 24-44. Doi: <https://doi.org/10.1080/02678370902815673>
- Einarsen, S., Hoel, H., Zapf, D., Cooper, C. (2010). *The concept of bullying and harassment at work*. In book: *Bullying and Harassment in the Workplace*, 3-39.
- Fox, S., Stallworth, L. (2005). Racial/ethnic bullying: exploring links between bullying and racism in the US workplace. *Journal of Vocational Behavior*, 66(3), 438-456. Doi: <https://doi.org/10.1016/j.jvb.2004.01.002>
- Hoel, H., Cooper, C.L. (2000). *Destructive conflict and bullying at work*. Sponsored by the British Occupational Health Research Foundation (BOHRF), Manchester School of Management, Manchester University of Science and Technology (UMIST).
- Hoel, H., Sparks, K., Cooper, C.L. (2001). *The cost of violence/stress at work and the benefits of a violence/stress-free working environment*. Geneva: International Labour Organisation.

Hoel, H., Zapf, D., Cooper, C.L. (2002). Workplace bullying and stress. *Research in Occupational Stress and Well-being*, 2, 293-333. Doi: [https://doi.org/10.1016/S1479-3555\(02\)02008-5](https://doi.org/10.1016/S1479-3555(02)02008-5)

Hoel, H., Salin, D. (2003). Organisational antecedents of workplace bullying. In S. Einarsen, H. Hoel, D. Zapf, & C.L. Cooper (Eds.), *Bullying and Emotional Abuse in The Workplace: International Perspectives in Research and Practice*, (pp. 203-218). London: Taylor & Francis.

Hoel, H., Einarsen, S., Cooper, C.L. (2003). Organisational effects of bullying. In S. Einarsen, H. Hoel, D. Zapf, & C.L. Cooper (Eds.), *Bullying and emotional abuse in the workplace: International perspectives in research and practice*, (pp. 145-161). London: Taylor & Francis.

Hoel, H., Faragher, B., Cooper, C.L. (2004). Bullying is detrimental to health, but all bullying behaviors are not necessarily equally damaging. *British Journal of Guidance and Counselling*, 32(3), 367-387. Doi: <https://doi.org/10.1080/03069880410001723594>

Hoel, H., Sheehan, M., Cooper, C., Einarsen, S. (2010). Organisational effects of workplace bullying. In: Einarsen S, Hoel H, Zapf D, Cooper CL, (eds.). *Bullying and harassment in the workplace. Developments in theory, research, and practice*, (pp. 129-148). London: CRC Press.

Kivimaki, M., Virtanen, M., Vartia, M., Elovainio, M., Vahtera, J., Keltikangas-Jarvinen, L. (2003). Workplace bullying and the risk of cardiovascular disease and depression. *Occupational and Environmental Medicine*, 60(10), 779-783. Doi: <http://dx.doi.org/10.1136/oem.60.10.779>

Kroon, B., van de Voorde, K., van Veldhoven, M. (2009). Cross-level effects of high-performance work practices on burnout: Two counteracting mediating mechanisms compared. *Personnel Review*, 38(5), 509-525. Doi: <https://doi.org/10.1108/00483480910978027>

Lewis, D., Rayner, C. (2003). Bullying and human resource management: A wolf in sheep's clothing? In S. Einarsen, H. Hoel, D. Zapf, & C.L. Cooper (Eds.), *Bullying and emotional abuse in the workplace: International perspectives in research and practice*. (pp. 370-382). London: Taylor & Francis.

Leymann, H. (1992). *Från mobbning till utslagning i arbetslivet* (From mobbing to exclusion in the workplace). Stockholm. Sweden: Publica.

Leymann, H. (1990a). Mobbing and psychological terror at workplaces. *Violence and Victims*, 5(2), 119-126. Doi: <https://doi.org/10.1891/0886-6708.5.2.119>

Leymann, H. (1990b). *Handbok för användning av LIPT-formuläret för kartläggning av risker för psykologisk vald* (Manual of the LIPT questionnaire for assessing the risk of psychological violence at work). Violen, Stockholm.

- Magee, C, Gordon, R, Robinson, L, Caputi, P, Oades, L. (2017). Workplace bullying and absenteeism: The mediating roles of poor health and work engagement. *Human Resource Management Journal*, 27(3), 319-334. Doi: <https://doi.org/10.1111/1748-8583.12156>
- Matthiesen, S.B., Einarsen, S. (2001). MMPI-2 configurations among victims of bullying at work. *European Journal of Work and Organizational Psychology*, 10(4), 467-484. Doi: <https://doi.org/10.1080/13594320143000753>
- Matthiesen, S.B., Raknes, B.I., Røkkum, O. (1989) Mobbing på arbeidsplassen (Workplace bullying). *Tidsskrift for Norsk Psykologforening*, 26(11), 761-774.
- McCarthy, P., Barker, M. (2000). Workplace bullying risk audit. *Journal of Occupational Health and Safety, Australia and New Zealand*, 16(5), 409-418.
- Mikkelsen, E., Einarsen, S. (2002). Relationships between exposure to bullying at work and psychological and psychosomatic health complaints: the role of state negative affect and generalized self-efficacy. *Scandinavian Journal of Psychology*, 43(5), 397-405. Doi: <https://doi.org/10.1111/1467-9450.00307>
- Niedhammer, I., Chastang, J.F., Sultan-Taieb, H., Vermeylen, G., Parent-Thirion, A. (2013). Psychosocial work factors and sickness absence in 31 countries in Europe. *European Journal of Public Health*, 23(4), 622-629. Doi: <https://doi.org/10.1093/eurpub/cks124>
- Nielsen, M.B., Einarsen, S.V. (2018). What we know, what we do not know, and what we should and could have known about workplace bullying: An overview of the literature and agenda for future research. *Aggression and Violent Behavior*, 42, 71-83. Doi: <https://doi.org/10.1016/j.avb.2018.06.007>
- O'Connel, P.J., Calvert, E., Watson, D. (2007). *Bullying in the workplace: Survey report Department of Enterprise Trade and Employment*. The Economic and Social Research Institute, Ireland.
- Ogbonnaya, C., Messersmith, J. (2019). Employee performance, well-being, and differential effects of human resource management subdimensions: Mutual gains or conflicting outcomes? *Human Resource Management Journal*, 29(3), 509-526. Doi: <https://doi.org/10.1111/1748-8583.12203>
- O'Moore, M., Seigne, E., McGuire, L., Smith, M. (1998). Victims of workplace bullying in Ireland. *The Irish Journal of Psychology*, 19(2-3), 345-357. Doi: <https://doi.org/10.1080/03033910.1998.10558195>
- Painter, K. (1991). *Wife rape, marriage and the law: Survey report: Key findings and recommendations*. Manchester: Faculty and Economic and Social Studies, University of Manchester.
- Quine, L. (1999). Workplace bullying in NHS community trust: Staff questionnaire survey. *British Medical Journal*, 318(7178), 228-232. Doi: <https://doi.org/10.1136/bmj.318.7178.228>

Rayner, C., Hoel, H., Cooper, C. L. (2002). *Workplace Bullying: What We Know, Who Is to Blame, and What Can We Do?* London: Taylor & Francis.

Salin, D., Hoel, H. (2011). Organizational causes of bullying. In S. Einarsen, H. Hoel, D. Zapf, & C.L. Cooper (Eds.), *Workplace bullying and harassment: Developments in theory, research and practice*. (2nd ed., pp. 227-243). London: Taylor & Francis.

Salin, D, Notelaers, G. (2020). Friend or foe? The impact of high performance work practices on workplace bullying. *Human Resource Management Journal*, 30(2), 312-326. Doi: <https://doi.org/10.1111/1748-8583.12281>

Samnani, A-K., Singh, P. (2014). Performance-enhancing compensation practices and employee productivity: The role of workplace bullying. *Human Resource Management Review*, 24(1), 5-16. Doi: <https://doi.org/10.1016/j.hrmr.2013.08.013>

Sheehan, M., McCarthy, P., Kearns, D. (1998). Managerial Styles during Organisational Restructuring: Issues for Health and Safety Practitioners. *Journal of Occupational Health and Safety - Australia and New Zealand*, 14(1), 31-37.

Tan, J.J., Litschert, R.J. (1994). Environment-strategy relationship and its performance implications: An empirical study of the Chinese electronics industry. *Strategic Management Journal*, 15(1), 1-20. Doi: <https://doi.org/10.1002/smj.4250150102>

Tehrani, N. (2012). Introduction to workplace bullying. In N. Tehrani (Ed.). *Workplace Bullying: Symptoms and Solutions*, (pp. 1-17). London: Routledge.

Vartia, M. (2001). Consequences of workplace bullying with respect to the well-being of its targets and the observers of bullying. *Scandinavian Journal of Work, Environment and Health*, 27(1), 63-69.

Vojteski-Kljenak, D., Lukić, R., Gavrić, G., Gavrilović, M. (2019). The operative profit margin and interest cost in retail food. *Ekonomika poljoprivrede*, 66(3), 799-810. Doi: <https://doi.org/10.5937/ekoPolj1903799V>

Vukelić, M.B. (2015). *Understanding of workplace bullying through analysis of perception of negative acts (Doctoral Dissertation)*. University of Belgrade. Faculty of Philosophy, Serbia.

Wang, D., Tsui, A.S., Zhang, Y., Ma, L. (2003). Employment relationships and firm performance: evidence from an emerging economy. *Journal of Organizational Behavior*, 24(5), 511-535. Doi: <https://doi.org/10.1002/job.213>

Wang, H., Tsui, A.S., Xin, K.R. (2011). CEO leadership behaviors, organizational performance, and employees' attitudes. *The Leadership Quarterly*, 22(1), 92-105. Doi: <https://doi.org/10.1016/j.leafqua.2010.12.009>

Watson, D., Clark, L. (1984). Negative Affectivity: The Disposition to Experience Aversive Emotional States. *Psychological Bulletin*, 96(3), 465-490. Doi: <https://psycnet.apa.org/doi/10.1037/0033-2909.96.3.465>

Zapf, D., Gross, C. (2001). Conflict escalation and coping with workplace bullying: A replication and extension. *European Journal of Work and Organizational Psychology*, 10(4), 497-522. Doi: <https://doi.org/10.1080/13594320143000834>

Zhang, M., Zhu, C.J., Dowling, P.J., Bartram, T. (2013). Exploring the effects of high-performance work systems (HPWS) on the work-related well-being of Chinese hospital employees. *International Journal of Human Resource Management*, 24(16), 3196-3212. Doi: <https://doi.org/10.1080/09585192.2013.775026>

Measuring business process performance in the seed industry

Мерење перформанси пословних процеса у семенској индустрији

Goran Petrović*

Institute of Field and Vegetable Crops, Novi Sad, Serbia, goran.petrovic@ifvcns.ns.ac.rs

Abstract: The literature that generally deals with business processes is extensive, but, at the same time, there is a noticeable lack of it in some specific areas, such as the seed industry. The paper presents the relations between the main participants in the process of creating new values and gives examples of business success indicators in the organization operating in the seed industry. The presented results are based on the author's research through questionnaires and interviews with employees in this field, while the aim of the research was to review business processes in the seed industry, identify the key ones, and determine the models for their performance management.

Keywords: seed industry, business processes, performance

JEL classification: M21, L25, Q10

Сажетак: Литература која се генерално бави пословним процесима је обимна али је истовремено приметан недостатак исте у неким специфичним областима, попут семенске индустрије. Рад приказује релације између главних учесника у процесу стварања нових вредности и наводи примере показатеља успешности пословних процеса организације у семенској индустрији. Приказани резултати настали су на основу ауторског истраживања кроз упитнике и интервјуе са запосленима у овој области, а циљ истраживања је сагледавање пословних процеса у семенској индустрији, идентификација оних кључних и утврђивање модела за управљање њиховим перформансама.

Кључне речи: семенска индустрија, пословни процеси, перформансе

ЈЕЛ класификација: M21, L25, Q10

Introduction

Numerous literature dealing with business process management clearly indicates that organizations can improve their performance by adopting the “process view“ of business (Davenport, 1993; Burlton, 2001; McCormack & Johnson, 2001). Improvement in corporate performance actually depends directly on the efficiency of business processes and that is why building a system that will enable this type of management is one of the leading tasks of managers (Harmon, 2003). From that point of view, an organization's performance stems from the performance of its business processes.

Management of business processes and their performance can be examined through different approaches:

* Corresponding author

The **quality control approach** has brought numerous methods, tools and techniques (TQM, Six Sigma, Lean, TOC ...) which are sometimes combined depending on the needs of the organization, while the ultimate goal is to raise product quality and establish a more efficient business at lower costs, with improved services and satisfied customers (Joglekar, 2003; Salah, et al., 2009; Goldratt & Cox, 1986; Basu, 2008). The **managerial approach** is aimed at harmonizing the processes with the organization goals through continual process definition, monitoring and improvement. Most researchers adopted the holistic approach to process performance management with particular importance on viewing the process from different perspectives (Kaplan & Norton, 1993; Neely, et al., 2002; Maskell, 1992). Rummler & Brache (1995) made a great contribution to management, claiming that a classic hierarchical approach to an organization is insufficient, as it is an adaptive system where all processes (internal and external) are connected, and that successful management must not lose sight of other factors, such as users/customers or trends that affect a product or service. Rummler & Brache's research resulted in an organizational matrix that illustrates business process management at three levels: organizational level, process level and the level of individuals/teams. The **IT approach** defines the role of information technology in a business process management system, while researchers reveal that technology alone does not correct bad processes, but accelerates them (Hammer, 1990). Other authors support this view and recognize technology as a tool in digital monitoring of business process performance, pointing out the necessity of a comprehensive approach and the holistic view of the entire system (Hammer & Champy, 1993; Davenport, 1993).

There is no management without measurement, so it is impossible to manage business processes without measuring their performance (Kaplan & Norton, 1993; Bititci, et al., 1997). Performance measurement for business process management purposes primarily refers to the identification of indicators of the current business process success. Building a system of business process performance indicators is a major challenge, so the more specific the activity of an organization is, the greater are the challenges associated with building and establishing a computer-aided system for measurement and (or) management of business process performance (Balaban, et al., 2010). One such emphatically specific area is the seed industry.

1. Characteristics of the seed industry

Laws in agriculture are specific and apply only to this industry. For example, *The Law on Declining Soil Fertility* (Komljenović, 2003), where additional investment of labor and exploitation of resources are not accompanied by an adequate, but a smaller amount of products. Problems in the production and marketing of agricultural products stem from the fact that agricultural production has a seasonal character and largely depends on "force majeure" (above all, but not exclusively on weather conditions). The same laws apply to the seed industry because, as part of the agricultural industry, it is engaged in the production of seeds for human and animal consumption.

The seed industry can be observed through three segments:

- **Research and development**, which deals with the development of new varieties

- (breeding process) and the development of technical and technological solutions
- **Production**, which includes activities related to seed production - propagation, production and processing of seeds, leading to a packaged product
 - **Business** - activities related to handling processed seeds, marketing and commercialization/sales.

Breeding process is a time and financially demanding set of research activities with uncertain results. Research and the process of creating a new hybrid or variety can take up to 10 years, and it is possible that the final product does not give the expected results or the market does not accept it, so the research is treated as unsuccessful.

Seed production is regulated by the Law on Seed (ZoS, 2005), Rulebook on the recognition of varieties of agricultural plants (Rb1, 2006) and the Rulebook on the control of seed production (Rb2, 2010). Production control is performed by professional services authorized by the Ministry of Agriculture. The Rulebook determines seed quality thresholds for seed placement, including minimum purity, minimum germination, maximum seed moisture and the presence of weeds, which are precisely regulated by the Law for each plant species.

The process of seed placement between the producer and the final consumer includes several other related processes and participants (processors, warehouses, transporters, agricultural professional services, laboratories and providers of various services).

Seed industry is generally well regulated because the method of obtaining seeds and the production process are regulated by law. At the same time, despite good legislation, the industry is characterized by a high degree of uncertainty due to weather dependence, relations between market participants and internal procedural disorder of organizations (weaknesses).

2. Research project and methodology

Two empirical studies were conducted in 2019 with the aim of examining the knowledge of seed industry employees about business processes and general performance measurement. In addition, data were collected in order to establish classified critical success factors and performance indicators of business processes in the seed industry.

The first empirical research was based on the research question Q1: *What business processes does a generic process model of an enterprise in the seed industry encompass?* The research was realized by the method of interviews with a selected group of branch experts (n = 20), with the aim of gaining insight into their knowledge and attitudes regarding business processes and their performance management. Specific communication was established between the interviewer and the respondents wherein a semi-structured interview model was chosen (Gubrium & Holstein, 2001). This model of data collection is characterized by a defined framework of planned questions which allow examiners the freedom to ask them. According to the number of participants, it is a "panel interview" where several interviewers (two interviewers participated in addition to the author)

simultaneously interview respondents through a form of conversation, and everyone hears the answers (Čerović, 2013). Thus, more interviewers gain insight into the respondents' current knowledge and perception of the key elements of the business process performance management concept. The aim was to obtain necessary information and establish the basis of the questionnaire about practical achievements in the application of performance management concept in seed industry organizations.

The second empirical research included the questionnaire based on the analysis of the first. It is considered that researchers have two types of performance measurements at their disposal, objective and subjective ones, which should equally be used depending on the needs and goals of the research (Sandeep & Harpreet, 2016). There is a correlation between objective parameters and their subjective assessment, and most of the empirical research carried out today use a questionnaire as a measurement instrument based on employees' subjective assessment. Regardless of subjectivity of the respondents about the shared information, this method of data collection is not subjective because the questionnaire offers an "objective way of collecting information about human knowledge, beliefs, attitudes and behavior of people" (Oppenheim, 1992). The questionnaire contains terminologically adjusted questions about the business process management practice and their performance applied by the respondents in their organizations, and the evaluation of the questionnaire was done in cooperation with selected domain experts. The aim of the second empirical research, which was conducted on a sample of $n = 255$ respondents from different companies, was to gain insight into the extent to which employees in the seed industry are familiar with the purpose and content of the management performance concept, their attitude to the needs and opportunities of the concept application in business practice of organizations in the seed industry, as well as their view of critical factors and indicators of business success in the domain area. The analysis of the obtained results provided a well founded answer to the research question Q2: *What are the indicators of the business processes efficiency of the organization in the seed industry?*

3. Selected research results

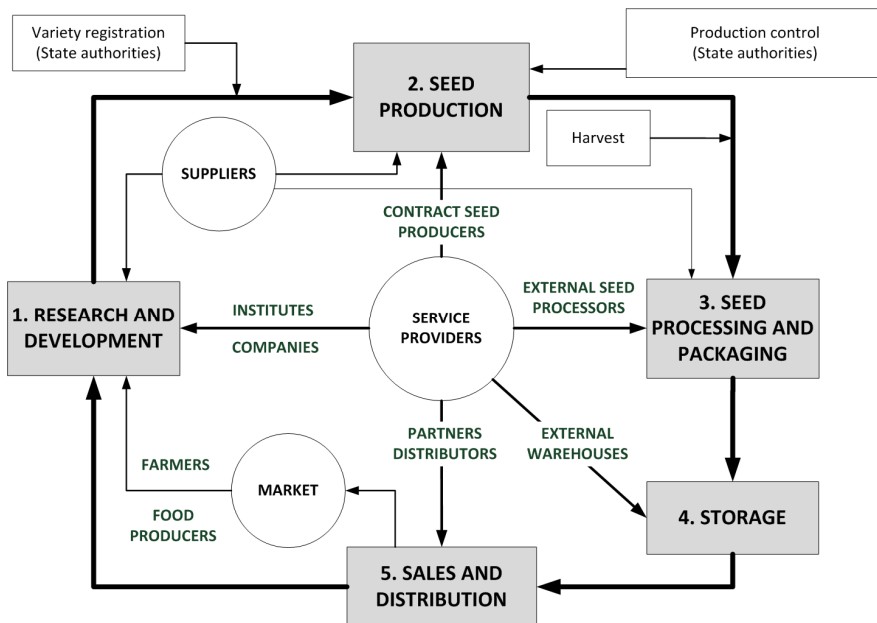
The first research included a diagnostic interview conducted with the respondents, which showed that the respondents within the seed industry recognize several processes that synergistically form the "main stream" in which additional value is generated. Respondents listed five main processes in the seed industry: Research and Development, Production, Seed Processing, Storage (Warehousing and Inventory Management), Sales and Distribution.

Asked about the groups of participants in these processes, the respondents cited a wide range of occupations that they felt were involved. What came into prominence was the terminological inconsistency in defining the main concepts of determining the participants in the process. The analysis of the questionnaire and processing of the results, by grouping the answers, revealed two logical units of the main flow with the following participants:

The first group refers to the **development of the product and the production**: researchers/scientists (breeders), technical associates (seed production) and technical assistants and laboratory assistants (auxiliary workforce). The second group includes **sales and promotion**: sales (wholesale and retail), promoters (field sales), and marketing.

The scheme of processes and participants in the seed industry shown in the figure below is presented through a **conceptual model** and is based on the research that included five main processes.

Figure 1: Conceptual model of the seed industry



Source: the author

Research and development is done by organizations that are financially capable of supporting long-term (multi-year and even decades-long) research, while placing particular importance on ensuring continuity. They consist of companies which have their own research and development departments, scientific research institutes, and scientific and educational institutions (faculties).

Seed production based on a conceptual model implies multiplication of basic seed or commercial production, depending on the goals and needs of an organization, which can be two independent processes if the organization has such a capacity - independent production on a smaller scale and within research activities and larger (commercial) production in cooperation with partners as a common practice.

Seed processing, as the following stage, takes place in order to extract, prepare and

package seeds of the highest quality, which must meet the prescribed standards and market requirements. The seed that fails to meet the legally prescribed quality standards cannot be certified, and is regarded and sold as grain.

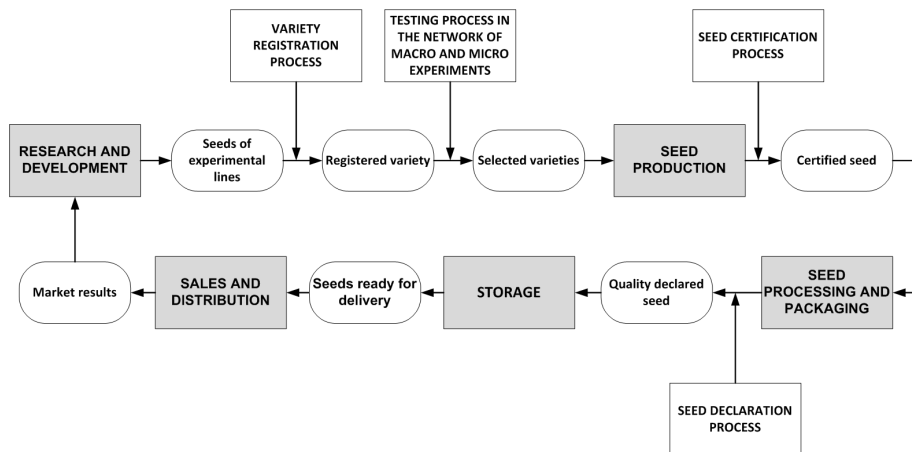
Storage is a distinctive process which, depending on the plant species (and category of seeds), has specific rules and precisely defined procedures. According to the law, the processor must submit to the competent Ministry the data on storage space for separate storage of natural (unprocessed) and processed seeds of certain plant species, varieties and seed categories, as well as data on storage space for waste generated by seed processing (ZoS, 2005).

Sales and distribution are the last process chain link to the customer. This step includes several sub-processes and marketing activities, direct sales, sales through partners / distributors or exports. One partner can simultaneously participate in several different processes with different roles.

The entire process chain can be realized independently if the organization has such capacities, but in practice, most processes involve external services of partners.

The process model in Figure 2 shows business processes that generally take place in the **seed industry**. The model explains the creation of a value chain and lists the processes that affect it.

Figure 2: Framework model of specific business processes in the field of seed industry



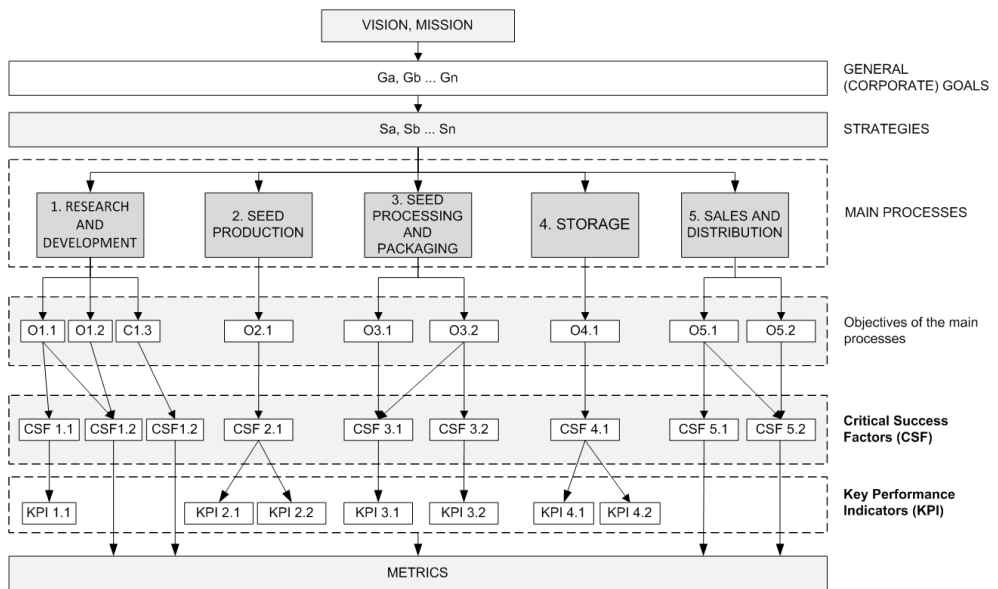
Source: the author

To define business process performance indicators (and the entire performance management system) of the organization properly, it is necessary to understand the hierarchy of strategic compliance. Some authors (Turajlić, et al., 2009; Watts & McNair-Connolly, 2012) present it in the form of a pyramid with the intention of simplifying the connection between the vision of the organization and its performance indicators. Basically, the connection spreads through the chain "Vision - Objectives - Strategy - CSF - KPI".

The second empirical research was aimed at studying two important aspects of determining the success of an organization and its processes. The results of the research indicated, among other things, two elements of determining success of the organization and its processes: first, the critical success factors with performance indicators and second, process result indicators, with both groups emphasizing the key ones.

The organogram of these relations is presented in the figure below.

Figure3 - Hierarchy of strategic harmonization in the seed industry



Source: the author

Performance indicators should be aligned with Critical Success Factors (CSF), which arise from the goals of the process, and they must be aligned logically with the organization's strategies and general goals, defined by the mission and the vision of the organization. CSFs indicate critical areas for achieving the desired results, i.e. the company's potential in relation to the desired results, as opposed to performance indicators which show the achieved performance and generally correspond to the values derived from business planning. According to Parmenter (2007), performance-related parameters include results indicators and performance indicators, emphasizing the existence of key indicators in both groups (*KRI - Key Results Indicators, KPI – Key Performance Indicators*).

Business process result indicators identified by respondents can be classified into groups as shown in the table below.

Table 1: Groups of result indicators of the main business processes in the seed industry

| Business process | Identified groups of result indicators |
|-------------------------------|--|
| Research & development | Development of varieties and hybrids Scientific production |
| Production | Production of varieties and hybrids Individual effects of workers Operational indicators |
| Seed processing and packaging | Operational indicators Individual effects of workers |
| Storage | Quantities and capacities Quality Costs Operational indicators of warehousing |
| Sales and distribution | Placement indicators Financial indicators |

Source: the author

A wide range of data collected in the survey contains detailed tables with indicators for all identified main business processes. However, due to the limited space in this research paper, the following table details only the identified result indicators (RI) of the selected business process, and indicates those that respondents identified as the key result indicators (KRI):

Table 2: Identified results indicators of Storage business process

| A group of indicators | Results indicators (RI) | Key RI | Measurement method (Formula) | Meas. Unit | Evaluation frequency |
|---------------------------|---|--------|--|------------|----------------------|
| Quantities and capacities | Total quantity of declared seed in stock | • | It is determined by the inventory of goods at the end of the control period | Kg, SJ | Per year |
| | The total amount of declared seed in stock with the partner | • | It is determined by the inventory of goods at the end of the control period | Kg, SJ | Per year |
| | Average quantity of declared seed in condition (measured in SJ and kg) | | Total stored quantity / Number of days in the measurement period | Number | Seasonal |
| | Average occupancy of shelving capacity according to the number of pallet places | | Average number of occupied pallet places / Projected capacities | % | Seasonal |
| | Average floor storage occupancy (tons) | | Average quantity of seeds in stock / Projected storage capacities | % | Seasonal |
| | The share of this season's production in seed stocks by varieties and hybrids | • | Average quantity of goods this season / Average total quantity of goods in stock | % | Per year |

| | | | | | |
|------------------------|---|---|--|-------------------|---------------------|
| | Inventory turnover ratio | | Cost of finished products / average value of stocks | Number | Per year |
| | Average turnover period - by plant species | | 365 days / Inventory turnover ratio | Number of days | Per year |
| Quality | Seed quality in stock by varieties and hybrids (conditional / unconditional) | • | Based on laboratory reports, a cross-section of the current situation | % | Per year |
| | Average seed age in stock | • | $(\text{Quantity per lot} * \text{Batch age} + \text{Q2} * \text{Ba2...} + \text{Qn} * \text{Ban}) / \text{total seed quantity}$ | Number of years | Per year |
| Incomes | Deviation from the storage revenue plan | | $((\text{Realized storage income} - \text{planned storage income}) / \text{planned storage income} + 1) * 100$ | % | Per month, Per year |
| Costs | Direct storage costs | | (salaries, fuel, telephone bills...) | RSD | Per year |
| | Relationship between storage costs and the value of goods by warehouses | | Value of stored goods / storage costs | Index | Per year |
| Operational indicators | Number of total shipped SJ | | Data according to issued delivery notes | SJ | Seasonal |
| | Average realization time | | Average waiting time for loading / unloading | Number of minutes | Seasonal |
| | Speed of manipulation | | Average time required for vehicle loading / unloading operation | Number of minutes | Seasonal |
| | Participation of errors in the realization of loading / unloading of vehicles | | Number of recorded errors / total number of executed orders | % | Seasonal |
| | Level of seed damage in the warehouse (manipulation and infected seeds) | | Number of recorded errors / total number of executed orders | % | Seasonal |

Source: the author

In their questionnaires, the respondents very often identified the metrics used for the evaluation of the indicators with the indicator itself. For example, they cited *Deviations from the Storage Revenue Plan* as a performance indicator, although this is actually only a metric (measure) for evaluating performance for the *Storage Revenue Performance Indicator*. The metrics used for performance evaluation implicitly contain two metrics related to the expected and achieved values for the observed performance indicator. In the context of system implementation in a particular organization, it is important to note that the result indicators shown in the table, as well as those marked as key, are presented as seen by the respondents. An organization that desires to implement its performance

measurement and evaluation system necessarily needs to make additional effort to identify indicators relevant to its own business.

Organizations that start by implementing business process performance measurement systems mainly initially focus on result indicators (past). Transition from measurement to performance management is characterized by focusing on performance indicators (future), which allows monitoring the level of the provided critical success factors, and taking timely action to provide the desired level of achievement. The literature deals with this type of division into result indicators and performance indicators in detail, but the author believes that this type of classification is not so important in practice, especially not at the beginning. What is more important is an understanding of this issue and invested efforts to introduce a systemic approach to performance management which would lead to better performance of both the teams and processes, and the organization as a whole.

Conclusion

The research revealed that the average respondent did not recognize the terminological determinants common in technical literature on business process management and performance measurement. After clarification of the terms, a large number of respondents stated that they used some performance measurement, but those were mostly not structured or coordinated activities. Instead of adopting a systemic approach, individual and localized solutions were applied, focusing on monitoring the yield or quality/performance of plant species. Respondents' responses indicate that more work and education is needed to understand the difference between measurement and process management.

In accordance with the above, the conclusion imposes the need for a generic model as a guide for building a business performance management system in the seed industry. Such a generic model would represent an integrated view that would support the management in understanding, analyzing, and (re)designing business logic. From the holistic aspect, it should provide systematic performance management both at the corporate level and in all defined processes of the organization, i.e. offer a unique integrated system for measurement and evaluation of the business process performance. Holistic view is necessary because it establishes the connection between the whole and the parts (Balaban & Ristić, 2013).

Although the paper lists only a small part of the research needed to build such a model, it can certainly serve as a guide for researchers and practitioners and assist in building their own systems for managing processes and their performance.

References

- Balaban, N., & Ristić, Ž. (2013). *Upravljanje performansom*. M&I SYSTEMS. Co.
- Balaban, N., Šereš, L., Belić, K. (2010). Performance management support system in the context of strategic management. *Strategic Management*, 15(4), 25-35.

- Basu, R., (2008). *Implementing Six Sigma and Lean: A practical guide to tools and techniques*. Butterworth-Heinemann.
- Bititci, U., Carrie, A. & McDevitt, L. (1997). Integrated performance measurement systems: an audit and development guide. *The TQM Magazine*, 9(1), 46-53.
- Burlton, R., 2001. *Business Process Management: Profiting from Process*. Indianapolis, IN.: Sams.
- Čerović, S. (2013). *Upravljanje ljudskim resursima u hotelijerstvu* (Treće izdanje). Beograd: Univerzitet Singidunum.
- Davenport, T. (1993). *Process Innovation: Reengineering Work through Information Technology*. Boston, MA: Harvard Business School Press.
- Goldratt, E., & Cox, J. (1986). *The goal: a process of ongoing improvement*. s.l.:North River Press.
- Gubrium, J. F., & Holstein, J. A. (2001). *Handbook of Interview Research: Context and Method*. SAGE Publications, Inc.
- Hammer, M. (1990). Reengineering work: don't automate, obliterate. *Harvard Business Review*, Issue July-August.
- Hammer, M., & Champy, J. (1993). *Reengineering the Corporation: A Manifesto for Business Evolution*. New York: Harper Business.
- Harmon, P. (2003). *Business process Change, A Manager's Guide to Improving, Redesigning, and Automating Processes*. San Francisco: Morgan Kaufman Publishers.
- Kaplan, R., & Norton, D. (1993). Putting the balanced scorecard to work. *Harvard Business Review*, 9/10,134-47.
- Komljenović, I. (2003). *Ratarsko povrtarski priručnik (Opšte ratarstvo)*. Laktaši: Grafomarsk.
- Joglekar, A. (2003). Statistical methods for Six Sigma: In *R&D and Manufacturing*. New Jersey: John Wiley & Sons.
- Maskell, B. H. (1992). Performance measurement for world class manufacturing. *Corporate Controller (COP)*, Tom January/February, 44-8.
- McCormack, K., & Johnson, W. (2001). *Business Process Orientation-Gaining the E-Business Competitive Advantage*. s.l.:St. Lucie Press, FL.
- Neely, A. (2002). *Business Performance Measurement: Theory and Practice*. Cambridge: Cambridge University Press.
- Oppenheim, A. (1992). *Questionnaire Design, Interviewing and Attitude Measurement*. London: Continuum.
- Parmenter, D. (2007). *Key Performance Indicators - Developing, Implementing, and Using Winning KPIs*. Hoboken, New Jersey: John Wiley & Sons, Inc.

- Rb1. (2006). Pravilnik o kontroli proizvodnje semena, sadržini i načinu vođenja evidencije o proizvodnji rasada poljoprivrednog bilja i obrascu izveštaja o proizvodnji micelija jestivih i lekovitih gljiva. "Službeni glasnik RS", Tom 60/2006.
- Rb2. (2010). Pravilnik o priznavanju sorti poljoprivrednog bilja. "Službeni glasnik RS", Tom 30/2010.
- Rummler, G., & Brache, A. (1995). *Improving Performance: How to Manage the White Space on the Organizational Chart*. San Francisco, CA.: Jossey-Bass.
- Salah, S., Carretero, J., & Rahim, A. (2009). Six Sigma and Total Quality Management (TQM): similarities, differences and relationship. *International Journal of Six Sigma and Competitive Advantage*, 5(3).
- Sandeep, V., & Harpreet, B. (2016). Are subjective business performance measures justified? *International Journal of Productivity and Performance Management*, 65, 603-621.
- Turajlić, N., Nešković, S., & Vučković, M., (2009). Mesto mera performansi u modelima poslovnih procesa. *INFOTEH-JAHORINA*, 8(E-III-18), 598-602.
- Watts, T., & McNair-Connolly, C. (2012). *New performance measurement and management control systems*, s.l.: University of Wollongong.
- ZoS. (2005). Zakon o semenu poljoprivrednog bilja. *Službeni glasnik RS*, 45/2005.

An assessment of the effects and influences of the concept of entrepreneurial learning in Serbia*

Процена ефеката и утицаја концепције предузетничког учења у Србији

Marija N. Marčetić

Academy of Vocational Studies South Serbia, Leskovac, Serbia, e-mail: neimar.marija@gmail.com

Gordana T. Prlinčević

Academy of Vocational Studies South Serbia, Leskovac, Serbia, e-mail: gordanaprlinčević@yahoo.com

Biljana Grujić Vučkovski*

Institute of Agricultural Economics, Belgrade, Serbia, e-mail: biljana_g@iep.bg.ac.rs

Abstract: It is difficult to estimate the quantity and quality of the necessary entrepreneurial knowledge and assess the effects of such entrepreneurship education, i.e. whether it has met the set criteria sufficiently. Empirical practice lacks empirical studies that would base the competences of entrepreneurial learning upon the direct assessment of learning outcomes, the outcomes related to the knowledge of opportunities for professional orientation and the knowledge of the business environment, the created framework picture of entrepreneurship, employment opportunities and obstacles. In this paper, the direct effect of entrepreneurial learning in a secondary-education and a higher-education institution of the economic path was estimated through a qualitative approach, after the established conceptual framework and furthermore through the respondents' answers to the survey questions. Therefore, a contribution was made by making a step forward in the evaluation of entrepreneurial learning through a direct assessment of the raised awareness of entrepreneurship. The indirect indicators used were the gender and the education level, i.e. the difference in the respondents' answers according to their respective gender and the school they are attending (secondary school or vocational school). The obtained results assess the level of the respondents' basic entrepreneurial culture and their knowledge, as well as entrepreneurial preferences.

Keywords: entrepreneurship, entrepreneurial learning, entrepreneurship education, evaluation

JEL classification: A20, L26

Сажетак: Тешко је проценити квантитет и квалитет неопходног предузетничког знања, проценити ефекте предузетничке едукације, тј. да ли је у довољној мери задовољила задате критеријуме. У емпиријској пракси недостају радови који би компетенције предузетничког учења заснивали на директној процени исхода учења. Исхода који се односе на стицања знања о могућностима за професионалну оријентацију и познавање пословног окружења, створену оквирну слику о предузетништву. У раду је након установљеног концептуалног оквира, и даље кроз одговоре испитаника на анкетна питања, квалитативним приступом, оцењен директни ефекат предузетничког учења у средњој и високошколској установи економског опредељења. Дакле, дат је допринос кроз искорак направљен у евалуацији предузетничког учења путем директне процене подигнуте свесности о предузетништву. Индиректни

* Paper was financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia

* Corresponding author

индикатор који је коришћен је пол и ниво образовања, тј. разматрана је разлика у одговорима испитаника према полу и школи коју похађају (средња или висока). Добијени резултати процењују ниво основне предузетничке културе и знања испитаника као и предузетничке преференције.

Кључне речи: предузетништво, предузетничко учење, предузетничко образовање, евалуација
ЈЕЛ класификација: A20, L26

Introduction

To only limit oneself to one out of a large number of the definitions of entrepreneurship is not an easy task. Mainly, their common determinants are creativity, productivity and an initiative related to doing business. For the purpose of this research study, our focus will be on the definition of entrepreneurship as a mechanism through which knowledge is transformed into practical results (Xingjian, 2019). The most important determinant for us is that an entrepreneur is created, not born, and that entrepreneurship is his/her basic intellectual activity (Adebiyi, 2013). Such a concept of entrepreneurship leads to the conclusion that learning is necessary for entrepreneurship, and vice versa, entrepreneurship has its place in the educational system.

Furthermore, we come to the notion of entrepreneurial learning, as well as the notion of the entrepreneurship of the young. We shall first of all rely on the definition of entrepreneurship education given by the European Commission: “Entrepreneurship education should not be mixed with the general business and economic studies; its goal is to promote creativity, innovation and self-employment, and it can include the following elements: the development of the personal attributes and skills that make up the basis of the entrepreneurial spirit and behavior (creativity, a sense of initiative, risk-taking, autonomy, self-confidence, leadership, a team spirit and so on), raising pupils’/students’ awareness of self-employment and entrepreneurship as possible career options; work on concrete entrepreneurial projects and activities; ensuring special business skills and types of knowledge of how to establish an enterprise and run it successfully.”

Entrepreneurship education is aimed at making young people familiar with the bases of entrepreneurship, as well as drawing attention to the importance of this issue. However, in order for entrepreneurship to be used as a development opportunity for the economy, it is necessary to determine what encourages young people to become entrepreneurs (Bjekić & Strugar Jelača, 2019). Entrepreneurship education should train in social skills, creativity and innovativeness, searching for opportunities, becoming familiar with business communication and administration, and should inspire to action. Young people should also become familiar and equipped with entrepreneurial skills through the education process (e.g. the recognition of the right opportunity, business planning, etc.). Preparatory education in this field would help the young to develop the entrepreneurial competences that will later be beneficial for their future job or, yet, while they work on an entrepreneurial team (Erić-Nielsen et al., 2019). The explanation for an educational intervention like this one lies in the fact that there are market distortions (Miletić et al., 2018) preventing young people from accessing the labor market easily unless they have the necessary knowledge, skills and abilities to correctly assess an entrepreneurial opportunity (Mušikić et al., 2017b).

As far as the definition of the entrepreneurship of young people is concerned, despite the insufficient consensus in the literature, we will rely on the paper by Chigunta (2001) and Schnurr and Newing (1997), which defines it as “a practical application of the entrepreneur’s qualities, such as initiative, innovation, creativity and risk taking by using the needed skills necessary for success in the given environment. This definition assumes that by their very decision to start a job young people utilize their full potential, define the problem, identify a solution and find resources to solve them, which helps their self-confidence to grow and helps them to take up an active role in their communities (International Labor Organization, 2015).

1. Problems of the evaluation of entrepreneurial learning

What we can assert with certainty is that entrepreneurial learning is a measurable category, which, however, differs from one country to another, from one institution to another, and from one program to another (Charney & Libecap, 2008; Harrison & Leitch, 1996; OECD, 2008). Yet, it is difficult to assess the effects of such an education – whether it has sufficiently satisfied the given criteria or not. There is not one approach to the evaluation of entrepreneurship education. All providers of such education should be taken into consideration; programs should be studied and their goals should be taken into account, after which the successfulness of suchlike programs should be assessed through the results achieved by young entrepreneurs. So, there are such evaluations on the one side that observe effects through the raised awareness of entrepreneurship, on the one hand, and the others that would rather measure effects of new businesses formed by those young people, on the other. The third direction in the evaluation is the introduction of a control group which has not had any entrepreneurship education and has not been compared with the primary group (OECD, 2009).

Yet another problem is the comparison of primary, secondary and higher education through the effects of entrepreneurial learning (European Commission, 2012). All these educational institutions have an impact on creation of SME (Kahrović, 2020), which affect employment growth, especially in developing countries (Simonović et al., 2017). European countries have mainly defined the specific outcomes of learning for entrepreneurship education through competences (Nešić et al., 2019). The key competence of entrepreneurship belongs to the group of transversal competences (Bacigalupo et al., 2016). This competence is specific in that it connects the acquisition of knowledge, skills and attitudes with their practical application. In primary education, the positive result of entrepreneurial learning is connected with formed attitudes towards entrepreneurship. In secondary education, all the three dimensions of the outcomes connected with attitudes, knowledge and skills are included (Mohamad et al., 2015). In some countries, only the first two dimensions of the mentioned outcomes are included. Based on all of the foregoing, it is possible to conclude that there is no one uniform system for the monitoring and evaluation of entrepreneurial learning, but there is a defined framework of the indicators for the activities of entrepreneurial learning and benefits generated from entrepreneurial learning (Morselli, 2019). Yet, the indicators that would base the competences of entrepreneurial learning upon the direct assessment of the learning outcomes are still missing. The

outcomes pertaining to the types of the knowledge of the possibilities for professional orientation and familiarity with the business environment create a framework picture of entrepreneurship, employment possibilities and the obstacles they are to face (Bobić, 2017). There are numerous studies applying advanced methodologies for measuring the efficiency of entrepreneurship education in the OECD countries through the evaluation of programs for raising entrepreneurial awareness amongst the young (Athayde 2009; Souitaris et al. 2007; Oosterbeek et al. 2010; Peterman, Kennedy, 2003). The results of the studies mainly suggest that entrepreneurship education plays a big role in the development of entrepreneurial intentions in young people. In the continuation of the paper, this direct assessment of learning through the development of entrepreneurial awareness amongst young people is applied (Petrović, 2019).

2. Research methodology

Based on the theoretical approach to the problem, quite a clear idea about the subject matter of the research is derived. In this paper, a step forward was made in the assessment of the achievement of the first goal of the mentioned program – the raised awareness of entrepreneurship (the understanding of the notion of entrepreneurship) – through the analysis of the formed attitudes and acquired base types of knowledge of those participating in the survey on entrepreneurship. Suchlike direct examinations of the outcomes of entrepreneurial learning that are related to the types of the knowledge of possibilities for professional orientation and becoming familiar with the business environment (Mušikić et al., 2017a), the created framework picture of entrepreneurship, possibilities for employment and the obstacles they are to face produce new indicators for the competences of entrepreneurial learning.

2.1. The goal, tasks and basic hypotheses of the research

The goal of the research is to obtain a more relevant picture of the effects of the applied entrepreneurial learning concept in primary and secondary education. Hytti and O'Gorman (2004) and Storey (2000) suggest the following goals that should be achieved by different entrepreneurial learning program schemes: (a) understanding the notion of entrepreneurship, (b) the preparation of an individual for starting a new business, (c) equipping an individual with new skills and approaches. Based on the defined goal and subject matter of the research, the following research tasks were singled out:

- to determine the assessment of the framework knowledge of the participants in the survey of possibilities for professional orientation;
- to determine the assessment of the business environment of the participants in the survey;
- to determine the assessment of the participants in the survey of employment possibilities;
- to determine the assessment of the participants in the survey of the obstacles to starting a business, and
- to determine the framework knowledge of the participants in the survey of programs for active support to young entrepreneurs.

The research began from the basic hypothesis that entrepreneurship education in secondary- and higher-education institutions has an important influence on the raised awareness of and the basic types of knowledge acquired about entrepreneurship. Out of the basic hypothesis set like this, several individual hypotheses arise. The indirect indicators used were gender and education level, i.e. the difference in the answers given by the respondents was considered according to their gender and the school they attend (secondary school or school of vocational studies).

1. There are statistically significant differences in the knowledge of the term entrepreneurship given education level and gender.
2. There are statistically significant differences in the knowledge of youth entrepreneurship given education level and gender.
3. There are statistically significant differences in the knowledge of active measures given the education level and the sex.
4. There are statistically significant differences in the initiative for performing the entrepreneurial activity given education level and gender.
5. There are statistically significant differences in the rating of the conditions for performing the entrepreneurial activity in Serbia given education level and gender.

During the testing of an assertion or assumption, we start from the assumption that the zero hypothesis is true and, on a sample, we look for empirical evidence against the zero hypothesis. If we find them, then we will reject the zero hypothesis and adopt an alternative one, and *vice versa*. A positive outcome of the research would be if the respondent recognizes what to be an entrepreneur means; if he/she can develop an entrepreneurial idea; if he/she understands obstacles in the environment; if he/she can rate his/her preferences in his/her entrepreneurial action.

2.2. The research method, techniques and instruments

Based on the defined subject matter of the research, the questions to which the respondents answered through self-evaluation filling out the survey forms were isolated. The data obtained were processed both qualitatively and quantitatively, whereas the results are presented textually and tabular. The data obtained by the survey questionnaire were processed by the descriptive statistics method. The IBM SPSS 23 statistical tool and the χ^2 test methods were used in the analysis of the obtained data. The χ^2 test method is used in the majority of cases if qualitative data are concerned. The basic research data may be measurement values, but only their frequencies are entered into the χ^2 test. This is a very practical test which may serve when we want to determine whether some of the obtained (observed) frequencies deviate from the frequencies we would likely expect under a certain hypothesis or not. With this test, we sometimes want to come to know if there is connectedness between two variables, by which we generate the probability of such connectedness.

2.3. The sample and research organization

The conducted survey included 333 respondents, of whom 63.7% were the students of the Business School of Applied Studies, and 121 (36.3%) were the pupils of the secondary vocational school for economics and trade. The respondents were from 16 (1.8%) to 25 years of age (0.9%). The largest number of the respondents were those of 18 (20.7%), 20 (18.0%) and 21 (16.8%) years of age. Although the sample has certain elements of a stratified quota sample, it is basically suitable (Kulić, 1998). The survey was conducted on the territory of the cities of Jagodina, Dimitrovgrad, Blace and Stara Pazova. The examination was carried out in October 2018. The respondents had enough time to answer the questions posed. The questions were of the closed-ended type. The survey process was anonymous and performed via a questionnaire, on a sheet of paper. The defined questions to which the respondents answered are as follows:

1. Are you familiar with the term entrepreneurship?
2. Have you participated in the Youth Entrepreneurship Program?
3. How familiar are you with the stimulating measures of the Republic of Serbia?
4. Have you got an idea for doing business?
5. Are there conditions for performing the entrepreneurial activity in Serbia?

The first four questions have a possibility of a double-meaning answer (“yes” or “no”), and the question on the conditions for performing the entrepreneurial activity is of a Likert type.

3. Results of the analysis

a) Are you familiar with the term entrepreneurship?

At the beginning of the survey, we were interested in whether young people were familiar with the term/notion of entrepreneurship. The survey allows us to notice that the majority of the respondents are familiar with the term entrepreneurship (80.8%), but we consider it to be an insufficient number, taking into consideration the fact that those are vocational schools of economics.

Table 1: Familiarity with the term entrepreneurship according to the education level

| School | Are you familiar with the term entrepreneurship? | | Total |
|---------------------------------|--|------------|--------------|
| | YES | NO | |
| Secondary school, % | 99 (81.8%) | 22 (18.2%) | 149 (100.0%) |
| School of vocational studies, % | 170 (80.2%) | 42 (19.8%) | 184 (100.0%) |
| Σ, % | 269 (80.8%) | 64 (19.2%) | 333 (100.0%) |

Source: the authors

Approximately the same percentage of the respondents from the secondary school and the school of vocational studies are familiar with the term entrepreneurship. The secondary school respondents account for 81.8% and those from the school of vocational studies account for 80.2%. In the next diagram, we examine whether there is a statistically significant difference in the frequencies to the question: are you familiar with the term entrepreneurship in relation to the sex?

Table 2: The differences in familiarity with the term entrepreneurship according to the sex

| F | df | p |
|--------|----|------|
| 10.102 | 1 | 0.01 |

Source: the authors

Statistically significant differences were seen in the respondents' answers to the question whether they were familiar with the term entrepreneurship or not, depending on whether they were members of the male or female population. The frequencies in understanding the notion of entrepreneurship significantly differ between the males and females ($p=0.01$). The hypothesis stating that there are no differences in answers according to gender is refuted.

b) *During your schooling, have you participated in Youth Entrepreneurship projects?*

The question about the participation in *Youth Entrepreneurship* projects adds on to the question about familiarity with the term entrepreneurship. The results show that, out of the 269 answers, 32 (i.e. 11.9% of the) respondents have participated in some of the projects implemented with the aim of developing entrepreneurial culture and climate. A total of 26.8% of them, however, have never heard of the project. The proportional presentation is given in the following table.

Table 3: *During your schooling, have you participated in Youth Entrepreneurship projects?*

| Participated in <i>Youth Entrepreneurship</i> projects | Number | % |
|--|--------|-------|
| Yes | 32 | 11.9 |
| No | 165 | 61.3 |
| I have never heard of the project | 72 | 26.8 |
| Σ | 269 | 100.0 |

Source: the authors

Participation in *Youth Entrepreneurship* projects is more present in the secondary school since the curricula are also adapted to the significance of entrepreneurship in solving young people's problems on the labor market. Yet, only 11.9% of the respondents affirmatively answered that they were familiar with that project, whereas as many as 61.3% answered they had never heard of that project. In the graph below, a proportional presentation of the participants in the survey and their familiarity with the active measures of the Republic of Serbia, with the previous condition of familiarity with the term entrepreneurship, is given.

c) *How familiar are you with the stimulating measures of the Republic of Serbia?*

Table 4: The respondents' familiarity with the active measures of the RoS

| Familiar with stimulating measures in the RoS | Number | % |
|---|--------|-------|
| Not familiar at all | 80 | 29.6 |
| Partly familiar | 172 | 63.7 |
| Familiar | 18 | 6.7 |
| Σ | 270 | 100.0 |

Source: the authors

The answers show that only 6.7% of the respondents are familiar with the stimulating measures for young people, and as many as 63.7% are partly familiar. The data showing that a larger number of the respondents are not familiar at all with stimulating measures for young people is concerning. In the following two tables (Tables 5 and 6), the analysis of familiarity with active measures according to gender and school allows for the conclusions pertaining to which of those two sub-indicators has a decisive role.

Table 5: Differences in familiarity with active measures according to the education level

| F | df | p |
|------|----|------|
| 0.14 | 2 | 0.93 |

Source: the authors

As the value of the test statistics $p=0.93$ is greater than 0.05, there are no significant differences in the knowledge of active measures in relation to the education level. The respondents of both educational institutions share the same fate as far as the prior knowledge of active measures is concerned. Here, the statistics indicate a shortcoming of our educational system when the question about entrepreneurial learning is concerned.

Table 6: Differences in familiarity with active measures according to the sex

| F | df | p |
|-------|----|------|
| 3.718 | 2 | 0.15 |

Source: the authors

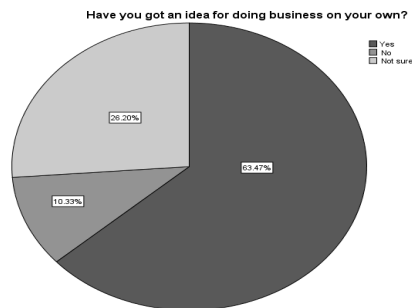
Also, due to a high p value of the test statistics ($p=0.16 > 0.05$), there are no significant differences in the knowledge of active measures in relation to the sex. This finding is not a surprise; namely, the education level should make a more significant difference. The difference between genders is consequently even less relevant.

d) Have you got an idea for doing business?

One's finishing secondary or higher education is a step towards the entrance to the labor market. The question: how ready young respondents are to integrate in the business environment can be seen through their having ideas about starting their own business.

The figure showing whether young people have an idea for starting a new business is dominant. As many as 63.5% of the respondents answered positively. The least percentage, i.e. 10.33% of them, have no idea at all for starting a new business. In the following tables, whether there is a significant difference among the respondents of the male and those of the female gender, and secondary and higher education in having an idea for doing business, or not, is the subject matter of consideration.

Graph 1: Having an idea for doing business on one's own



Source: the authors

Table 7: The difference in having an idea for doing business on one's own, according to the sex

| F | df | p |
|--------|----|------|
| 18.444 | 2 | 0.00 |

Source: Author

Table 8: The difference in having an idea for doing business on one's own, according to the education level

| F | df | p |
|-------|----|------|
| 0.034 | 2 | 0.98 |

Source: the authors

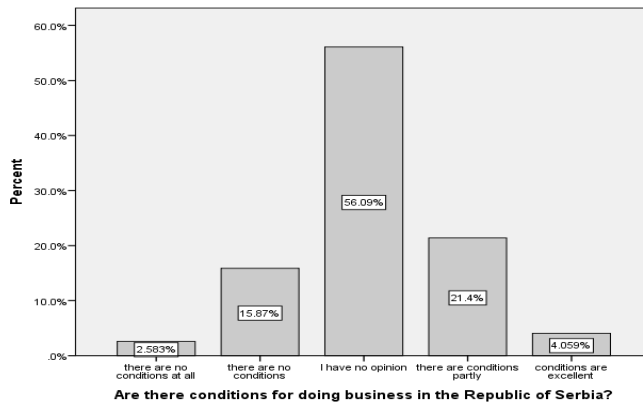
As the value of the test statistics $p=0.98$ is, therefore, greater than 0.05, no statistically significant difference is found in having an idea for starting one's own business according to the education level, by the χ^2 test method. It is possible to conclude that the respondents' years of age are not an obstacle to creativity and a wish for making a success on their own. The difference between genders regarding this question has a bigger and significant influence.

e) Are there conditions for performing entrepreneurial activity in Serbia?

This question served the participants in the survey to recognize the business environment which they live and will work in. Entrepreneurial learning is aimed at making attendees familiar with the options offered regarding employment, the recognition of a favorite climate for the development of business, creativity and innovativeness in knowing their way around in the given circumstances.

The respondents participating in this survey answered in the following way: 56.09% of them said they had no opinion on the existence of the conditions for business in Serbia; 21.4% of the respondents found that such conditions are present but partly, whereas 15.37% of them said there were no conditions for starting a small business. Through a further analysis, we examined whether there was a difference in the respondents' opinions on the existence of the conditions for the development of private business classified according to the sex and the education level. A statistically significant difference was found in the respondents' answers in relation to the sex, $p=0.00$ ($F=15.426$, $df=1$).

Graph 2: Are there conditions for performing the entrepreneurial activity in Serbia?



Source: the authors

Conclusion

Given the fact that these are schools of the economic path, the results are not positive when speaking about the present model of entrepreneurship education. The respondents demonstrate an unenviable level of raised entrepreneurial awareness and the insights gained into the entrepreneurial environment. The results show that there is no bigger difference between the answers of both genders regarding familiarity with stimulating measures directed towards the development of entrepreneurship in Serbia. Participation in Youth Entrepreneurship projects is more present in the secondary school, since the curricula are also adapted to the significance of entrepreneurship in solving young people's problems on the labor market. Yet, only 11.9% of the respondents answered affirmatively that they were familiar with that project, whereas as many as 61.3% of them had never heard of that project. The frequency in the answers shows that a low percentage of young people are familiar with active measures (7.61%), and as many as 63% of the young are only partly familiar with the stimulating measures intended for your people to start a business. There are no significant differences, either, in the knowledge of active measures in relation to the professional qualification level. The respondents in the higher-education institution do not receive a more significant prior knowledge of active measures in relation to the secondary school students, which could be said to be a shortcoming of our school system. A better coordination of the young and their better knowledge of information about the implementation of financial and nonfinancial aid and support within the framework of the existing entrepreneurial learning programs are necessary. In the schooling process, there is a need for a greater presence of young peoples' knowledge of information and the development of business ideas for their becoming independent on the labor market.

Based on the question about familiarity with the notion of entrepreneurship, a statistically significant difference is found in understanding the notion between the male and female sexes. This difference in the answers of the respondents of the male and female

sexes is also found in their expressing their opinions on the conditions for the development of business in Serbia. A statistically significant difference is also found in having an idea for doing business on one's own between the male and female sexes. We may assume that this result has a psychological underlying concept in the sexes' inclination towards risk. Women are much more precarious than the male sex in expressing their ideas and readiness to start their own business. Although efforts are made towards the equality of both sexes on the labor market, women still feel greater precariousness in the implementation of their business ideas and starting their own business (Beraha, Đuričin, 2020). No significant difference was found between the respondents of a different professional qualification degree as per idea for starting own business. We can conclude that the respondents' years of age are not an obstacle to creativity and a wish for a success made on their own. The difference in the sexes has a greater influence when this question is concerned.

The results of the survey research suggest that we should think about a different development of entrepreneurial culture and skills, redefine the goal and tasks of entrepreneurship education by appreciating the specificities and needs of young people potential entrepreneurs. A need is born for revising the existing syllabi and content, as well as for "a potential change in the teaching strategy through didactic systems, working methods, approaches, through changes in the interpersonal relationships between the main actors in the teaching process (pupils/students and teachers), especially so in relation to the approach to work on teaching content" (Kačapor, 2012.)

References

- Adebiyi, A. & Adegbemi, O. (2013). Intellectual entrepreneurship: theories, purpose and challenges. *International Journal of Business Administration*, 4(5), 30-37. Doi: <http://dx.doi.org/10.5430/ijba.v4n5p30>
- Athayde, R. (2009). Measuring enterprise potential in young people. *Entrepreneurship Theory and Practice*, 33(2), 481-500. Doi: <https://doi.org/10.1111%2Fj.1540-6520.2009.00300.x>
- Bacigalupo, M., Kamylyis, P., Punie, Y. & Van den Brande, G. (2016). *EntreComp: The Entrepreneurship Competence Framework*. Luxembourg: Publication Office of the European Union. Doi: <https://doi.org/10.2791/593884>
- Beraha, I., & Đuričin, S. (2020). Istraživanje potencijala za razvoj inovativnog ženskog preduzetništva u Srbiji. *Ekonomika*, 66(1), 93-104. Doi: <https://doi.org/10.5937/ekonomika2001093B>
- Bjekić, R., & Strugar Jelača, M. (2019). Students' entrepreneurial intention in respect to their psychological traits, gender and study program of the faculty. *Teme*, 43(2), 375-394. Doi: <https://doi.org/10.22190/TEME180213024B>
- Bobić, D. (2017). *Mapiranje prepreka za preduzetništvo mladih*. Beograd: Centar za visoke ekonomske studije.
- Charney, A., & Libecap, G.D. (2008). The Impact of Entrepreneurship Education: An

Evaluation of the Berger Entrepreneurship Program at the University of Arizona, *Kaufman Center for Entrepreneurship Learning*, 1985-1999, Retrieved June 2018, from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1262343

Chigunta, F. (2001). *Youth Livelihoods and Enterprise Activities in Zambia. Report to IDRC*. Canada.

Erić-Nielsen, J., Stojanović-Aleksić, V., & Zlatanović, D. (2019). Izazovi upravljanja preduzetničkom organizacijom. *Ekonomika*, 65(2), 87-98. Doi: <https://doi.org/10.5937/ekonomika1902087E>

European Commission. (2012). *Entrepreneurship Education at School in Europe National Strategies, Curricula and Learning Outcomes*. EACEA P9 Eurydice and Policy Support.

Eurydice Q&A on Entrepreneurship Education at School in Europe; Flash Eurobarometer. (2008). *OECD Programme for International Student Assessment (PISA)*.

Harrison, B., & Leitch, I. (1996). Learning organizations: the measurement of company performance. *Journal of European Industrial Training*, 20(1), 31-44. Doi: <https://doi.org/10.1108/03090599610105264>

Hytti, U., & O'Gorman, C. (2004). What is 'enterprise education'? an analysis of the objectives and methods of enterprise education programmes in four European countries. *Education + Training*, 46, 11-23. Doi: <https://doi.org/10.1108/00400910410518188>

International Labor Organisation. (2015). *Global employment trends for youth 2015*. Geneva: International Labor Organisation.

Kačapor, S. Z. (2012). Preduzetništvo kao cilj i ishod vaspitanja i obrazovanja. *Zbornik radova Filozofskog fakulteta u Prištini*, 42(1), 69-96.

Kahrović, E. (2020). Preduzetnički univerziteti i posredničke organizacije kao faktor uspešnosti malih i srednjih preduzeća - pregled literature. *Ekonomika preduzeća*, 68(3-4), 229-247. Doi: <https://doi.org/10.5937/EKOPRE2004229K>

Kulić, R. (1998). *Sadržaj rada i obrazovanje*. Beograd: Andragoška biblioteka, Zavod za udžbenike i nastavna sredstva.

Miletić, V., Miletić, S., & Ćurčić, N. (2018). Profitabilno poslovanje organizacije kao ishod unapređenja konkurentnosti primenom koncepta CRM. *Anali Ekonomskog fakulteta u Subotici*, 40, 33-48.

Mohamad, N., Lim, H.-E., Yusof, N., & Soon, J.-J. (2015). Estimating the effect of entrepreneur education on graduates' intention to be entrepreneurs. *Education + Training*, 57(8/9), 874-890. Doi: <https://doi.org/10.1108/ET-03-2014-0030>

Morselli D. (2019). The assessment of entrepreneurial education. In: *The Change Laboratory for Teacher Training in Entrepreneurship Education*. Springer, Cham: Springer Briefs in Education. Doi: https://doi.org/10.1007/978-3-030-02571-7_2

Muškić, S., Marčetić, M., & Đurović, S. (2017b). The role of the active policy of the labor

- market in the Republic of Serbia. *Ekonomika*, 63(2), 79-86. Doi: <https://doi.org/10.5937/ekonomika1702079M>
- Mušikić, S., Mitrović, S., & Marčetić, M. (2017a). Neformalna zaposlenost mladih u Srbiji- stanje i trendovi. *Ekonomija - teorija i praksa*, 10(4), 65-75. Doi: <https://doi.org/10.5937/etp1704067M>
- Nešić, M., Zubanov, V., & Mišković, I. (2019). Preduzetništvo u turizmu kao izbor profesionalnog usmerenja mladih. *TIMS Acta*, 13(2), 69-78. Doi: <https://doi.org/10.5937/timsacta1902069N>
- OECD. (2009). *Evaluation of Programmes Concerning Education for Entrepreneurship*, report by the OECD Working Party on SMEs and Entrepreneurship, OECD.
- Oosterbeek, H., Praag, M., & Ijsselstein, A. (2010). The impact of entrepreneurship education on entrepreneurship skills and motivation. *European Economic Review*, 54(3), 442-454. Doi: <https://doi.org/10.1016/j.euroecorev.2009.08.002>
- Peterman, N., & Kennedy, J. (2003). Enterprise education: influencing students' perceptions of entrepreneurship. *Sage Journals*, 28(2), 129-144. Doi: <https://doi.org/10.1046%2Fj.1540-6520.2003.00035.x>
- Petrović, M., & Leković, B. (2019). Characteristics of ambitious entrepreneurs in Southeast Europe region: High-growth expectation concept. *Anali Ekonomskog fakulteta u Subotici*, 41, 55-66. Doi: <https://doi.org/10.5937/AnEkSub1941055P>
- Schnurr, J., & Newing, S. (1997). *A Conceptual and Analytical Framework for Youth Enterprise and Livelihood Skills Development: Defining an IDRC Niche*. IDRC, Canada.
- Simonović, Z., Ćurčić, N., & Miletić, V. (2017). Neki problemi razvoja malih i srednjih preduzeća u poljoprivredi Srbije. *Anali Ekonomskog fakulteta u Subotici*, 37, 57-69.
- Souitaris, V., Zerbinati, S., & Al-Laham, A. (2007). Do entrepreneurship programmes raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resources. *Journal of Business Venturing*, 22(4), 566-591. Doi: <https://doi.org/10.1016/j.jbusvent.2006.05.002>
- Storey, D. J. (2000). *Small Business: Critical Perspectives on Business and Management*. London and New York: Taylor and Francis Group.
- Xingjian,W., Xiaolang, L., & Jian,S. (2019). How does the entrepreneurship education influence the students' innovation? Testing on the multiple mediation. *Frontiers in Psychology*, 10, 1557. Doi: <https://dx.doi.org/10.3389%2Ffpsyg.2019.01557>

Challenges of teleworking during the COVID-19 pandemic

Изазови рада на даљину у току COVID-19

Mile Vasic

European Marketing and Management Association, Banja Luka, Bosnia and Herzegovina,
mile.vasic@eummas.net

Abstract: The purpose of this paper is to determine how companies in the South-East European countries responded to the crisis caused by COVID-19 pandemic and work from home challenges, and what could be done in the future to overcome obstacles of working remotely. Forced by the pandemic to change the working style, companies needed to find the best possible solutions to ensure a sufficient level of working activities. Since such a challenge was faced for the first time in modern human history, not many companies were prepared for it. A quantitative approach was taken, using an online survey for the research. The findings are discussed and presented with reference to the relevant theories. The study reveals and points out the main concerns and problems related to working separately from the rest of the organization. The study analyzes how certain factors of working remotely such as lack of traditional leadership, physical workspace, isolation, etc. affected the life and work of employees during the crisis. The study is novel as these were the circumstances we had not faced before. The paper contributes to a better understanding of all of the aspects of teleworking, with an emphasis on social isolation and working under lockdown.

Keywords: working remotely, leadership, social isolation, work-life conflict

JEL classification: O15, D23, J81

Сажетак: Сврха овог рада је да се утврди како су компаније у државама југоисточне Европе одговориле на кризу проузроковану пандемијом COVID-19 као и на изазове рада од куће, те шта би се могло учинити у будућности како би се превазишле препреке рада на даљину. Присилени пандемијом да промјене стил рада, компаније су требале пронаћи најбоља могућа рјешења како би обезбједиле задовољавајући ниво пословних активности. Пошто се са оваквим изазовом сусрећу по први пут у модерној историји човјечанства, мало компанија је била спремна за њега. Квантитативни приступ је одабран, кроз употребу онлине анкете за истраживање. Резултати су представљени и поткрепљени са референцама на релевантне теорије. Студија открива и указује на главне изазове и проблеме везане за рад који се одвија одвојено од остатка организације. Студија анализира како одређени фактори рада на даљину као што је недостатак традиционалног лидерства, радно мјесто у физичком смислу, изолација итд. утичу на живот и рад запослених за вријеме кризе. Тренутна студија је новина пошто се ради о условима са којима се до сада нисмо суочавали. Рад доприноси бољем разумјевању свих аспеката рада на даљину, са посебним нагласком на друштвену изолованост и рад у условима забране кретања.

Кључне речи: рад на даљину, лидерство, друштвена изолација, конфликт пословног и приватног живота

ЈЕЛ класификација: O15, D23, J81

Introduction

Millions of workers around the world are going through the difficult time of redefining the way they work. Since the outbreak of the COVID-19 pandemic, the work environment has changed overnight and everybody needed to adopt suddenly and quickly. The challenges of managing personal safety, family matters, and work-related duties do not seem to be simple. On the contrary, from day to day the workers face new challenges and problems. How they tackle these challenges will have profound consequences on their productivity and company success. The purpose of this paper is to specifically determine how companies in the South-East European countries responded to the crisis caused by COVID-19 pandemic and work from home challenges, and what could be done in the future to overcome obstacles of working remotely.

What have been the major issues and problems? At first, a large number of employees did not have proper equipment and resources to work from home. Since most of the people remained at home, Internet usage rose sharply. With the rise of social distancing, people were seeking out new ways to connect and to keep in touch with family and friends, mostly through video chat. The others tried to make good use of time by watching movies online, downloading tons of eBooks and materials, playing games, etc. All of that slowed down the Internet connections and caused delays for those who needed the Internet for work. Besides the troubles with ensuring a stable and fast internet connection, many employees faced the other technology hiccups such as inadequate hardware or lack of certain software. Some workers did not have sufficient technical skills, the others were confused and could not communicate with the rest of the team and organization properly. Not being able to receive clear face-to-face instructions, e-leadership for some workers was a major source of stress and insecurity. At the same time business leaders also face problems in redefining what supervising employees mean in the context of telework. How to supervise? How to motivate? What is too much or too little?

Although it seemed interesting at the beginning to work and at the same time stay in a pajama for the whole day at home, the work-life conflict became one of the major obstacles. How to explain a three-year-old that mother now works from home? How to explain that a kitchen is now an office? How to mentally escape from the house?

Balancing work and life in regular situations is hard, not to mention situations when everybody is forced to stay indoors. Feeling of being locked down and trapped influences people's moods and cause depression, intellectual disabilities, neurological disorders, and mental illness. On the other side, people who live alone may feel lonely and lack human interactions. These people usually face the other kind of problems such as overworking. When someone's work and personal life are under the same roof, it may be hard to draw a line between them and set borders.

With the outbreak of COVID-19 and the need to switch from office to remote work, we found out that many workers had never been trained to telework so that improvisation was the only option they had. This paper reveals how companies operating in SEE responded to the COVID-19 crisis and work from home challenges and what is to be done

in the future to overcome obstacles of teleworking. The study explored problems of working remotely under lockdown such as loyalty, motivation, proper leadership, workload, work-life balance/conflict, job performance measurement, appraisal, coping with stress, job insecurity, (virtual) team working, lack of skills and resources, etc. The findings will contribute to the advancement of knowledge on teleworking and managing human resources remotely.

1. Literature review

It is in human nature to support each other in case of danger. It is said that humans are born with an urge to help. It is also known that in case of a collective danger, people start relying more on each other and offer support more than usual even to a stranger. The reason is always the same – survival. To survive, people must be protective, reliable, attentive, and considerate. At work, people start caring more about each other, about their colleagues and coworkers, and finally about their company. The team spirit and loyalty to the company suddenly peak. In those times, we become more proud of being a part of society, a part of the company.

Loyalty has always been important to both, the workers and the organizations. It gives people a feeling of security and calm. An employee who is proud of the organization she/he works for, ultimately is more loyal and devoted to that organization knowing that she/he is a part of something bigger than herself/himself and that her/his contribution towards organizational success counts (Graham & Cascio, 2018, p. 366). The fear of personal loss becomes stronger and employees worry more not only about themselves but about the future of the company and society as well. Although wishing to support the company to the best of their abilities, many workers find it challenging to adopt some changes in the work environment – to work in an improvised home office far from the coworkers, i.e. to telework.

Teleworking is not a new thing and has been adopted worldwide by many companies but not in the high extent. Telework is mainly employed in education and health, information and communication, and in large firms (Pigini & Staffolani, 2019). Thanks to the new technologies employees can work from any location and not be required to physically be present in the traditional office. Terms virtual work, remote working, teleworking, telecommuting, etc. are used for work performed by employees outside the traditional office using information and telecommunication technologies. Such work is becoming more and more popular. However, still many managers believe that teleworkers are not as productive as the workers in traditional offices. On the other side, a number of studies suggest that teleworkers can be more productive because they can work during their most productive time and be less distracted by co-workers (Nakrošienė et al., 2019, p. 88).

The average number of teleworkers in the European Union (EU) Member States is considerably lower, amounting to 17 percent in 2015 and ranges from 7 percent in Italy to 37 percent in Denmark (Nakrošienė et al., 2019, p. 88). According to Nakrošienė et al., (2019) in Central and Eastern European countries, the corresponding telework figure is lower than the EU average at 14 percent (Nakrošienė et al., 2019, p. 88). The latest statistics

provided by GlobalWorkplaceAnalytics.com (2018) shows 4.3 million employees (3.2 percent of the workforce) work at least half their hours from home. Since 2005, the number of telecommuters has grown by 140 percent, nearly 10 times faster than the rest of the workforce (Wang et al., 2020, p. 609-610). According to the latest statistics of EUROSTAT (2020) in 2019, 5.4% of employed persons in the European Union (EU) who were aged 15-64, usually worked from home and the share did not change throughout the last decade, while the share of those who sometimes worked from home has been rising from 6.0% in 2009 to 9.0% in 2019. The same source indicates that the Netherlands and Finland topped the list with 14.1% of employed people usually working from home in 2019, followed by Luxembourg (11.6%) and Austria (9.9%) while the lowest rates of home-workers were reported in Bulgaria (0.5%), Romania (0.8%), Hungary (1.2%), Cyprus (1.3%), Croatia and Greece (both 1.9%). Four of the five SEE countries that are EU member states are among the EU countries that have the lowest teleworking rates (Bulgaria, Romania, Croatia, and Greece).

A better measure of human capital is task performance, which encompasses realized human capital within an organization (Zatzick, et al. 2015:878). Several studies have investigated the effects of telework on family-work relations, and on work performance, but in spite of this, the effects of telework are not clear, given that results of the different studies are contradictory (Solís, 2017, p. 21). However, some studies indicate that the suitability of the working place at home and decreased time for communication with co-workers are the most important telework factors impacting different telework outcomes (Nakrošienė et al., 2019, p. 94). It would be easier to accept teleworking under normal circumstances. Also, under normal circumstances, social isolation would not affect us the same way it affects us now. Reduced amount of physical contact and interaction between workers and supervisors make individuals feel isolated and distant from the social life of the firm (Kosseck et al., 2015). The impact of social/physical distancing on family-work relations, work performance, productivity, and job satisfaction would significantly differ. The same study suggests that the reduced time for communication with co-workers increases the productivity of teleworkers and can be seen as a contra argument to the social isolation of teleworkers (Nakrošienė et al., 2019, p. 97).

However, some managers still tend to believe that teleworking would not be acceptable for their company since physical isolation could lead to psychological isolation. What is psychological isolation? Psychological isolation refers to feelings of emotional unfulfillment when one lacks meaningful connections, support, and interactions with others, while physical isolation refers to physical separation from others (Wang et al., 2020, p. 609). At relatively high levels of telecommuting, a significant loss of face time and more social isolation are likely to increasingly offset the individual's ability to satisfy both individual and organizational needs, negatively affecting job satisfaction (Golden & Veiga, 2006, p. 303). The same study suggests that job satisfaction initially increases as the extent of telecommuting rises; however, at higher levels of telecommuting, it starts to level off and decrease slightly and essentially plateaus; although this suggests that the impact of telecommuting on job satisfaction is more complex than previously thought, it also suggests

that gains in job satisfaction at lower levels of telecommuting are relatively substantial compared with those at higher levels (Golden & Veiga, 2006, p. 312-313).

But how is it possible not to be satisfied when you have to work from home? Isn't it an advantage to stay home and do your job instead of commuting? Isn't it a good way to balance work and life, to spend more time with the family, to be home when they need you? In fact, yes. Many studies suggest that. Gajendran & Harrison (2007) conducted a research and their results suggest that telecommuting is likely more good than bad for individuals and that it has a clear upside: small but favorable effects on perceived autonomy, work-family conflict, job satisfaction, performance, turnover intent, and stress. They argue that contrary to expectations in both academic and practitioner literature, telecommuting also has no straightforward, damaging effects on the quality of workplace relationships or perceived career prospects.

So, as we can see, many analyses and studies, many different opinions and findings. The physical isolation, physical separation or social distancing from coworkers may or may not have, as we can see, a positive impact on family-work relations, work performance, productivity, and job satisfaction but the lack of traditional face-to-face leadership and working with an e-leader may be challenging for most workers. Also, managers can find it hard to communicate and delegate properly. A very significant function of leadership is effective communication with followers, constituents, partners, and external publics (Liu et al., 2018, p. 827). Leader communication is not only about knowledge and cognition, but also about feelings and emotion, awareness must take into account the affective aspects of virtual communication, not only by the richness of the medium and tool but also its ability to satisfy recipients' desire for speed, customization, reminders, etc. (Liu et al., 2018, p. 837).

Followers in many cases wish to have precisely delegated tasks. They feel safe when they seek and get feedback, share and receive information, and ask and offer help. They feel and they know that their efforts and work performance must be noticed, measured, and appraised. A better measure of human capital is task performance, which encompasses realized human capital within an organization (Zatzick et al., 2015, p. 878). Inadequate measuring of work performance and lack of information imposes additional stress on workers. Lajšić (2019) argues that in modern human resource management, it is necessary to emphasize the importance of measuring performance. It is even more important now to give feedback as well as an appreciation for a well-done job than in regular circumstances. Motivation must not be neglected. In traditional organizations, supervisors are not only tasked with ensuring high-quality performance, but they are also meant to motivate workers and to provide social support (Jabagi et al., 2019, p. 194).

Motivation is crucial in times of sudden changes. Organizations need to change constantly and adopt new work style and habits to stay competitive. Nowadays, both the organizations and their workers need to accept the reality of remote working being aware that many companies will not succeed and survive on the market. At the employee level, however, changes oftentimes evoke feelings of job insecurity (De Cuyper et al., 2020, p. 221). However, the feeling of insecurity usually has a positive impact on work performance

although workers may feel that workload affects their private life and health as well. Loyal workers will work even harder and will spend far more time “at work” than usual. When one becomes unaware of time and usual working hours vanishes, private life and family suffer. Working too much and too long can help the company at one point in time, but in the long run, it may ruin an individual's health and life. Therefore, leaders should carefully assign tasks bearing in mind the optimum workload and the employees' well-being. Workload refers to the quantity and difficulty of work. Most often employees feel overloaded when the quantity of work exceeds the regular working schedule and amount of work. However, sometimes it is simply difficult to stop working. Communication with superiors and coworkers require often exchange of information. In distance working, it means tons of emails and other textual messages that create communication overload. Communication overload occurs when a third party solicits the attention of the knowledge worker through such means as email, instant messaging, or mobile devices that cause excessive interruptions in his or her job to the point the knowledge worker becomes less productive (Karr-Wisniewski & Lu, 2010, p. 1063). E-mail overload can keep a person stuck in front of a computer for hours not even being aware of it.

The literature on e-mail load suggests that the extent to which individuals think e-mail is helpful or desirable influences their e-mail use (Stich et al., 2019, p. 433). With the bulk of e-mails, we simply become overloaded with information. Information overload occurs when the volume of the information supply exceeds the limited human information processing capacity and dysfunctional effects such as stress and confusion are the results (Eppler & Mengis, 2004, p. 328). In theory, that kind of stress is known as role stress since it is related to the inability to perform certain tasks and roles. Role stress occurs when an employee tries to fulfill the behaviors that are expected when completing the role (Delpechitre et al., 2019, p. 321). An employee under stress cannot be productive and the level of satisfaction is significantly low. Moreover, the gap between life and work is wider.

How does the increased workload impact work performance? The relationship between workload and performance is not a straightforward one, as workload should not impede performance as long as it is not too high (Pindek et al., 2019, p. 82). However, when it is too high it impedes not only the performance, motivation but the private life as well. When working remotely, the employee has to choose between two important roles – being a parent or being a company soldier. Work-family conflict represents a role imbalance between those two responsibilities. Companies are expected to pay more attention to their employees' wellbeing by increasing their satisfaction so that the employees behave appropriately for the interests of the companies in the long term. Therefore, companies should prevent work-family conflict in their employees. The impacts of work-family conflict in employees are work stress, turnover intention, and maybe audit quality reduction behavior (Amiruddin, 2019, p. 438). All of these will impact both the individuals and the organization.

To cope successfully with teleworking hiccups and challenges companies should be able to anticipate certain obstacles that might influence the life and work of its employees. A proper teleworking program may be of help. To make them, organizations should be aware of critical success factors in developing and implementing such programs. As

Kowalski and Swanson suggest, those critical success factors are support, communication, and trust (Kowalski & Swanson, 2005). The company has to provide all the necessary resources critical for successful teleworking. Before all, it should provide proper technology and tools to all teleworkers and training for both teleworkers and their managers. Some workers may find it challenging to cope with new technologies and it can impact the level of satisfaction and productivity. Suh & Lee (2017) examine how technology and job characteristics jointly induce teleworkers' technostress (work stress caused by information technologies), how technostress influences teleworkers' job satisfaction, and how the patterns of the technostress that teleworkers experience vary depending on their intensity of teleworking and found out that technology-induced stressors (i.e. work overload, invasion of privacy, and role ambiguity) lead to greater strain, which in turn reduces teleworkers' job satisfaction; it is a well-known fact that a high level of work satisfaction can increase workers' productivity, whereas a low level of work satisfaction increases employee turnover; therefore, the study's results imply that the technostress perceived by teleworkers directly influences the productivity of individuals and organizations and the results demonstrate that the faster the pace of the IT changes, the higher the level of work overload and role ambiguity perceived by workers (Suh & Lee, 2017).

Another study that is in favor of the importance of providing company support to the workers in the study conducted by Stich et al. (2018) who suggest that organizations should provide training to employees since not everyone likes technology or can use it well or effectively. New technologies associated with digital transformation promise to improve business performance but require competencies that need to be improved (Erceg & Zoranović, 2020, p. 53). Besides avoiding IT obstacles, a comprehensive teleworking program should be developed describing in detail all processes, procedures, and policies. Special attention must be drawn to the family issues and both managers and workers should be able to draw a line between private life and work to maintain a healthy environment and provide well-being to all. Training must not be neglected and should include the development of various skills needed for teleworking, such as the use of technologies, communication skills, delegating, virtual teamwork, etc. We have already discussed the importance of good communication and here we just have to point out that there is no trust if we miscommunicate. As with support and communication, trust is necessary at all levels of the teleworking organization (Kowalski & Swanson, 2005, p. 243). Another study also points out the importance of trust in teleworking suggesting that successful virtual workers are able to develop trust early on, enhance others' trust in their own ability, and engender increased relational trust from others (Makarius & Larson, 2017, p. 161).

2. Research questions

According to the above said, the following research questions were formulated:

RQ1. If employees are worried about the impact of coronavirus on them and their organizations, do they demonstrate a high level of loyalty?

RQ2. If workers were unprepared for the pandemic situation and found it difficult to

work remotely, do they prefer the traditional way of working compared to teleworking?

RQ3. What is the role of proper leadership and support for teleworking?

RQ4. Does teleworking under lockdown differ to a great extent from traditional teleworking?

3. Methodology

The research questions were set and an online survey was made. The survey was delivered through LinkedIn (<https://www.linkedin.com>), an employment-oriented online service that operates via websites and mobile apps used for professional networking, using the survey created through the service offered by *SurveyMonkey* (www.surveymonkey.com). *SurveyMonkey* was used because of the features that assisted in the analysis of the data collected and encryption options that ensure the confidentiality of the data. The author's network of more than 12.000 connections, as well as four other LinkedIn groups of about 20.000 professionals working in companies in SEE countries, were used and the relevant URL with the survey was shared with the network both in private messages and by posting it on the walls.

The research was conducted between the 10th of April and 10th of May 2020, targeting individuals from South-East Europe (Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Greece, Moldova, Montenegro, North Macedonia, Romania, Serbia, Slovenia, and Turkey), and 2,863 professionals ($\approx 8.9\%$) responded to the questionnaire. A ten-item questionnaire was adapted and different types of survey questions were used. A list with fifty industries was offered in the survey and only nine (sales, banking, education, HR, pharmaceuticals, advertising, consulting, government, and IT) that were chosen most are presented in the paper. The profile of respondents (gender, age, geographical distribution, industries, and company size) is given in Table 1 below, and Survey questions and responses are presented in Table 2.

4. Findings and discussion

As mentioned above a demographic data was collected to illustrate the profile of respondents that took part in this survey (Table 1). The respondents were from 12 SEE countries: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Greece, Moldova, Montenegro, North Macedonia, Romania, Serbia, Slovenia, and Turkey. Five of them are EU member states: Bulgaria, Croatia, Greece, Romania, and Slovenia. Out of 2,863 respondents, 53.34% were female workers, and more than 60% were aged 31-55. The highest number of respondents were employed in sales, banking, education, HR, pharmaceuticals, advertising, consulting, government, and IT sectors. Only 9.74% worked in large-sized companies (by the number of employees). It is understandable since most of the countries have gone through the transformation of their economies and process of privatization in the past three decades and the large business systems, that had been the backbone of their national economies, no longer exist. Also, small and medium-sized enterprises (all enterprises with less than 250 employees) are now seen as the backbone of

the European economy. In developed EU countries, it can be applicable since they still have large business systems that serve as a port for small boats i.e. small and medium-sized enterprises.

Table 1: The profile of respondents (n%)

| The profile of respondents (N=2863) | | Count | Percent |
|-------------------------------------|------------------------|--------------|---------|
| Gender | Female | 1527 | 53.34% |
| | Male | 1336 | 46.66% |
| Age | 18-30 | 796 | 27.80% |
| | 31-45 | 1171 | 40.91% |
| | 46-55 | 569 | 19.87% |
| | 56-65 | 327 | 11.42% |
| Geographical distribution | Albania | 64 | 2.23% |
| | Bosnia and Herzegovina | 131 | 4.58% |
| | Bulgaria | 270 | 9.43% |
| | Croatia | 174 | 6.08% |
| | Greece | 338 | 11.81% |
| | Moldova | 67 | 2.34% |
| | Montenegro | 41 | 1.43% |
| | North Macedonia | 89 | 3.10% |
| | Romania | 563 | 19.66% |
| | Serbia | 391 | 13.66% |
| | Slovenia | 121 | 4.23% |
| | Turkey | 614 | 21.45% |
| Industries | Sales | 272 | 9.50% |
| | Banking | 246 | 8.60% |
| | Education | 333 | 11.63% |
| | HR | 578 | 20.19% |
| | Pharmaceuticals | 167 | 5.83% |
| | Advertising | 158 | 5.51% |
| | Consulting | 271 | 9.47% |
| | Government | 138 | 4.82% |
| | IT | 344 | 12.02% |
| | Other | 356 | 12.43% |
| | Company size | Micro (< 10) | 1124 |
| Small (< 50) | | 1023 | 35.73% |
| Medium (< 250) | | 477 | 16.66% |
| Large (> 250) | | 239 | 8.35% |

Source: the author's research

RQ1. If employees are worried about the impact of coronavirus on them and their organizations, do they demonstrate a high level of loyalty?

As we can see from Q1 and Q2 (Table 2) more than 70% of respondents were worried about the impact of coronavirus on themselves and their companies. "Fear for my family and myself" is for 27% of respondents cause of mental stress and anxiety (Q4). COVID-19 was presented as both a collective and an individual threat. All media were talking about the danger that the pandemic can cause to the lives and economies. Being worried about yourself and your family is the first reaction. The second reaction is connected to the company since people worried about losing their livelihoods because of the low economic activities of the companies during the pandemic. The natural reaction to those threats is the fight and workers accepted all kinds of activities that might be helpful for the organization. It meant more work even though the skills and environment were aggravating factors. But is it the loyalty to the company? Or loyalty to themselves? Or it is a higher level of empathy and social awareness? Employee loyalty is generally viewed as an unambiguously positive attribute at the individual and collective level (Rice et al., 2017, p. 1757). Companies always face problems and dangers in different shapes and forms. The pandemic like the one we face nowadays is just one of them. It seems that workers are personally more involved and more aware of that danger. The loss for the company would be personal as well. In Q5 more than 78% of respondents selected "the future of their organization" as the biggest challenge and fear. "The ability to support organization" ranked second place and "keeping a regular schedule" the third position (almost 60% each) in the same question. The answers show dedication to the companies and a positive work attitude. Workers connect their destiny to the destiny of the organization they work for and belong to. Employees' loyalty refers to the extent to which the employees are faithful to the organization (Tseng & Wu, 2017, p. 683). So being loyal to the company equals being loyal to themselves and their families.

Table 2: Survey – Questions and Responses (n%)

Q1. How worried are you about the impact of coronavirus on you?

| | Count | Percent |
|--------------------|-------|---------|
| Extremely worried | 302 | 10.55% |
| Very worried | 836 | 29.20% |
| Somewhat worried | 968 | 33.81% |
| Not so worried | 543 | 18.97% |
| Not at all worried | 214 | 7.47% |

Q2. How worried are you about the impact of coronavirus on your company?

| | Count | Percent |
|--------------------|-------|---------|
| Extremely worried | 591 | 20.64% |
| Very worried | 649 | 22.67% |
| Somewhat worried | 881 | 30.77% |
| Not so worried | 521 | 18.20% |
| Not at all worried | 221 | 7.72% |

Q3. How easy or difficult is it for you to work effectively these days?

| | Count | Percent |
|---------------|-------|---------|
| Very easy | 454 | 15.86% |
| Somewhat easy | 303 | 10.58% |

| | | |
|----------------------------|------|--------|
| Neither easy nor difficult | 411 | 14.36% |
| Somewhat difficult | 1201 | 41.95% |
| Very difficult | 494 | 17.25% |

Q4. What has caused you the most mental stress and anxiety in the past few months?

| | Count | Percent |
|---|--------------|----------------|
| Fear for my family and myself | 779 | 27.20% |
| Food insecurity | 184 | 6.43% |
| Being unprepared for teleworking (skills and resources) | 1069 | 37.35% |
| Managing work-family conflict | 684 | 23.89% |
| Lack of money | 147 | 5.13% |

Q5. What are the TOP FIVE biggest challenges and fears you are currently facing?

| | Count | Percent |
|---|--------------|----------------|
| The future of my organization | 2248 | 78.52% |
| Supporting the organization to the best of my abilities | 1689 | 58.99% |
| Keeping a regular schedule | 1211 | 42.30% |
| Childcare | 1201 | 41.95% |
| No teleworking programs and instructions | 1197 | 41.81% |
| Overworking | 1189 | 41.53% |
| Inadequate skills and lack of experience for working remotely | 1138 | 39.75% |
| Too many distractions at home | 1021 | 35.66% |
| Physical inactivity, stress, and work-related disorders | 1019 | 35.59% |
| Inadequate measuring of work performance | 977 | 34.13% |
| Communication with coworkers is harder | 968 | 33.81% |
| Lack of proper leadership, information, and appreciation | 960 | 33.53% |
| Social isolation | 951 | 33.22% |
| Internet connectivity | 822 | 28.71% |
| My physical workspace | 809 | 28.26% |
| Lack of tools or information needed to work at home | 788 | 27.52% |

Q6. Thinking about your current work from home arrangements, how long is this something you could comfortably maintain?

| | Count | Percent |
|---------------------------|--------------|----------------|
| I do not like this at all | 146 | 5.10% |
| A few weeks | 282 | 9.85% |
| About a month | 133 | 4.65% |
| Two months | 461 | 16.10% |
| Forever | 1841 | 64.30% |

Q7. How often would you like the leadership team to communicate how your company will handle business complications due to coronavirus?

| | Count | Percent |
|---------------------|--------------|----------------|
| Several times a day | 171 | 5.97% |
| Once a day | 1176 | 41.08% |
| A few times a week | 515 | 17.99% |
| Once a week | 461 | 16.10% |
| Only when needed | 540 | 18.86% |

Q8. How confident are you in the company's leadership team to make the right decisions to manage through this crisis?

| | Count | Percent |
|----------------------|-------|---------|
| Extremely confident | 689 | 24.07% |
| Very confident | 1130 | 39.47% |
| Somewhat confident | 676 | 23.61% |
| Not so confident | 214 | 7.47% |
| Not confident at all | 154 | 5.38% |

Q9. How confident are you that you have the right resources from your company to help support you through this period?

| | Count | Percent |
|----------------------|-------|---------|
| Extremely confident | 485 | 16.94% |
| Very confident | 1145 | 39.99% |
| Somewhat confident | 632 | 22.07% |
| Not so confident | 377 | 13.17% |
| Not confident at all | 224 | 7.83% |

Q10. What is your single greatest work-related concern right now?

- How to contribute more to the company results and success
- The competition level of my company
- Company financial stability
- Recruiting problems
- Deadlines
- Work on-line
- Acquiring new skills
- Inability to serve my clients properly
- Social isolation from my coworkers

Source: the author's research

RQ2. If workers were unprepared for the pandemic situation and found it difficult to work remotely, do they prefer the traditional way of working compared to teleworking?

The sudden need to change traditional office working style to remote working has revealed that many companies were unprepared for it. More than 60% of the respondents found it difficult to work remotely (Q3) and 37.35% indicated that "Being unprepared for teleworking (skills and resources)" caused most stress and anxiety (Q4). However, despite the high level of "overwork", "too many distractions at home", "physical inactivity, stress, and work-related disorders", "inadequate measuring of work performance", "social isolation" and other obstacles they faced, about 43% of employees would prefer to continue teleworking "forever" while only 5% say that they do not like teleworking at all (Q6). The possibility to take care of children and other family members (such as disabled parents) is a valuable resource for teleworkers and leads to positive work outcomes: perceived advantages of telework and satisfaction with telework (Nakrošienė et al., 2019:94). In this survey "childcare" with almost 42% (Q5) was among the five biggest challenges and fears employees face so that the high percentage of those who would permanently like to telework is understandable. Social isolation proved to be a great challenge for the workers as well. However, the social distancing the workers face nowadays is different from the one

during the regular teleworking. Lockdown itself creates a feeling of anxiety and hopelessness. In regular teleworking, individuals are free to socialize and manage their work schedules themselves. However, in both cases, overworking is common and is also one of the great concerns of our respondents (over 41%).

RQ3. What is the role of proper leadership and support for teleworking?

In times of crisis, people tend to trust their leaders more, since trust and hope help them think positive. We deem others trustworthy based on their demonstration of benevolence, integrity, and reliability (Meyer et al., 2017, p. 221). Trust is an axiomatic element of successful leadership (Hasel & Grover, 2017, p. 849). Proper leadership style influences employee loyalty and organizational commitment. Transformational leadership and building trust can enhance organizational commitment because it is recognized that leaders exhibiting behaviors that are not self-centered, engender employees' trust and respect for the leader, and make employees more proud of their organization membership (Hussain et al., 2018:40).

A very high percentage of employees (over 63%) are confident in the company's leadership team to make the right decisions to manage through the crisis (Q8). They also appreciate being regularly informed on how the company handles business complications (Q7). However, significantly high patronage of respondents (34.13%) expressed their concern on "inadequate measuring of work performance due to remote working" (Q5) and "lack of proper leadership, information, and appreciation" (33.53%). Fair measurement of work performance and timely feedback is perceived as highly important for employee satisfaction. The positive experiences of the organizational performance appraisal system, especially perceptions of fairness and justice, result in higher levels of work engagement (Memon et al., 2019, p. 1061). A composite measure of remote e-working can provide a holistic view of e-working so that strategies may be developed across a number of key dimensions, rather than specifically relying on only one factor of the e-working experience (Grant et al., 2019, p. 18).

The company provides technology, tools, and support for virtual workers (Makarius & Larson, 2017, p. 162). Access to the organization's resources as well as the suitability of the working place at home can be considered as an important resource increasing productivity and satisfaction with telework. (Nakrošienė et al., 2019). Over 55% of respondents are confident that they have the right resources from the company (Q9). Due to high internet traffic in the past period, 28.71% reported having problems with "Internet connectivity". "Physical workspace" was a great challenge for 28.26% of respondents, while 27.52% "lacked tools or information needed to work at home". Comparing to the other items in Q5 these can be seen as relatively low. On the other side, over 41% indicated a lack of "teleworking programs" and above 33% had "hard communication with coworkers" (Q5). Organizations should redefine their human resources development policies. Almost 40% of workers feel that they do not have "adequate skills and lack experience for working remotely" (Q5). The pressure of working from home and "managing work-family conflict", "overworking", "too many distractions at home", "physical inactivity, stress, and work-related disorders" ranging from 24% to 41% are

factors that can be avoided with proper training. Although considered as a good mechanism to facilitate work-life balance, if not managed properly teleworking may add additional weight on work-family conflict. Even if working from home reduces time spent commuting and may help a person better manage household and care tasks, it seems to be conducive to more intrusions on family concerns (Ferri et al., 2018, p. 914). Therefore, it is important to train employees to be able to enjoy both private and professional life.

RQ4. Does teleworking under lockdown differ to a great extent from traditional teleworking?

How different is the lockdown teleworking from the traditional one? During the lockdown, workers face different problems such as increased fear for personal and family safety, company stability, and professional work-related issues as we have seen in the previous comments. Comparing to traditional teleworking, working remotely under lockdown causes different "physical inactivity, stress, and work-related disorders" as reported by 35.59% of respondents (Q5). Workers need to do more work in less time, and therefore may risk not being able to handle the work demands leading to burnout (Semeijn et al., 2019, p. 388). Besides, the pressure of "overworking" and "social isolation" as well as a very high level of stress may lead to burnout. In such situations, professional support or treatment is highly recommended.

Conclusion

It is a good sign for companies to find out that employees are even more loyal in times of crisis. What needs to be done in the future by companies is to develop appropriate teleworking programs and instructions and to enable teleworking for jobs that can be organized on-line. It would lead to higher job satisfaction and company loyalty. Employees do need proper leadership and support for teleworking. Teleworking cannot be successful if no support is provided including regular training and even psychological support in case of burnout and stress.

References

- Amiruddin, A. (2019). Mediating effect of work stress on the influence of time pressure, work-family conflict and role ambiguity on audit quality reduction behavior. *International Journal of Law and Management*, 61(2), 434-454. Doi: <https://doi.org/10.1108/IJLMA-09-2017-0223>
- De Cuyper, N., Schreurs, B., De Witte, H., & Selenko, E. (2020). Impact of job insecurity on job performance introduction. *Career Development International*, 25(3), 221-228. Doi: <https://doi.org/10.1108/CDI-06-2020-332>
- Delpeschitre, D., Black, H., & Farrish, J. (2019). The dark side of technology: examining the impact of technology overload on salespeople. *Journal of Business & Industrial Marketing*, 34(2), 317-337. Doi: <https://doi.org/10.1108/JBIM-03-2017-0057>

- Eppler, J. M., & Mengis, J. (2004). The concept of information overload: A review of literature from organization science, accounting, marketing, MIS, and related disciplines. *Information Society*, 20(5), 325–344. Doi: <https://doi.org/10.1080/01972240490507974>
- Erceg, V., & Zoranović, T. (2020). Required competencies for successful digital transformation. *Ekonomika*, 66(3), 47-54. Doi: <https://doi.org/10.5937/ekonomika2003047E>
- EUROSTAT. (2020). *How usual is it to work from home?* Retrieved from EUROSTAT: <https://ec.europa.eu/eurostat/en/web/products-eurostat-news/-/DDN-20200424-1> (accessed on May 29 2020).
- Ferri, L., Pedrini, M., & Riva, E. (2018). The impact of different supports on work-family conflict. *Employee Relations*, 40(5), 903-920. Doi: <https://doi.org/10.1108/ER-09-2017-0211>
- Gajendran, R. S., & Harrison, D. A. (2007). The good, the bad, and the unknown about telecommuting: Meta-analysis of psychological mediators and individual consequences. *Journal of Applied Psychology*, 92(6), 1524–1541. Doi: <https://doi.org/10.1037/0021-9010.92.6.1524>
- Golden, T. D., & Veiga, J. F. (2006). The Impact of Extent of Telecommuting on Job Satisfaction: Resolving Inconsistent Findings. *Journal of Management*, 31(2), 301-318. Doi: <https://doi.org/10.1177/0149206304271768>
- Graham, B., & Cascio, W. (2018). The employer-branding journey: Its relationship with cross-cultural branding, brand reputation, and brand repair. *Management Research*, 16(4), 363-379. Doi: <https://doi.org/10.1108/MRJIAM-09-2017-0779>
- Grant, C., Wallace, L. M., Spurgeon, P. C., Tramontano, C., & Charalampous, M. (2019). Construction and initial validation of the E-Work Life Scale to measure remote e-working. *Employee Relations*, 41(1), 16-33. Doi: <https://doi.org/10.1108/ER-09-2017-0229>
- Hasel, M., & Grover, S. (2017). An integrative model of trust and leadership. *Leadership & Organization Development Journal*, 38(6), 849-867. Doi: <https://doi.org/10.1108/LODJ-12-2015-0293>
- Hussain, S., Shujahat, M., Malik, M. I., Iqbal, S., & Mir, F. N. (2018). Contradictory results on the mediating roles of two dimensions of trust between transformational leadership and employee outcomes. *Journal of Organizational Effectiveness: People and Performance*, 5(1), 39-63. Doi: <https://doi.org/10.1108/JOEPP-11-2016-0063>
- Jabagi, N., Croteau, A. M., Audebrand, L., & Marsan, J. (2019). Gig-workers' motivation: thinking beyond carrots and sticks. *Journal of Managerial Psychology*, 34(4), 192-213. Doi: <https://doi.org/10.1108/JMP-06-2018-0255>
- Karr-Wisniewski, P., & Lu, Y. (2010). 'When More is Too Much: Operationalizing Technology Overload and Exploring its Impact on Knowledge Worker Productivity'. *Computers in Human Behavior*, 26(5), 1061-1072. Doi: <https://doi.org/10.1016/j.chb.2010.03.008>
- Kossek, E., Thompson, R. J., & Lautsch, B. (2015). Balanced workplace flexibility: avoiding the traps. *California Management Review*, 57(4), 5-25. Doi: <https://doi.org/10.1525/cm.2015.57.4.5>

- Kowalski, B. K., & Swanson, J. (2005). Critical success factors in developing teleworking programs. *Benchmarking: An International Journal*, 12(3), 236-249. Doi: <https://doi.org/10.1108/14635770510600357>
- Lajšić, H. (2019). 'Strategic human resources management and business intelligence systems in the purpose of social and economic development'. *Časopis za ekonomiju i tržišne komunikacije*, 9(1), 53-68. Doi: <https://doi.org/10.7251/EMC1901053L>
- Liu, C., Ready, D., Roman, A., Van Wart, M., Wang, X., McCarthy, A., & Kim, S. (2018). E-leadership: an empirical study of organizational leaders' virtual communication adoption. *Leadership & Organization Development Journal*, 39(7), 826-843. Doi: <https://doi.org/10.1108/LODJ-10-2017-0297>
- Makarius, E., & Larson, B. (2017). Changing the Perspective of Virtual Work: Building Virtual Intelligence at the Individual Level. *The Academy of Management Perspectives*, 31(2), 159-178. Doi: <https://doi.org/10.5465/amp.2014.0120>
- Memon, M., Salleh, R., Mirza, M. Z., Cheah, J. H., Ting, H., & Ahmad, M. (2019). Performance appraisal satisfaction and turnover intention: The mediating role of work engagement. *Management Decision*, 58(6), 1053-1066. Doi: <https://doi.org/10.1108/MD-06-2018-0685>
- Meyer, F., Le Fevre, D. M., & Robinson, V. M. (2017). How leaders communicate their vulnerability: implications for trust building. *International Journal of Educational Management*, 31(2), 221-235. Doi: <https://doi.org/10.1108/IJEM-11-2015-0150>
- Nakrošienė, A., Bučiūnienė, I., & Goštautaitė, B. (2019). Working from home: characteristics and outcomes of telework. *International Journal of Manpower*, 40(1), 87-101. Doi: <https://doi.org/10.1108/IJM-07-2017-0172>
- Pigini, C., & Staffolani, S. (2019). Teleworkers in Italy: who are they? Do they make more?. *International Journal of Manpower*, 40(2), 265-285. Doi: <https://doi.org/10.1108/IJM-07-2017-0154>
- Pindek, S., Howard, D. J., Krajcavska, A., & Spector, P. (2019). 'Organizational constraints and performance: an indirect effects model. *Journal of Managerial Psychology*, 34(2), 79-95. Doi: <https://doi.org/10.1108/JMP-03-2018-0122>
- Rice, B., Knox, K., Rice, J., Martin, N., Fieger, P., & Fitzgerald, A. (2017). Loyal employees in difficult settings: The compounding effects of inter-professional dysfunction and employee loyalty on job tension. *Personnel Review*, 46(8), 1755-1769. Doi: <https://doi.org/10.1108/PR-05-2016-0124>
- Semeijn, J., Van Ruysseveldt, J., Vonk, G., & van Vuuren, T. (2019). In flight again with wings that were once broken; effects of post-traumatic growth and personal resources on burnout recovery. *International Journal of Workplace Health Management*, 12(5), 387-403. Doi: <https://doi.org/10.1108/IJWHM-01-2019-0006>
- Solis, M. (2017). Moderators of telework effects on the work-family conflict and on worker performance. *European Journal of Management and Business Economics*, 26(1), 21-34. Doi: <https://doi.org/10.1108/EJMBE-07-2017-002>

- Stich, J. F., Tarafdar, M., & Cooper, C. (2018). Electronic communication in the workplace: boon or bane?. *Journal of Organizational Effectiveness: People and Performance*, 5(1), 98-106. Doi: <https://doi.org/10.1108/JOEPP-05-2017-0046>
- Stich, J.-F., Tarafdar, M., Stacey, P., & Cooper, C. (2019). E-mail load, workload stress and desired e-mail load: a cybernetic approach. *Information Technology & People*, 32(2), 430-452. Doi: <https://doi.org/10.1108/ITP-10-2017-0321>
- Suh, A., & Lee, J. (2017). Understanding teleworkers' technostress and its influence on job satisfaction. *Internet Research*, 27(1), 140-159. Doi: <https://doi.org/10.1108/IntR-06-2015-0181>
- Tseng, L. M., & Wu, J. Y. (2017). How can financial organizations improve employee loyalty? The effects of ethical leadership, psychological contract fulfillment and organizational identification. *Leadership & Organization Development Journal*, 38(5), 679-698. Doi: <https://doi.org/10.1108/LODJ-07-2015-0142>
- Wang, W., Albert, L., & Sun, Q. (2020). Employee isolation and telecommuter organizational commitment. *Employee Relations*, 42(3), 609-625. Doi: <https://doi.org/10.1108/ER-06-2019-0246>
- Zatzick, C., Deery, S., & R., I. (2015). Understanding the Determinants of Who Gets Laid Off: Does Affective Organizational Commitment Matter?. *Human Resource Management*, 54(6), 877-891. Doi: <https://doi.org/10.1002/hrm.21641>

Profile of rural tourism consumers in Serbia and Austria¹

Профил српских и аустријских потрошача руралног туризма

Slavica Tomić

University of Novi Sad, Faculty of Economics in Subotica, Republic of Serbia, slavica.tomic@ef.uns.ac.rs

Ksenija Leković*

University of Novi Sad, Faculty of Economics in Subotica, Republic of Serbia, ksenija.lekovic@ef.uns.ac.rs

Pernille Eskerod

Webster Vienna Private University, Faculty - Business and Management, Republic of Austria, pernille.eskerod@webster.ac.at

Eva Zedlacher

Webster Vienna Private University, Faculty - Business and Management, Republic of Austria, eva.zedlacher@webster.ac.at

Abstract: In order to achieve successful positioning, rural tourism managers and marketers need to understand consumer behaviour. Above all, they need to answer the question of which customer profiles are suitable to particular tourist destinations. There are three types of statistical measurement used for research into consumer, i.e. tourist behaviour, and those are volume, value and profile. A profile encompasses characteristics of the consumers per se and characteristics of travel. The aim of the paper is to define the profile of rural tourism consumer based on the results of the conducted research, taking into account two socio-demographic characteristics of the consumers – age and education level in relation to three characteristics of travel – frequency of engaging in rural tourism, travel companions and information sources used to plan the trip. The research encompassed 150 respondents each from Serbia and Austria respectively. Cross-tabulation method was used for testing the set hypotheses

Keywords: rural tourism, consumers of rural tourism, profile, homestead, wine tourism

JEL classification: M21, M30, Z30

Сажетак: У циљу успешног позиционирања на менаџерима и маркетарима руралног туризма је да се упознају са понашањем потрошача. Првенствено морају да одговоре на питање који профил потрошача одговара одређеној туристичкој дестинацији? Три су статистичка мерила која се користе како би се истражило понашање потрошача (туриста) и то су: обим, вредност и профил. Профил обједињује карактеристике самог потрошача и карактеристике путовања. Циљ рада је да се на основу резултата спроведеног истраживања дефинише профил потрошача руралног туризма узимајући у обзир две социјалдемографске карактеристике потрошача, узраст и ниво образовања, у поређењу са три карактеристике путовања: учесталост посете руралној туристичкој дестинацији, пратиоци на путовању и извори информација које потрошачи користе приликом планирања посете руралној туристичкој

¹ This paper is a part of the bilateral project „Stakeholder engagement within rural tourism in Austria and Serbia“, which is under the auspices of the Ministry of Education, Science and Technological Development of the Republic of Serbia, project number: 451-0302141/2017-09/09

* Corresponding author

дестинацији. Истраживањем су обухваћена два облика руралног туризма, салаши и вински туризам. Узорак је обухватио по 150 испитаника са територије Републике Србије и Републике Аустрије. У циљу тестирања постављених хипотеза примењен је метод унакрсног табелирања.

Кључне речи: рурални туризам, потрошачи руралног туризма, профил, салаш, вински туризам
ЈЕЛ класификација: M21, M30, Z30

Introduction

As a separate branch of tourism, rural tourism can be defined as hospitality providing rural environment for consumers (Erdeji et al., 2013). Despite the fact that consumers, i.e. tourists, experience the “quaint” lifestyle during their visits to tourist destinations, a need imposes itself to adapt the offer to their needs and expectations (Grubor et al., 2019) as a rule, the offer of rural tourism encompasses festivals, events, as well as manufacture and sale of handicrafts and agricultural products. It also includes numerous additional activities arranged by rural hosts such as hunting, fishing, horse-riding, walking, even wellness (Đorđević et al., 2019; Quendler, 2020).

A more intense development of rural tourism in Europe started in the second half of the 20th century, as a results of consumers’ enormous wish to relate to nature, discover new landscapes, new cultures and customs. Nowadays, it accounts for a noteworthy portion of the global tourist offer. An estimation of the share of consumers of rural tourism in the total number of tourists is 3% on the global level and 25% within the EU (Radović & Vasiljević, 2018). Rural tourism in Serbia takes up almost 25% of all forms of tourist activities (Stepanov et al., 2018) whereas rural tourism in Austria accounts for more than 80% of Austrian national tourism (Breiling, 2005).

Rural tourism managers and marketers should take into account what kind of consumers they want to attract for a particular rural tourist destination. In other words, they need to answer the question, what is the profile of those consumers? Consumers of rural tourism in Serbia and Austria are the subject of this paper. The aim was to define the profile of the rural tourism consumer based on the results of the conducted research, taking into account two socio-demographic characteristics of the consumer – age and education level – in relation to three characteristics of travel — frequency of engaging in rural tourism, travel companions and information sources used to plan the trip. In this, the research was limited to two forms of rural tourism – homesteads and wineries.

1. Theoretical background

In order to achieve successful positioning rural tourism managers and marketers need to understand consumer behaviour. Necessary information can be obtained by researching habits, desires and needs of consumers of rural tourism.

Cooper & Schindler (2006) propose three types of statistical measurement used for research into consumer behaviour of tourists, and those are volume, value and profile. Volume includes elements such as the number of overnight stays and average duration of visit. Value includes all elements pertaining to the budget of the intended travel, such as the

amount of money spent per day, the amount allocated for lodging, dining etc. Profile, as statistical measurement, incorporates the characteristics of the consumers themselves and the characteristic and the characteristics of the travel.

Socio-demographic factors frequently used in the process of forecasting tourists' behaviour patterns are: age, gender, family life cycle, education and income (Colins & Tisdell, 2002; Foot, 2004; Ma et al., 2018; Kara & Mkwizu, 2020). According to Koteski et al. (2017) there are multiple types, i.e. profiles of consumers of rural tourism: day-trippers, visitors on a short holiday, families, elderly visitors, special interest tourists and educational groups. Further, Đenadić et al. (2016) deduce that the majority of the consumers of rural tourism are families with children and couples, and the second largest are groups of friends and young people.

On the other hand, there are several types, i.e. forms of rural tourism. What is significant from the aspect of this paper are homesteads and wineries. Farm, i.e. homestead tourism is characteristic of Vojvodina and features as a well-developed and popular rural tourism product (Radović & Vasiljević, 2018). Homesteads used to be isolated, plain farms. Today, some of them are Skansen-like museums with a diversity of heirloom objects, household furnishings and farming tools. Farms and homesteads have retained the traditional lifestyle while adapting it to the modern way of life, so that many of them have swimming pools, sports facilities, fish ponds and miniature ZOOs. (Medojević et al., 2011). From the cultural and tourist point of view, homesteads are distinctive marks of the Province of Vojvodina. (Vujko et al., 2017). Wine tourism refers to travelling down wine routes (Radović & Vasiljević, 2018) and includes vine cellars, wine tasting, culinary experience, leisure and cultural activities (Vasiljević & Vujović, 2012). The main motivation of this branch of rural tourism is to sample local cuisine and wine (Hall et al., 2002; Erdeji et al., 2013).

2. Methodology

The aim of the paper is to point to the existence of differences in consumer/tourists' age and education levels in relation to frequency of engaging in rural tourism, travel companions and sources of information the consumers use when planning and making decisions on visiting particular tourist destinations. The paper presents a part of the results of research conducted on convenience samples of 150 respondents each of different and education levels from the territories of Serbia and Austria. The only condition for participating in the research was that the respondents had visited a rural tourist destination in the past two years. In Serbia, this condition was limited to homesteads and wineries in Vojvodina, or wineries around Vienna. The research was conducted in April and May, by sending an online questionnaire consisting of three parts, drafted and adapted from the questionnaire used by Polo Pena et al. (2012) and Alcaniz et al. (2009) in their research studies. Results presented in this paper were obtained based on data from the first two parts of the questionnaires regarding respondents' socio-demographic characteristics and characteristics of travel. The presentation of characteristics of respondents included in this research is given in Table 1.

Table 1: Profile of survey respondents

| Variables | | Serbia | | Austria | |
|---|---|-------------------|------------|-------------------|------------|
| | | Frequency (n=150) | Percentage | Frequency (n=150) | Percentage |
| Age | 18-29 | 40 | 26.7 | 53 | 35.3 |
| | 30-39 | 56 | 37.3 | 41 | 27.3 |
| | 40-49 | 29 | 19.3 | 33 | 22.0 |
| | 50-59 | 18 | 12.0 | 16 | 10.7 |
| | ≥60 | 7 | 4.7 | 7 | 4.7 |
| Education level | Primary school | 1 | 0.7 | 1 | 0.7 |
| | Secondary school | 22 | 14.7 | 25 | 16.7 |
| | Bachelor | 68 | 45.3 | 74 | 49.3 |
| | Master | 37 | 24.7 | 27 | 18.0 |
| | Doctoral | 22 | 14.7 | 23 | 15.3 |
| Frequency of engaging in rural tourism | Once every two or three years | 35 | 23.3 | 24 | 16.0 |
| | Once or twice a year | 54 | 36.0 | 63 | 42.0 |
| | Three or four times a year | 34 | 22.7 | 19 | 12.7 |
| | More than four times a year | 27 | 18.0 | 44 | 29.3 |
| Travel companions | Alone | 2 | 1.3 | 1 | 0.7 |
| | Partner | 31 | 20.7 | 29 | 19.3 |
| | Family | 76 | 50.7 | 90 | 60.0 |
| | Friends | 38 | 25.3 | 29 | 19.3 |
| | Other | 3 | 2.0 | 1 | 0.7 |
| Information sources used to plan the trip | Internet | 74 | 49.3 | 78 | 52.0 |
| | Recommendations of friends and/or relatives | 56 | 37.3 | 49 | 32.7 |
| | Own experience | 20 | 13.3 | 17 | 11.3 |
| | Newspapers/magazines/catalogues | - | - | 1 | 0.7 |
| | Television | - | - | - | - |
| | Travel agencies | - | - | 5 | 3.3 |

Source: the authors' calculation

The majority of respondents in Serbia were aged between 30 and 39 (37.3%) with a bachelor's degree (45.3%), while the majority of respondents in Austria were aged between 18 and 29 (35.3%) with a Bachelor's degree (49.3%). The majority of the respondents in Serbia (36.0%) and Austria (42.0%) visit rural tourist destinations once or twice a year. Respondents in both countries travel most often with their families (50.7% in Serbia, 60.0% in Austria), and Internet is the most frequently used information source when planning a trip (49.3% in Serbia, 52.0% in Austria).

Based on the analysed theoretical background and set research objective, the following hypotheses were proposed:

H1: Younger respondents visit rural tourist destinations and use the Internet for planning visits to rural tourist destinations more often, whereas all age groups visit rural tourist destinations with families most often.

H2: Respondents with Bachelor's degrees visit rural tourist destinations more often, and together with respondents with completed secondary school and Master's degrees use the Internet for planning visits to rural tourist destinations, while all education levels of respondents visit rural tourist destinations with families most often

The hypotheses were tested by means of cross-tabulation method. The statistical software used for data processing and testing the proposed hypotheses is IBM SPSS version 21.

3. Results and discussion

Table 2 presents the differences in frequency of visiting tourist destinations according to the respondents' age.

Table 2: Testing the independence of variables: Frequency of Visiting Tourist Destinations and Respondents' Age

| Country | | Age | | | | | Total | | |
|---------|--|-------------------------------|-------------|-------|-------|-------|-------|-------|--------|
| | | 18-29 | 30-39 | 40-49 | 50-59 | ≥60 | | | |
| Serbia | Frequency of engaging in rural tourism | Once every two or three years | Count | 8 | 12 | 6 | 5 | 4 | 35 |
| | | | % Frequency | 22.9% | 34.3% | 17.1% | 14.3% | 11.4% | 100.0% |
| | | | % Age | 20.0% | 21.4% | 20.7% | 27.8% | 57.1% | 23.3% |
| | | Once or twice a year | Count | 14 | 21 | 12 | 6 | 1 | 54 |
| | | | % Frequency | 25.9% | 38.9% | 22.2% | 11.1% | 1.9% | 100.0% |
| | | | % Age | 35.0% | 37.5% | 41.4% | 33.3% | 14.3% | 36.0% |
| | | Three or four times a year | Count | 11 | 10 | 8 | 4 | 1 | 34 |
| | | | % Frequency | 32.4% | 29.4% | 23.5% | 11.8% | 2.9% | 100.0% |
| | | | % Age | 27.5% | 17.9% | 27.6% | 22.2% | 14.3% | 22.7% |
| | | More than four times a year | Count | 7 | 13 | 3 | 3 | 1 | 27 |
| | | | % Frequency | 25.9% | 48.1% | 11.1% | 11.1% | 3.7% | 100.0% |
| | | | % Age | 17.5% | 23.2% | 10.3% | 16.7% | 14.3% | 18.0% |
| Austria | Frequency of engaging in rural tourism | Once every two or three years | Count | 5 | 7 | 8 | 2 | 2 | 24 |
| | | | % Frequency | 20.8% | 29.2% | 33.3% | 8.3% | 8.3% | 100.0% |
| | | | % Age | 9.4% | 17.1% | 24.2% | 12.5% | 28.6% | 16.0% |
| | | Once or twice a year | Count | 26 | 15 | 13 | 6 | 3 | 63 |
| | | | % Frequency | 41.3% | 23.8% | 20.6% | 9.5% | 4.8% | 100.0% |
| | | | % Age | 49.1% | 36.6% | 39.4% | 37.5% | 42.9% | 42.0% |
| | | Three or four times a year | Count | 3 | 9 | 3 | 3 | 1 | 19 |
| | | | % Frequency | 15.8% | 47.4% | 15.8% | 15.8% | 5.3% | 100.0% |
| | | | % Age | 5.7% | 22.0% | 9.1% | 18.8% | 14.3% | 12.7% |
| | | More than four times a year | Count | 19 | 10 | 9 | 5 | 1 | 44 |
| | | | % Frequency | 43.2% | 22.7% | 20.5% | 11.4% | 2.3% | 100.0% |
| | | | % Age | 35.8% | 24.4% | 27.3% | 31.3% | 14.3% | 29.3% |

Source: the authors' calculation

Based on the cross-tabulation of categorical variables Frequency Of Engaging In Rural Tourism, (i.e. Frequency of Visiting Tourist Destinations) and Respondents' Age in Serbia, the most respondents aged 30 to 39 (34.3%) go once in two or three years, the most respondents aged 30 to 39 (38.9%) go once or twice a year, the most respondents aged 18 to 29 (32.4%) go three or four times a year, and the most respondents aged 30-39 (48.1) go more than four times a year. All age groups (except respondents aged 60 and up) mostly visit rural tourist destinations once or twice a year).

In Austria, the most respondents aged 40 to 49 (33.3%) go once in two or three years, the most respondents aged 18 to 29 (41.3%) go once or twice a year, the most respondents aged 30 to 39 (47.4%) go three or four times a year, whereas the most

respondents aged 18 to 29 (43.2%) go more than four times a year. All age groups mostly visit rural tourist destinations once or twice a year).

It can be established that younger groups of respondents (up to 39 years of age) visit rural tourist destinations more often (three, four or more times a year).

Table 3 presents the difference in travel companions according to the respondents' age.

Table 3: Testing the independence of variables: Travel Companions and Respondents' Age

| Country | | | Age | | | | | Total | | |
|--------------|-------------------|---------|-------------------|-------|--------|--------|-------|-------|--------|-------|
| | | | 18-29 | 30-39 | 40-49 | 50-59 | ≥60 | | | |
| Serbia | Travel companions | Alone | Count | 0 | 1 | 0 | 0 | 1 | 2 | |
| | | | % Companions | 0.0% | 50.0% | 0.0% | 0.0% | 50.0% | 100.0% | |
| | | | % Age | 0.0% | 1.8% | 0.0% | 0.0% | 14.3% | 1.3% | |
| | | Partner | Count | 9 | 9 | 4 | 7 | 2 | 31 | |
| | | | % Companions | 29.0% | 29.0% | 12.9% | 22.6% | 6.5% | 100.0% | |
| | | | % Age | 22.5% | 16.1% | 13.8% | 38.9% | 28.6% | 20.7% | |
| | | Family | Count | 22 | 30 | 14 | 7 | 3 | 76 | |
| | | | % Companions | 28.9% | 39.5% | 18.4% | 9.2% | 3.9% | 100.0% | |
| | | | % Age | 55.0% | 53.6% | 48.3% | 38.9% | 42.9% | 50.7% | |
| | | Friends | Count | 9 | 13 | 11 | 4 | 1 | 38 | |
| | | | % Companions | 23.7% | 34.2% | 28.9% | 10.5% | 2.6% | 100.0% | |
| | | | % Age | 22.5% | 23.2% | 37.9% | 22.2% | 14.3% | 25.3% | |
| | | Other | Count | 0 | 3 | 0 | 0 | 0 | 3 | |
| | | | % Companions | 0.0% | 100.0% | 0.0% | 0.0% | 0.0% | 100.0% | |
| | | | % Age | 0.0% | 5.4% | 0.0% | 0.0% | 0.0% | 2.0% | |
| | | Country | | | Age | | | | | Total |
| | | | | | 18-29 | 30-39 | 40-49 | 50-59 | ≥60 | |
| | | Austria | Travel companions | Alone | Count | 0 | 0 | 1 | 0 | 0 |
| % Companions | 0.0% | | | | 0.0% | 100.0% | 0.0% | 0.0% | 100.0% | |
| % Age | 0.0% | | | | 0.0% | 3.0% | 0.0% | 0.0% | 0.7% | |
| Partner | Count | | | 9 | 9 | 7 | 3 | 1 | 29 | |
| | % Companions | | | 31.0% | 31.0% | 24.1% | 10.3% | 3.4% | 100.0% | |
| | % Age | | | 17.0% | 22.0% | 21.2% | 18.8% | 14.3% | 19.3% | |
| Family | Count | | | 33 | 24 | 20 | 9 | 4 | 90 | |
| | % Companions | | | 36.7% | 26.7% | 22.2% | 10.0% | 4.4% | 100.0% | |
| | % Age | | | 62.3% | 58.5% | 60.6% | 56.3% | 57.1% | 60.0% | |
| Friends | Count | | | 11 | 8 | 4 | 4 | 2 | 29 | |
| | % Companions | | | 37.9% | 27.6% | 13.8% | 13.8% | 6.9% | 100.0% | |
| | % Age | | | 20.8% | 19.5% | 12.1% | 25.0% | 28.6% | 19.3% | |
| Other | Count | | | 0 | 0 | 1 | 0 | 0 | 1 | |
| | % Companions | | | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 100.0% | |
| | % Age | | | 0.0% | 0.0% | 3.0% | 0.0% | 0.0% | 0.7% | |

Source: the authors' calculation

Based on cross-tabulation of categorical variables Travel Companions and Respondents' Age in Serbia, respondents aged 30 to 39 (50.0%), and respondents aged 60 and up (50.0%) travel alone most often, respondents aged 18 to 29 (29.0%) and respondents aged 30 to 39 (29.0%) travel with a partner, respondents aged 30 to 39 (39.5%),) travel with families most often, respondents aged 30 to 39 (34.2%) travel with friends most often, and 3 respondents aged 30 to 39 travel with other companions (100.0%).

In Austria, 1 respondent aged 40 to 49 mostly travels alone (100.0%), respondents aged 18 to 29 (31.0%) respondents aged 18 to 29 (31.0%) travel with partners most often, respondents aged 18 to 29 (36.7%) travel with families most often, respondents aged 18 to 29 (37.9%) go with friends most often, and 1 respondent aged 40 to 49 (100.0%) mostly travels with other companions.

It can be established that all age groups of respondents in both countries visit rural tourist destinations with families in most cases.

Table 4 presents the differences in information sources used by consumers when planning visits to rural tourist destinations according to the respondents' age.

Table 4: Testing the independence of variables: Information Sources Used to Plan the Trip and Respondents' Age

| Country | | Age | | | | | Total | | |
|---------|---|---|----------------|--------|--------|--------|--------|--------|---------|
| | | 18-29 | 30-39 | 40-49 | 50-59 | ≥60 | | | |
| Serbia | Information sources used to plan the trip | Internet | Count | 23 | 27 | 17 | 6 | 1 | 74 |
| | | | % Inf. sources | 31.1 % | 36.5 % | 23.0 % | 8.1 % | 1.4 % | 100.0 % |
| | | | % Age | 57.5 % | 48.2 % | 58.6 % | 33.3 % | 14.3 % | 49.3 % |
| | | Recommendations of friends and/or relatives | Count | 12 | 19 | 11 | 9 | 5 | 56 |
| | | | % Inf. sources | 21.4 % | 33.9 % | 19.6 % | 16.1 % | 8.9 % | 100.0 % |
| | | | % Age | 30.0 % | 33.9 % | 37.9 % | 50.0 % | 71.4 % | 37.3 % |
| | | Own experience | Count | 5 | 10 | 1 | 3 | 1 | 20 |
| | | | % Inf. sources | 25.0 % | 50.0 % | 5.0 % | 15.0 % | 5.0 % | 100.0 % |
| | | | % Age | 12.5 % | 17.9 % | 3.4 % | 16.7 % | 14.3 % | 13.3 % |
| Austria | Information sources used to plan the trip | Internet | Count | 31 | 22 | 19 | 5 | 1 | 78 |
| | | | % Inf. sources | 39.7 % | 28.2 % | 24.4 % | 6.4 % | 1.3 % | 100.0 % |
| | | | % Age | 58.5 % | 53.7 % | 57.6 % | 31.3 % | 14.3 % | 52.0 % |
| | | Recommendations of friends and/or relatives | Count | 12 | 16 | 9 | 7 | 5 | 49 |
| | | | % Inf. sources | 24.5 % | 32.7 % | 18.4 % | 14.3 % | 10.2 % | 100.0 % |
| | | | % Age | 22.6 % | 39.0 % | 27.3 % | 43.8 % | 71.4 % | 32.7 % |
| | | Own experience | Count | 6 | 3 | 4 | 4 | 0 | 17 |
| | | | % Inf. sources | 35.3 % | 17.6 % | 23.5 % | 23.5 % | 0.0 % | 100.0 % |
| | | | % Age | 11.3 % | 7.3 % | 12.1 % | 25.0 % | 0.0 % | 11.3 % |

| | | | | | | | | |
|--|---------------------------------|----------------|-------|------|-------|------|--------|--------|
| | Newspapers/magazines/catalogues | Count | 0 | 0 | 0 | 0 | 1 | 1 |
| | | % Inf. sources | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% |
| | | % Age | 0.0% | 0.0% | 0.0% | 0.0% | 14.3% | 0.7% |
| | Travel agencies | Count | 4 | 0 | 1 | 0 | 0 | 5 |
| | | % Inf. sources | 80.0% | 0.0% | 20.0% | 0.0% | 0.0% | 100.0% |
| | | % Age | 7.5% | 0.0% | 3.0% | 0.0% | 0.0% | 3.3% |

Source: the authors' calculation

Based on cross-tabulation of categorical variables Sources Used by Consumers when Planning Visits to Rural Tourist Destinations and Respondents' Age in Serbia, the Internet is used most often by respondents aged 30 to 39 (36.5%) friends' and relatives' recommendations are used most often by respondents aged 30 to 39 (33.9%), whereas planning travel based on their own experience is practiced most often by respondents aged 30 to 39 (50.0%).

In Austria, the Internet is used most often by respondents aged 18 to 29 (39.7%), friends' and/or relatives' recommendations are used most often by respondents aged 30 to 39 (32.7%), planning travel based on their own experience is practiced most often by respondents aged 18 to 29 (35.3%), newspapers/magazines/catalogues are used by 1 respondent aged 60 and up (100%), and travel agencies are mostly consulted by respondents aged 18 to 29.

It can be established that respondents aged up to 49 use the Internet for planning visits to rural tourist destinations, most often, whereas respondents aged 50 and up mostly listen to friends' and relatives' recommendations when planning visits to rural tourist destinations.

Based on the results obtained by cross-tabulation, it can be concluded that respondents aged up to 39 visit rural tourist destinations more often, that all groups of respondents visit rural tourist destinations with families most often; furthermore, that respondents aged up to 49 use the Internet most often to plan visits to rural tourist destinations, whereas the elderly mostly listen to friends' and relatives' recommendations when planning visits to rural tourist destinations.

Table 5: Testing the independence of variables: Frequency of Engaging in Rural Tourism and Respondent's Education Level

| Country | | | Education level | | | | | Total | |
|---------|--|-------------------------------|-----------------|------------------|----------|--------|----------|--------|--------|
| | | | Primary school | Secondary school | Bachelor | Master | Doctoral | | |
| Serbia | Frequency of engaging in rural tourism | Once every two or three years | Count | 1 | 8 | 12 | 9 | 5 | 35 |
| | | | % Frequency | 2.9% | 22.9% | 34.3% | 25.7% | 14.3% | 100.0% |
| | | | % Age | 100.0% | 36.4% | 17.6% | 24.3% | 22.7% | 23.3% |
| | Once or twice a year | Count | 0 | 4 | 30 | 11 | 9 | 54 | |
| | | % Frequency | 0.0% | 7.4% | 55.6% | 20.4% | 16.7% | 100.0% | |
| | | % Age | 0.0% | 18.2% | 44.1% | 29.7% | 40.9% | 36.0% | |

| | | | | | | | | | | | |
|-----------------------------|--|-----------------------------|--|-------------------------------|-------------|--------|-------|-------|--------|-------|--------|
| Austria | Frequency of engaging in rural tourism | Three or four times a year | Count | 0 | 6 | 13 | 10 | 5 | 34 | | |
| | | | % Frequency | 0.0% | 17.6% | 38.2% | 29.4% | 14.7% | 100.0% | | |
| | | | % Age | 0.0% | 27.3% | 19.1% | 27.0% | 22.7% | 22.7% | | |
| | | More than four times a year | Count | 0 | 4 | 13 | 7 | 3 | 27 | | |
| | | | % Frequency | 0.0% | 14.8% | 48.1% | 25.9% | 11.1% | 100.0% | | |
| | | | % Age | 0.0% | 18.2% | 19.1% | 18.9% | 13.6% | 18.0% | | |
| | | Austria | Frequency of engaging in rural tourism | Once every two or three years | Count | 1 | 7 | 19 | 7 | 8 | 42 |
| | | | | | % Frequency | 2.4% | 16.7% | 45.2% | 16.7% | 19.0% | 100.0% |
| | | | | | % Age | 100.0% | 28.0% | 25.7% | 25.9% | 34.8% | 28.0% |
| | | | | Once or twice a year | Count | 0 | 6 | 26 | 11 | 5 | 48 |
| | | | | | % Frequency | 0.0% | 12.5% | 54.2% | 22.9% | 10.4% | 100.0% |
| | | | | | % Age | 0.0% | 24.0% | 35.1% | 40.7% | 21.7% | 32.0% |
| Three or four times a year | Count | | | 0 | 1 | 5 | 5 | 5 | 16 | | |
| | % Frequency | | | 0.0% | 6.3% | 31.3% | 31.3% | 31.3% | 100.0% | | |
| | % Age | | | 0.0% | 4.0% | 6.8% | 18.5% | 21.7% | 10.7% | | |
| More than four times a year | Count | | | 0 | 11 | 24 | 4 | 5 | 44 | | |
| | % Frequency | | | 0.0% | 25.0% | 54.5% | 9.1% | 11.4% | 100.0% | | |
| | % Age | | | 0.0% | 44.0% | 32.4% | 14.8% | 21.7% | 29.3% | | |

Source: the authors' calculation

Based on cross tabulation of categorical variables Frequency of engaging in rural tourism (i.e. visits to rural tourist destinations) and Respondents' education levels in Serbia, respondents with Bachelor's degrees (34.3%) go once in two or three years most often, respondents with Bachelor's degrees (55.6%) go once or twice a year most often, respondents with Bachelor's degrees (38.2%) go three or four times a year most often, respondents with Bachelor's degrees (48.1%) go more than four times a year. Groups of respondents with elementary or secondary education visit rural tourist destinations in most cases once in two or three years, while respondents with Bachelor's or higher degrees visit rural tourist destinations in most cases once or twice a year.

In Austria, respondents with Bachelor's degrees (45.2%) go once in two or three years most often, respondents with Bachelor's degrees (54.2%) go once or twice a year most often, respondents with Bachelor's (31.3%), Master's (31.3%) and PhD degrees (31.3%) go three or four times a year most often, and respondents with Bachelor's degrees go more than four times a year. Groups of respondents with elementary education and PhD degrees visit rural tourist destinations in most cases once in two or three years whereas respondents with Bachelor's or Master's degrees visit rural tourist destinations in most cases three or four times a year.

It can be established that respondents with Bachelor's degrees visit rural tourist destinations more often (three, four or more than four times a year).

Table 6 presents differences in travel companions according to the respondents' education levels.

Table 6: Testing the independence of variables: Travel Companions and Respondents' Education Level

| | | | | Primary school | Secondary school | Bachelor | Master | Doctoral | | | |
|---------|-------------------|---------|-------------------|----------------|------------------|----------|--------|----------|--------|------|--------|
| Serbia | Travel companions | Alone | Count | 0 | 0 | 2 | 0 | 0 | 2 | | |
| | | | % Companions | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 100.0% | | |
| | | | % Age | 0.0% | 0.0% | 2.9% | 0.0% | 0.0% | 1.3% | | |
| | | Partner | Count | 0 | 5 | 14 | 7 | 5 | 31 | | |
| | | | % Companions | 0.0% | 16.1% | 45.2% | 22.6% | 16.1% | 100.0% | | |
| | | | % Age | 0.0% | 22.7% | 20.6% | 18.9% | 22.7% | 20.7% | | |
| | | Family | Count | 1 | 12 | 31 | 19 | 13 | 76 | | |
| | | | % Companions | 1.3% | 15.8% | 40.8% | 25.0% | 17.1% | 100.0% | | |
| | | | % Age | 100.0% | 54.5% | 45.6% | 51.4% | 59.1% | 50.7% | | |
| | | Friends | Count | 0 | 5 | 19 | 10 | 4 | 38 | | |
| | | | % Companions | 0.0% | 13.2% | 50.0% | 26.3% | 10.5% | 100.0% | | |
| | | | % Age | 0.0% | 22.7% | 27.9% | 27.0% | 18.2% | 25.3% | | |
| | | Other | Count | 0 | 0 | 2 | 1 | 0 | 3 | | |
| | | | % Companions | 0.0% | 0.0% | 66.7% | 33.3% | 0.0% | 100.0% | | |
| | | | % Age | 0.0% | 0.0% | 2.9% | 2.7% | 0.0% | 2.0% | | |
| | | Austria | Travel companions | Alone | Count | 0 | 0 | 1 | 0 | 0 | 1 |
| | | | | | % Companions | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 100.0% |
| | | | | | % Age | 0.0% | 0.0% | 1.4% | 0.0% | 0.0% | 0.7% |
| Partner | Count | | | 0 | 5 | 10 | 10 | 4 | 29 | | |
| | % Companions | | | 0.0% | 17.2% | 34.5% | 34.5% | 13.8% | 100.0% | | |
| | % Age | | | 0.0% | 20.0% | 13.5% | 37.0% | 17.4% | 19.3% | | |
| Family | Count | | | 1 | 15 | 44 | 15 | 15 | 90 | | |
| | % Companions | | | 1.1% | 16.7% | 48.9% | 16.7% | 16.7% | 100.0% | | |
| | % Age | | | 100.0% | 60.0% | 59.5% | 55.6% | 65.2% | 60.0% | | |
| Friends | Count | | | 0 | 5 | 18 | 2 | 4 | 29 | | |
| | % Companions | | | 0.0% | 17.2% | 62.1% | 6.9% | 13.8% | 100.0% | | |
| | % Age | | | 0.0% | 20.0% | 24.3% | 7.4% | 17.4% | 19.3% | | |
| Other | Count | | | 0 | 0 | 1 | 0 | 0 | 1 | | |
| | % Companions | | | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 100.0% | | |
| | % Age | | | 0.0% | 0.0% | 1.4% | 0.0% | 0.0% | 0.7% | | |

Source: Author's calculation

Based on cross-tabulation of categorical variables Travel Companions and Respondents' Education Levels, 2 respondents (100.0%) with Bachelor's degrees travel alone most often, respondents with Bachelor's degrees (45.2%) travel with partners most often, respondents with Bachelor's degrees travel with families (40.8%) most often, respondents with Bachelor's degrees travel with friends (50.0%) most often, and 2 respondents with Bachelor's degrees (100.0%) travel with other companions.

In Austria, 1 respondent with Bachelor's degrees travels alone most often, respondents with Bachelor's and Master's degrees (34,5%) travel with partners most often, respondents with Bachelor's degrees travel with families (48,9%) most often, respondents with Bachelor's degrees travel with friends (62,1%) most often, and 1 respondent with Bachelor's degrees (100.0%) travels with other companions.

It can be established that respondents of all education levels in both states visit rural destinations with families most often.

Table 7 presents differences in information sources used by consumers when planning visits to rural tourist destinations according to respondents' education levels.

Table 7: Testing the independence of variables: Information Sources Used to Plan the Trip and Respondents' Education Level

| Country | | | | Education level | | | | | Total |
|---------|---|---|----------------|-----------------|------------------|----------|--------|----------|--------|
| | | | | Primary school | Secondary school | Bachelor | Master | Doctoral | |
| Serbia | Information sources used to plan the trip | Internet | Count | 0 | 10 | 37 | 20 | 7 | 74 |
| | | | % Inf. sources | 0.0% | 13.5% | 50.0% | 27.0% | 9.5% | 100.0% |
| | | | % Age | 0.0% | 45.5% | 54.4% | 54.1% | 31.8% | 49.3% |
| | | Recommendations of friends and/or relatives | Count | 0 | 9 | 25 | 10 | 12 | 56 |
| | | | % Inf. sources | 0.0% | 16.1% | 44.6% | 17.9% | 21.4% | 100.0% |
| | | | % Age | 0.0% | 40.9% | 36.8% | 27.0% | 54.5% | 37.3% |
| | | Own experience | Count | 1 | 3 | 6 | 7 | 3 | 20 |
| | | | % Inf. sources | 5.0% | 15.0% | 30.0% | 35.0% | 15.0% | 100.0% |
| | | | % Age | 100.0% | 13.6% | 8.8% | 18.9% | 13.6% | 13.3% |
| Austria | Information sources used to plan the trip | Internet | Count | 0 | 12 | 41 | 18 | 7 | 78 |
| | | | % Inf. sources | 0.0% | 15.4% | 52.6% | 23.1% | 9.0% | 100.0% |
| | | | % Age | 0.0% | 48.0% | 55.4% | 66.7% | 30.4% | 52.0% |
| | | Recommendations of friends and/or relatives | Count | 1 | 10 | 19 | 7 | 12 | 49 |
| | | | % Inf. sources | 2.0% | 20.4% | 38.8% | 14.3% | 24.5% | 100.0% |
| | | | % Age | 100.0% | 40.0% | 25.7% | 25.9% | 52.2% | 32.7% |
| | | Own experience | Count | 0 | 2 | 10 | 2 | 3 | 17 |

| | | | | | | | | |
|--|---------------------------------|----------------|------|-------|-------|-------|--------|--------|
| | | % Inf. sources | 0.0% | 11.8% | 58.8% | 11.8% | 17.6% | 100.0% |
| | | % Age | 0.0% | 8.0% | 13.5% | 7.4% | 13.0% | 11.3% |
| | | Count | 0 | 0 | 0 | 0 | 1 | 1 |
| | Newspapers/magazines/catalogues | % Inf. sources | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% |
| | | % Age | 0.0% | 0.0% | 0.0% | 0.0% | 4.3% | 0.7% |
| | | Count | 0 | 1 | 4 | 0 | 0 | 5 |
| | Travel agencies | % Inf. sources | 0.0% | 20.0% | 80.0% | 0.0% | 0.0% | 100.0% |
| | | % Age | 0.0% | 4.0% | 5.4% | 0.0% | 0.0% | 3.3% |

Source: Author's calculation

Based on cross-tabulation of categorical variables Information Sources Used to Plan the Trip and Respondents' Education Level the Internet is used most often by respondents with Bachelors' degrees (50.0%) friends' and/or relatives' recommendations are used most often by respondents with Bachelors' degrees (44.6%), and planning travel according to their own experience is used most often by respondents with Master's degrees (35.0%).)

In Austria, the Internet is used most often by respondents with Bachelors' degrees (38.8%) planning travel based on their own experience is practiced most often by respondents with Bachelor's degrees (58.8%), newspapers/magazines/catalogues are used by one respondent with a PhD degree (100.0%), and travel agencies are consulted most often by respondents with Bachelor's degrees (800%).

It can be established that, in both countries, respondents with completed secondary school, Bachelor's and Master's degree plan visits to rural tourist destinations most often based on their own experience and friends' and/or relatives' recommendations, whereas respondents with PhD degrees plan visits to rural tourist destinations based on friends' and/or relatives' recommendation most often.

It can be concluded based on the results obtained by cross-tabulation that respondents with Bachelors' degrees visit rural tourist destinations more often, that all groups of respondents visit rural tourist destinations with families, that respondents with completed secondary schools, Bachelor's and Master's degrees use the Internet most often to plan visits to rural tourist destination, those with elementary education, in most cases, plan visits based on their own experience and friends' and/or relatives' recommendations, whereas respondents with PhD degrees plan their visits to rural tourist destinations most often based on and friends' and relatives recommendations. Bearing in mind all of the above, it can be concluded that the set hypothesis H2 is adopted, i.e. that respondents with Bachelor's degrees visit rural tourist destinations more often, and together with respondents with completed secondary school and Master's degrees use the Internet for planning visits to rural tourist destinations, while all education levels of respondents visit rural tourist destinations with families most often.

Conclusion

In both countries covered by this research, rural tourism can play a key role in terms of advancing local economy, thereby creating new job opportunities which will generate additional incomes for rural households and, at the same time, it can help maintain or repopulate rural destinations. Rural tourism enriches the tourist offer and provides new quality to the development of tourism in both countries.

The geographical diversity of both countries provides the basis for further planning and actions in the development of rural tourism and its special forms such as homestead and wine tourism. In Serbia, especially in Vojvodina, tourism is one of the key pillars of economic development (Đorđević et al., 2019). Multiculturalism is what makes this region specific and that is why it should invest in development of destinations with tourist and hospitality, foster its authenticity, and exploit the preserved potential and unspoiled nature. (Tomić & Stojiljković, 2013). In Austria, rural tourism has a long history, and, as such, features as the instrument for restructuring the agricultural sector. In the future, it should have the task to strategically use the potential of touristically attractive rural destinations.

Identifying profiles of potential consumers, i.e. tourists plays a key role in the formation of tourist offer. This paper identifies the profile of tourists visiting rural tourist destinations – homesteads and wineries – in Serbia and Austria. The research's limitation is a small sample, as well as the fact that it covered only a part of Serbia – Vojvodina – and a part of Austria – the area surrounding Vienna. Another limitation is that it only covers two forms of rural tourism – farms and wineries. Thus, in future research, the sample should be expanded, territory researched should be extended, and some more forms of rural tourism should be included into the scope of research.

References

- Alcaniz, E.B., Garcia, I.S., & Blas, S.S. (2009). The functional-psychological continuum in the cognitive image of a destination: A confirmatory analysis. *Tourism Management*, 30(5), 715-723. Doi: <https://doi.org/10.1016/j.tourman.2008.10.020>
- Breiling, M. (2005). *Rural Tourism: Experiences from Austria, Opportunities for Japan*. In: Japanese ž Rural Planning Society, Kinki Meeting, 1-15.
- Collins, D., & Tisdell, C. (2002). Gender and differences in travel life cycles. *Journal of Travel Research*, 41(2), 133-143. Doi: <https://doi.org/10.1177%2F004728702237413>
- Cooper, D.R., & Schindler, P.S. (2006). *Business Research Methods*. USA: McGraw-Hill.
- Đenadić, M., Muhi, B., & Jovanović, D.V. (2016). Rural tourism – Serbia's missed chance. *Economics of Agriculture*, 2, 515-529. Doi: <https://doi.org/10.5937/ekoPolj1602515D>
- Đorđević, D., Šušić, V., & Janjić, I. (2019). Perspectives of development of rural tourism of the Republic of Serbia. *Economic Themes*, 57(2), 219-232. Doi: <https://doi.org/10.2478/ethemes-2019-0013>

- Erdeji, I., Gagić, S., Jovičić, A., & Medić, S. (2013). Development of Rural Tourism in Serbia. *Journal of Settlements and Spatial Planning, Special Issue, 2*, 309-315.
- Foot, D. (2004). *Leisure futures: a change in demography?* In: Weiermair, K., Mathies, C. (Eds) *The Tourism and Leisure Industry: Shaping the Future*, (pp. 21-33). The Haworth Hospitality Press.
- Grubor, A., Leković, K., & Tomić, S. (2019). Rural tourism marketing of the Danube region. *Ekonomika*, 65(4), 1-10. Doi: <https://doi.org/10.5937/ekonomika1904001G>
- Hall, M.C., Sharples, L., Cambourne, B., & Macionas, N. (2002). *Wine Tourism around the World – Developments, management and markets*. London, New York: Taylor & Francis.
- Kara, N.S., & Mkwizu, K.H. (2020). Demographic factors and travel motivation among leisure tourists in Tanzania. *International Hospitality Review*, 34(1), 81-103. Doi: <https://doi.org/10.1108/IHR-01-2020-0002>
- Koteski, C., Majhošev, D., & Jakovljević, Z. (2017). Possibilities for the development of rural tourism in the Republic of Macedonia. *Journal of Process Management – New Technologies*, 5(2), 18-24. Doi: <https://doi.org/10.5937/jouproman5-13488>
- Ma, A., Chow, A., Cheung, L., Lee, K., & Liu, S. (2018). Impacts of tourists' socio-demographic characteristics on the travel motivation and satisfaction: the case of protected areas in South China. *Sustainability*, 10(10), 1-21. Doi: <https://doi.org/10.3390/su10103388>
- Medojević, J., Milosavljević, S., & Punišić, M. (2011). Paradigms of rural tourism in Serbia in the function of village revitalisation. *Human Geographies – Journal of Studies and Research in Human Geography*, 5(2), 93-102. Doi: <https://doi.org/10.5719/hgeo.2011.52.93>
- Polo Pena, A.I., Jamilena, D.M.F., & Molina, M.A.R. (2012). Validation of cognitive image dimensions for rural tourist destinations: A contribution to the management of rural tourist destinations. *Journal of Vacation Marketing*, 18(4), 261-273. Doi: <https://doi.org/10.1177%2F1356766712449351>
- Quendler, E. (2019). The position of the farm holiday in Austrian tourism. *Open Agriculture*, 4(1), 697-711. Doi: <https://doi.org/10.1515/opag-2019-0069>
- Radović, G., & Vasiljević, Z. (2018). *Current forms of rural tourism in Serbia and modalities of financing*. In: Thematic Proceedings of 3rd International Scientific Conference, Vrnjačka Banja, pp. 521-537.
- Stepanov, S., Jovičić, M., & Jovičić, M. (2018). *Strategic positioning sustainable development of rural tourism in Serbia*. In: Congress Proceedings of 4th International Rural Tourism Congress, pp. 240-252.
- Tomić, S., & Stoilković, A. (2013). Tourist movement in Serbia. *Anali Ekonomskog fakulteta u Subotici*, 49(30), 81-96.

Vasiljević, Z., & Vujović, D. (2012). *Vinski turizam i njegov značaj za razvoj lokalne zajednice*. In: *Tourism: Challenges and Opportunities*. Ekonomski institut, Beograd, pp. 385-390.

Vujko, A., Petrović, M., Demirović D., & Racković, I. (2017). Vrednovanje razvoja turizma na salašima Bačke. *Agroekonomika*, 46(75), 53-62.

Прегледни рад
Review article

Quality standardization - a factor of sustainable competitiveness of companies in Serbia

Стандардизација квалитета - фактор одрживе конкурентности предузећа у Србији

Vuk Miletić*

The College of Academic Studies "Dositej", Belgrade, Republic of Serbia, vukmiletic88@gmail.com

Nikola Ćurčić

The Institute of Agricultural Economics, Belgrade, Republic of Serbia, nikolavcurcic@yahoo.com

Zoran Simonović

The Institute of Agricultural Economics, Belgrade, Republic of Serbia, zoki@medianis.net

Abstract: The analysis of the possibilities of creating the sustainable competitiveness of an enterprise from the point of view of the functional uniformity of economic and ecological sustainability, as well as the production of products in compliance with the international standards for business operations, is the subject matter of the research conducted in this paper. The achievement of a higher level of competitiveness is a strategic goal of every enterprise, while the competitiveness of a product implies an appropriate standardization of quality. The starting assumption is that in order for enterprises to become competitive not only on the domestic market, but on the international market as well, it is necessary that they should standardize their business operations by improving the quality system. The goal is to gain an insight into how much significance domestic enterprises give to the standardization of quality, apart from the other needed factors, how interested they are in investing in the implementation of the ISO 9000:2000 standards, which are primarily oriented towards the satisfaction of client requirements, thus improving their own business operations. In this research study, the hypothetical-deductive methods, analytical-deductive and comparative methods, historical and statistical-descriptive methods, as well as the comparative statistical methods (ch2 Test, ANOVA), are used.

Keywords: standardization, quality of business operations, competitiveness, enterprise

JEL classification: L15, M21

Сажетак: Предмет истраживања у овом раду је анализа могућности креирања одрживе конкурентности предузећа са аспекта функционалног јединства економске и еколошке одрживости, те производње производа сагласно међународним стандардима пословања. Постизање вишег нивоа конкурентности стратешки је циљ сваког предузећа, док конкурентност производа подразумева одговарајућу стандардизацију квалитета. Полазна претпоставка је да би предузећа постала конкурентна како на домаћем, тако и на међународном тржишту неопходно је да стандардизују своје пословање, унапређењем система квалитета. Циљ је да се сагледа колико домаћа предузећа поред осталих потребних фактора придају значај стандардизацији квалитета, колико су заинтересовани за инвестирање у имплементацију стандарда ИСО 9000:2000 који су превасходно оријентисани на задовољење захтева клијената и тиме унапредила своје пословање. У овом истраживању коришћене су хипотетско - дедуктивне методе, аналитичко - дедуктивне и компаративне методе, историјске и статистичко - дескриптивне методе и методе компаративне статистике (ch2 Test, ANOVA).

* Corresponding author

Кључне речи: стандардизација, квалитет пословања, конкурентност, предузеће.
ЈЕЛ класификација: L15, M21

Introduction

More than ever before, enterprises are faced with foundational changes in the manner they operate in today. The digital economy is a reality (Domazet et al., 2018), and the challenges of standardization are ever more complex. For that reason, business practice and theory are repeatedly and anew estimated so that organizations can survive in the market, increase their market shares, reduce their costs, raise the quality of their products, or achieve and keep their competitive advantage (Ćurčić & Miletić, 2020). The achievement of a higher level of competitiveness is a strategic goal pursued by every enterprise, while the competitiveness of products implies an appropriate standardization of quality.

The problem of the sustainable competitiveness of an enterprise should be considered from an integral standpoint – the functional uniformity of economic and ecological sustainability (Krstić et al., 2018), as well as the production of products in compliance with the international standards for business operations. The organization of business operations in compliance with the said criteria enables an enterprise to acquire and keep an advantage in relation to its rivals, first of all through the creation of a larger space in the market (Olavarrieta & Friedmann, 2008, p. 623-630).

Irrespective of the trend of growth of the number of the organizations that have introduced a quality management system, as well as the development of the movement for quality in the domestic economy, generally viewed, the results have not been satisfactory yet. The standardization process has been conducted slowly, both due to the insufficient knowledge of the information about the importance of the standards for the business operations of national enterprises and the impossibility of effectively fulfilling the requirements imposed by the standards, and so forth. The reality of the international market and the business environment (Miletić et al., 2020) exerts an influence on Serbian organizations' managers' understanding of the need and their becoming more interested in investing in the implementation of the ISO 9000:2000 standards, which are primarily oriented towards the satisfaction of client requirements as one of the elementary preconditions for the permanent improvement of the quality of business operations (Cvjetković & Ilić, 2015). However, there is a pronounced delay, given the fact that the competition is strong and that it has established in the market, so it is difficult to find one's own "niche".

In longstanding practice (Arsovski, 2013, A-2.), since the very first major revision of the standards, numerous problems related to its role have been noticed. One part of the problem is connected with the inadequately applied process approach, and the fact that the role of a manager/leader in it has not been determined in a clear manner, either. Apart from the low level of labor productivity and the inadequate price-product quality ratio, the insufficient application of the quality management system is still singled out as the key problem of the insufficient market successfulness of the business operations carried out by

Serbian enterprises, especially by small and medium-sized enterprises, which significantly influences their competitiveness both in the domestic market and in the international market. "Quality", as the satisfaction of the need and desire for living in a quality manner, is exactly the backbone in the quality management concept. Management has been recognized as one of the key success factors in the establishment of the quality management system, too, (QMS - Quality Management System), which is presented in a precise manner in the mentioned (ISO 9000:2000) standard series.

The need of the Serbian organization (Miletić et al., 2017, p. 75) to meet the expectations of different buyers/consumers for goods requires the application of the international standards for business operations that are related to the quality concept, without which there is no success in business. Apart from the state and its institutions, organizational managers/leaders with their initiatives also have an important role in the promotion of the international standards for business operations in the function of raising the competitiveness level.

1. The standardization of business operations and its benefits in an organization

As the process of the application of appropriate standards in order to make or improve a product or labor process (Milovanov, 2016), standardization is ultimately aimed at eliminating problems and maximizing performances in the work of an enterprise. Business operations quality standardization is a factor critical for the survival of the organization in the global economy (Šarović, 2014), and simultaneously both the path and the way to lower trade barriers and successfully compete with global actors. If a concrete organization cannot work without everyday operational engagement, it is time for standardization.

A standard is a document which defines the process and manner of performing a certain business activity, the basic characteristics of the process and the expected results of the process. Standards serve to set certain successfulness parameters (KPI - Key Performance Indicators) so as to be able to monitor effects (www.datalab.rs/znacaj-standarda-u-poslovanju/). They are necessary for every kind of business operations, even for micro-enterprises, given the fact that they give a form to and establish a market. A predefined, documented manner of working saves time and money, even when that is not so much obvious. Standards help bring into compliance the technical characteristics of products and services, by means of which they make industry more efficient and help eliminate obstacles in international trade. They contribute to an increase in buyer satisfaction, and ultimately help their more efficient management.

As the internationally recognized norms that define the rules and guidelines for the quality of production (Soković et al., 2009), the end product, the ISO standards can be applied to any organization independently of its size, type, production and service. They are a proof that the organization is capable of producing quality products (Popović, 2013) or offering a quality service. Compliance with the international standards helps consumers to be aware of the fact that the products they buy are safe, characterized by appropriate

performances, and that they are not a threat to their health and the environment. They simultaneously enable a reduction in the risks buyers are exposed to, such as omissions in the data safety system.

The quality of products plays the key role in the market. Producers of goods and service providers are basically interested in a more specific assessment of the quality of a product or service (Milunović-Koprivica et al., 2019) in order to make a certain improvement based on it. By ensuring consistent quality (Oakland, 2005), organizations conquer new markets, and also retain the existing ones. End-user and client expectations imply that the product they buy will, with respect to the quality of the product, meet their requirements and needs (Bobera et al., 2017, p. 117–127). For that reason, only those organizations that hold on to quality, and simultaneously to their own buyers, can be considered as competitive and successful.

When products and services are brought into compliance with applicable standards, both consumers and business partners as well can trust in their safety, reliability and quality (Božilović & Miletić, 2014). The experiences in the application of standards and in the participation in the standardization process that Serbian enterprises have gained so far are indicative of the fact that no high level of understanding that it is one of the decisive factors for raising competitiveness, the quality of business operations and export has been reached yet (Aničić et al., 2019). Standardization will enable Serbian enterprises to achieve a more favorable position in contacts with government institutions, at tenders, and so on. Standardization enables them to meet the contemporary requirements made by the market and eliminate barriers to efficient business operations not only in the domestic market, but in the international market as well.

Today, organizations throughout the world apply, either individually and/or jointly, a larger number of standards for different management systems in the enterprise. The largest number of them have been developed and applied in the field of the QMS, business continuity management, and so on. The research studies carried out so far have shown that the extent to which standards are applied in the work of an organization, at least to that exact extent the quality of its products/services has been raised (Čeha, 2014, p. 36) and its business operations has been improved.

2. Research Methodology

The research was done with the aim of gaining an insight into how much importance, apart from the other needed factors, Serbian enterprises give to the standardization of business operations as a precondition necessary for sustainable integral competitiveness to develop. The assumption of the research study implies that numerous factors have an influence on the competitiveness of the products and/or business operations of different enterprises, and that, apart from the low level of labor productivity and the inadequate price-product quality ratio, the insufficient application of the quality management system still singles out as the key non-competitiveness problem, especially by small and medium-sized enterprises.

The research was done as a cross-sectional study of an empirical character in order to describe the importance of the considered factor and the analysis of the relations between the building blocks of the subject-matter factor. Apart from the basic explicative method, the bibliographical speculative method was used in the phase of the establishment of the theoretical framework, whereas in the phase of the processing and interpretation of the results, the methods of multiple comparisons and a statistical test were used. Conducting a survey in order to collect data and pieces of information was used as the research technique in the study.

The research was conducted on a sample of the 136 organizations selected from the database maintained with the Business Registers Agency of the Republic of Serbia, out of which 19% were micro organizations, 28% were small organizations, 29% were medium-sized organizations, while the percentage of large organizations was 24%. The successfulness of their business operations was the decisive factor in selecting the enterprises for the sample.

The questionnaire was aimed at collecting the information about the level of the standardization of business operations in the context of the elements needed for the development of the competitive ability of Serbian organizations. The questionnaire was specially created for the needs of this research study and, apart from the other questions, the same also contained the question: To which extent is the quality concept implemented in the organization according to the requirements imposed by the ISO 9000 standard series in relation to the rank of other performances? The envisaged option implied that the factors could be rated as “very much significant”, “they are and they are not significant”, and “they are not significant”. Taking into account the answers received from the respondents, the differences in the determination of the obstacles in the development of the improvement of the quality of the business operations of the Serbian organizations were processed by the ANOVA test and the nonparametric χ^2 test (the existence of a statistically significant difference for the values $\text{Sig} \leq 0.05$).

The primary sources of information and types of knowledge were mainly used in the research segment presented in this paper.

3. Results and discussion

The analysis of the factors needed for the development of competitiveness as a strategic goal of every national enterprise started with the evaluation of the preselected elements, simultaneously placing an accent on the rating of the standardization of the quality of business operations in relation to the other elements. All the more so given the fact that ever more present international agreements pose challenges of competing with global actors to domestic organizations. Comparative statistic was used to process the independent variables in comparison with the dependent so as to determine the

connections/relationships and compare certain groups. Based upon the obtained results, it can be concluded that the standardization of the quality of business operations and the purchase of contemporary technological solutions and pieces of equipment were indicated as significant factors (the percentage ranging from 83.8% to 86.0%). The respondents were allowed to rate the factors as “very much needed”, “they are needed and they are not needed”, and “they are not needed”.

Table 1 shows the rates in both absolute and relative indicators for each element needed for the development of the competitive ability. According to the table, it is possible to note that the standardization of the quality of business operations, the continuous improvement of the knowledge of all the employees, the purchase of contemporary technological solutions and pieces of equipment, as well as investment in the development of domestic brands were, in the highest percentage, rated as the “very much needed” elements.

Table 1: The rate of the standardization of the quality of business operations in the context of the elements needed for the development of the competitive ability of the Serbian organizations

| The elements for the development of the competitive ability | Very much needed | | It is and it is not needed | | It is not needed | |
|--|------------------|------|----------------------------|------|------------------|-----|
| | Af | Rf | Af | Rf | Af | Rf |
| Standardization of the quality of business operations | 114 | 83.8 | 18 | 13.2 | 4 | 2.9 |
| Significant investments in marketing | 77 | 56.6 | 47 | 34.6 | 12 | 8.8 |
| Investment in the development of domestic brands | 100 | 73.5 | 28 | 20.6 | 8 | 5.9 |
| Building strategic alliances | 78 | 57.4 | 45 | 33.1 | 13 | 9.6 |
| The application of contemporary management methods and techniques | 81 | 59.6 | 47 | 34.6 | 8 | 5.9 |
| The continuous improvement of the knowledge of all the employees | 113 | 83.1 | 17 | 12.5 | 6 | 4.4 |
| The purchase of contemporary technological solutions and pieces of equipment | 117 | 86.0 | 17 | 12.5 | 2 | 1.5 |

Af - absolute frequencies; Rf - relative frequencies (percentages)

Source: Miletić, 2020, p. 168.

Furthermore, the sample-selected respondents were also asked to rate which key obstacles were present on the way to raising the level of the competitiveness and quality of the business operations of Serbian organizations. The obstacles offered as the options in the questionnaire could be rated by the respondents as “very big”, and an obstacle “both big and not big”, and as an obstacle which is “not big”. In Table 2 below, it is possible to see that the outdated equipment and technologies, a lack of resources, a lack of financial capital, as well as the business operations not based upon the international standards were rated as the biggest obstacles (more than one-half of the respondents rated them as a “very big” obstacle) (Miletić et al., 2019, p. 295).

Table 2: The rates of the primary obstacles in the development of the competitiveness of domestic enterprises

| The obstacles in the development of competitiveness | Very big | | Both big and not big | | Not big | |
|--|----------|------|----------------------|------|---------|------|
| | Af | Rf | Af | Rf | Af | Rf |
| The inadequate use of contemporary management methods and techniques | 51 | 37.5 | 52 | 38.2 | 33 | 24.3 |
| A lack of resources | 75 | 55.1 | 40 | 29.4 | 21 | 15.4 |
| A lack of knowledge | 67 | 49.3 | 42 | 30.9 | 27 | 19.9 |
| Outdated equipment and technologies | 80 | 58.8 | 37 | 27.2 | 19 | 14.0 |
| A lack of financial capital | 81 | 59.6 | 30 | 22.1 | 25 | 18.4 |
| The inadequate application of the marketing concept | 46 | 33.8 | 66 | 48.5 | 24 | 17.6 |
| The insufficiently stimulating business ambience | 61 | 44.9 | 44 | 32.4 | 31 | 22.8 |
| The business operations not based upon international standards | 56 | 41.2 | 42 | 30.9 | 38 | 27.9 |

Af - absolute frequencies; Rf - relative frequencies (percentages)

Source: Miletić, 2020, p. 169.

Given the fact that the standards serve to set certain successfulness parameters (KPIs) in order to monitor effects, it can be expected that the enterprise should respond to certain criteria (Popescu, et. al. 2017). For that reason, the organizations were asked to rate the selected characteristics, including the level of the extent to which the quality concept was implemented according to the requirements imposed by the ISO 9000 standard series within the framework of their business operations, with the rates from 1 to 5, where 1 was the lowest rate, and 5 was the highest. All the more so because of the fact that quality (Simić, 2012) is marked as the backbone of the QMS, which is precisely defined in the said standard series. The results per certain characteristics are presented in Table 3.

Table 3: The rates of some characteristics in the enterprises

| The characteristic | R a t e s | | | | | | | | | |
|--|-----------|-----|----|-----|----|------|----|------|----|------|
| | 1 | | 2 | | 3 | | 4 | | 5 | |
| | Af | Rf | Af | Rf | Af | Rf | Af | Rf | Af | Rf |
| The level of competition on the market on which the organization does business | 7 | 5.1 | 12 | 8.8 | 42 | 30.9 | 29 | 21.3 | 46 | 33.8 |
| The level of the quality of the products on the market on which the organization does business | 2 | 1.5 | 11 | 8.1 | 49 | 36.0 | 40 | 29.4 | 34 | 25.0 |

| | | | | | | | | | | |
|---|----|-----|----|------|----|------|----|------|----|------|
| The level of the competitive ability of the organization | 4 | 2.9 | 8 | 5.9 | 30 | 22.1 | 57 | 41.9 | 37 | 27.2 |
| The technological level of the organization | 0 | 0 | 15 | 11.0 | 20 | 14.7 | 57 | 41.9 | 44 | 32.4 |
| The level of the extent to which the quality concept is implemented in the organization according to the requirements of the ISO 9000 standard series | 13 | 9.6 | 17 | 12.5 | 9 | 6.6 | 41 | 30.1 | 56 | 41.2 |

Source: Miletić, 2020, p. 169–170.

Table 4 accounts for the rank of the characteristics based upon the average rates (the mean values) for every performance.

Table 4: The level of the extent to which the quality concept is implemented in the organization according to the requirements of the ISO 9000 standard series in relation to the rank of the other performances

| The characteristics | The mean values | The rank of the performances |
|--|-----------------|------------------------------|
| The organization's quality business operations in relation to the comparable competitors | 4.21 | 1 |
| The functioning of the organization in relation to the known external standards | 3.97 | 5 |
| The level of the competitive ability of the organization | 3.85 | 10 |
| The level of the extent to which the quality concept is implemented in the organization according to the requirements of the ISO 9000 standard series. | 3.81 | 12 |
| The level of the competition in the market in which the organization does business | 3.70 | 14 |
| The quality of the products in the market in which the organization does business | 3.68 | 15 |
| The level of the development of the marketing sector in the organization | 3.30 | 21 |

Source: Miletić, 2020, p. 172-173.

Based upon the results, it can be seen that, in the organizations included in the sample, qualitative business operations in relation to the comparable competitors, the level of the extent to which the quality concept is implemented in the organization according to the requirements of the ISO 9000 standard series, the functioning of the organization in relation to the known external standards and the level of the competitive ability of the organization are rated best (with an average rate of 4), only to be followed by the performances rated below 3.80: the level of the competition in the

market in which the organization does business, the level of the development of the marketing sector in the organization, and the quality of the products in the market in which the organization does business (Miletić, Miletić, Berber, 2019, p. 224).

Graph 1 presents the business operations not based upon the international standards and singled out as an obstacle to the development of competitiveness by enterprises of different sizes. The majority of our employees associate a standard with something strict and uncreative, tightly connected with regulations and norms, so every indication of standardization and business operations with us according to the predefined rules is accepted with a dose of disapproval. However, the fact is that, according to the requirements of the ISO 9001 standards, certification increases clients' trust in a product/service and leads towards better positioning in the market.

Graph 1: Business operations not based upon the international standards as an obstacle to the development of competitiveness



Source: Miletić, 2020, p. 183.

Table 5 shows that $\text{Sig.} = 0.035 < 0.05$, so it can be concluded that there is a significant difference in the rates of the business operations not based upon the international standards by the organizations of different sizes as an obstacle to the development of competitiveness.

Table 5: The significance of the difference between the rates of the business operations not based upon the international standards as an obstacle to the development of competitiveness

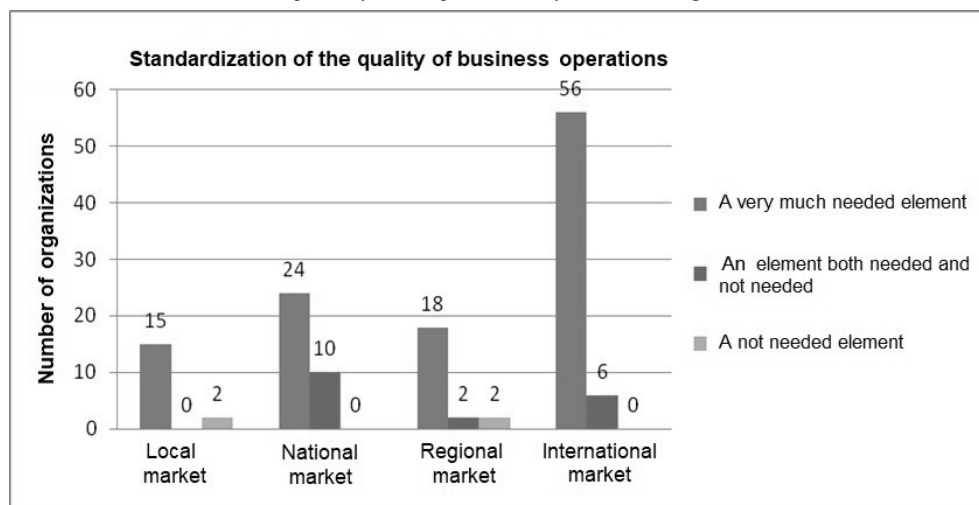
| | Value | df | Sig. |
|---|--------|----|------|
| Pearson Chi-Square (χ^2 Chi Square) | 13.573 | 6 | .035 |

Source: Miletić, 2020.

The differences in the determination of the elements needed for the development of the competitive abilities of the Serbian organizations by the organizations of a different level of business operations (the local market, the national market, the regional market, and the international market) were processed by means of the nonparametric χ^2 test (the presence of a statistically significant difference for the values $\text{Sig} \leq 0.05$).

Graph 2 is a presentation of the need for the standardization of the quality of business operations as the element needed for the development of the competitiveness of Serbian enterprises.

Graph 2: The standardization of the quality of business operations as the element needed for the development of the competitiveness of the Serbian organizations



Source: Miletić, 2020, p. 184 (modified).

In Table 6, it is possible to see that $\text{Sig.} = 0.002 < 0.05$, so it can be concluded that there is a significant difference in the rates for the significance of the standardization of the quality of business operations for the development of the competitiveness of the Serbian enterprises, as rated by the organizations of a different level of business operations.

Table 6: The significance of the difference between the rates of the significance of the standardization of the quality of business operations for the development of the competitiveness of the Serbian organizations

| | Value | df | Sig. |
|---|--------|----|------|
| Pearson Chi-Square (χ^2 Chi Square) | 20.903 | 6 | .002 |

Source: Miletić, 2020.

The respondents from the organizations were also requested to rate certain characteristics in business operations with the rates ranging from 1 to 5, where 1 was

the lowest rate, and 5 was the highest. A two-factor analysis established a fact that the number of the years of business operations and the level of business operations (local, national, regional, and international) have an impact on the differences in the characteristics of the organizations as a precondition for the standardization of the quality of business operations. The value 0.05 (for all the values $\text{Sig} \leq 0.05$, there is a statistically significant difference) was taken for the significance level of the difference. The following characteristics were being examined: The level of the extent to which the quality concept is implemented in the organization according to the requirements of the ISO 9000 standard series.

In Table 7, the mean values of the rates of the level of the extent to which the quality concept is implemented according to the requirements of the ISO 9000 standard series in the organizations doing business for a different time period and doing business at a different level are given for each such level and the length of time in business. Standard Deviation (Std. Deviation) is a deviation of the mean value of the rate, and N is the number of the respondents in the sample. It can be seen that the level at which the quality concept is implemented according to the requirements of the ISO 9000 standard series is best rated in the organizations doing business in the international market, and within those organizations in the organizations that have been doing business for a period of time from 11 to 20 years.

Table 7: The mean value of the rates for the level of the extent to which the quality concept is implemented in the organization according to the requirements of the ISO 9000 standard series

| The level of business operations | The length of time in business of the organization | The mean value of the rates | Std. Deviation | N |
|----------------------------------|--|-----------------------------|----------------|----|
| The local market | From 6 to 10 years | 1.00 | .000 | 4 |
| | From 11 to 20 years | 4.00 | .000 | 3 |
| | From 21 to 30 years | 4.25 | .886 | 8 |
| | Over 40 years | 4.00 | .000 | 2 |
| | Total | 3.41 | 1.502 | 17 |
| The national market | Up to 5 years | 4.71 | .488 | 7 |
| | From 6 to 10 years | 5.00 | .000 | 2 |
| | From 11 to 20 years | 3.67 | 1.581 | 9 |
| | From 21 to 30 years | 2.80 | 1.476 | 10 |
| | From 31 to 40 years | 4.00 | .000 | 2 |
| | Over 40 years | 1.50 | .577 | 4 |
| | Total | 3.47 | 1.542 | 34 |
| The regional market | From 6 to 10 years | 5.00 | .000 | 2 |
| | From 11 to 20 years | 1.75 | .463 | 8 |
| | From 21 to 30 years | 3.00 | 1.155 | 4 |
| | Over 40 years | 4.78 | .441 | 9 |
| | Total | 3.43 | 1.532 | 23 |
| The | From 6 to 10 years | 4.13 | 1.187 | 15 |

| | | | | |
|----------------------|---------------------|------|-------|-----|
| international market | From 11 to 20 years | 4.58 | .515 | 12 |
| | From 21 to 30 years | 4.05 | 1.203 | 21 |
| | From 31 to 40 years | 4.00 | .000 | 3 |
| | Over 40 years | 4.45 | .522 | 11 |
| | Total | 4.24 | .970 | 62 |
| Total | Up to 5 years | 4.71 | .488 | 7 |
| | From 6 to 10 years | 3.74 | 1.630 | 23 |
| | From 11 to 20 years | 3.56 | 1.435 | 32 |
| | From 21 to 30 years | 3.70 | 1.319 | 43 |
| | From 31 to 40 years | 4.00 | .000 | 5 |
| | Over 40 years | 4.08 | 1.230 | 26 |
| | Total | 3.81 | 1.347 | 136 |

Source: Miletić, 2020, p. 196-198.

The influence of the interaction between the length of time in business of the organization and the level of business operations is given in Table 8. In the column “The level of business operations /The length of time in business, Sig=0.000, which less than 0.05, so it can be concluded that there are significant differences in the rates for the level of the extent to which the quality concept is implemented in the organization according to the requirements of the ISO 9000 standard series. The influence of the interaction between the level of business operations and the length of time in business is statistically significant.

After the analysis of the joint influence, the analysis of the separate influences was carried out. Namely, in the column Sig. for the level of business operations is 0.003, which is less than 0.05, so it is concluded that the level of the business operations of the organization has a significant influence on the rates for the level of the extent to which the quality concept is implemented in the organization according to the requirements of the ISO 9000 standard series.

Also, the Sig. for the length of time in business is less than 0.05, actually being 0.036, which also significantly influences the differences in the rates. A conclusion is drawn that the level of business operations and the length of time in business play a significant role with respect to the differences in the level of the extent to which the quality concept is implemented in the organization according to the requirements of the ISO 9000 standard series.

Table 8: The influence of the interaction between the variables “the level of business operations” and “the length of time in business” on the rate for the level of the extent to which the quality concept is implemented in the organization according to the requirements of the ISO 9000 standard series

| The variables | Df | Mean Square | F | Sig. |
|---|----|-------------|--------|------|
| The level of business operations | 3 | 4.528 | 4.865 | .003 |
| The length of time in business | 5 | 2.311 | 2.483 | .036 |
| The level of business operations / The length of time in business | 10 | 9.626 | 10.340 | .000 |

Source: Miletić, 2020, p. 199.

It was observed that the individual influences of the level of business operations and the length of time in business differed. A subsequent test determined which organizations especially differed in rates depending upon the level of business operations with the help of the Tukey Test.

In Table 9, it can be seen that the rates of the organizations doing business in the local market and in the international market, in the national market and in the international market, and in the regional market and in the international market specially differ.

Table 9: The comparative analysis of the organizations of a different level of business operations in the rates for the level of the extent to which the quality concept is implemented in the organization according to the requirements of the ISO 9000 standard series

| (I) The level of the business operations of the organization | (J) The level of the business operations of the organization | The mean value of the difference (I-J) | Standard Error | The significance of the Error (Sig) | The 95% trust interval | |
|--|--|--|----------------|-------------------------------------|------------------------|-----------------|
| | | | | | The lower limit | The upper limit |
| The national market | The local market | .06 | .287 | .997 | -.69 | .81 |
| | The regional market | .04 | .260 | .999 | -.64 | .71 |
| | The international market | -.77(*) | .206 | .002 | -1.31 | -.23 |
| The regional market | The local market | .02 | .309 | 1.000 | -.78 | .83 |
| | The national market | -.04 | .260 | .999 | -.71 | .64 |
| | The international market | -.81(*) | .236 | .005 | -1.42 | -.19 |
| The international market | The local market | .83(*) | .264 | .011 | .14 | 1.52 |
| | The national market | .77(*) | .206 | .002 | .23 | 1.31 |
| | The regional market | .81(*) | .236 | .005 | .19 | 1.42 |

Source: Miletić, 2020, p. 199-200.

Conclusion

The research results have shown that the standardization of the quality of business operations has been assessed to be a significant factor needed for the development of the competitive ability of the Serbian organizations (with an average rate exceeding 4). The establishment of business operations not based upon the international standards, apart from

the other factors which are an obstacle to the development of the competitiveness of an enterprise, was rated differently by the respondents employed in the enterprises of a different size.

The answers of the organizations of a different level of business operations were significantly different from each other with respect to the mentioned elements needed for the development of the competitive abilities of domestic enterprises, including the standardization of the quality of business operations as well. Out of the seven observed elements, a significant difference was noticed in six, so a conclusion is made that the level of business operations does significantly influence the rating of the elements needed for the development of the competitive abilities of the organizations.

The length of time in business of the enterprises and the level of business operations have an important, joint influence on all the attributes of the organizations observed as the characteristics a competitive organization should have. As far as individual influences are concerned, it can be noticed that the length of time in business does exert a significant influence on the differences in the level of the extent to which the quality concept is implemented in the organization according to the requirements of the ISO 9000 standard series.

The level of the business operations of an enterprise (i.e. the local market, the national market, the regional market, the international market) has a significant influence on the differences in the following: the level of the extent to which the quality concept is applied in the organization according to the requirements of the ISO 9000 standard series, and the functioning of the organization in relation to the known external standards. It arises that, irrespective of the fact of which activity a concrete enterprise is engaged in, the adoption and maintenance of the standardization system and the quality control system are an important process for its success in the market. Certification according to the requirements of the ISO 9001 standard, which is suitable for all the organizations that want to improve their functioning irrespective of the size or activity of the organization, increases clients' trust in a product/service and leads towards better positioning in the market. Finally, should a concrete organization be unable to function without every day operational engagement, which is a sure sign that time for the standardization of its business operations has come, irrespective of costs.

References

- Aničić, J., Aničić, D., & Kvrđić, G. (2019). Sustainable growth and regional competitiveness of Serbian economy. *Ekonomika*, 65(2), 65-74. Doi: <https://doi.org/10.5937/ekonomika1902065A>
- Arsovski, S. (2013). *Sinergijski efekat procesa menadžmenta i liderstva*. 40. Nacionalna konferencija o kvalitetu FQ2013, Beograd, A-2.
- Bobera, D., Strugar-Jelača, M., & Bjekić, R. (2017). Analysis of leadership styles in medium and large companies on the territory of the Republic of Serbia. *Anali Ekonomskog fakulteta u Subotici*, 37, 117-127.

- Božilović, S., & Miletić, V. (2014). Menadžment kvaliteta građevinskih kompanija. *Ekonomika*, 56(1), 50-59.
- Čeha, M. (2014). Analiza aspekata unapređenja kvaliteta poslovanja domaćih organizacija. *Kvalitet i izvrsnost*, 3-4, 34-37.
- Ćurčić, N., & Miletić, V. (2020). Factors Important or Achieving the Comprtiteness of Industrial and Agroindustrial Products. *Economics of Agriculture*, 67(3), 831-849, Doi: <https://doi.org/10.5937/ekoPolj2003831C>
- Cvjetković, M., & Ilić, D. (2015). Kvalitet u funkciji unapređenja konkurentnosti domaćih preduzeća. *Ekonomski izazovi*, 4(7), 48-63.
- Domazet, I., Zubović, & Lazić, M. (2018). Driving factors of Serbian competitiveness: digital economy and ICT. *Strategic Management*, 23(1), 20-28. Doi: <https://doi.org/10.5937/StraMan1801020D>
- ISO 9001. (2015). *Sistem menadžmenta kvalitetom – Zahtevi* .
- Krstić, B., Krstić, M., & Đekić, I. (2018). Sustainability of development and growth crisis, distribution of income and inequality. *Economics of Sustainable Development*, 2(1), 1-12.
- Miletić, V. (2020). *Liderstvo u savremenoj organizaciji*. Niš: Ekonomika.
- Miletić, V., Ćurčić, N., & Aničić, D. (2017). Kvalitet srpskih proizvoda - ključ za održivu konkurentnost na otvorenom tržištu, XV Međunarodna multidisciplinarna naučna konferencija "Eurobrand", 24-26 novembar, TQM Center, Zrenjanin, e-Zbornik radova, pp. 73-84.
- Miletić, V., Ćurčić, N., & Miletić, S. (2019). Ocene ključnih faktora unapređenja poslovanja i marketing koncepta u domaćim organizacijama. *Vojno delo*, 71(2), 289-304, Doi: <https://doi.org/10.5937/vojdelo1902289M>
- Miletić, V., Jovanović, Z. Pavić, Ž. (2020). Evaluation of management methods and techniques regarding quality improvement of Serbian organizations' business. *Ekonomika*, 66(3), 55-71. Doi: <https://doi.org/10.5937/ekonomika2003055M>
- Miletić, V., Miletić S., & Berber, N., (2019). How high are the performances of organizations in the Republic of Serbia? *Facta Universitatis, Series: Economics and Organization*, 16(2), 215-228. Doi: <https://doi.org/10.22190/FUEO1902215M>
- Milovanov, B. (2016). Kvalitet organizacije u svetlu novih verzija standarda za sisteme menadžmenta. *Kvalitet i izvrsnost*, 9-10, 45-48.
- Milunović-Koprivica, S., Bešić, C., & Ristić, O. (2019). QFD method application in the process of hotel service quality improvement. *Hotel and Tourism Management*, 7(2), 57-66. Doi: <https://doi.org/10.5937/menhottur1902057M>
- Oakland, J. (2005). *Total Quality Management*, Grower Handbook of Quality Management, edit. Denis Lock, Gower Press, London.

Olavarrieta, S., & Friedmann, R. (2008). Market orientation, knowledge - related resources and firm performance, *Journal of Business Research*, 61(6), 623-630. Doi: <https://doi.org/10.1016/j.jbusres.2007.06.037>

Popescu, G. H., Sima, V., Nica, E., & Gheorghe, I. G. (2017). Measuring sustainable competitiveness in contemporary economies-Insights from European economy. *Sustainability*, 9(7), 1230. Doi: <https://doi.org/10.3390/su9071230>

Popović, B. (2013). Svetska klasa kvaliteta. *Kvalitet i izvrsnost*, 11-12, 33-36.

Šarović, D. (2014). Kreativnost i standardizacija. *Kvalitet i izvrsnost*, 1-2, 93-95.

Simić, V. (2012). Bitka za kvalitet - društvena, organizaciona, menadžerska, lična. *Kvalitet i izvrsnost*, 9-10, 17-20.

Soković, M., Jovanović, J., Krivokapić, Z., & Vujović, A. (2009). Basic quality tools in continuous improvement process. *Journal of Mechanical Engineering*, 55(5), 333-341.

Mutual conditioning of factors of regional economic integration in Europe

Међусобна условљеност фактора регионалне економске интеграције у Европи

Miloš Srzentić*

Doctor of Economic Sciences, Megatrend University, Republic of Serbia srzenticmil@sezampro.rs

Abstract: This paper looks into one of the basic theoretical concepts of mutual cooperation of regions in Europe, known as the concept of Europe of the Regions. Through it could be observed the influence of non-economic as well as economic factors participating in creating regional economic integration. According to this concept, multiple regions join as members into one region for easier and faster realization of some common functions determined in advance. By itself, during the joining of those regions, impact of available factors of integration in observed regions is directed primarily toward the successful realization of the target function. The concept of Europe of the Regions is analysed in this paper predominantly on examples of joining of multiple border regions from two or more different states into one cross-border region. The results of the research conducted in this paper are presented in its final section, where the attention is particularly focused on current problems creators of macroeconomic policies are faced with in their attempts to establish firmer and more comprehensive connections among border regions.

Keywords: regional economic integration, integration factors

JEL classification: F00, F15

Сажетак: У овом раду је разматран један од основних теоријских концепата међусобне сарадње региона у Европи, који се назива концептом Европе региона. Преко њега се може посматрати деловање како неоекономских, тако и економских, фактора који учествују у формирању регионалне економске интеграције. Према овом концепту, више региона се удружује у један регион у циљу лакшег и бржег остваривања неке унапред одређене заједничке функције. Самим тиме, приликом удруживања тих региона, деловање расположивих фактора интеграције у њима је усмерено превасходно ка успешној реализацији те циљне функције. Концепт Европе региона је у овом раду најчешће анализиран на примерима удруживања по неколико пограничних региона из две или више различитих држава у један прекогранични регион. Резултати истраживања које је спроведено у овом раду су презентовани у његовом последњем делу, где је посебно скренута пажња на актуелне проблеме са којима се суочавају креатори макроекономске политике приликом покушаја да успоставе чвршћу и свеобухватнију повезаност пограничних региона.

Кључне речи: регионална економска интеграција, фактори интеграције

ЈЕЛ класификација: F00, F15

Introduction

The basic problem considered in this paper relates to the fact that many attempts of mutual cooperation of border regions do not produce positive results in adequate measure. For this

* Corresponding author

reason, an analysis was conducted of factors of regional economic integration the acting of which determines the form and content of that cooperation. Examination of the sequence and the extent of implementation of those factors makes the content of the object of research of this paper. The aim of the paper was to determine whether and in which way the observed factors of regional economic integration are mutually conditioned. Mutual comparison of factors of integration by the method of comparative analysis is conducted at the beginning. In the next section of the paper, economic and non-economic factors of integration are considered in the following part of the paper with methods of quantitative and qualitative analysis. The basic hypothesis examined in this paper is presented in the form: the stronger the positive influence of non-economic factors of integration that economic factors, the better they will contribute to the creation of mutual cooperation of border regions.

The theoretical concept of mutual cooperation of two or more regions observed in this paper is called the concept of Europe of the Regions. Its special feature consists in the fact that it implies creation of one larger region out of several smaller regions in accordance with functional principles. Consequently, for one bigger region to be formed, two or more smaller regions need to be grouped in order to perform some of the state or social functions faster and with better quality.

This paper particularly analyses cross-border cooperation, above all within the EU, between border regions belonging to member countries of EU. Those are regions which are usually, in administrative sense, still located on the existing borders of national states, which are at the same time also members of EU. The final section of this paper also analyses cross-border cooperation between border regions within member countries of EU establishing relations with countries which are not members of EU, but in most cases, are candidate countries for entering its membership. Realization of such cooperation is implemented in practice in such a way that financial means are separated on the communitarian level for certain time periods. They serve for conducting appropriate programs in order to harmonize regulations and incentives of common activities between such border regions.

Examples of border regions observed here show both positive and negative effects of their cooperation, during potential accession to unique cross-border regions. The analysis of existing forms of that cooperation is conditioned by the action of the considered factors. In final section of the paper, this analysis is performed in such a way that the influence of one of dominant observed factors of integration is compared with the influences of other factors of integration.

The obtained results are grouped based on the content of the object of that analysis in each of three basic parts of the paper. The first part of the paper contains analysis of non-economic factors of integration. Economic factors of integration are considered in the second part of the paper. A potential mutual dependency of these two groups of factors is observed in the last part of the paper.

1. Definition of basic theoretical notions

Influences of economic and non-economic factors of integration were examined on examples of forming of cross-border regions in Europe. They can be defined as territorial entities comprised of several local or regional administrative units whose headquarters are situated in different states and have resolving of common problems as a goal (Russo, 2012, p. 11).

European cross-border cooperation is most often specifically conducted through INTERREG programmes, whereby it comes to cooperation between NUTS3 regions, from at least two different member states of EU, which are situated either on common border of those states or in its immediate geographical proximity (Medeiros, 2019, p. 5). In that way Member States of the EU consciously finance certain forms and levels of autonomy of their border areas with the aim to create unique cross-border regions which have elements of supranational character (Knippenberg, 2004, p. 622).

The creation of Euroregions came as a result of a particular form of cooperation of border regions. These forms of regional connecting imply that mutual cooperation of border regions is established on common institutional bases, through which common priorities and ways of their realization are defined. It is in the concept of Europe of the regions that Forming of Euroregions finds its theoretical basis. However, unlike that concept, what is continuously present here is simultaneous influence of several factors of integration (Wroblewski & Kasperek, 2019, p. 6), which will be discussed in the final section part of this paper.

Non-economic factors that affect forming regional integrations include geographic, demographic and political factors. The group of geographic factors refers to natural corridors which spatially connect two or more border regions. Demographic factors can be defined as number and structure of population in border regions featuring as the base of their mutual integration. Political factors include forms of political activity directed on territorial and administrative connecting of border regions.

Economic factors refer to static and dynamic trade effects. When trade in a newly created integration takes place in existing economic structure, these are regarded as static effects. Dynamic effects are long-term effects changing economic structure. In a newly created integration, they lead to acceleration of medium- and long-term economic growth. These effects comprise: specialization in production, better allocation of resources, usage of economies of scale and increase in productivity by implementation of new technologies and investments (Marinov, 2015, p. 29). Effect which is particularly noticeable is specialization in production, which implies permanent orientation to development of only particular types of products on the territory of the entire country or of one of its regions (Timmer et al, 2019, p. 4).

2. Non-economic factors

2.1. Geographic factors

Depending on topological characteristics of the terrain comprising border regions, geographical factors connecting them could be divided into land and water. The navigable corridor Rhine-Main-Danube could be specified as the most obvious example of it. The border regions described below, through which this navigation corridor passes, are selected for the needs of this analysis.

Border region of Gelderland in the Netherlands, with the biggest city of Arnhem, is a notable example, stretching up to urban agglomeration encompassing Rotterdam, one of the world's biggest harbours. Dusseldorf and Cologne, border regions in Germany with eponymous cities, follow as adjacent sections. Parts of these regions constitute Euroregion Rhine Waal. Through INTERREG program, at the beginning of the 90-ties of XX century, most of the funds allocated for financing this cross-border region was spent for transport, infrastructure and tourism. These economic factors were directly conditioned by geographic factors. Total amount allocated for Netherlands-Germany cross-border cooperation through INTERREG program for the period from 2014 to 2020 amounted to around 440 million euros (Euregio, 2020).

On the opposite end of that navigation corridor are border regions in Romania with harbour Constanța and border regions in Bulgaria with harbour Varna. Both these harbours, Constanța in Romania and Varna in Bulgaria, are situated on the Black Sea. The biggest part of transport of people and goods, which is carried out through them toward the rest of the European continent, continues down the river Danube. Through INTERREG program for this cross-border cooperation of Romania and Bulgaria, as a part of the Danube strategy to a significant extent, around 260 million euros were allocated for the same observed period from 2014 to 2020 (Filip & Bogdan, 2016, p. 32). The largest part, around 85%, of projects included in this part of INTERREG program are financed through European Fund for Regional Development. The program area comprises 15 administrative units, each of which features as one region according to NUTS3 classification. Seven of these entities are located in Romania and eight in Bulgaria. As member states of EU, Romania and Bulgaria participate in their financing with total of 13% (Ministry of Public Development and Public Works, 2020).

It can be seen from these observed examples that, in this case, it is the geographic interconnection of observed regions that features as the basic determinant, which decisively influences potential forming of regional economic integration. Accordingly, it can be stated that geographic factor is the dominant factor of integrations observed and discussed in this paper.

2.2. Demographic factors

Ethnicity of population in different border regions features as the basis of most of political factors. Observed from the other side, structure of population, which precisely implies

similar ethnicity, features as the primary demographic factor placed in the basis of each cross-border integration of two or more border regions. Similar educational structure, which makes the basis for geographic and professional mobility of labour force, is also one of basic demographic factors enabling stronger connections between border regions. Influences of demographic factors can also be expressed through differences and similarities in the usage of officially recognized languages in a particular speaking area, well as belonging to a certain religious community.

Cooperation of the Walloon part of Belgium with France and Flemish part of Belgium with the Netherlands represents an example of influences of demographic factors on integrative processes in Europe considered herein. Around 40% of total population of Belgium live in the French-speaking Walloon part of the country. According to NUTS3 qualification, almost half of the total number of regions in Wallonia are situated on the border with France, thus achieving preconditions for establishment of mutual cooperation and forming cross-border regions. Education in Wallonia is compulsory from the age of six to eighteen, whereas in France that time span is officially from the age of six to sixteen. In the last few years both in Wallonia and in France more than 45% of young people aged from 25 to 34 attend some form of high education (OECD, 2014). The predominant religion in Walloon is, like in France, Roman Catholic denomination. The Dutch-speaking Flemish part of Belgium is home to 59% of total population. Also according to NUTS3 classification, more than a third of total number of regions in Flanders are situated along the border with the Netherlands. Unlike Flanders, where education is compulsory up to the age of 18, in the Netherlands it is compulsory up to the age of 16, with also very high percentage of highly educated population, particularly of younger generations. The highest number of the Flemings, like of the Dutch, belong to Roman Catholic denomination. After comparative analysis it can be stated that, both observed similarities and complementary characteristics of the observed regions represent precisely the demographic factors of their integration.

On the other hand, when these two regions are observed as parts of Euroregion, the following can also be noticed. As early as the early 1990s, when the Euroregion encompassing Belgium was formed, beside Wallonia and Flanders, it also comprised Brussels, while in France it included region of Nord-Pas-de-Calais and region of Kent in England. However, in this Euroregion, economic and political factors still have stronger influence on its functioning over demographic factors. In that period, however, the movement of people between regions comprising this Euroregion caused by demographic factors was minimal. The following years saw a significant increase in the movement of people between these regions. This happened only because of an inflow of foreign and domestic investments, often from these regions and because of political cooperation and decisions preceding their inflow. By that, this increase in the movement of people represents labour force mobility caused by economic and political factors. Until the beginning of the year 2000, as a consequence of that, 241 British companies were located only in the Nord-Pas-de Calais region, employing 26,000 people. Compared with that, in the same part of the observed Euroregion during that period, 237 Belgian companies were located, employing 16,000 people (Collier & Vickerman, 2002, p. 11).

The reason for such unequal influence of observed factors can be sought in the fact that a different degree of freedom existed which members of different ethnic communities possessed during the process of making economic and political decisions of importance for regulation of cross-border relations. This is precisely where the importance of harmonization of regulations on communitarian level in the area of cross-border cooperation of member states of EU came to fore – an issue that also belongs in the following considered group, i.e. political factors.

2.3. Political factors

Analogously with organization of economic activities comprising the base of economic system of a country, harmonization of different functions performed by border regions is an activity that makes an integral part of each political system of countries to which those regions belong. Those political activities result in setting priorities in terms of functions which a new created cross-border region has as a goal to perform.

Basic political factors determining those political activities include: (1) forming legal acts under which political parties are allowed to influence the functioning of border regions; (2) uniformity of legislation in political systems enabling creation of a cross-border region; and (3) signing multilateral agreements enabling a political party from one state to act undisturbed in several different member states of integration, that is, on the territory of the entire cross-border region. The first factor is the issue of national legislatures. The second factor, at the same time, is also the content of communitarian regulations of EU which are compulsory for all member states and, consequently, also for two states analysed in this part of the paper (Kelemen & Pavone, 2018, p. 361). The third factor represents a way to ensure implementing appropriate policies simultaneously in more different signatory countries.

In this part of the paper, influence of political factors is observed on the example of Basque Region. Basque Country straddles northern parts of Spain and south-western parts of France. Political parties from Basque Country, whose policies are supported to a significant extent by the Spanish government, usually hold around 25% of seats in Basque Parliament. The majority of Parliament seats are usually held by Basque Nationalist Party. This party is the biggest political party, which won 28 out of 75 of Parliament seats in the 2016 elections in this Spanish region (Pallarés, 2016, p. 4). As opposed to Basque region in Spain, a separate Basque region is not formed officially in France. However, political activity of Basque Nationalist party is legitimately realized on that territory of the French part of Basque Country as well. This is precisely where the simultaneous influence of political factors of regional integration on both observed border regions can be seen. Tendency towards political and territorial independence of Basque Country represents the base of integrative factor which connects these two border regions.

The next example of establishing a cross-border region can be observed through Moravian region, which covers south-eastern parts of Czech Republic and exits on the border with Slovakia. Around 3.1 million of people live in this region, somewhat more than half of a million of whom officially declare themselves as Moravian national minority. The

party of Moravia and Silesia (the Movement for Self-Governing Democracy - Association for Moravia and Silesia) was represented in Czech parliament as early as in 1992 with 14 Parliament seats and around 380.000 people voted for them then (Strmiska, 2000). However, unlike Basque Country, neither that party nor other parties from Moravian region, which are otherwise turned toward autonomy of this region, are currently represented in the Czech Parliament, although they are in the legal possibility to do that. Only 0.1% of population who officially declare themselves as Moravians currently live in Slovakia and they are concentrated in regions right next to the border with Czech Republic. Hence, it can be argued here that realization of the process of integration, which includes acting of political factors, requires continuous activity in relation to given political goals (Telle, 2017, p. 98).

Observed from the opposite direction and based on data used in the research which preceded the development of this paper, the following can also be inferred: independently from economic development between Spanish and French part of Basque Country, that is, between Czech and Slovakia, what happened was creation of certain cross-border forms of cooperation, as between border regions with the lowest, as well as with the highest level of income compared to national states in which they are situated. For these reasons, the dominant factors of integration in this case are historical and political influences rather than economic.

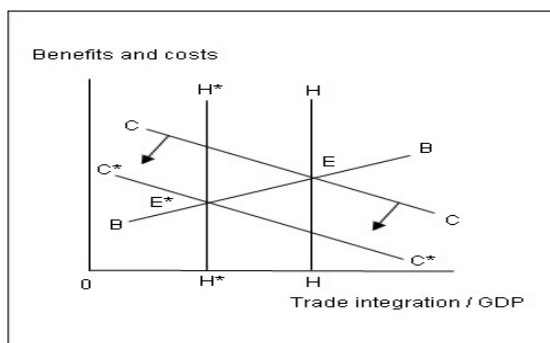
3. Economic factors

Customs union can be highlighted as one of the first forms of regional economic integration. Static effects influence the creation of customs union above all. Those are effects of creation and divergence of trade (Balassa, 1967, p. 5). If the concept of creation of trade yields better results than the concept of divergence of trade, economic integration will be considered successful. Unlike this form of integration, economic union implies forming of a common market, which assumes a dominant influence of dynamic effects of trade.

For a country or region to decide to access some form of economic integration it is necessary to previously conduct a procedure of cost-benefit analysis. This can be observed on the example of accessing to European Monetary Union (Grbić, 2005, p. 51). Considered dynamic economic factors act positively and represent benefits from accessing of a state to that integration. Decreasing of uncertainty, caused by accessing to European monetary union, contributes to better allocation of resources and to bigger specialization in production. It leads to accelerating economic growth and increase in investments. Achieved macroeconomic stability leads to increased stability of prices and domestic currency in monetary sphere. On the other hand, costs brought about by stable domestic currency are related to a loss of monetary sovereignty which is especially expressed in inability to resolve difficulties related to balance of payments using devaluations, as well as in a loss of issuance profits.

Decision-making process on whether a country will access a monetary integration it could also be graphically shown, as seen in Figure 1. The ordinate marks benefits and costs resulting from integration of a country measured with their relation to GDP, whereas the abscissa expresses the degree of integration of the country with partners, measured by relation of trade integration to GDP. Line of benefits BB and line of costs CC cut in point E , where benefits and costs are equal. Vertical line HH divides space in Figure 1 into two parts: left of line HH costs (C) are higher than benefits (B); right of line HH benefits are higher than costs ($B > C$). Based on this cost-benefit analysis, if the position of that country is on the right side in relation to line HH , then it should be admitted to monetary union. Continuation in development of observed monetary integration, by action of dynamic factors, results in an increase in advantages of its existence. By that, the line of costs moves left (C^*C^*), resulting in an increase in the areas of net benefits, which is manifested in moving a line HH to level H^*H^* . New balance is thus established in point E^* .

Figure 1: Benefits and costs from monetary integration



Source: Grbić, 2005, p. 52.

Analogous mechanism can also be applied to the analysis of potential cooperation of border regions with the aim of their integrations. This is particularly manifest in those member countries of the EU which are precisely also members of European monetary union, because membership in it enables implementation of uniform monetary policy on the territory of entire cross-border region. Observed from theoretical standpoint, this enables realization of better cooperation between border regions in other segments of economic policy as well.

The above results in equalization of a degree of economic development between these regions. This leads to a need for broader diversification of production in them, which levels precisely through already mentioned specialization in production, as one of basic economic factors of integration. Observed from the other side, if a bigger difference in a degree of development between cross-border regions exists, accelerated creation of spillover effects and impression effects in production and consumption are possible.

It can also be seen, on the observed example of Basque Country, that GDP per capita on average in Spanish part of Basque Country amounted to 34,000 euros in 2015. During

the following year, 2016, it was 29.5% higher than the level of GDP at the level of entire Spain and 17.7% higher than EU average. During 2015, GDP per capita in French part of Basque Country on average amounted to 27,350 euros. In 2016, level of this GDP per capita remained unchanged. However, unlike Spain, where the level of this parameter on observed regional level is higher than its value on national level, GDP per capita in French part of Basque Country was 12% smaller than its value at the level of the whole France. Also, its value was 7% lower than EU average in that year. Similar relation can be observed in 2018. During that year GDP per capita in regions comprising French part of Basque Country was 28,250 euros, which was 11.5% lower than its average level in France and 7.5% lower than its average in EU (Eurostat, 2020).

It is these differences in values of GDP per capita in Spanish and French part of Basque in relation to national averages and EU averages that leave space for more active implementation of observed economic factors. Its goal is to bring about mutual approximation of relative values of their GDP, because implementation of considered economic factors will also result in spillover of economic effects from a richer cross-border region to a poorer region.

Implementation of dynamic factors of integration also results in improved cross-border geographic and professional mobility of labour force. It also results in creation of conditions for increase in scale and diversification of agglomeration of production in certain cross-border regions parts of which comprise more different EU member states (Eraydin, 2016, p. 222). Observed like this, a model of economic growth, in which dynamic effects of trade are expressed in such a way that their usage results in long-term structural improvements in the economy, actually represents a model of economic development (Dragutinović et al, 2005, p. 255).

4. Multifactorial influence on border regions in Europe

In the interaction of non-economic factors with economic factors which are present in border regions, regional integrations are formed. To increase and improve number and diversification of those existing economic factors it is necessary to provide a legal environment for their integration, which is achieved through influence of political factors of integration (Brada & Mendez, 1993, p. 187). Hence, political factors, as a form of noneconomic factors, are those that determine direction and dynamic of future integrative movements.

As an example of such interaction of observed factors, we can take existence of border regions of Alsace and Lorraine in France on the one side of the border and Ruhr and Saar area in Germany on the other. Economic policy in areas of energetics, especially in cooperation in production of coal and steel, can be highlighted as basic common factor of their integration. Other factors in relation to these regions are political relations and heterogeneous structure of population. Through history Alsace and Lorraine were many times an issue under dispute between states to which they belonged. Such policy of conflicts in relations between France and Germany, to which these regions alternately

belonged, caused a need for their mutual cooperation through other factors of interregional cooperation. The majority of population of Alsace is of German origin. In periods of peace this fact brought about intense cooperation of this region with German population in the regions of Ruhr and Saar, which are nowadays within the state of Germany. Besides that, the economy of Alsace is industrialized to a significant extent. This had been contributed to by cross-border cooperation in production of raw materials and creation of technological located in these two German regions as well (Fraunhofer Institute for Systems and Innovation Research, 2000, p. 13). Observed from today's point of view, it is these positive influences of economic and demographic factors that overcome earlier negative effects of political factors between these border regions. As early as 1951, that cooperation was the aim of establishing the European Community for Coal and Steel, which is regarded as one of three major institutions on basis of which present-day EU emerged (Berger, 2012).

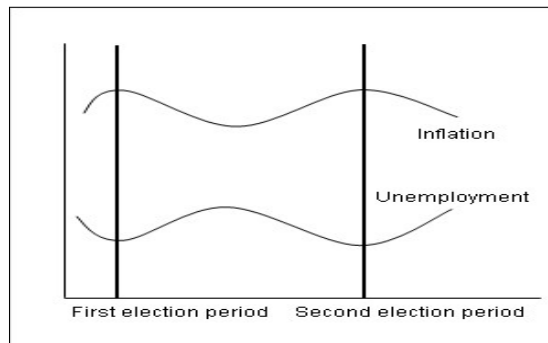
Such influence of considered factors also affects EU enlargement beneficially, which can also be seen on the example of Szeged and Subotica, in the context of accession of Serbia to the future membership in EU. Cooperation in the form of cross-border region would territorially include border regions of Szeged and Subotica. By that, common transport routes would be gathered as geographic factors on the one hand. As an example of this cooperation we can mention a project of a new railway route Szeged–Röszke–Horgoš–Subotica–Čikerija–Bácsalmás–Baja. This transversal could enable a connection between the two biggest harbours on the Adriatic and the Black Sea, as a part of railway between Rijeka in Croatia and Constanța in Romania (Prime Minister's Office Hungary – Serbian European Integration Office, 2016). Also, this project would promote mutual relations of Hungarian and Serbian national minorities, communities of two most represented people, as demographic factors. At the same time, on the other hand, action of economic factors would be expressed through trade and financial cooperation, which would be conditioned precisely by geographic and demographic factors, as noneconomic. Projects through which this cooperation is conducted were applied for during the period from 2007 to 2013 within IPA programmes of cross-border cooperation between Serbia and Hungary. These projects were conducted on the territory of potential cross-border region between Hungary and Serbia, within the financial framework of Instrument for Pre-Accession Assistance of EU and the total number of them was 204. Among them, we can particularly highlight an infrastructural project of building a new integrated traffic border crossing between Hungary and Serbia: Ásotthalom – Bački Vinogradi, which was officially opened in 2013.

Cooperation in the form of cross-border region could also be established based on common policy in the area of energy industry (De Sousa, 2012). As an example of that, we could state the existence of Đerdap hydroelectric power plant in the basin of the River Danube on the border of Serbia and Romania. It is on these examples that simultaneous common performance of noneconomic and economic factors in border regions can be seen.

Observed from the theoretical standpoint, this can be done in two ways. On microeconomic level, by directing allocation of companies in certain regions, in accordance with current political and economic programs. On macroeconomic level, by harmonizing economic cycles and political cycles for those time periods in which economic policy will accommodate to certain regions most, as it is shown in Figure 2. For example, if it is

estimated for inhabitants of a region, potential voters in approaching regional elections, that their confidence will be achieved by reducing unemployment rather than by reducing inflation, appropriate economic policy should also be chosen in advance accordingly. Creators of macroeconomic policy will implement measures of expansive monetary and fiscal policy by which unemployment will be decreased, but on the other hand, it will lead to increase in inflation. As opposite to that, once elections have passed government will, with the aim of re-stabilization, once again initiate measures of inflation-controlling policy which will soon be reflected on increase in unemployment (Bajec & Joksimović, 2004, p. 100). Such measures will be implemented until new elections, when government will once again try to acquire popularity among voters with full employment policy (Henley, 1988, p. 440).

Figure 2. Movement of inflation and unemployment through economic and political cycles



Source: Bajec & Joksimović, 2004, p. 100.

However, implementation of a concept of policy on regional level in practice faces several basic problems. They can be defined in the following ways, carefully taking into consideration deficiencies of each of individually considered factors of integration.

First, geographic proximity of border regions is no longer a warranty for accelerating different forms of communications between them. Global connection between regions across Europe and the world through the most modern transport and telecommunication means is what diminished necessity for establishment of cross-border cooperation. Then, ethnic, linguistic and religious tolerance, particularly during the perennial implementation of the concept of multiculturalism, on the territory of the entire European Union, resulted in the fact that each form of migration and cooperation significantly outside of neighbouring and border regions encountered the approval of domicile population. However, the past several years have seen abandonment of concepts which justify and improve tendencies like this, which, on the other hand, once again opens possibility for strengthening cross-border cooperation of population of neighbouring states. Besides that, the aforementioned political activities before or after elections on regional levels are not often possible to implement in practice, because there exists pronouncedly strong interconnection of such policies with macroeconomic policies on national and

communitarian level. Consequently, it is necessary to harmonize those regional policies constantly with the interests of wider administrative-territorial units, which leads to a series of problems of mutual mismatch of these interests. This can be seen, both in terms of content, and also at the time of preparation of such policies turned toward certain cross-border regions in relation to the level of entire state or the European Union. On the other hand, economic factors have already been conditioned by the process of globalization of the world economy for quite some time. Concepts of specialization in production and allocation of resources in cross-border regions are subject to ever-increasing displacement of production out of EU and with continuous drain of labour force, particularly highly educated, both in within the EU and outside its borders. For such state be changed, it is necessary to exert influence continuously and actively by means of different political and economic measures. Such activities should be aimed toward stopping further negative influences which have caused incomplete and partial implementation of considered factors of integration.

Accordingly, it can be concluded that for successful economic cooperation of border regions it is not enough to have only positive influence of economic factors on one side, but their simultaneous coaction with geographic, demographic and political factors, on the other. Based on that it can be asserted that basic hypothesis can be accepted as accurate. Noneconomic factors represent causal (geographic and demographic) factors as well as consequential (political) factors of each regional economic integration. Therefore, observed from the standpoint of qualitative analysis, their influence on economic factors has causal-consequential character. Such action of noneconomic factors results in a change in the form and a type of economic factors which then permanently shape a certain regional economic integration.

Conclusion

During the formation of European economic integration it was necessary to strengthen the influence of already existing economic factors in future member countries. Significance of simultaneous action of multiple factors came to the fore in the period after the Second World War precisely in regions which had, during history, represented areas with potentially conflicting interests. Importance of creation of preconditions in order to find compromise solutions and connect such areas through economic factors, was the basic goal of common European policy in that period. This mechanism of connecting of national states established early is, with appropriate modifications, also present today as one of the ways of maintaining and promoting integration in Europe.

From another point of view, independently of accession of new and strengthening the existing connections between already integrated member states, it is necessary to continue more direct cooperation between border regions in EU. Reason for that can be seen from the following: when problems arise on the level of connecting national states in EU, as it is currently the case with the process of exit of Great Britain from EU, maintaining and strengthening this integration is possible to search for solutions repeatedly on regional levels. The EU was also formed on those bases and they are always indicator of

actual state and relations within it. For a longer time period already, the concept of Europe of the Regions, based on cross-border cooperation of interstate regions with tendency of creating of new regions, is suppressed from everyday political practice. However, the concept of European federalism, as currently dominant theoretical base of connecting territories in a composition of national states within Europe, is not producing expected results either.

The basic results of the research conducted in this paper can be classified into two groups. First, influences of individually applied factors can be pointed out:

- Spatial proximity and establishing of better cross-border infrastructural connections do improve a cooperation between observed regions and represent an influence of geographic factors on them.
- Demographic factors such as ethnic, educational and religious characteristics of a group of people living in a particular region also influences significantly possibilities for improving of cross-border cooperation. More similar characteristics contribute to easier communication on personal and business levels among people who live in border regions. Observing from another viewpoint, if significant differences in these characteristics of people who are residents of border regions exist, it can cause a decrease in geographic mobility of their population, particularly of labour force between these regions.
- As a consequence of such influence of geographic and demographic factors it is necessary to implement continuous harmonization of regulations in the area of communitarian law among regions involved in cross-border integration. This would facilitate decision making process as a form of political factor.
- Implementation of economic factors results in equalization of the degree of economic development between these regions, particularly through application of regional economic policies and increased cross-border geographic and professional mobility of labour force.

Second, in simultaneous implementation of noneconomic and economic factors there are also significant effects found during this analysis that can be pointed out here:

- With the acceleration of means of communications as geographic factors and with implications of concept of multiculturalism in Europe as political factors, the need for significant cross-border cooperation between its regions stopped in certain periods.
- Applied political factors in the form of macroeconomic policies on regional level cause strong interaction with macroeconomic policies on national and communitarian levels, which can be observed as additional negative consequence of simultaneous implementation of the analysed factors.

- Globalization of the world economy made a strong impact on the observed noneconomic and economic factors and for this reason many cross-border regions in EU are not priority for investments.

As main implications of the research conducted in this paper, it can be stated that precisely because of these findings creators of new economic and political decisions could make better conclusions necessary for making policies and regulations concerning regional integrations more easily and better. Consequently, the following conclusion can be highlighted as the main contribution of this paper: individual influences of observed factors leads to various consequences affecting cooperation of border regions in comparison with their multifactorial influences caused by their simultaneous interaction. Observed all together, it can be asserted that noneconomic factors of integration, especially political, really contribute to better implementation of economic factors in the process of cooperation of border regions, which was, in fact, the content of basic hypothesis examined in this paper. Besides that, it can be concluded that not only do non-economic factors enable better utilization of existing economic factors of integration, but with their usage results in an increase in possibilities for implementation of new economic factors. This creates preconditions for new forms of cooperation of border regions, which is what Euroregions are, geographically and formally stretching beyond boundaries of national states, as further evidence of the supranational character of such regional economic integrations.

Based the above stated, it can be concluded that the concept of Europe of the Regions does not have to be only regarded as supplement, but also as appropriate complement, of the current concept of European federalism. The base for such approach like this to the concept of Europe of the Regions make border regions and their mutual relations manifest form of interaction of the considered factors of regional integration in Europe.

References

- Bajec, J. & Joksimović, Lj. (2004). *Savremeni privredni sistemi*. Beograd: Ekonomski fakultet.
- Balassa, B. (1967). Trade creation and trade diversion in the economic common market. *The Economic Journal*, 77(305), 1-21. Doi: <https://doi.org/10.2307/2229344>
- Berger, M. (2013). Motives for the foundation of the ECSC. *Economics and Business Review*, 13(3), 55-90.
- Brada, J. C. & Mendez, J. A. (1993). Political and economic factors in regional economic integration. *Kyklos: International Review for Social Sciences*, 46 (2), 183-201. Doi: <https://doi.org/10.1111/j.1467-6435.1993.tb02420.x>
- Collier, W. J. & Vickerman, R. W. (2002). *Cross-border activity in the Kent - Nord-Pas de Calais - Belgium Euroregion: Some comparative evidence on the location and recruitment decisions of internationally mobile firms*. Paper for 42nd Congress of the European

- Regional Science Association, Germany, Dortmund. Retrieved on May 13 2020, from <http://www-sre.wu-wien.ac.at/ersa/ersaconfs/ersa02/cd-rom/papers/082.pdf>
- De Sousa, L. (2012). Understanding European Cross-border Cooperation: A Framework for Analysis. *Journal of European Integration*, 35 (6), 669-687. Doi: <https://doi.org/10.1080/07036337.2012.711827>
- Dragutinović, D., Filipović, M. & Cvetanović, S. (2005). *Teorija privrednog rasta i razvoja*. Beograd: Centar za izdavačku delatnost Ekonomskog fakulteta u Beogradu.
- Eraydin, A. (2016). The role of regional policies along with the external and endogenous factors in the resilience of regions. *Cambridge Journal of Regions, Economy and Society*, 9 (1), 217–234. Doi: <https://doi.org/10.1093/cjres/rsv026>
- Euregio. (2020). *INTERREG Germany-Netherlands*. Euregio Rhein Waal, INTERREG-Programme management, Germany, Cleves. Retrieved on April 25, 2020, from <http://www.euregio.org/interreg-v-deutschland-nederland/>
- Eurostat. (2020, March 5). *GDP per capita in EU regions*. Eurostat – newsrelease 38/2020. Retrieved on September 17, 2020, from <https://ec.europa.eu/eurostat/documents/2995521/10474907/1-05032020-AP-EN.pdf/81807e19-e4c8-2e53-c98a-933f5bf30f58>
- Filip, P. & Bogdan, S. M. (2016). The strategy concerning the development of the Danube Euroregion, between desire and pragmatism. *Journal of Danubian Studies and Research*, 6 (1), 28-41.
- Fraunhofer Institute for Systems and Innovation Research. (2000). *Socio-economic analysis of North-Rhine Westphalia*. Working Papers Firms and Regions (No. R2/2000), Germany, Karlsruhe. Retrieved on September 19, 2020, from <https://core.ac.uk/download/pdf/6625278.pdf>
- Grbić, V. (2005). *Ekonomija Evropske Unije*. Beograd: Megatrend univerzitet primenjenih nauka.
- Henley, A. (1988). Political aspects of full employment: a reassessment of Kalecki. *The Political Quarterly*, 59 (4), 437-450. Doi: <https://doi.org/10.1111/j.1467-923X.1988.tb01227.x>
- Kelemen, D. R. & Pavone, T. (2018). The political geography of legal integration visualizing institutional change in the European Union. *World Politics*, 70(3), 358–397. Doi: <https://doi.org/10.1017/S0043887118000011>
- Knippenberg, H. (2004). The Maas-Rhine Euroregion: A laboratory for European integration? *Geopolitics*, 9(3), 608–626. Doi: <https://doi.org/10.1080/1465004049047867>
- Marinov, E. (2015). Economic determinants of regional integration in developing countries. *International Journal of Business and Management*, 3(3), 22-39. Doi: <https://doi.org/10.20472/BM.2015.3.3.003>

Medeiros, E. (2019). Cross-border transports and cross-border mobility in EU border regions. *Case studies on transport policy*, 7(1), 1-12. Doi: <https://doi.org/10.1016/j.cstp.2018.11.001>

Ministry of Public Development and Public Works. (2020). *INTERREG V-A Romania – Bulgaria Programme 2014-2020*, Bulgaria, Sofia. Retrieved on May 07, 2020, from: <http://www.mrrb.government.bg/en/infrastructure-and-programmes/programmes-for-territorial-cooperation-2014-2020/interreg-v-a-romania-bulgaria-programme-2014-2020/>

OECD. (2014). *Education at a glance 2014: OECD Indicators*. Country note, The Secretary-General of the OECD, OECD Publishing. Doi: <http://dx.doi.org/10.1787/eag-2014-en>

Pallarés, F. (2016). *2016 Regional election in the Basque country: results and electoral behavior patterns*. Institute of public law, Spain, Barcelona. Retrieved September 16, 2020, from <http://idpbarcelona.net/docs/blog/euskadi.pdf>

Prime Minister's Office Hungary – Republic of Serbia, Government, Serbian European Integration Office. (2016). *IPA program prekogranične saradnje Mađarska-Srbija*, Széchenyi Programiroda Nonprofit Kft 2015. Zajednički tehnički sekretarijat IPA Programa prekogranične saradnje Mađarska-Srbija, Mađarska, Budimpešta. Retrieved on May 17, 2020 from: <http://www.interreg-ipa-husrb.com/srb/file/168/>

Russo, A. M. (2012). Globalization and cross border cooperation in EU law: A transnational research agenda. *Perspectives on Federalism*, 4 (3), 1-25. Retrieved on March 28, 2020, from http://www.on-federalism.eu/attachments/004_Volume%204%20issue%203%202012.pdf

Strmiska, M. (2000). Rise and Fall of Moravian Regionalist Parties. *Central European Political Studies Review*, 2 (4). Retrieved on September 07, 2020, from: <https://journals.muni.cz/cepsr/article/view/3835>

Telle, S. (2017). Euroregions as soft spaces: between consolidation and transformation. *European Spatial and Research policy*, 24 (2), 93-110. Doi: <https://doi.org/10.1515/esrp-2017-0011>

Timmer, M. P., Miroudot, S., & De Vries, G. J. (2019). Functional specialisation in trade. *Journal of Economic Geography*, 19(1), 1–30. Doi: <https://doi.org/10.1093/jeg/lby056>

Wroblewski, L. & Kasperek, A. (2019). Euroregion as an entity stimulating the sustainable development of the cross-border market for cultural services in a city divided by a border. *Sustainability*, 11(8), 1-21. Doi: <https://doi.org/10.3390/su11082232>

Исправке

Corrections

Correction: Influence of digital banking channels on the number of branches in European Union countries and Serbia (2020, Vol. 56, No. 43, pp. 67-84)

Исправка: Утицај дигиталних банкарских канала на број филијала у земљама Европске уније и Србије (2020, вол. 56, бр. 43, стр. 67-84)

Editorial Board

Abstract: In the paper "Influence of digital banking channels on the number of branches in the European Union and Serbia" by Maja Putica, published in no. 43 (year 56) of the journal Annals of the Faculty of Economics in Subotica, on page 74, a wrong table was unintentionally published due to technical error, and on this occasion we apologize to the author and the readers. With the author's consent, in this issue we publish the corrected page of the text and Table 2, which was originally supposed to be published on page 74.

Table 2. Correlation matrix

| Electronic credit transfers | Debit/delayed debit card payments | Credit card payments | Direct debit payments | ATM transactions | POS transactions |
|-----------------------------|-----------------------------------|----------------------|-----------------------|------------------|------------------|
| 1.00 | 0.60 | 0.30 | 0.86 | 0.58 | 0.79 |
| 0.60 | 1.00 | 0.90 | 0.55 | 0.99 | 0.84 |
| 0.30 | 0.90 | 1.00 | 0.33 | 0.89 | 0.70 |
| 0.86 | 0.55 | 0.33 | 1.00 | 0.53 | 0.82 |
| 0.58 | 0.99 | 0.89 | 0.53 | 1.00 | 0.83 |
| 0.79 | 0.84 | 0.70 | 0.82 | 0.83 | 1.00 |

Source: the author's calculation

Keywords: number of branches, digital banking channels, multivariate analysis, European Union, Serbia
JEL classification: G21, M31

Сажетак: У раду ауторке Маје Путица под насловом „Утицај дигиталних банкарских канала на број филијала у земљама Европске уније и Србије“ (енг. Influence of digital banking channels on the number of branches in European Union countries and Serbia) објављен у бр. 43 (год. 56) часописа Анали Економског факултета у Суботици, на страници 74, техничком грешком објављена је погрешна табела, те се овом приликом извињавамо ауторки и читаоцима. Уз сагласност ауторке, у овом броју објављујемо исправљену страницу текста и табелу 2 која је првобитно требала да се налази на страници 74.

Table 2. Correlation matrix

| Electronic credit transfers | Debit/delayed debit card payments | Credit card payments | Direct debit payments | ATM transactions | POS transactions |
|-----------------------------|-----------------------------------|----------------------|-----------------------|------------------|------------------|
| 1.00 | 0.60 | 0.30 | 0.86 | 0.58 | 0.79 |
| 0.60 | 1.00 | 0.90 | 0.55 | 0.99 | 0.84 |
| 0.30 | 0.90 | 1.00 | 0.33 | 0.89 | 0.70 |
| 0.86 | 0.55 | 0.33 | 1.00 | 0.53 | 0.82 |
| 0.58 | 0.99 | 0.89 | 0.53 | 1.00 | 0.83 |
| 0.79 | 0.84 | 0.70 | 0.82 | 0.83 | 1.00 |

Source: the author's calculation

Кључне речи: број филијала, дигитални банкарски канали, мултиваријациона анализа, Европска унија, Србија

JEL класификација: G21, M31

Списак рецензената часописа Анали Економског факултета у Суботици

Агнеш Славић, Универзитет у Новом Саду, Економски факултет у Суботици

Александра Марцкић, Универзитет у Новом Саду, Економски факултет у Суботици

Andreea-Daniela Moraru, Ovidius University, Constanta, Romania

Бојан Матковски, Универзитет у Новом Саду, Економски факултет у Суботици

Бранимир Калаш, Универзитет у Новом Саду, Економски факултет у Суботици

Дејан Спасић, Универзитет у Нишу, Економски факултет

Dragan Petrović, Institute of International Politics and Economics, Beograd

Драган Стојковић, Универзитет у Београду, Економски факултет

Дражен Марић, Универзитет у Новом Саду, Економски факултет у Суботици

Едит Терек, Универзитет у Новом Саду, Технички факултет "Михајло Пупин" Зрењанин

Евица Петровић, Универзитет у Нишу, Економски факултет Ниш

Јасмина Весић-Васовић, Универзитет у Крагујевцу, Факултет техничких наука, Чачак

Јелена Кончар, Универзитет у Новом Саду, Економски факултет у Суботици

Кристина Мијић, Универзитет у Новом Саду, Економски факултет у Суботици

Ласло Шереш, Универзитет у Новом Саду, Економски факултет у Суботици

Маја Ђукић Ивановић, Универзитет у Нишу, Економски факултет

Маја Стругар Јелача, Универзитет у Новом Саду, Економски факултет у Суботици

Марина Ђорђевић, Универзитет у Нишу, Економски факултет

Милан Николић, Универзитет у Новом Саду, Технички факултет „Михајло Пупин“ у Зрењанину

Мирјана Марић, Универзитет у Новом Саду, Економски факултет у Суботици
Нада Миленковић, Универзитет у Новом Саду, Економски факултет у Суботици
Никола Милићевић, Универзитет у Новом Саду, Економски факултет у Суботици
Norbet Sipos, University of Pécs, Faculty of Business Economics, Pécs, Hungary
Олгица Главашки, Универзитет у Новом Саду, Економски факултет у Суботици
Пере Тумбас, Универзитет у Новом Саду, Економски факултет у Суботици
Раде Станкић, Универзитет у Београду, Економски факултет
Раденко Марић, Универзитет у Новом Саду, Економски факултет у Суботици
Татјана Ивановић, Универзитет у Београд, Факултет организационих наука
Vanya Krалеva, University of Economics, Varna, Bulgaria

Техничко упутство за форматирање радова

Цитати и библиографија

Рад треба да садржи следеће:

Наслов рада (не више од 10 речи) на енглеском језику.

Поднаслов (опционо) на енглеском језику.

Подаци о ауторима: име, презиме, звање и институција на енглеском језику.

Апстракт рада максималне дужине 200 речи на енглеском језику.

Кључне речи (не више од 10) на енглеском језику.

Текст рада на енглеском, максималног обима 12 страница.

Листу референци.

Формат странице: Б5.

Маргина: 2 цм свака.

Фонт: TimesNewRoman, величине 10.5 (важи и за наслове, поднаслове, називе слика, називе табела, апстракт, кључне речи итд).

Апстракт и кључне речи позиционирати одмах на почетку текста. Наслови, поднаслови, називи табела, илустрација, слика итд. треба да су нумерисани арапским бројевима.

Слике, илустрације, схеме је потребно приложити у .jpg формату (резолюције 300*300 DPI), или у векторском облику (.wmf или .cdr) са приложеним фонтовима или фонтовима претвореним у криве.

Слике, илустрације и схеме треба да су GRAYSCALE. За текст у сликама, илустрацијама и схемама је пожељно користити фонт Arial, величине 9pt.

Литературу треба навести абecedним редом.

1. Листа референци

У референцама се извори (нпр. књига, чланак у стручном часопису или интернет страница) наводе довољно детаљно да читаоци могу да их идентификују и консултују. Референце се стављају на крај рада, а извори се наводе абecedно (а) по презименима аутора или (б) по насловима извора (ако аутор није познат). Више извора од истог аутора се наводи хронолошки, почев од најранијег, нпр.

Љубојевић, Т.К. (1998).

Љубојевић, Т.К. (2000а).

Љубојевић, Т.К. (2000б).

Љубојевић, Т.К., & Димитријевић, Н.Н. (1994).

Референце иностраних аутора и иностраних институција (самом тексту и у литератури) се наводе латиничним писмом. Референце домаћих аутора се наводе ћириличним писмом, изузев наслова радова на енглеском језику или евентуално назива часописа (уколико је реч о часопису који се публикује на енглеском језику).

А. Часописи и остале периодичне публикације

Аутори се наводе по презимену, уз прво слово имена. Година објављивања се пише у заградама, иза којих се ставља тачка. Наслов чланка на енглеском језику пише се у *Sentence case*, односно велико слово се користи само на почетку наслова и код личних именица. Наслов часописа на енглеском језику пише се у *Title case*, односно све променљиве врсте речи се пишу великим почетним словом. Иза наслова часописа ставља се број годишта, који се пише курзивом:

Аутор, А., Аутор, Б. и Аутор, Ц. (година). Наслов чланка. *Наслов часописа*, број годишта(број свеске), странице.

☞ Чланак једног аутора, из стручног часописа пагинираног по свескама

Часописи који се пагинирају по свескама почињу страном 1 у свакој свесци, тако да се број свеске наводи у заградама након броја годишта. Заграде и број свеске се не пишу курзивом:

Танасијевић, В. (2007). A PHP project test-driven end to end. *Management Information Systems*, 5 (1), 26-35.

Begg, D. (2007). A PHP project test-driven end to end. *Management Information Systems*, 5 (1), 26-35.

☞ Чланак једног аутора, из стручног часописа пагинираног по годиштима

Часописи који се пагинирају по годиштима почињу страном 1 у свесци 1, а бројеви страница се настављају у свесци 2 тамо где се свеска 1 завршила, нпр.

Перић, О. (2006). Bridging the gap: Complex adaptive knowledge management. *Strategic Management*, 14, 654-668.

Begg, D. (2006). Bridging the gap: Complex adaptive knowledge management. *Strategic Management*, 14, 654-668.

- **Чланак два аутора, из стручног часописа пагинираног по свескама**

Стракић, Ф., и Мирковић, Д. (2006). The role of the user in the software development life cycle. *Management Information Systems*, 4 (2), 60-72.

Begg, D., и Burda, M. (2006). The role of the user in the software development life cycle. *Management Information Systems*, 4 (2), 60-72.
- **Чланак два аутора, из стручног часописа пагинираног по годиштима**

Љубојевић, К., и Димитријевић, М. (2007). Choosing your CRM strategy. *Strategic Management*, 15, 333-349.
- **Чланак три до шест аутора, из стручног часописа пагинираног по свескама**

Јованов, Н., Бошков, Т., и Стракић, Ф. (2007). Data warehouse architecture. *Management Information Systems*, 5 (2), 41-49.
- **Чланак три до шест аутора, из стручног часописа пагинираног по годиштима**

Бошков, Т., Љубојевић, К., и Танасијевић, В. (2005). A new approach to CRM. *Strategic Management*, 13, 300-310.
- **Чланак више од шест аутора, из стручног часописа пагинираног по свескама**

Љубојевић, К., Димитријевић, М., Мирковић, Д., Танасијевић, В., Перић, О., Јованов, Н., et al. (2005). Putting the user at the center of software testing activity. *Management Information Systems*, 3 (1), 99-106.
- **Чланак више од шест аутора, из стручног часописа пагинираног по годиштима**

Стракић, Ф., Мирковић, Д., Бошков, Т., Љубојевић, К., Танасијевић, В., Димитријевић, М., et al. (2003). Metadata in data warehouse. *Strategic Management*, 11, 122-132.
- **Чланак из часописа**

Стракић, Ф. (2005, October 15). Remembering users with cookies. *IT Review*, 130, 20-21.
- **Ауторизовани чланак из билтена**

Димитријевић, М. (2009, September). MySQL server, writing library files. *Computing News*, 57, 10-12.
- **Неауторизовани чланак из билтена**

VBScript with active server pages. (2009, Septembar). *Computing News*, 57, 21-22.

Б. Књиге, брошуре, поглавља из књига, енциклопедијске одреднице, критике и рецензије

Основни формат за књиге

Аутор, А. А. (Година издања). *Наслов дела: Велико почетно слово и у поднаслову*. Место: Издавач.

Напомена: Реч „место” увек означава град, али треба навести и земљу уколико град истог имена постоји у више држава.

➤ Књига једног аутора

Љубојевић, К. (2005). *Prototyping the interface design*. Суботица: Економски факултет.

➤ Књига једног аутора, ново издање

Димитријевић, М. (2007). *Customer relationship management* (6. izd.). Суботица: Економски факултет.

➤ Књига два аутора

Љубојевић, К., Димитријевић, М. (2007). *The enterprise knowledge portal and its architecture*. Суботица: Економски факултет.

➤ Књига три до шест аутора

Љубојевић, К., Димитријевић, М., Мирковић, Д., Танасијевић, В., и Перић, О. (2006). *Importance of software testing*. Суботица: Економски факултет.

➤ Књига више од шест аутора

Мирковић, Д., Танасијевић, В., Перић, О., Јованов, Н., Бошков, Т., Стракић, Ф., et al. (2007). *Supply chain management*. Суботица: Економски факултет.

➤ Књига без аутора и уредника

Web user interface (10. izd.). (2003). Суботица: Економски факултет.

➤ Група аутора, предузеће, организација или државни орган као аутор

Статистички завод Републике Србије. (1978). *Статистички годишњак Републике Србије*. Београд: Министарство за комуналне и социјалне службе.

➤ Збирка

Димитријевић, М., & Танасијевић, В. (ur.). (2004). *Data warehouse architecture*. Суботица: Економски факултет.

➤ Поглавље у збирци

Бошков, Т., и Стракић, Ф. (2008). Bridging the gap: Complex adaptive knowledge management. U T. Boškovi i V. Tanasijević (ur.), *The enterprise knowledge portal and its architecture* (str. 55-89). Суботица: Економски факултет.

В. Необјављени радови

⇒ Реферат са научног скупа

Љубојевић, К., Танасијевић, В., Димитријевић, М. (2003). *Designing a web form without tables*. Реферат саопштен на годишњем скупу Српског компјутерског савеза, Београд.

⇒ Необјављени рад или рукопис

Бошков, Т., Стракић, Ф., Љубојевић, К., Димитријевић, М., и Перић, О. (2007. мај). *First steps in C++*. Необјављен рад, Економски факултет, Суботица.

⇒ Докторска дисертација

Стракић, Ф. (2000). *Managing network services: Managing DNS servers*. Необјављена докторска дисертација, Економски факултет Суботица, Суботица.

⇒ Магистарски рад

Димитријевић, М. (2003). *Structural modeling: Class and object diagrams*. Необјављен магистарски рад, Економски факултет, Суботица.

Г. Електронски медији

За чланке објављене на интернету важе иста упуства као за радове објављене у штампи. Наводе се сви подаци наведени у интернет извору, укључујући и број часописа у заградама.

Аутор, А., & Аутор, Б. (Датум објављивања). Наслов чланка. *Наслов интернет часописа, број годишња* (број часописа ако је назначен). Преузето са сајта <http://www.anyaddress.com/full/url/>

⇒ Чланак у интернет часопису

Танасијевић, В. (март 2003.). Putting the user at the center of software testing activity. *Strategic Management*, 8 (4). Преузето 7. октобра 2004. са сајта www.ef.uns.ac.rs/sm2003

⇒ Документ организације

Економски факултет Суботица. (5. март 2008.). *A new approach to CRM*. Преузето 25. јула 2008. са сајта <http://www.ef.uns.ac.rs/papers/acrm.html>

⇒ Чланак из интернет часописа са додељеним DOI

За чланке у интернет часопису без DOI (идентификатора дигиталног објекта) навести URL.

Аутор, А., и Аутор, Б. Б. (Датум објављивања). Наслов чланка. *Назив часописа, број годишња*. Преузето са сајта <http://www.anyaddress.com/full/url/>

Јованов, Н., и Бошков, Т. (4. фебруар 2007.) A PHP project test-driven end to end. *Management Information Systems*, 2 (2), 45-54. Преузето са сајта <http://www.ef.uns.ac.rs/mis/TestDriven.html>.

2. Цитати из извора у тексту рада

➤ Цитати

Уколико се извор цитира дословце, наводи се име аутора, година издања и страница са које је цитат преузет (са назнаком “стр.”). Цитат се уводи фразом која садржи ауторово презиме, а иза њега се ставља година објављивања у заградама.

По Мирковићу (2001), „Примена складишта података може да буде ограниченог карактера, нарочито ако иста садрже поверљиве податке” (стр. 201).

Мирковић (2001) сматра да „примена складишта података може да буде ограниченог карактера” (стр. 201). Какве неочекиване последице то има по обим доступности?

Уколико се у уводној фрази не именује аутор, на крај цитата се ставља ауторово презиме, година издања и број странице у заградама, нпр.

Он сматра да „примена складишта података може да буде ограниченог карактера”, али не објашњава могуће последице (Мирковић, 2001, стр. 201).

➤ Резиме или парафраза

По Мирковићу (1991), ограничења у погледу употребе базе података могу бити вањског или софтверског карактера, или пак привремена или чак произвољна (стр. 201).

Ограничења у погледу употребе базе података могу бити вањског или софтверског карактера, или пак привремена или чак произвољна (Мирковић, 1991, стр. 201).

➤ Један аутор

Бошков (2005) упоређује обим приступа...

Begg (2005) упоређује обим приступа...

У једном раном истраживању обима приступа (Бошков, 2005), установљено је...

➤ У случају да има два аутора, увек се наводе оба имена:

У једном другом истраживању (Мирковић и Бошков, 2006) закључује се да...

➤ У случају да има три до пет аутора, први пут се наводи свих пет аутора. Код наредних навода, наводи се име првог аутора, иза кога се ставља „и сар.”.

(Јованов, Бошков, Перић, Бошков, и Стракић, 2004).

Када се исти аутори наводе следећи пут, користи се име само првог аутора, иза кога се ставља „и сар.” у уводној фрази или заградама:

По Јованову и сар. (2004), када се такав феномен јави поново, медији му обично посвећују далеко више пажње.

Када се такав феномен јави поново, медији му обично посвећују далеко више пажње (Јованов и сар., 2004).

У енглеском тексту, иза „et” у „et al.” не ставља се тачка.

☞ Шест или више аутора

У уводној фрази се презиме првог аутора наводи у уводној фрази или у заградама:

Yossarian и сар. (2004) тврде да...

...није релевантно (Yossarian i сар., 2001).

☞ Неименован аутор

Уколико дело није ауторизовано, извор се наводи по наслову у уводној фрази, или се прве 1-2 речи ставе у заграде. Наслови књига и извештаја се пишу курзивом, док се наслови чланака и поглавља стављају у наводнике:

Слична анкета је спроведена у једном броју организације које имају стално запослене менаџере базе података (“Limiting database access”, 2005).

Уколико неко дело (нпр. реч уредника у новинама) нема аутора, наводи се првих неколико речи наслова, уз годину објављивања:

(“The Objectives of Access Delegation,” 2007)

Напомена: У ретким случајевима кад је аутор потписан речју „Anonymous”, иста се сматра именом аутора (Anonymous, 2008). У том случају се у списку извора на крају рада као име аутора користи реч „Anonymous”.

☞ Организација или државни орган као аутор

Уколико је аутор нека организација или државни орган, назив организације се ставља у уводну фразу или заграде први пут кад се извор наводи:

По подацима Статистичког завода Републике Србије (1978), ...

Исто тако, код првог навођења се исписује пуни назив колективног аутора, уз скраћеницу у угластим заградама. Затим се код следећих навода користи скраћени назив:

Преглед је ограничен на градове од 10.000 становника навише (Статистички завод Републике Србије [СОРС], 1978).

Списак не садржи школе које су у претходном статистичком прегледу наведене као затворене (СОРС, 1978).

☞ Када се наводи више од једног дела истог аутора:

(Безјак, 1999, 2002)

- ☞ Када је **више од једног дела истог аутора објављено исте године**, наводе се са словима а, б, ц, итд. иза године издања:

(Griffith, 2002a, 2002b, 2004)

- ☞ **Два или више дела истог аутора објављена исте године**

Уколико су два или више извора кориштена у достављеном раду објављена од стране истог аутора исте године, ставке у списку референци се означавају малим словом (а, б, ц...) иза године. Мало слово се користи и код навођења извора унутар текста:

Резултати анкете објављени код Theissena (2004a) показују да...

- ☞ Уколико нисте прочитали оригинално дело, наводи се аутор који Вас је упутио на исто:

Бергсоново истраживање (поменуто код Мирковића и Бошкова, 2006)...

Овде се у списку извора наводе Мирковић и Бошков (2006), а Бергсон не.

- ☞ Кад се наводи **више од једног аутора**, аутори се наводе абecedним редом:

(Britten, 2001; Styrlason, 2002; Wasserwandt, 1997)

- ☞ Кад нема датума или године објављивања:

(Hessenberg, n.d.)

- ☞ **Код цитата се увек наводе странице:**

(Мирковић и Бошков, 2006, стр. 12)

(Begg i Burda, 2006, стр. 12)

Мирковић и Бошков (2006, стр. 12) предлажу приступ по коме “почетно гледиште...

- ☞ **Навођење појединих делова дела:**

(Theissen, 2004a, pogl. 3)

(Keaton, 1997, str. 85-94)

- ☞ **Лична комуникација, и то интервјуи, писма, интерне поруке, е-маилови и телефонски разговори**, наводе се на следећи начин. (Не уносе се у списак извора.)

(К. Љубојевић, лична комуникација, 5. мај 2008.).

3. Фусноте

Понекад се неко питање покренуто у тексту мора додатно обрадити у фуснотама, у којима се додаје нешто што је индиректној вези са темом, или дају додатне техничке информације. Фусноте се нумеришу експонентом, арапским бројевима на крају реченице, овако.¹ Фусноте на крају текста (*endnote*) се започињу на посебној страни, иза текста. Међутим, Уређивачки одбор часописа **не препоручује коришћење фуснота и завршних напомена.**

Technical instructions for paper formatting

Citations and Bibliography

The paper should consist of:

Title of the paper (no more than 10 words) in English.

Subtitle (optional) in English.

Personal data of authors/coauthors: name, surname, title and Institution in English.

Abstract of 200 words or less, giving the factual essence of the article, should be written in English.

Key words (no more than 10) in English.

Text of the paper, in English, cannot exceed 12 pages.

Bibliography.

Guidelines for the paper format

Type your work in a common Word Processor (e.g. MS Word).

Page format: B5.

Margin: 2 cm every

Font: Times New Roman, size 11 (use it for title, subtitle, figures, tables, abstract, key words, and so on).

Titles, subtitles, names of the tables, illustrations, figures, etc should be written in Arabic numerals.

Figures, illustrations and schemes should be enclosed in the .jpg format (resolution 300*300 dpi) or in the vector form (.wmf or cdr) with enclosed fonts or fonts transformed in curves. Figures, illustrations and schemes should be black-and-white (gray-scale). For the texts included in figures, illustrations and schemes font Arial, size 9 pt is preferred.

1. Referencing Guide

The references should specify the source (such as book, journal article or a web page) in sufficient detail to enable the readers to identify and consult it. The references are placed at the end of the work, with sources listed alphabetically (a) by authors' surnames or (b) by the titles of the sources (if the author is unknown). Multiple entries by the same author(s) must be sequenced chronologically, starting from the earliest, e.g.:

- Ljubojević, T.K. (1998).
- Ljubojević, T.K. (2000a).
- Ljubojević, T.K. (2000b).
- Ljubojević, T.K., & Dimitrijević, N.N. (1994).

Here is a list of the most common reference types:

A. Periodicals

Authors must be listed by their last names, followed by initials. Publication year must be written in parentheses, followed by a full stop. Title of the article must be in sentence case: only the first word and proper nouns in the title are capitalized. The periodical title must be in title case, followed by the volume number, which is also italicized:

Author, A. A., Author, B. B., & Author, C. C. (Year). Title of article. *Title of Periodical*, volume number(issue number), pages.

➔ Journal article, one author, paginated by issue

Journals paginated by issue begin with page 1 in every issue, so that the issue number is indicated in parentheses after the volume. The parentheses and issue numbers are not italicized, e.g.

Tanasijević, V. (2007). A PHP project test-driven end to end. *Management Information Systems*, 5 (1), 26-35.

➔ Journal article, one author, paginated by volume

Journals paginated by volume begin with page 1 in issue 1, and continue page numbering in issue 2 where issue 1 ended, e.g.

Perić, O. (2006). Bridging the gap: Complex adaptive knowledge management. *Strategic Management*, 14, 654-668.

➔ Journal article, two authors, paginated by issue

Strakić, F., & Mirković, D. (2006). The role of the user in the software development life cycle. *Management Information Systems*, 4 (2), 60-72.

➔ Journal article, two authors, paginated by volume

Ljubojević, K., & Dimitrijević, M. (2007). Choosing your CRM strategy. *Strategic Management*, 15, 333-349.

➔ **Journal article, three to six authors, paginated by issue**

Jovanov, N., Bošković, T., & Strakić, F. (2007). Data warehouse architecture. *Management Information Systems*, 5 (2), 41-49.

➔ **Journal article, three to six authors, paginated by volume**

Bošković, T., Ljubojević, K., & Tanasijević, V. (2005). A new approach to CRM. *Strategic Management*, 13, 300-310.

➔ **Journal article, more than six authors, paginated by issue**

Ljubojević, K., Dimitrijević, M., Mirković, D., Tanasijević, V., Perić, O., Jovanov, N., et al. (2005). Putting the user at the center of software testing activity. *Management Information Systems*, 3 (1), 99-106.

➔ **Journal article, more than six authors, paginated by volume**

Strakić, F., Mirković, D., Bošković, T., Ljubojević, K., Tanasijević, V., Dimitrijević, M., et al. (2003). Metadata in data warehouse. *Strategic Management*, 11, 122-132.

➔ **Magazine article**

Strakić, F. (2005, October 15). Remembering users with cookies. *IT Review*, 130, 20-21.

➔ **Newsletter article with author**

Dimitrijević, M. (2009, September). MySQL server, writing library files. *Computing News*, 57, 10-12.

➔ **Newsletter article without author**

VBScript with active server pages. (2009, September). *Computing News*, 57, 21-22.

B. Books, Brochures, Book Chapters, Encyclopedia Entries, And Book Reviews

Basic format for books

Author, A. A. (Year of publication). *Title of work: Capital letter also for subtitle.*
Location: Publisher.

Note: "Location" always refers to the town/city, but you should also include the state/country if the town/city could be mistaken for one in another country.

➔ **Book, one author**

Ljubojević, K. (2005). *Prototyping the interface design.* Subotica: Faculty of Economics.

➔ **Book, one author, new edition**

Dimitrijević, M. (2007). *Customer relationship management* (6th ed.). Subotica: Faculty of Economics.

➔ **Book, two authors**

Ljubojević, K., Dimitrijević, M. (2007). *The enterprise knowledge portal and its architecture*. Subotica: Faculty of Economics.

➔ **Book, three to six authors**

Ljubojević, K., Dimitrijević, M., Mirković, D., Tanasijević, V., & Perić, O. (2006). *Importance of software testing*. Subotica: Faculty of Economics.

➔ **Book, more than six authors**

Mirković, D., Tanasijević, V., Perić, O., Jovanov, N., Boškov, T., Strakić, F., et al. (2007). *Supply chain management*. Subotica: Faculty of Economics.

➔ **Book, no author or editor**

Web user interface (10th ed.). (2003). Subotica: Faculty of Economics.

➔ **Group, corporate, or government author**

Statistical office of the Republic of Serbia. (1978). *Statistical abstract of the Republic of Serbia*. Belgrade: Ministry of community and social services.

➔ **Edited book**

Dimitrijević, M., & Tanasijević, V. (Eds.). (2004). *Data warehouse architecture*. Subotica: Faculty of Economics.

➔ **Chapter in an edited book**

Boškov, T., & Strakić, F. (2008). Bridging the gap: Complex adaptive knowledge management. In T. Boškov & V. Tanasijević (Eds.), *The enterprise knowledge portal and its architecture* (pp. 55-89). Subotica: Faculty of Economics.

➔ **Encyclopedia entry**

Mirković, D. (2006). History and the world of mathematicians. In *The new mathematics encyclopedia* (Vol. 56, pp. 23-45). Subotica: Faculty of Economics.

C. Unpublished Works

➔ **Paper presented at a meeting or a conference**

Ljubojević, K., Tanasijević, V., Dimitrijević, M. (2003). *Designing a web form without tables*. Paper presented at the annual meeting of the Serbian computer alliance, Beograd.

➔ Paper or manuscript

Boškov, T., Strakić, F., Ljubojević, K., Dimitrijević, M., & Perić, O. (2007, May). *First steps in visual basic for applications*. Unpublished paper, Faculty of Economics Subotica, Subotica.

➔ Doctoral dissertation

Strakić, F. (2000). *Managing network services: Managing DNS servers*. Unpublished doctoral dissertation, Faculty of Economics Subotica, Subotica.

➔ Master's thesis

Dimitrijević, M. (2003). *Structural modeling: Class and object diagrams*. Unpublished master's thesis, Faculty of Economics Subotica, Subotica.

D. Electronic Media

The same guidelines apply for online articles as for printed articles. All the information that the online host makes available must be listed, including an issue number in parentheses:

Author, A. A., & Author, B. B. (Publication date). Title of article. *Title of Online Periodical, volume number*(issue number if available). Retrieved from <http://www.anyaddress.com/full/url/>

➔ Article in an internet-only journal

Tanasijević, V. (2003, March). Putting the user at the center of software testing activity. *Strategic Management, 8* (4). Retrieved October 7, 2004, from www.ef.uns.ac.rs/sm2003

➔ Document from an organization

Faculty of Economics. (2008, March 5). *A new approach to CRM*. Retrieved July 25, 2008, from <http://www.ef.uns.ac.rs/papers/acrm.html>

➔ Article from an online periodical with DOI assigned

Jovanov, N., & Boškov, T. A PHP project test-driven end to end. *Management Information Systems, 2* (2), 45-54. doi: 10.1108/06070565717821898.

➔ Article from an online periodical without DOI assigned

Online journal articles without a DOI require a URL.

Author, A. A., & Author, B. B. (Publication date). Title of article. *Title of Journal, volume number*. Retrieved from <http://www.anyaddress.com/full/url/>

Jovanov, N., & Boškov, T. A PHP project test-driven end to end. *Management Information Systems, 2* (2), 45-54. Retrieved from <http://www.ef.uns.ac.rs/mis/TestDriven.html>.

2. Reference Quotations in the Text

➔ Quotations

If a work is directly quoted from, then the author, year of publication and the page reference (preceded by “p.”) must be included. The quotation is introduced with an introductory phrase including the author’s last name followed by publication date in parentheses.

According to Mirković (2001), “The use of data warehouses may be limited, especially if they contain confidential data” (p. 201).

Mirković (2001), found that “the use of data warehouses may be limited” (p. 201). What unexpected impact does this have on the range of availability?

If the author is not named in the introductory phrase, the author's last name, publication year, and the page number in parentheses must be placed at the end of the quotation, e.g.

He stated, “The use of data warehouses may be limited,” but he did not fully explain the possible impact (Mirković, 2001, p. 201).

➔ Summary or paraphrase

According to Mirković (1991), limitations on the use of databases can be external and software-based, or temporary and even discretion-based. (p.201)

Limitations on the use of databases can be external and software-based, or temporary and even discretion-based (Mirković, 1991, p. 201).

➔ One author

Boškov (2005) compared the access range...

In an early study of access range (Boškov, 2005), it was found...

➔ When there are **two authors**, both names are always cited:

Another study (Mirković & Boškov, 2006) concluded that...

➔ If there are **three to five authors**, all authors must be cited the first time. For subsequent references, the first author’s name will cited, followed by “et al.”.

(Jovanov, Boškov, Perić, Boškov, & Strakić, 2004).

In subsequent citations, only the first author’s name is used, followed by “et al.” in the introductory phrase or in parentheses:

According to Jovanov et al. (2004), further occurrences of the phenomenon tend to receive a much wider media coverage.

Further occurrences of the phenomenon tend to receive a much wider media coverage (Jovanov et al., 2004).

In “et al.”, “et” is not followed by a full stop.

➤ Six or more authors

The first author's last name followed by "et al." is used in the introductory phrase or in parentheses:

Yossarian et al. (2004) argued that...
... not relevant (Yossarian et al., 2001).

➤ Unknown author

If the work does not have an author, the source is cited by its title in the introductory phrase, or the first 1-2 words are placed in the parentheses. Book and report titles must be italicized or underlined, while titles of articles and chapters are placed in quotation marks:

A similar survey was conducted on a number of organizations employing database managers ("Limiting database access", 2005).

If work (such as a newspaper editorial) has no author, the first few words of the title are cited, followed by the year:

("The Objectives of Access Delegation," 2007)

Note: In the rare cases when the word "Anonymous" is used for the author, it is treated as the author's name (Anonymous, 2008). The name Anonymous must then be used as the author in the reference list.

➤ Organization as an Author

If the author is an organization or a government agency, the organization must be mentioned in the introductory phrase or in the parenthetical citation the first time the source is cited:

According to the Statistical Office of the Republic of Serbia (1978), ...

Also, the full name of corporate authors must be listed in the first reference, with an abbreviation in brackets. The abbreviated name will then be used for subsequent references:

The overview is limited to towns with 10,000 inhabitants and up (Statistical Office of the Republic of Serbia [SORS], 1978).

The list does not include schools that were listed as closed down in the previous statistical overview (SORS, 1978).

➤ When citing **more than one reference from the same author**:

(Bezjak, 1999, 2002)

➤ When several **used works by the same author were published in the same year**, they must be cited adding a, b, c, and so on, to the publication date:

(Griffith, 2002a, 2002b, 2004)

➤ **Two or more works in the same parentheses**

When two or more works are cited parenthetically, they must be cited in the same order as they appear in the reference list, separated by a semicolon.

(Bezjak, 1999; Griffith, 2004)

➔ **Two or more works by the same author in the same year**

If two or more sources used in the submission were published by the same author in the same year, the entries in the reference list must be ordered using lower-case letters (a, b, c...) with the year. Lower-case letters will also be used with the year in the in-text citation as well:

Survey results published in Theissen (2004a) show that...

➔ **To credit an author for discovering a work**, when you have not read the original:

Bergson's research (as cited in Mirković & Boškov, 2006)...

Here, Mirković & Boškov (2006) will appear in the reference list, while Bergson will not.

➔ **When citing more than one author**, the authors must be listed alphabetically:

(Britten, 2001; Sturlasson, 2002; Wasserwandt, 1997)

➔ **When there is no publication date**:

(Hessenberg, n.d.)

➔ **Page numbers must always be given for quotations**:

(Mirković & Boškov, 2006, p.12)

Mirković & Boškov (2006, p. 12) propose the approach by which "the initial viewpoint..."

➔ **Referring to a specific part of a work**:

(Theissen, 2004a, chap. 3)

(Keaton, 1997, pp. 85-94)

➔ **Personal communications, including interviews, letters, memos, e-mails, and telephone conversations**, are cited as below. (These are *not* included in the reference list.)

(K. Ljubojević, personal communication, May 5, 2008).

3. Footnotes and Endnotes

A few footnotes may be necessary when elaborating on an issue raised in the text, adding something that is in indirect connection, or providing supplementary technical information. Footnotes and endnotes are numbered with superscript Arabic numerals at the end of the sentence, like this.¹ Endnotes begin on a separate page, after the end of the text. However, journal **does not recommend the use of footnotes or endnotes**.

CIP - Каталогизација у публикацији
Библиотека Матице српске, Нови Сад

378.633(497.113 Subotica)

330

ANALI Ekonomskog fakulteta u Subotici = The Annals of the Faculty of Economics in Subotica
/ glavni i odgovorni urednik Nemanja Berber. – 1965, 1 – 1976, 6 ; 1981, 7 ; 1996, 1 – . – Subotica
: Ekonomski fakultet, 1965-1976; 1981; 1996–. – 24 cm

Dva puta godišnje.
ISSN 0350–2120

COBISS.SR-ID 16206850



ISSN 0350-2120



9 770350 212002