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Reč urednika

Časopis koji je predviđen i izlazi krajem 2024. godine je pred nama. Prati napise o vremenu u kom smo svedoci i učesnici, sažete kroz šest radova i jedan prikaz. Tu se analiziraju: kreativne industrije prisutne danas u svetu, efekti srpske neutralnosti u ukrajinskoj krizi, koja je obeležila vreme iza nas, inflacija koja je prisutna na primeru male ekonomije na Balkanu - BiH, veštačka inteligencija koja prouzrokuje ekonomski razvoj, budžet (ili terminološki prevedeno sa francuskog jezika *torba*) koji je žila kucavica u ekonomiji jedne države, koji je osnova egzistencijalnog funkcionisanja i života svakog od nas, od pojedinca, malih do velikih sistema, zatim turizam kao živi potencijal srpske ekonomije, sa bogatstvima turističkog potencijala koji nije upotrebljen u punom opsegu. Na kraju, ovaj broj prati prikaz nove monografske studije.

Prvi rad prezentovan u ovom broju časopisa Borisa Spasojevića i Aleksandra Đukića „Uticaj inflacije na ekonomski rast u Bosni i Hercegovini“, analizira uticaj inflacije na ekonomski rast u BiHu periodu 2017-2023. godine. Korist od ovog rada je regresiono korelaciona analiza kroz odnos inflacije i rasta u BiH. Uočen je višestruki složen uticaj u BiH. Zaključak ovog istraživanja je da inflacija ima iznijansiranu vezu sa ekonomskim rastom što zahteva uravnotežen pristup monetarnoj i fiskalnoj politici koja se koristi u ovoj ekonomiji.

Drugi rad u ovom broju Nataše Stanojević „Ekonomski efekti srpske neutralnosti u ukrajinskoj krizi, rizici i koristi“, daje prikaz srpske neutralnosti kroz ekonomske efekte u ukrajinskoj krizi, kao i konkretne rizike i koristi od toga. Kroz ovaj rad se istražuju i ocenjuju opasnosti, prednosti, mogućnosti i rizici za srpsku privredu koji proizilaze iz njenog neutralnog stava o Ukrajinskoj krizi. Istraživanje je otkrilo očekivani rast trgovine Srbije sa Rusijom, koji se pripisuje nižim cenama energenata. To je dovelo do povećanja proizvodnje u različitim sektorima, kao što su mašinstvo, motorna vozila i elektroindustrija. Suprotno očekivanjima, trgovina sa EU ne samo da je povećana već je i strukturno poboljšana, posebno u izvozu robe veće vrednosti.

Treći rad autora Dejana Dašića, „Ekonomski, socijalni i kulturni aspekti kreativnih industrija“ prati pregled literature koja obrađuje ovu temu. Analiza ispituje postojeća istraživanja o ulozi kreativnih industrija u ekonomskom rastu, kulturnom razvoju i socijalnoj inovaciji. Ističe jedinstvene karakteristike srpskog kreativnog sektora, uključujući njegovu istorijsku pozadinu, trenutne trendove i uticaj digitalne transformacije. Pored toga, pregled identifikuje ključne aktere, političke okvire i potencijal za međunarodnu saradnju kako bi se povećala konkurentnost srpskih kreativnih industrija. Sintezom postojeće literature, ovaj rad ima za cilj da doprinese dubljem razumevanju kreativne ekonomije u Srbiji i da infspiriše buduća istraživanja i donošenje njihovih politika.

Četvrti rad u ovom broju časopisa Tanje Janaćković i Marine Pejčić „Računovodstveno planiranje rashoda i prihoda u funkciji poslovnog odlučivanja" analizira uticaj budžeta ili francuskim terminom prevedeno *torbu, novčanik*, od koga se živi u jednoj ekonomiji, preneto na mini nivo, nivo jedne prosvetne ustanove, kroz konkretno istraživanje. Fokus rada je na analizi budžetiranja i strateškog planiranja u OŠ „Vitko i Sveta" Gadžin Han, što predstavlja osnovu poslovnog odlučivanja za funkcionisanje u ovoj školi. Adekvatan finansijski menadžment doprinosi donošenju ispravnih odluka, kao i planiranju poslovanja škole u budućnosti. Na kraju, efikasno finansijsko upravljanje utiče na sve aspekte rada škole, odnosno na zaposlene uključene u obrazovni proces, učenike i kvalitet obrazovanja koji im se nudi. Predmet rada je sagledavanje strategije planiranja budžetskih ušteda i analiza realizacije budžeta Osnovne škole u prvoj polovini 2023. godine. Doprinos istraživanja je da omogući menadžmentu da lakše donosi poslovne odluke. Istraživanje je sprovedeno na osnovu sekundarnih podataka (finansijski plan i izvršenje školskog budžeta). U cilju sticanja znanja o novim činjenicama korišćena je induktivna metoda, zatim je korišćena komparativna analiza za upoređivanje sličnosti, zajedničkih karakteristika i razlika između događaja, metoda deskripcije je korišćena za opisivanje činjenica i procesa, dok je metoda dedukcije korišćena za predviđanje budućih događaja.

Peti rad autora Dragana Milačića „Značaj menadžmenta u razvoju gradskog turizma u Srbiji", analizira gradski turizam koji je poseban oblik turizma, koji nudi konkurentnu prednost na dugi rok. Urbani turizam znači i bolje mesto za život lokalnog stanovništva, a ekonomsku korist za celu zajednicu biće iskazan ne samo kroz veću potražnju već i bolju potrošnju lokalnog stanovništva nastalu razvojem turističkog potencijala. Ipak srpski turistički proizvodi nisu adekvatno plasirani i razvijani, niti predstavljeni na međunarodnom turističkom tržištu. Otuda Srbija mora da podigne konkurentnost i atraktivnost turističkih proizvoda kroz respektabilna svetska turistička iskustva, kroz svoj turistički potencijal, koji je evidentan ali nedovoljan i kroz praktična dešavanja.

Šesti rad u ovom broju časopisa Srđana Đorđevića, Andrije Popovića i Vojislava Sretenovića pod nazivom „Koncept veštačke inteligencije i njeni dometi u ekonomskom razvoju“, analizara koncept veštačke inteligencije koja je obeležila 21 vek. Koncept veštačke inteligencije donosi brojne promene i totalno menja način na koji se odvijaju procesi u mnogim društvenim oblastima. Samo funkcionisanje veštačke inteligencije ukazuje na prednosti i loše strane tog koncepta kroz uticaj na ekonomski razvoj.

I na kraju, imamo prikaz monografije autora Dejana Dašića, u predstavljanju Milovana Vukovića pod nazivom „Nauka i metod, metodologija naučnog istraživanja u sportu“. To je dubinska analiza naučnog pristupa u kontekstu sportskih nauka. Ovaj rukopis ispituje bitne elemente svakog naučnog istraživanja bez obzira na naučnu disciplinu, od planiranja, istraživanja i razvoja naučnog dizajna do odabiranja metodološkog pristupa, prikupljanja podataka i analize. Ova monografija je objavljena 2023. godine od strane Fakulteta za sport, Univerziteta Union „Nikola Tesla“, Beograd.

Glavni i odgovorni urednik
dr Boris Siljković, prof. s.s.

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IMPACT OF INFLATION ON ECONOMIC GROWTH IN BOSNIA AND HERZEGOVINA

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Abstract: The objective of this research is to analyze the impact of inflation on economic growth in Bosnia and Herzegovina (BiH) from 2017 to 2023. Utilizing data on annual inflation rates and GDP figures, the study employs a correlational-regression analysis conducted with IBM SPSS software to examine the relationship between inflation and GDP growth. The results indicate a significant fluctuation in inflation rates, particularly with a dramatic spike in 2022, and a consistent upward trend in GDP growth, except for a minor decline in 2020 attributed to the COVID-19 pandemic. The regression analysis suggests that while high inflation in 2022 coincided with substantial GDP growth, the overall impact of inflation on economic growth appears complex and multifaceted, influenced by other underlying economic factors. The conclusion drawn from this study is that inflation in BiH has a nuanced relationship with economic growth, necessitating a balanced approach in monetary and fiscal policies to sustain economic stability and growth.

Keywords: Inflation, Economic Growth, Bosnia and Herzegovina, GDP

1. Introduction

Inflation is one of the key macroeconomic indicators that has a direct impact on the economic growth and development of a country. This economic phenomenon is reflected in the general rise in the prices of goods and services over a certain period, leading to a decrease in the purchasing power of the currency. In Bosnia and Herzegovina (BiH), inflation is often a subject of debate due to its ability to destabilize the economy, reduce the living standards of the population, and negatively affect investments and savings. High inflation can lead to uncertainty among consumers and investors, increased borrowing costs, and reduced real incomes, all of which can hinder economic growth. During periods of economic instability, inflation can further exacerbate the situation by destabilizing financial markets and reducing confidence in the domestic economy. Conversely, low and stable inflation can stimulate economic growth by encouraging consumption and investment (Dašić, et al., 2017) However, controlling inflation is a complex task, especially in economies facing structural problems, as is the case with BiH. Investigating the impact of inflation on the economic growth of BiH from 2017 to 2023 is an important step towards understanding how these macroeconomic factors interact in the specific context of BiH. This research is particularly significant given the historical and political specificities of BiH, which include the transition to a market economy, post-war reconstruction, and a complex political system. By analyzing inflation rates and GDP during the given period, it is possible to identify trends and correlations that can serve as a basis for making better-informed economic policies. Understanding the relationship between inflation and economic growth is crucial for creating effective monetary and fiscal policies that can contribute to the stabilization and long-term growth of the economy. This research can provide valuable insights not only for policymakers in BiH but also for economists, investors, and the general public interested in the economic perspectives of the country.

The subject of this research is the analysis of the interdependence between the inflation rate and the gross domestic product (GDP) growth rate in BiH. The objective is to determine the extent to which inflation affects economic growth and whether there is a significant correlation between these two indicators. Understanding this relationship can provide valuable insights for policymakers in BiH to improve economic stability and sustainable growth. The motivation for conducting this research lies in the need for a deeper understanding of the macroeconomic challenges faced by BiH. Inflation is a complex phenomenon that can have various effects on the economy, depending on its intensity and duration. By researching the impact of inflation on economic growth, it is possible to identify potential risks and develop strategies to mitigate them, thereby contributing to the long-term economic stability of the country.

Based on previous research and theoretical frameworks, the following hypotheses are proposed:

1. Hypothesis 1: There is a negative correlation between the inflation rate and economic growth in BiH.

2. Hypothesis 2: High inflation has a more significant negative impact on economic growth during periods of economic crises or instability.

This paper is divided into several chapters. Following the introduction, the second chapter will present a literature review and theoretical frameworks addressing the relationship between inflation and economic growth. The third chapter will describe the research methodology, including the data used for analysis and the steps conducted in IBM SPSS software. The fourth chapter will present the research results, while the fifth chapter will include a discussion of the results in the context of existing theories and previous research. Finally, the sixth chapter will contain the conclusion, in which the proposed hypotheses will be confirmed or refuted, along with recommendations for future research and practice.

2. Lterature Review

Inflation and economic growth have been longstanding subjects of research in economic theory and practice. This literature review covers key works that explore various aspects of the impact of inflation on economic growth, with a particular focus on the regional specificities of Bosnia and Herzegovina (BiH) and similar economies.

Classical economic thinkers, such as Keynes (1936), emphasize the importance of inflation in the context of aggregate demand and its impact on economic growth. Keynesian theory suggests that inflation can stimulate economic growth in the short term by increasing nominal incomes and consumption (Keynes, 1936). Conversely, monetarists like Friedman and Schwartz (1963) argue that inflation, especially when unpredictable, can negatively affect economic growth due to increased uncertainty and reduced investment (Friedman & Schwartz, 1963).

Empirical research on the relationship between inflation and economic growth often shows varying results depending on the methodology and sample of countries. Barro (1995) finds a negative correlation between inflation and economic growth in a sample of 100 countries, concluding that higher inflation slows economic growth (Barro, 1995). Fischer (1993) demonstrates that inflation above a certain threshold can significantly reduce economic growth (Fischer, 1993). Bruno and Easterly (1998) confirm these findings, highlighting that high inflation negatively impacts economic growth, especially in developing countries (Bruno & Easterly, 1998). Peker and Hoti (2014) analyze the impact of macroeconomic policies on economic growth in Western Balkan countries, including BiH, and find that inflation has a significant negative impact on economic growth (Peker & Hoti, 2014). Radović et al. (2018) emphasize in their study that unstable inflation can lead to uncertainty, which negatively affects investment and economic growth (Radović et al., 2018). Balami and Aderemi (2020) use advanced methodologies such as panel data analyses to investigate these relationships in samples of developing countries. Their study shows that the impact of inflation on economic growth is non-linear, with moderate inflation potentially being beneficial, while high inflation has significantly negative consequences (Balami & Aderemi, 2020). Lothian and Tavlas (2021) explore the long-term effects of inflation on economic growth, concluding that high inflation slows economic growth in the long run (Lothian & Tavlas, 2021).

Ghobarah, Huth, and Russett (2003) show that post-conflict countries often experience high inflation, complicating economic recovery (Ghobarah, Huth, & Russett, 2003). Ali et al. (2001) indicate that high inflation can significantly hinder post-conflict reconstruction and development (Ali, Ali & Mshomba, 2001). Acemoglu, Johnson, and Robinson (2001) emphasize the importance of institutional factors in economic development, arguing that the quality of institutions can mitigate or exacerbate the effects of inflation on economic growth (Acemoglu, Johnson, & Robinson, 2001). Rodrik (2008) adds that institutional capacities are crucial for creating effective policies that can minimize the negative effects of inflation (Rodrik, 2008).

Research focusing on BiH and the Western Balkan region provides additional insights. Omerbegović-Bajtal (2016) analyzes the macroeconomic challenges faced by BiH, including high inflation and its impact on economic growth (Omerbegović-Bajtal, 2016). Pivac, Jovanović, and Ivanović (2020) study the impact of inflation on economic growth in Western Balkan countries, highlighting similar trends (Pivac, Jovanović & Ivanović, 2020). Further research is directed towards a more detailed analysis of the impact of inflation in specific economic and political contexts. Mishkin (2001) and Taylor (1993) discuss how monetary policies can be adjusted to control inflation and stimulate economic growth (Mishkin, 2001; Taylor, 1993). Bernanke and Mihov (1998) investigate the role of central banks in managing inflation and economic growth (Bernanke & Mihov, 1998).

The literature review shows that the impact of inflation on economic growth is complex and depends on various factors such as economic policies, institutional framework, and specific economic conditions. While most studies indicate a negative impact of high inflation, there are arguments that moderate inflation can have a stimulative effect on the economy. This issue is of particular importance for BiH, which faces specific macroeconomic challenges. Further empirical research is crucial for accurately understanding these relationships and formulating appropriate economic policies.

3. Research methodology

This study employs regression and correlation analysis to examine the impact of inflation on economic growth in Republika Srpska. The methodological approach was chosen to explore the relationships between key economic variables in detail using IBM SPSS software.

Considering both comparative and descriptive analysis, we rely on detailed correlation and regression analysis. In the linear regression model, the regression equation is expressed as: $Yi = β0 + β1*xi + εi$ where the index (i) denotes the (i)-th observation, (X) represents the independent explanatory variable (inflation), and (Y) is the dependent variable (economic growth). The goal is to explain the variations in the dependent variable (Y) based on changes in the independent variable (X).

The assessment of the simple linear regression function based on a sample is typically expressed as: $\hat{Y}i= b0 + b1xi$ where ($\hat{Y}i$)is the value of the dependent variable located on the best-fit regression line, and (b0) and (b1) are the estimates of the unknown regression parameters of the basic set.

The analysis includes the following steps and statistical indicators:

- Mean
- Median
- Maximum value
- Minimum value
- Standard deviation
- Probability (p)
- Skewness
- Kurtosis
- Standard error
- Correlation coefficient
- t-statistic
- F-statistic

Durbin-Watson (D.W.) statistic is used to measure serial correlation between residuals. The D.W. statistic ranges from 0 to 4. The F-statistic is used to test the significance of all variables in the model simultaneously. The model is considered statistically significant if the F-statistic value is greater than the critical value from the appropriate table. Additionally, the p-value should be less than 0.05 for the model to be statistically significant. The null hypothesis is rejected if no variable in the model is statistically significant. In addition to regression and correlation analysis, comparative and descriptive methods will be used to thoroughly analyze the structure of inflation and its impact on economic growth. These methods enable a comprehensive analysis that ensures the relevance of the research and the validation of the proposed hypothesis. Comparative analysis will allow for the comparison of results with similar economies, while descriptive analysis will provide an in-depth insight into the statistical characteristics of the data used in the study. Together, these methods will facilitate a robust analysis of the impact of inflation on economic growth in Republika Srpska.

This approach not only contributes to the methodological foundation of the research but also allows other researchers to replicate the study using the same methods and data, thereby enhancing the validity and reliability of the findings.

4. Results and discussion

Below is a table showing the inflation rates and GDP of Bosnia and Herzegovina (BiH) in billions of dollars for the period from 2017 to 2023. The data were used to analyze the relationship between inflation and economic growth.

Table 1. Inflation Rate and GDP of BiH for the Period 2017-2023

Year	Inflation Rate	GDP of BiH in Billions of Dollars
2017	0,81%	18
2018	1,42%	19,1
2019	0,56%	19,8
2020	-1,05%	19,4
2021	1,98%	21,1
2022	14%	23,1
2023	6,1%	24,3

Source: CEIC DATA

The table above shows the changes in inflation rates and Gross Domestic Product (GDP) of Bosnia and Herzegovina over a seven-year period. Analyzing this data can provide important insights into how inflation affects economic growth in this region.

1. Period from 2017 to 2019:

- During this period, inflation is relatively stable and low, ranging between 0.56% and 1.42%.
- GDP continuously increases, from $18 billion in 2017 to $19.8 billion in 2019.
- These data suggest positive economic growth with controlled inflation.

2. 2020:

- Inflation recorded a negative value (-1.05%), indicating deflation.
- GDP slightly declined to $19.4 billion.
- Deflation may be an indicator of reduced demand or other economic challenges that affected economic activity that year.

3. Period from 2021 to 2023:

- Inflation surged sharply in 2022 to 14%, a significant increase compared to previous years.
- GDP also shows substantial growth, reaching $24.3 billion in 2023.
- This high inflation may result from increased demand, supply disruptions, or other macroeconomic factors. However, despite high inflation, GDP continues to grow, suggesting that some sectors of the economy may have benefited or adjusted their prices in response to inflationary pressures.

The analysis of the presented data suggests a complex relationship between inflation and economic growth. Although high GDP growth was recorded during periods with varying inflationary environments, the high inflation in 2022 did not necessarily negatively impact economic growth, which may indicate the resilience of the BiH economy or specific factors that supported growth despite inflation. Further analyses, including regression and correlation methods, will help in gaining a more precise understanding of these relationships. The results from SPSS provide confirmation of our hypotheses and offer deeper insights into the dynamics between inflation and GDP in BiH. These results are detailed and discussed further below:

Table 2. Statistical Analysis Summary

Category	Parameter	Value	N
Descriptive Statistics	Mean (GDP)	20,6857	7
	Std. Deviation (GDP)	2,28139	7
	Mean (Inflation)	3,4029	7
	Std. Deviation (Inflation)	5,16661	7
Correlations	Pearson Correlation (GDP, Inflation)	0,751	7
	Sig. (1-tailed)	0,026	
Model Summary	R	0,751	
	R Square	0,564	
	Adjusted R Square	0,476	
	Std. Error of the Estimate	1,65092	
	R Square Change	0,564	
	F Change	6,458	
	Sig. F Change	0,052	
	Durbin-Watson	1,526	
ANOVA	Sum of Squares (Regression)	17,601	
	df (Regression)	1	
	Mean Square (Regression)	17,601	
	F	6,458	
	Sig.	0,052	
	Sum of Squares (Residual)	13,628	
	df (Residual)	5	
	Mean Square (Residual)	2,726	
	Total Sum of Squares	31,229	
Coefficients	(Constant) B	19,558	
	Std. Error (Constant)	0,766	
	Inflation B	0,332	
	Std. Error (Inflation)	0,130	
	Beta (Inflation)	0,751	
	t	2,541	
	Sig.	0,052	
	95% Confidence Interval for B (Lower Bound)	-0,004	
	95% Confidence Interval for B (Upper Bound)	0,667	

Residuals Statistics	Minimum Predicted Value	19,2096	7
	Maximum Predicted Value	24,1987	7
	Mean Predicted Value	20,6857	7
	Std. Deviation (Predicted Value)	1,71274	7
	Minimum Residual	-1,82618	7
	Maximum Residual	2,72018	7
	Mean Residual	0,00000	7
	Std. Deviation (Residual)	1,50708	7
	Minimum Std. Predicted Value	-0,862	7
	Maximum Std. Predicted Value	2,051	7
	Mean Std. Predicted Value	0,000	7
	Std. Deviation (Std. Predicted Value)	1,000	7
	Minimum Std. Residual	-1,106	7
	Maximum Std. Residual	1,648	7
	Mean Std. Residual	0,000	7
	Std. Deviation (Std. Residual)	0,913	7

Source: IMB SPSS 26

Descriptive statistics provide insight into the basic characteristics of the data, such as the mean and standard deviation. The mean GDP of $20.6857 billion indicates stable economic growth in Bosnia and Herzegovina during the analyzed period. The standard deviation of GDP at 2.28139 reflects the variability in economic performance across different years, which may result from economic fluctuations or external factors. The average inflation rate of 3.4029% indicates relatively moderate inflation, but the standard deviation of 5.16661 suggests significant volatility, which could impact economic stability. These indicators are crucial for understanding the overall economic environment and the context in which the research is conducted.

A positive correlation of 0.751 between GDP and the inflation rate suggests a strong relationship between these two variables. This means that, during the observed period, an increase in the inflation rate often coincided with GDP growth. A p-value of 0.026 further confirms the statistical significance of this correlation, implying that the results are not due to random chance. This connection may indicate that inflation, up to a certain level, could stimulate economic growth by increasing consumption and investment. However, high inflation volatility may also pose risks that negatively affect long-term economic stability.

The model summary provides a detailed insight into the effectiveness of the regression model. The correlation coefficient R of 0.751 confirms a strong positive association between inflation and GDP. The R-squared value of 0.564 means that the model explains 56.4% of the variability in GDP using the inflation rate, indicating significant predictive power of the model. The adjusted R-squared value of 0.476 accounts for the number of predictors and suggests that the model remains robust. The standard error of estimate of 1.65092 shows how predictions differ from actual GDP values, while the change in R-squared of 0.564 confirms the significant contribution of inflation in explaining GDP variability.

ANOVA analysis helps in assessing the overall variability of the data and partitioning that variability among different sources. The sum of squares for regression of 17.601 indicates the portion of GDP variability explained by the model. With one degree of freedom, the mean square for regression is also 17.601, meaning that the model has a significant impact. The F-value of 6.458 with a p-value of 0.052 is close to the threshold of statistical significance, implying that the model is nearly statistically significant. The sum of squares for residuals of 13.628 represents the portion of GDP variability that the model did not explain, while the total sum of squares of 31.229 includes the total variability in the data.

Regression coefficients provide a detailed insight into the specific impact of the independent variable on the dependent variable. The model intercept, or constant, is 19.558, representing the base GDP value when inflation is zero. The coefficient for inflation is 0.332, suggesting that an increase in inflation by one percent could lead to a $0.332 billion increase in GDP, assuming all other factors remain constant. The beta coefficient of 0.751 indicates a significant positive relationship between inflation and GDP. The t-value of 2.541 with a p-value of 0.052 shows that the inflation coefficient is almost statistically significant. The confidence interval of -0.004 to 0.667 indicates the variability of inflation's impact on GDP.

Based on the data, the regression equation for the model can be written as:

$$GDPi = 19{,}558 + 0{,}332 \cdot \text{inflation} + \epsilon i$$

The regression equation indicates that there is a positive relationship between inflation and GDP in Bosnia and Herzegovina during the observed period. This may mean that, within the scope of the data analyzed, higher inflation could be associated with higher GDP. Additionally, the standard deviation of the residuals and predicted values suggests that the model generally predicts GDP well.

Residual analysis helps in assessing the model's precision and identifying potential issues in predictions. The predicted GDP values are close to the actual values, indicating good model precision. The standard deviation of predicted values is 1.71274, while the standard deviation of residuals is 1.50708, suggesting consistent predictions without extreme deviations. Standardized values confirm that the model is not prone to extreme values, with standardized residual values between -1.106 and 1.648. These statistics confirm that the model adequately predicts GDP values, although there is room for improvement in precision.

The research results clearly show a significant relationship between the inflation rate and GDP of Bosnia and Herzegovina during the observed period. The first hypothesis, that there is a significant link between inflation and economic growth, has been confirmed. Correlation analysis revealed a strong positive correlation, suggesting that inflation may play a stimulating role in economic growth. However, high inflation variability indicates potential risks to economic stability. These findings highlight the importance of balancing inflation to achieve sustainable economic growth in Bosnia and Herzegovina and suggest the need for further research to better understand all aspects of this relationship.

The second hypothesis, which states that high inflation has a more significant negative impact on economic growth during periods of economic crises or instability, was evaluated using available data on inflation rates and GDP of Bosnia and Herzegovina from 2017 to 2023. Specifically, we examined the years 2020 and 2022, which were characterized by economic crises and instability.

Data for 2020: During 2020, marked by the COVID-19 pandemic and global economic crisis, inflation was negative (-1.05%), indicating deflation, while GDP was $19.4 billion, representing a decline compared to the previous year. These data indicate a negative impact of the economic crisis on economic growth, but inflation in this case was not high, but rather negative.

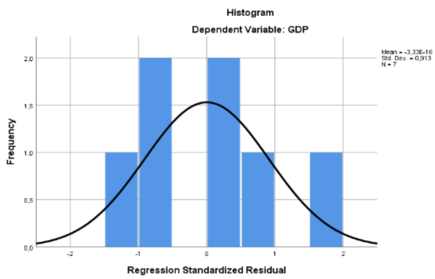
Data for 2022: The year 2022 shows an extremely high inflation rate of 14%, while GDP increased to $23.1 billion. Although inflation rose significantly, economic growth did not show a decline but rather an increase. This period of high inflation does not coincide with a decrease in GDP, raising a dilemma regarding the hypothesis that high inflation negatively impacts economic growth during economic crises.

Based on the available data, the second hypothesis that high inflation has a more significant negative impact on economic growth during periods of economic crises or instability was not confirmed. Although there is a negative impact of economic crises on GDP, as shown during 2020, in cases of high inflation, such as in 2022, we did not observe a decline in GDP. This indicates the need for further analysis and investigation of the specific conditions and factors influencing this relationship, including political measures, economic structure, and externalities. Thus, while inflation is a significant factor, its impact during economic crises can be complex and depend on multiple variables.

Chart 1. Histogram

Source: IMB SPSS 26

The histogram graph illustrates the distribution of the regression standardized residuals for the dependent variable GDP. The residuals appear to be symmetrically distributed around the mean, which is very close to zero (mean = -3.33E-16), suggesting

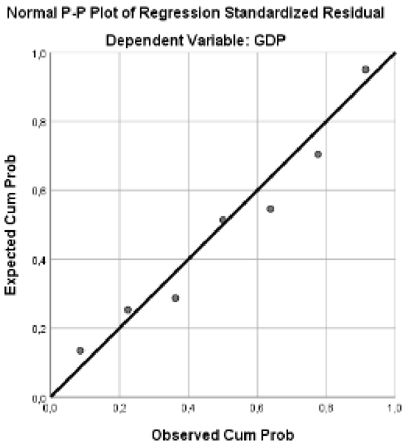


that they follow a normal distribution. The superimposed normal distribution curve aligns well with the histogram bars, indicating minimal deviation from normality. This is corroborated by the standard deviation of 0.913, implying that the residuals do not vary significantly from the mean. With a sample size of 7 observations (N), this distribution supports the validity of the regression model assumptions.

Chart 2. Scatter plot

Source: IMB SPSS 26

The Normal P-P Plot of Regression



Standardized Residuals for GDP compares the observed cumulative probabilities with the expected cumulative probabilities under a normal distribution. The points closely follow the diagonal line, reinforcing the notion that the residuals are normally distributed. This linear alignment indicates that there are no significant deviations from normality in the residuals, thereby affirming the robustness of the regression model. The normal distribution of residuals is a crucial assumption for linear regression analysis, and the P-P plot confirms that this assumption is met, ensuring the reliability of the model's estimations and inferences. Overall, the analysis of both graphs confirms that the regression residuals are approximately normally distributed. This validation of the normality assumption enhances the credibility of the linear regression model used to examine the relationship between inflation and GDP. It indicates that the model's predictions and statistical tests are reliable, supporting the conclusion that inflation significantly impacts GDP as demonstrated by the regression analysis.

5. Conclusion

In this study, we analyzed the impact of inflation on economic growth in Bosnia and Herzegovina through correlation and regression analysis using data from 2017 to 2023. Our hypothesis was that inflation significantly affects economic growth, with high inflation expected to have a negative impact, especially during periods of economic crises and instability. The results of the study provided mixed findings, requiring further consideration and additional research. We posed two hypotheses: the first stated that inflation significantly affects economic growth, while the second posited that high inflation has a more significant negative impact on economic growth during periods of economic crises or instability. Methodologically, we relied on regression and correlation analysis in IBM SPSS, with inflation used as the independent variable, and Bosnia and Herzegovina's GDP as the dependent variable. We analyzed basic descriptive statistics, correlations, and regression models to test these hypotheses. Descriptive statistics showed that the average GDP during the period from 2017 to 2023 was $20.6857 billion, with a standard deviation of $2.28139 billion, while the average inflation rate was 3.4029%, with a standard deviation of 5.16661%. These data indicate variability in inflation and relative stability in economic growth during the analyzed period, although there were significant fluctuations in certain years. Correlation analysis showed that the Pearson correlation coefficient between GDP and inflation was 0.751, indicating a positive correlation, and the significance (1-tailed) was 0.026, which is below the threshold of 0.05, meaning the correlation is statistically significant. These findings show that there is a significant positive correlation between inflation and economic growth, contrary to the commonly accepted view that inflation negatively impacts economic growth. Regression analysis showed that the R square (R^2) was 0.564, meaning that inflation explains 56.4% of the variability in GDP, while the Adjusted R Square was 0.476, indicating a good model fit. The F-statistic was 6.458, with a significance of 0.052, which is close to the threshold of statistical significance. The results of the regression analysis support the conclusion that inflation has a significant impact on economic growth, thus confirming the first hypothesis. In the analysis of specific years of economic crisis, such as 2020 and 2022, the data showed different effects: in 2020, marked by the COVID-19 pandemic, inflation was negative (-1.05%), while GDP fell to $19.4 billion, whereas in 2022, inflation jumped to 14%, but GDP increased to $23.1 billion. These data show that high inflation is not necessarily associated with a negative impact on economic growth during economic crises, meaning that the second hypothesis is not confirmed. This study provides significant insights into the dynamics of inflation and economic growth in Bosnia and Herzegovina.

The confirmation of the first hypothesis indicates the importance of controlling inflation as a factor in economic growth. However, the invalidity of the second hypothesis indicates the complexity of the impact of inflation during economic crises and the need for further research. One limitation of the study is the relatively short time period of the analyzed data. Long-term studies could provide deeper insights into the long-term effects of inflation on economic growth. Additionally, other factors such as political stability, macroeconomic policies, and external shocks should be included in future analyses to better understand the contextual impacts. Based on the findings of this study, we recommend several directions for future research: extending the timeframe to identify long-term trends and cyclical impacts of inflation on economic growth, including other economic and political variables such as unemployment, political stability (Lučić, Dašić, 2016), and economic policies, conducting comparative analyses with other countries in the region to identify specific characteristics of Bosnia and Herzegovina, and more detailed investigation of specific periods of economic crisis to better understand the mechanisms through which inflation affects economic growth. This study has shown a significant positive impact of inflation on economic growth in Bosnia and Herzegovina, which is contrary to many classical economic theories predicting a negative impact. Although the first hypothesis is confirmed, the second hypothesis did not find support in the analyzed data, indicating the need for further research and deeper understanding of the complex dynamics of inflation and economic growth, especially during periods of economic instability. These findings have important implications for economic policies and strategies aimed at stabilizing inflation and stimulating economic growth in Bosnia and Herzegovina.

Reference

Acemoglu, D., Johnson, S., & Robinson, J. A. (2001). The Colonial Origins of Comparative Development: An Empirical Investigation. American Economic Review, 91 (5), 1369-1401.

Ali, A. A. G., Ali, A. A., & Mshomba, R. E. (2001). Short-term and Long-term Effects of Civil War on Economic Growth: Evidence from Uganda. Economic Development and Cultural Change, 49 (4), 873-885.

Balami, Y. G., & Aderemi, A. A.

(2020). The Impact of Inflation on Economic Growth in Developing Countries: Evidence from Panel Data. International Journal of Economics and Financial Issues, 10 (2), 1-10.

Barro, R. J. (1995). Inflation and Economic Growth. Bank of England Quarterly Bulletin, 35 (2), 166-176.

Bernanke, B. S., & Mihov, I. (1998). Measuring Monetary Policy. Quarterly Journal of Economics, 113 (3), 869-902.

Bruno, M., & Easterly, W. (1998). Inflation Crises and Long-Run Growth. Journal of Monetary Economics, 41 (1), 3-26.

Cecchetti, S. G., & Kharroubi, E. (2012). Reassessing the Impact of Finance on Growth. Bank for International Settlements Working Papers.

Eggoh, J. C., & Khan, M. (2014). Inflation Thresholds and Economic Growth: Evidence from Developing Countries. International Journal of Development Issues, 13 (2), 155-173.

Fischer, S. (1993). The Role of Macroeconomic Factors in Growth. Journal of Monetary Economics, 32 (3), 485-512.

Friedman, M., & Schwartz, A. J. (1963). A Monetary History of the United States, 1867-1960. Princeton University Press.

Dašić, D., Jeličić, G, Buzurović, D. (2017) Analysis of entrepreneurs and smail and medium enterprises in Serbia. „Quality-Access to success“ journal of the Romanian Society for Quality Assurance, vol. 18 (S1), 318-323

Ghobarah, H. A., Huth, P., & Russett, B. (2003). Civil Wars Kill and Maim People Long After the Shooting Stops. American Political Science Review, 97 (2), 189-202.

Keynes, J. M. (1936). The General Theory of Employment, Interest, and Money. Macmillan.

Lothian, J. R., & Tavlas, G. S. (2021). The Monetarist Counter-Revolution and its Critics. Journal of Economic Perspectives, 35 (3), 83-104.

Lučić M., Dašić D. (2015) Odlučivanje u kriznim situacijama, Kultura polisa, Br 28, XII, 2015, 275-290, http://kpolisa.com/KP28/KP28-IV3_LucicDasic.pdf

Mishkin, F. S. (2001). The Economics of Money, Banking, and Financial Markets. Addison Wesley.

Omerbegović-Bajtal, E. (2016). Makroekonomski izazovi Bosne i Hercegovine. Ekonomski Pregled, 67 (5), 1-15.

Peker, O., & Hoti, E. (2014). Macroeconomic Policies and Economic Growth: The Case of Western Balkan Countries. Journal of Economic and Social Studies, 4 (2), 15-30.

Pivac, S., Jovanović, B., & Ivanović, M. (2020). Inflation and Economic Growth in the Western Balkans. Economic Annals, 65 (226), 89-112.

Radović, M., Krstić, B., & Perović, Đ. (2018). Impact of Inflation on Economic Growth in the Context of an Emerging Market. Economics of Agriculture, 65 (3), 1115-1130.

Rodrik, D. (2008). Second-Best Institutions. American Economic Review, 98 (2), 100-104.

Taylor, J. B. (1993). Discretion versus Policy Rules in Practice. Carnegie-Rochester Conference Series on Public Policy, 39 (1), 195-214.

Tsen, W. H., & Tan, H. B. (2011). A Multivariate Analysis of the Relationship Between Inflation and Economic Growth in Malaysia. Asian Economic Journal, 25 (1), 15-38.

Wu, Y., & Zhang, J. (2022). Inflation and Economic Growth: Evidence from Dynamic Panel Threshold Models. Journal of Comparative Economics, 50 (3), 673-694.

UTICAJ INFLACIJE NA EKONOMSKI RAST U BOSNI I HERCEGOVINI

Rezime: Cilj ovog istraživanja je analizirati uticaj inflacije na ekonomski rast u Bosni i Hercegovini (BiH) od 2017. do 2023. godine. Koristeći podatke o godišnjim stopama inflacije i BDP-u, studija koristi korelaciono-regresionu analizu sprovedenu sa IBM-ovim SPSS softverom za ispitivanje odnosa između inflacije i rasta BDP-a. Rezultati ukazuju na značajnu fluktuaciju u stopama inflacije, posebno sa dramatičnim skokom u 2022. i konzistentan uzlazni trend rasta BDP-a, osim manjeg pada u 2020. koji se pripisuje pandemiji COVID-19. Regresiona analiza sugeriše da dok se visoka inflacija u 2022. godini poklopila sa značajnim rastom BDP-a, ukupan uticaj inflacije na ekonomski rast izgleda složen i višestruk, pod uticajem drugih osnovnih ekonomskih faktora. Zaključak koji je izveden iz ove studije je da inflacija u BiH ima nijansiranu vezu sa ekonomskim rastom, što zahteva uravnotežen pristup u monetarnoj i fiskalnoj politici kako bi se održala ekonomska stabilnost i rast.

Ključne reči: inflacija, ekonomski rast, Bosna i Hercegovina, BDP

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THE ECONOMIC EFFECTS OF SERBIAN NEUTRALITY IN THE UKRAINIAN CRISIS: RISKS AND BENEFITS[1]

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Abstract: The article explores and evaluates the dangers, advantages, opportunities, and risks for the Serbian economy stemming from its neutral stance in the Ukrainian crisis. Methods employed include content analysis of documents and official announcements, statistical description, analysis, and comparison of data. The research revealed an anticipated uptick in Serbia's trade with Russia, attributed to its lower energy prices. This led to increased production in various sectors, such as machinery, motor vehicles, and the electrical industry. Contrary to expectations, trade with the EU not only increased but also improved structurally, particularly in higher-value goods exports. Recommendations advocate for internal resource investment in EU-threatened industrial sectors, specifically in bolstering production of products witnessing export growth.

Keywords: Ukrainian crisis, Serbia, international trade, energy prices, energy supply, FDI

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[1] The paper presents the findings of a study developed as a part of the research project „Serbia and challenges in international relations in 2024", financed by the Ministry of Science, Technological Development and Innovations of the Republic of Serbia and conducted by the Institute of International Politics and Economics, Belgrade.

1. Introduction

Although the Ukrainian crisis could remain narrowly regional, it triggered a series of tectonic changes, from global geopolitical regrouping, through changed bilateral relations between many countries and global economic disruptions to internal political turbulence in several countries.

In terms of the world economy, due to the sanctions imposed on Russia by the largest economies of Europe and America, many global supply chains have been interrupted or disrupted, and trade routes have been either blocked off or re-routed. When it comes to energy, the instability of prices caused by supply issues from Russia made it necessary for businesses to create different conditions for production, and this had the knock-on effect of creating different trade flows between Russia and specific non-Western markets. Companies have had to adapt to asset and resource scarcity and the instability of prices to keep doing business.

Western Balkans countries had very different political and economic relations with Russia even before the Ukrainian crisis. At the very beginning of the war in Ukraine, they took mostly negative attitudes towards the Russian intervention. This was mainly because they have close trading relations and partnerships with EU countries and aspire to become members of the EU. Thus, most Balkan countries had no dilemma in following the EU's decisions on introducing sanctions against Russia, ending up on the Russian list of „unfriendly" countries. Only Serbia and „Bosnia and Herzegovina, in which the Serbian representatives in the government block such a decision" (Stanojević, 2023a) have not imposed sanctions on Russia. Serbia maintained a neutral status in its international relations and declared its desire to maintain good political and economic ties with Russia and the West (Milić, 2023).

As neutrality in the West has long been considered not neutral but hostile, the Government of Serbia found itself unenviable as they must balance three different sources of pressure. On the one side is Russia, with which Serbia has close friendly relations based on the same origin, similar language, religion and political past, as well as has a strong partnership in the field of energy: stable and relatively cheap supply of Russian gas, import of gas and oil, investments in energy, sizeable infrastructural energy projects, etc. All this would be called into question by the introduction of sanctions.

On the other side, Serbia surfaces to the demands and pressures of the EU, with which it has even more intensive economic cooperation, signed Agreements on Stabilisation and Association and other assumed obligations and debts, a large part of trade and foreign investments, whose membership it has formally sought for more than two decades. All this is called into question by the non-introduction of sanctions.

The third source of pressure on the Government is the people who do not understand the Government's obligations, do not consider EU friendly, and, according to all surveys, a vast majority oppose sanctions against Russia. The eventual introduction of sanctions would cost the Government a loss of voter support.

This unpleasant position of the Serbian government between „three fires" is analysed in the first part of the article after the basic information about the formal contents of Serbian neutrality regarding the Ukrainian crisis, shown by the adopted document of the Serbian government and the decisions that resulted from it.

In the second part benefits of friendship with Russia are explored. The benefits include trade with Russia, orderly and relatively cheap energy supply, and the consequent effects on the Serbian economy and exports to third countries. This part investigates: Did Serbia achieve significant advantages of access to the Russian market, based on preserving friendship despite constant political pressure from the EU? Are these indicators better or worse than other WB countries that Russia considers „unfriendly"? Has Serbia achieved significant benefits in production and export based on the low prices of energy products it received from Russia based on friendly relations? Does Serbia suffer from „disobedience" to the EU in the form of reduced trade and investment?

2. Serbia's position in the Ukrainian conflict

2.1. The concept of neutrality in the Ukrainian conflict of the Serbian government

Serbia has been pursuing a policy of military neutrality since it became an independent state after the collapse of the SFRY. Unlike other Balkan countries, it has not joined NATO. All governments after 2008, when the pro-Western coalition lost power, tried to maintain good relations with all the world's countries. This involves a very delicate balance between East and West.

With the beginning of the Ukrainian conflict, the Serbian government was aware that it was placed in a position „between a rock and a hard place". Three days after the start of the war in Ukraine, the Government of Serbia adopted a list of several points defining the neutrality policy. The neutrality envisaged by these guidelines, which were generally observed during the subsequent period of the conflict, does not refer to abstinence or inactivity at all. On the contrary, the defined policy could rather be called a double track instead of neutrality. Its most essential provisions determined by subsequent announcements and activities are:

- Russia and Ukraine have always been friendly countries for the Republic of Serbia, and the Serbian people consider Russians and Ukrainians as brotherly nations.
- Following its previous policy of advocating for consistent and principled respect for the principles of international law and the inviolability of borders, the Republic of Serbia provides full and principled support for respect for the principles of territorial integrity of Ukraine.
- The Republic of Serbia believes that preserving peace and stability is of key importance both for the progress of its economy and for the biological survival of its citizens.
- The government believes that it is not in Serbia's vital political and economic interest to impose sanctions on any state, not even its representatives or business entities. (Službeni glasnik RS, 2022).

Therefore, the Serbian government has established a „multi-vector" policy. Due to the non-introduction of sanctions against Russia and the refusal to supply weapons to Ukraine, in a short time, it received loud public condemnations from Ukraine. As the pressures of the EU continued without success, Serbia did not have the trust of the EU (although even in the previous period, it could not be considered that Serbia had the favour of the EU).

On the other hand, since the beginning of the Ukrainian war, Serbia has voted for four resolutions of the UN General Assembly, all of which were against the interests of Russia! Serbia supported two resolutions in March 2022, the first of which condemned Russian aggression and the second of which asked Russia to end the war against Ukraine immediately. In April 2022, Serbia voted to exclude Russia from the UN Human Rights Council, and in October 2022, for the UN resolution condemning Russia's annexation of four Ukrainian regions. Serbia abstained only in November 2022, during the vote on the resolution demanding that Russia be held accountable for the invasion of Ukraine, with the obligation to pay compensation to Kyiv. Considering this, how much trust Russia has in the Serbian government is questionable.

2.2. The attitude of the population of Serbia towards the Ukrainian crisis

Contrary to the government, the Serbian people have much more straightforward and firmer determinations. Surveys of domestic and foreign, pro-Russian and anti-Russian researchers and institutions conducted during 2022 and 2023 showed that around 80% of Serbs oppose sanctions against Russia. According to a poll published by the Carnegie Foundation (Samorukov & Vuksanovic, 2023) (Carnegie Europe, 2023) in March 2023, more than 80% of Serbian residents are against introducing sanctions against Russia. The Belgrade Demostat survey showed that it is slightly less than 80% (Demostat, 2022), and the Western Balkans Security Barometer shows slightly more than 80% (Vuksanović et al., 2022). According to a survey by the pro-Russian New Serbian Political Thought (NSPM), about 84% are against sanctions against Russia, while according to a survey by the pro-EU organisation CRTA, „every tenth respondent believes Serbia should align its foreign policy with the EU and impose sanctions against Russia" (CRTA, 2022).

Several reasons for this attitude were offered in the survey questions. Answers that refer to the identification of the citizens of Serbia with the position of the Russian people prevail, bearing in mind the rigorous sanctions that Serbia had throughout the 1990s. Direct experience has shown the people of Serbia that the effects of sanctions are dramatic only for the population, with a complete absence of effects on changing the policy of the ruling elites, even without effects on the re-election of the same elites throughout the entire period (SPS and Milošević had the undoubted support of the majority of voters in all elections until 2000). Some of the stated reasons are rational and concern the reliance on Russian support in the Security Council regarding Kosovo. Still, according to the previous polls, it is a small percentage (10-15%), while about a quarter of respondents state that the reason is simply that Russia is a friendly country.

Concerning the economic risks of neutrality (conformation) with the EU, the population of Serbia has certain fears about the withdrawal of European investors, but not to the extent that support for Russia would be significantly reduced. This is a powerful position of more than 60% of the respondents, who oppose introducing sanctions against Russia even at the cost of the EU introducing sanctions against Serbia (CRTA, 2023).

To the people of Serbia, the choice seems to be relatively easy. The one who found himself in an uncomfortable position „between a rock and a hard place" is the Serbian government. Mass support for Russia in Serbia is the factor that prevents the government of Serbia from imposing sanctions on Russia because this is the only request made by the EU, which it has not fulfilled. Such a decision would mean the end of friendly relations with Russia. Serbia would end up on the Russian list of „unfriendly countries", like other Balkan countries, which would be a clear sign to the citizens that the government does not represent their interests. This would lead to the fall of power in the upcoming elections in 2024, at the latest.

2.3. The attitude of the EU towards the neutrality of Serbia

If the Serbian people are the „hard place", the „rock" is the EU, which exerts enormous pressure on the Serbian government to harmonise its foreign policy with the EU. It is only about introducing sanctions against Russia because, as stated, the government officially supported all other decisions against Russia.

The majority of Serbia's imports come from EU member states, 54% in 2022 (although this is decreasing from 58% in 2020 and 57% in 2021), while the share of exports to the EU is 64% of total exports in 2022 (ITC). A large part of international trade refers to trade within European companies' value chains, in which Serbia is deeply involved as a relatively industrialised country. The third form of economic connection is foreign investments, mostly from EU countries.

In a highly globalised world economy, all countries are dependent on some import and export markets. The problem arises when economic partners turn into political rivals, which happened in Serbia. The threatened „penal ties" have political and economic connotations and refer to suspending the EU accession process. The political aspect is clearly defined but irrelevant, given that most of the population has declared against EU integration in the last few years. Suspension of the accession process also has its own economic dimension, which, in case of implementation, would undoubtedly have significant negative effects on the Serbian economy. First, it would be the termination of the Stabilization and Association Agreement, based on which Serbia exports goods to the EU market without customs duties. In addition to this threat, in the statements of Western representatives, the withdrawal of investments by EU companies. These thrats are not formulated but in the form of an assessment of cataclysmic ecnomic assessments for Serbia. From the mass of statements of various representatives, we shall single out only the statements of the highest officials of Serbia, the EU and the USA.

On May 10, 2023, the European Parliament adopted a resolution on Serbia, which states that „the EU accession process is based on the true readiness of the candidate country to adhere to EU values and principles, and concerns are expressed about the trend of decreasing support for Serbia's membership in the EU and growing support for the Russian regime" (The European Parliament, 2023). The following statements were reported by dozens of domestic and international media. President Vučić in the parliament, responding to the MP's presentation, said that this decision „costs a lot, but until it costs us vital interests, we must protect our politics". The Ambassador of the United States of America (USA), Christopher Hill, said that Serbia would have to decide on sanctions against Russia because, in his opinion, it is paying a high price for not introducing them. The Minister of Economy of Serbia, Basta, said, „Our country is already paying a high price for not introducing sanctions against Russia, and this is becoming unsustainable".

In addition to these unclear assessments, threats and warnings, indirect threats even of economic sanctions against Serbia by the West appear sporadically. For example, as *estimated* by the Carnegie Foundation, „such a gamble would generate enormous risks for both the country and Vučić personally, as he would be squandering his relationship with the West and would face harrowing economic sanctions" (Carnegie Europe, 2023).

However, it is not at all clear what price Serbia is paying. At the heart of this paper is an overview of the dynamics of economic indicators that could result from the current political position on the Serbian economy. Below, the changes in 2022-2023 compared to the previous period are analysed in terms of trade with

Russia, energy supply, production structure, trade with the EU and foreign investments.

3. The economic benefits and cost of a neutral position

3.1. Increased trade with Russia

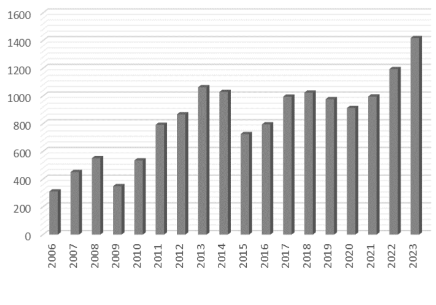
Russia is taking a different approach to its economic power than that of many Western countries. Russia uses economic strength to create more permanent geopolitical influence instead of using economic strength for economic gain. Russia is often willing to make significant economic concessions to make itself appear as a protector and consistent partner. Statistics show that areas of integration, such as the Eurasian Economic Union (EAEU), the Shanghai Cooperation Organization (SCO), and the BRICS group, have seen very high levels of Russian imports. This is not because Russia necessarily needs the goods from these countries, but rather as a way of strengthening ties and influence in these countries.

Recent studies concerning Russia's reasons, aims, and stance in multinational organisations show that the relationship between these subjects goes beyond simply trade connections. Many authors have noted that Russia's main aim in the Eurasian integration process is not only economical but is also strategic (Vymyatnina et al., 2014; Czerewacz-Filipowicz & Konopelko, 2017; Vinokurov, 2018; Kurylev et all, 2022). In one of the recent articles (Stanojević, 2023a), Russia's 'friendliness' in international trade was even quantified as a separate variable. This research showed that integrating with Russia in any form (EAI, BRICS, and SCO) strongly impacts imports from partner countries.

Serbia has had unique trade relations with Russia since the former Federal Republic of Yugoslavia and signed free trade agreements in 2000. Serbia joined the broader Eurasian integration processes with the agreements with Belarus in 2009 and Kazakhstan in 2010, by which Russia was then in the Customs Union. The latest step within these integrations is the Free Trade Agreement between Serbia and the Eurasian Economic Union (EAEU), signed at the end of 2019 and entered into force on July 10, 2021. The list of products exempted from the free trade regime is almost identical to previous agreements. Still, regardless of that, there was a significant increase in Serbian exports to Russia, more precisely, in Russian imports from Serbia. Following explained Russian approach to strategic partnerships this can be explained by political rapprochement instead of direct financial benefits of Russia.

Therefore, it was expected that Serbia's trade relations with Russia would improve in conditions where it was exposed to international pressure due to its refusal to impose sanctions on it. The result of preserving the neutral status directly impacted trade with Russia. Serbia's trade with Russia increased in 2022 compared to 2021 despite supply disruptions and delayed payment due to the exclusion of Russian banks from SWIFT. Export of Serbia increased from $996 million in 2021 to $1201 million in 2022, and 1400 in 2023 (Figure 1). Import also increased from $1.8 billion to $3 billion in the first year of conlict, but it was stabilysed in 2023 at previous level of 1.7 billion (Statistical Office of Republic of Serbia, 2024).

Figure 1. Serbian export to Russia 2006-2023 (in million USD)



Source: Statistical Office of Republic of Serbia, 2024.

In 2022, exports to Russia saw 20% growth compared to those in 2021, before the Ukrainian crisis. This growth is not particularly high considering the high inflation in 2022, but it is beneficial since it was related to exporting higher-value items in goups Machines and mechanical appliances and Electrical machinery and equipment. The overall value of the products of the first group increased from 117 million in 2021 to 190 million in 2022, a 62% growth. Within the machinery industry, the export of more complex products, such as Refrigerators, freezers and other freezing equipment (HS code 8418) and parts of machines HS 8483, Transmission shafts, bearings housings, gears, ball or roller screws etc. In previous years, the entire mechanical industry had significantly less exports, with the most important group being one of the simplest products, HS 9413 Pumps for liquids.

The export of group Electrical machinery and equipment and parts thereof almost tripled from 26 to $85 million (ITC, 2023). where the export of HS 8517 products (Telephone sets, incl. telephones for cellular networks or for other wireless networks) contributed the most to growth. In 2022, it amounted to more than $37 millionrs, which Serbia did not export to Russia in previous years. In addition, the export of HS 8536 (Electrical apparatus for switching or protecting electrical circuits) has multiplied. By the way, this is a group of products that significantly participates in total Serbian exports, and it is important because it relies entirely on domestic production.

However, the earlier placement on the Russian market did not exceed

$2 millions, while in 2022 it reached almost $7 million.

Although it is a much smaller trade than with the EU, the increased Russian imports of Serbian products in wartime conditions is a gesture of solidarity between the two countries rather than a sign of genuine demand for them.

Serbia's oil and gas imports rose significantly, for 67% in 2022, due to an energy price increase. However, this increase is significantly less than the sharp jump in natural gas prices in 2022 due to the preferential prices of Russian natural gas for Serbia. The increased import of natural gas is also beneficial because Serbia exports it to other WB countries at a higher price.

This increase in trade seems even more critical if you consider that the rest of the Western Balkans countries, which Russia categorises as „unfriendly", had a significant drop in exports to Russia in 2022 (Table 1).

Table 1. Changes in the volume of trade of the Western Balkans with Russia in 2021–2022 (mil USD)

	Export 2021	Export 2022	Import 2021	Import 2022
North Macedonia	57	54	176	441
Montenegro	2.35	0.47	10.6	9.3
B&H	65	53	380	355

* there is no data on trade with Russia in 2021 and 2022 for Albania.

Sources: International Trade Centre (ITC). 2023.

Macedonia's exports have decreased, although not drastically; B&H's exports have decreased by 20%, and Montenegro's exports by as much as 80%. In contrast to exports, imports from Russia have increased dramatically in North Macedonia, but it does not refer to an increase in the amount of imported goods but to the very high prices of energy that these countries import from Russia during most of 2022.

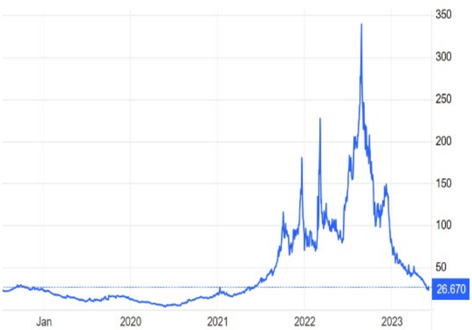
Even after the Ukraine conflict ends, the tensions between Russia and other countries will likely remain for quite some time. This is due to a combination of political tensions and the interruption of many supply chains, which have been deeply impacted. The large Russian market no longer needs many of the items it once relied on, and it may take considerable time to restore them.

3.2. Stable supply and lower price of natural gas

Russia showed its strong support for Serbia by providing them with a long-term contract with Gazprom that would give them access to natural gas at much lower prices than the international market rate. Based on information from the General Secretary of the Serbian Gas Association[2], the contract from October 2022 stipulates a price of around 40 EUR/MWh (the amount is approximate because it is not fixed but adjusted to a specific formula). This is a slightly higher price than was implied by the previous contract, but, as during the summer of 2022, energy prices on the world market reached historical highs, this is a far lower price than the one paid by European countries.

High prices and supply uncertainty caused concerns over potential gas shortages in some European countries, particularly those heavily reliant on Russian gas. Both the uncertainty and prices increased further precisely due to the vast purchases of the EU and, more importantly, purchases on the spot markets instead of long-term contracts. In September 2022, when gas storage tanks were being filled in Europe, the prices on the European stock exchanges were 340 EUR/MWh, which was then eight and a half times higher than the prices at which Serbia procured gas (Figure 2).

Figure 2. Natural gas prices in EU 2020–2023 (EUR/MWh)



Source: Trading Economics, 2023. EU Natural gas. https://tradingeconomics.com/commodity/eu-natural-gas

Later, gas prices sharply fell to 100 EUR/MWh, which was still two and a half times the price paid by Serbia, and in the spring of 2023, they fell to

[2] Vlaović, October 2022, Vojislav Vuletić. https://www.danas.rs/vesti/ekonomija/cena-gasa-ide-ka-0-evra-srbija-ce-skuplje-placati-ruski-gas-od-berzanske-cene-u-eu/

26 EUR/MWh at the beginning of Jun (Figure 2). But these low prices are not the ones at which gas is available to EU countries; on the contrary, they are the prices at which EU countries sell gas on the European stock market. Namely, due to growing uncertainty in Russia's reaction to sanctions and self-imposed restrictions on imports via gas pipelines, EU countries ordered quantities of gas that far exceeded the available storage capacities. So, when gas storage facilities in the EU countries almost wholly filled in October–November 2022, LNG tankers had nowhere to unload their cargo, so EU countries were forced to resell it at a significantly lower price to China and other Asian countries.

In January 2023, Russia suspended gas exports to Europe via Ukraine due to a pricing dispute with Ukraine. Serbia receives natural gas from Russia through the Balkan Stream pipeline, an extension of the Turk Stream pipeline, so this interruption did not affect the supply. This enabled not only a safe supply of the domestic economy and population but also additional income from the export of Russian gas to other countries of the Western Balkans, which, even before the interruption of this supply line, did not have direct access to Russian gas (Northern Macedonia, Croatia, B&H, Montenegro). Thus, Serbia's gas export in 2022 amounted to about $50 million, almost twice the value of 2021, when it was $29 million (ITC, 2023). In addition to these countries to which exports have increased, Serbia exported gas for the first time to countries that until then had direct access to Russian gas, such as Bulgaria, Ukraine and Slovakia. These countries voluntarily renounced direct gas purchases from Russia, instead buying it from Serbia at higher prices.

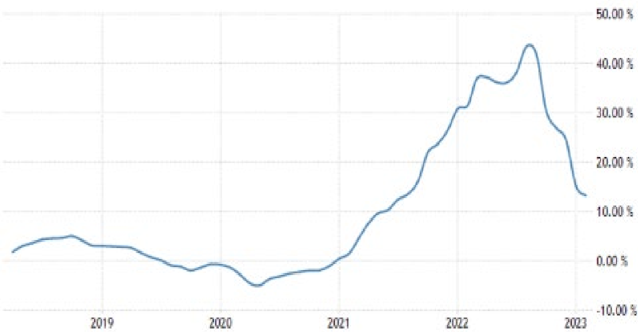
Serbia's electricity exports more than doubled from $156 million in 2021 to $388 million in 2022 (ITC, 2023), which is also a consequence of supply instability in European countries due to the Ukrainian crisis. In some cases, the export was multiplied; for example, the export of electricity to Romania increased 20 times, to Hungary it increased 6 times, and to Montenegro three times. These do mostly not end users but resellers in the energy-unstable EU market.

In every country, industry consumes more energy than households, so the cost and availability are extremely critical to the industry's ability to function. Thanks to the contracts signed, Serbia has a stable and relatively cheap supply of Russian energy products, enabling the Serbian economy to have a significant comparative advantage in the Balkans and Europe.

3.3. Manufacturing advantages and exports to the EU

Following the procurement, the supply of energy to the industry of European countries also had a high price, too high for many factories. Producer prices in the Eurozone have risen dramatically since mid-2021 due to measures related to the Covid-19 pandemic, to reach record values in late 2022 (Figure 3). Only in February and March are they approaching the level of 2019, but the damage to the industry has already been done.

Figure 3. The rise of producer prices in the Eurozone



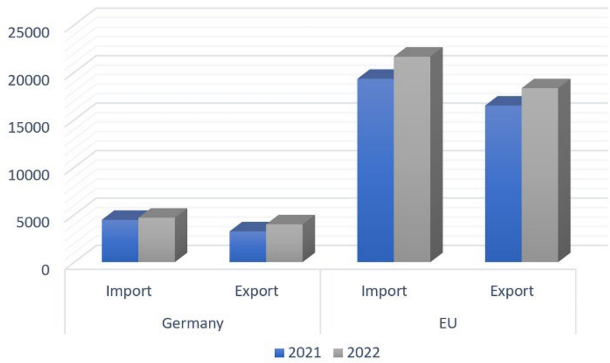
Source: Trading Economics 2023b. https://tradingeconomics.com/euro-area/producer-prices

The EU's manufacturing sector has been in decline since the beginning of the conflict in Ukraine. Europe's most energy-intensive companies' costs have risen so high that they are no longer profitable and have to close down. This refers to a whole series of factories in various industries like aluminium, iron and steel, cement, phosphate, plastic, etc. This has caused a reduction in European aluminium production by 850,000 tons (Eurometaux, 2022) and an 8.2% decrease in chemical output (Atradius, 2022). All major steel producers in the European Union showed a significant drop in smelting. Steel production in EU countries in 2022 fell by 10.5% year-on-year – to 136.7 million tons (Grigorenko, 2023). In December 2022, the EU steel companies suspended 14–15 million tons of steel capacities, and in January–February 2023, destocking continued (Glushchenko, 2023). Manufacturing production in European Union decreased by 4.1% in March 2023 compared with February 2023 (Eurostat, 2023). In addition to the described forced sale of gas by the EU, the industry's down-sizing simultaneously results in a further decline in gas prices. This is favourable for the remaining industry, but it cannot bring back the plants that have been permanently closed and the companies that have moved from Europe.

The decline in the EU industrial production of aluminium, iron and steel was an opportunity for Serbia to improve the production of industrial products and export them to the European market. The opportunity has been seized in some industry sectors that are linked to the price of energy. In the period January–February 2023 compared to the same period in 2022, the production of machines and equipment increased by 35%, motor vehicles by 12%, assembly of machines by 20%, production of the electrical industry by 33%, primary pharmaceutical products by 14% (Statistical office of RS, 2023).

As a result of the increase in production in Serbia, exports to the EU market increased. Until the middle of 2023, worries about a possible boycott of Serbian products in EU countries have not materialised. Exports to EU increased from $16 to $18 billion, and imports from $19 to $21.6 billion, while exports to Germany, as Serbia's most important trade partner, increased from $3.2 to almost $4 billion, with almost same value of imports (Figure 4).

Figure 4. Trade of Serbia with EU



and Germany 2021–2022 (million $)

Sources: ITC, 2023.

The Electrical machinery and equipment group recorded the most significant increase in exports of about $370 million. The export of these products increased from 3.3 billion in 2021 to 3.7 billion in 2022, and the largest part refers to Electric motors and generators as products with high added value. The growth of exports of the group Machinery and mechanical appliances from 1.14 billion in 2021 to 1.38 billion in 2022, i.e., it increased by about $240 million (ITC, 2023), is also significant. On the other hand, the most unfavourable is, at the same time, the highest growth of ore exports, which increased from $200 to $600 million in one year, that is, by almost $400 million. In the total export, however, ores have a significantly smaller share, so the change in the export structure can be assessed as relatively favourable.

Bosnia and Herzegovina also increased the production and export of aluminium to the EU based on lower energy prices (imports from Serbia and its own coal deposits). Some other Balkan economies, Montenegro, Greece, and Romania, also had a significant increase in exports to the EU, but this does not have a significant effect on these economies, as the entire increase relates to growth in oil and/or gas exports (ITC, 2023). Since these countries do not have these energy sources, the growth of exports is only the result of the increase in the prices of energy sources that are transported through these countries from other markets.

Regardless of the growth of trade with the EU due to the current circumstances, the risk of the possible implementation of some of the economic penalties for Serbia should also be considered. Companies that export more than 50% of their products to the EU market (domestic and foreign combined) employ about 370,000 people in Serbia (PKS, 2023). A survey by the Serbian Chamber of Commerce showed that possible EU sanctions would have consequences on the incomes of these companies, on their investments, and ultimately the number of employees.

3.4. Foreign investments

The FDI from the EU is closely linked to trade with the EU. Most companies in Serbia produce components for companies in the EU, particularly in Germany, instead of exporting to the free market. As only German companies in Serbia employ 70 to 78 thousand people[3], the fear of a possible withdrawal of investments is justified. The eventual withdrawal of EU investors would lead to intense disruptions in the labour market, at least in the short term.

The scenario of long-term and incomplete withdrawal of EU companies from Russia indicates that the companies themselves are not willing to abandon their interests. Investing in Serbia also provides many advantages for foreign investors, such as access to cheaper energy and wholly or nearly free labour costs, thanks to the generous government subsidies for workers' wages that have been in effect for a few years. But, compared to the vast benefits of cheap energy and raw materials from Russia, Ser-

[3] This is a rough estimate that President Vučić has made public several times.

bia is of marginal importance for EU companies. Therefore, leaving the business in Serbia is not an impossible scenario.

According to the latest information from July 2023, there was no withdrawal of any investors from Serbia. On the contrary, a record FDI inflow of 4.4 billion euros was recorded in 2022 (NBS, 2023). Of this amount, the most significant inflow of FDI is from China, which is almost 70% higher than the previous year, which is 1.4 billion $ (NBS, 2023). An additional inflow of FDI companies from the EU was also noticed. It is 30% less than it was in 2021, but it is still a new investments of $2.4 billion, making up more than half of the total FDI in Serbia in 2022. So, the fact that there were new FDIs and none was withdrawn indicates that the reduction is the result of the current crisis in Europe and the slowdown of economic activity, and no political decision.

The improved production structure and partially export structure, which were analysed in the previous section, are the results of the increased production capacity and the new factories by investors from Western Europe, primarily Germany (as many as 4 factories in a few months). The basis for the relocation of production capacities is exclusively the price of energy because, in this period, there were no investments in the production sector in other Balkan countries.

The rise of production prices in Europe contributed to the relocation of part of the production capacities to Serbia, resulting in increased FDI from the EU. This had further implications for entire value chains of EU companies: a rise in the import of ore from Serbia, a rise in exports of parts and semi-finished products to Serbia, and a higher import of products with added value from Serbia. Therefore, leaving the Serbian market by EU companies does not seem expected for now.

3.5. Oil supply disruption

Although the EU did not realize the threats in the area of trade or investment, Serbia did not go completely unpunished for not aligning its foreign policy with the EU. The sixth package of EU sanctions against Russia from includes a ban on the delivery of oil via any sea route since December 2022. Thus, the Oil Industry of Serbia (NIS), which is majority-owned by the Russian Gazpromneft, was banned from delivering Russian crude oil through the Adriatic Pipeline (JANAF). Russian oil accounts for about 16% of the total consumption of that energy source in Serbia. This part of Serbia's need for oil is met by the same route from Iraq, but this oil is more expensive than Russian oil by more than 20% more expensive.

Although these restrictions harm the EU countries themselves, from Serbia's point of view this is a cost of foreign policy, because many less developed countries in the EU itself are exempt from this decision: Croatia, Hungary, the Czech Republic, Slovakia, Romania and Bulgaria.

The consequences cannot be considered particularly significant for the Serbian economy. Serbia imports the rest of oil through Romania, Bulgaria and Hungary, which certainly use Russian oil, among others. That oil comes via the Druzhba pipeline, which, as a land route, is not subject to EU sanctions.

4. Conclusions

The war in Ukraine has led the Serbian government to develop a multivector policy to protect its economic and political interests, while attempting to please both the East and West and its own people. However, this „neutral“ stance has made nobody content with the outcome. The EU is angered by the lack of cooperation from the country in the integration process. Russia expresses gratitude for that one positive act but is likely displeased by the absence of any Serbian support in the UN. The population of Serbia is also dissatisfied with the absence of more substantial support for Russia, as their doubt in the EU has grown, and their affection for Russia has increased.

This article examined the potential economic dangers and consequences that Serbia’s foreign policy could have during this crucial time. It looked into how this policy could impact the nation economically. The results showed that, compared to other nearby countries and most of Europe, Serbia increased trade with Russia in 2022. Second, Serbia has benefited from a stable, long-term natural gas supply from Russia at a very favourable price. This is a gesture of gratitude for Serbia not implementing sanctions that wouldn’t be significant to Russia but would suggest a desire for friendly relations. Further, Serbia’s more favourable energy situation enabled local and foreign businesses to take on parts of production that could have been too expensive elsewhere due to high energy costs and uncertainty in future supply. Additionally, Serbia’s production of more advanced goods in the mechanical and electrical industry increased, leading to increased trade with the EU. The amount, worth and variety of Serbia’s exports to the EU has increased, and this trend may likely continue due to the decline of Europe's heavy industry.

This opened a small but still significant space for the reindustrialisation of the Serbian economy. Once a medium, even more, developed and diverse industry was weakened during the conflict of the 1990s. There were no attempts to restore it due to the multi-decade transition towards some imagined economic model, which brought the Serbian industry to low profitability and highly dependent „links" in the production chains of EU companies.

There is a real possibility that economic threats could be used against Serbia, such as boycotts of their products, investments from the EU being pulled out, and even partial economic sanctions. Still, so far, nothing like this has happened. The West has not taken any action to show that these potential dangers and risks may be realised. Due to the crisis within the EU, investments originating from EU countries are lower than in the previous year, but they are still high. The opening of new foreign companies from the EU and the increase in the capacity of existing ones indicate that the EU is interested in furthering economic cooperation with Serbia. Additionally, the EU is now investing more in industrial production than their previous focus on banks, telecommunications, and trade chains, which is a more beneficial form of economic cooperation between Serbia and the EU.

The results of the economic analysis, therefore, showed that the Serbian government's policy, which is confusing and unpredictable, actually contributed positively to the progress of the Serbian economy in a period in which all economies are suffering some adverse effects of the Ukrainian crisis. This analysis did not detail the effects of the crisis, such as lower growth and high inflation, as they are global effects that no government can do much about.

Research indicates that Serbia's economic policy shortly should focus on investing its own funds in industrial sectors that are threatened in the EU, more precisely in improving the production of those products that in 2022 recorded an increase in exports. This would involve investing in opening new plants or expanding existing capacities, with the amounts of these investments not exceeding internal resources. This would raise income and develop the indigenous chain of subcontractors. In order to make this successful, Serbia will need to engage in export negotiations with final producers in EU countries.

The article did not discuss any political matters related to Serbia, such as domestic support for the government, its political positions in the West and East, etc. These topics could impact Serbia's situation in the future, for better or for worse, depending on how the geopolitical landscape changes.

References

Atradius: Chemicals Industry Trends Germany – 2022. Accessed November 13, 2022. https://group.atradius.com/publications/industry-trends/chemicals-industry-trends-germany-2022.html (2022)

Carnegie Europe: https://carnegieeurope.eu/2023/01/19/hedging-its-bets-serbia-between-russia-and-eu-pub-88819 (2023)

CRTA: Democracy on the Margin of the War. https://crta.rs/en/survey-democracy-on-the-margin-of-the-war/ (2022)

Czerewacz-Filipowicz, K., Konopelko A.: Regional Integration Processes in the Commonwealth of Independent States: Economic and Political Factors, Springer International Publishing (2017)

Demostat: Spoljno-političke orijentacije građana Srbije. https://demostat.rs/sr/vesti/ekskluziva/demostat-gradani-prepoznaju-eu-kao-najveceg-donatora-i-investitora-emotivno-vise-vezani-za-rusiju/1513 (2022)

Eurometaux: EU emergency energy intervention: More urgency needed to save at-risk metals producers. Press release September, 14. Accessed November 11, 2022. https://eurometaux.eu/search/?q=crisis (2022)

Eurostat: Industrial production down by 4.1% in the euro area and by 3.6% in the EU. Retrieved from: https://ec.europa.eu/eurostat/documents/2995521/16668118/4-15052023-AP-EN.pdf/0d316a04-67f0-8640-962f-f125cf05a8f9 (2023)

Glushchenko, A.: EU steel market is under pressure of limited supplies https://gmk.center/en/posts/eu-steel-market-is-under-pressure-of-limited-supplies/ (2023)

Grigorenko, Y.: European steelmakers cut steel production by 10.5% in 2022, https://gmk.center/en/posts/european-steelmakers-cut-steel-production-by-10-5-in-2022

ITC (2023). International trade center data. https://www.trademap.org/ (2023)

Kurylev K., Malyshev D., & Stanis D.: The Country Dimension of Eurasian Integration in the CIS Space. World Economy and International Relations, 66(1), 119-128. https://doi.org/10.20542/0131-2227-2022-66-1-119-128 (2022)

Milić, S.: Serbia between western individualism and orthodox collectivism. Ekonomski signali, vol 18, no. 2, pp. 33-48 (2023)

NBS - National Bank of Serbia: Foreign investments by countries. https://nbs.rs/en/drugi-nivo-navigacije/statistika/platni_bilans/ (2023)

PKS: Poslovna aktivnosti privrednih subjekata u Republici Srbiji. Privredna komora Srbije, Beograd. (2023)

Službeni glasnik RS 05 broj 06-1741/2022 od 27.2.2022. godine. https://www.propisi.net/zakljucak-vlade-05-broj-06-1741-2022/ U Beogradu, 27. februara 2022. godine (2022)

Stanojević, N: Russia and Western Balkans: realized and missed opportunities in trade [Россия и Западные Балканы: реализованные и упущенные возможности в торговле]. World economy and international relations, vol. 67, no. 3, pp. 33-43. 10.20542/0131-2227-2023-67-3-33-43 (2023a)

Stanojević, N.: Western Balkans trade with Russia and EU amid the Ukrainian crisis – threats and opportunities, Review of International affairs, 74(1187):5-29. DOI:10.18485/iipe_ria.2023.74.1187.1 (2023b)

Statistical office of RS (2023). Indeksi industrijske proizvodnje, februar 2023. https://www.stat.gov.rs/sr-latn/vesti/statisticalrelease/?p=13790

Statistical Office of RS (2024). External trade. https://www.stat.gov.rs/

The European Parliament (2023). Motion for a European parliament resolution on the 2022 - Commission Report on Serbia https://www.europarl.europa.eu/doceo/document/A-9-2023-0172_EN.html

Trading Economics: EU Natural gas, https://tradingeconomics.com/commodity/eu-natural-gas (2023a)

Trading Economics: Euro Area Producer Prices. https://

tradingeconomics.com/euro-area/producer-prices (2023b)

Vinokurov, E.: Introduction to the Eurasian Economic Union, Palgrave Macmillan, New York, NY. doi.org/10.1007/978-3-319-92825-8 (2018)

Vuksanović, V., Cvijić, M., Samorukov, S.: How does Russian soft power in Serbia really work? Belgrade Centre for Security Policy (BCSP) (2022)

Vymyatnina Y., Antonova D.: Creating a Eurasian Union: Economic Integration of the Former Soviet Republics, Palgrave Macmillan, New York, NY (2014)

EKONOMSKI EFEKTI SRPSKE NEUTRALNOSTI U UKRAJINSKOJ KRIZI: RIZICI I KORISTI

Rezime: U članku se istražuju i ocenjuju opasnosti, prednosti, mogućnosti i rizici za srpsku privredu koji proizilaze iz njenog neutralnog stava u Ukrajinskoj krizi. Korićtene metode uključuju analizu sadržaja dokumenata i zvaničnih saopštenja, statističku deskripciju, analizu i poređenje podataka. Istraživanje je otkrilo očekivani rast trgovine Srbije sa Rusijom, koji se pripisuje nižim cenama energenata. To je dovelo do povećanja proizvodnje u različitim sektorima, kao što su mašinerija, motorna vozila i elektroindustrija. Suprotno očekivanjima, trgovina sa EU ne samo da je povećana već je i strukturno poboljšana, posebno u izvozu robe veće vrednosti. Preporuke se odnose na unutrašnja ulaganja u resurse u industrijske sektore ugrožene EU, posebno u jačanje proizvodnje proizvoda koji su svedoci rasta izvoza.

Ključne reči: Ukrajinska kriza, Srbija, međunarodna trgovina, cene energije, snabdevanje energijom, SDI

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ECONOMIC, SOCIAL AND CULTURAL ASPECTS OF CREATIVE INDUSTRIES - LITERATURE REVIEW

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Abstract: This paper provides a comprehensive literature review of creative industries, focusing on their development, challenges, and opportunities. The analysis examines existing research on the role of creative industries in economic growth, cultural development, and social innovation. It highlights the unique characteristics of the Serbian creative sector, including its historical background, current trends, and the impact of digital transformation. Furthermore, the review identifies key stakeholders, policy frameworks, and the potential for international collaboration to enhance the competitiveness of Serbian creative industries. By synthesizing existing literature, this paper aims to contribute to a deeper understanding of the creative economy in Serbia and to inform future research and policy-making.

Keywords: Creative industries, literature review, Serbia, economic growth, cultural development, digital transformation, social innovation, policy frameworks

1. Introduction

Creative industries encompass a wide range of sectors engaged in the creation, production, and distribution of cultural and creative goods and services. These industries play a crucial role in the modern economy, as they combine artistic talents with commercial activities to create new products and experiences. Essentially, creative industries are based on intellectual capital, making them one of the fastest-growing sectors in the global economy.

Creative industries have developed not only due to the expansion of the concept of culture but also as a result of critical examination and refinement of the concept of cultural industries, first introduced by Theodor Adorno and Max Horkheimer. Their pessimistic vision of industrially oriented artistic and symbolic production did not allow for the recognition of increasingly powerful and developed creative activities, which relied on new media, production techniques, popular culture, and a growing audience in a globally connected world. As cultural industries shed their pejorative connotations and expanded their scope, supported by appropriate economic, cultural, and urban policies, they transformed into creative industries. These changes have enabled new understandings of artistic and symbolic creation based on capitalism, as well as its global expansion (Ničić, 2023).

1. Creative industries encompass a range of sectors, including the following:
2. Art and Culture: Visual arts, theater, dance, music, and literature.
3. Design and Fashion: Graphic design, fashion design, industrial design.
4. Media and Entertainment: Film industry, television, radio, video games.
5. Advertising and Marketing: Advertising, digital marketing, branding.
6. Architecture: Planning, design, and construction of buildings.
7. Digital Technologies: Software development, animation, 3D modeling.
8. Publishing: Books, magazines, newspapers, and digital publishing.

According to UNESCO, creative industries are „sectors that involve the creation, production, and distribution of goods and services that utilize creativity and intellectual capital as a fundamental resource“.

This definition highlights the importance of intellectual property and copyright as essential factors in these industries (UNESCO, 2006).

The UK Department for Culture, Media and Sport (DCMS) defines creative industries as „those industries that are based on individual creativity, skills, and talent, and which have the potential to generate wealth and jobs through the creation and exploitation of intellectual property“ (DCMS, 1998).

Creative industries represent a key sector in the modern economy, combining artistic creativity and innovation with commercial activities. Their ability to generate economic value through intellectual capital makes them significant not only for cultural development but also for broader social and economic progress.

In 2023, the cultural and creative industries (CCI) in Europe continued to play a significant role in the economy, contributing to employment, innovation, and digital transitions. The CCI sector in Europe encompasses various industries such as audiovisual media (TV, cinema, video games), music, publishing, advertising, cultural heritage, visual arts, and performance arts. Despite facing challenges like the COVID-19 pandemic and the energy crisis, the sector showed resilience, with employment rates starting to recover.

According to the European Monitor of Industrial Ecosystems, employment in the cultural and creative industries rose to 7.36 million people by 2021, following a dip during the pandemic. Digital technologies, such as AI and extended reality, have become crucial in enabling innovation within the sector. Additionally, the European Commission highlights the importance of interdisciplinary collaboration between CCI and other sectors, which fosters resilience and industrial growth (European Commission 2021)

Furthermore, a study by KEA reveals that the sector in Europe is valued at approximately €477 billion, accounting for around 4.2% of the EU's GDP. The study also stresses the increasing role of digital technologies, particularly after the pandemic, which accelerated digitalization in creative fields like media, music, and publishing (KEA, 2021). These insights underline the substantial contribution of creative indutries to Europe's economy and their ongoing adaptation to technological advancements.

The importance of the creative economy for societal development, not only from an economic but also from a social (Oskina, Darinskaia, 2020) and cultural perspective, has been the subject of many scientific and professional studies. A common thread in these studies is the conclusion that creativity has, in recent years, been recognized as a new form of competitive advantage. As drivers of added value for all businesses, the creative industries have unlimited growth potential and are thus seen as a key factor in sustainable development. One of the main challenges in this field is securing resources for business advancement (Majdúchová, Rybárová, 2021).

2. Literature review

Creative industries have become the subject of numerous scientific studies due to their significance for economic and cultural development. Research encompasses topics such as the economic value of creative industries, policies that support their growth, the role of technology, and regional specificities in the development of these sectors. The UNCTAD report (2010) titled *Creative Economy Report* analyzes the role of national and international policies in supporting creative industries, emphasizing the need to invest in creativity and innovation as key factors for sustainable economic development.

In Towse's (2010) work titled *A Textbook of Cultural Economics*, economic models applied to creative industries are explored, with an emphasis on their contribution to GDP and economic growth. Towse analyzes the dynamics of consumption and production within cultural and creative industries, including the challenges they face in market economies.In the conclusion the author summarizes the key discussions around the economics of cultural and creative industries. Towse emphasizes the distinct characteristics of these industries, particularly their dual nature of combining cultural value with economic profitability. She addresses the challenges of measuring the economic impact of cultural goods and services, due to their non-tangible cultural benefits and varying consumer preferences. Towse also highlights the importance of public policy in supporting cultural industries, especially regarding intellectual property rights, public funding, and tax incentives, as these mechanisms help sustain both the economic and cultural aspects of these sectors. Additionally, she suggests that future research should continue to explore the balance between market forces and cultural preservation to better inform policy-making.

Pratt (2008), in his work, explores the relationship between creative industries and urban development, particularly through the concept of creative cities. The author analyzes how local policies and resources can support the development of creative industries, especially in urban regeneration. Some authors (Flew, 2012) focus on the growing importance of digital technologies for creative industries, such as video games, digital marketing (Dašić et al., 2023), and multimedia production. Flew emphasizes how new technologies are transforming industries like publishing, music, and film, enabling broader access to and distribution of creative content.

Some authors critically analyze how the rise of digital technologies, particularly accelerated by the COVID-19 pandemic, has affected tourism and creative sectors. The focus is on how creative industries, such as architecture, cultural heritage, and media, drive innovation and economic growth, especially through digital entrepreneurship. The research aimed to identify key factors influencing the adoption of digital entrepreneurship in creative industries linked to tourism. The study highlights trends such as the use of mobile devices, artificial intelligence, and social media to offer tourists differentiated, high-value experiences (Nikolaos, 2022). This research is crucial for understanding how creative industries are evolving in a technology-driven world, particularly in tourism, where there is growing demand for experiences that blend culture and innovation (Dašić, 2018; Dašić, D. 2022).

Industry 5.0 represents the next phase of the industrial revolution, focusing on collaboration between humans and advanced technologies such as artificial intelligence (AI), robotics, and automation. Unlike Industry 4.0, which emphasized digitization and automation of production processes, Industry 5.0 places humans at the center, promoting harmony between people and machines. Authors Venkatesh Sneha and R. Kavitha (2024) identify key dynamics that can improve the performance of the sector and support the creative and cultural economy, especially in emerging markets like India. However, the study notes certain limitations, including a focus on a limited number of articles and a ten-year timeframe that may exclude relevant older studies. Policymakers and businesses can use the findings of this research to better integrate Industry 5.0 innovations into creative industry strategies, potentially supporting sustainable development (Kovačević & Dašić, 2022).

The book *Entrepreneurship in Creative Industries*, published on SpringerLink, explores the role of entrepreneurial skills and mindset in the success of creative industries, with a particular focus on how individual creativity intersects with business strategies. The authors analyze how entrepreneurs in creative sectors overcome challenges such as market competition and limited resources. It highlights that entrepreneurial passion and self-confidence are crucial for the success of creative professionals, emphasizing that these individuals often have to balance artistic integrity with commercial viability. The study provides in-sights into various strategies used by creative entrepreneurs to remain competitive, such as embracing technological innovations and establishing strong personal brands. Through case studies from the UK and other countries, the authors demonstrate the importance of developing entrepreneurial skills within the creative industries and offer recommendations for policy development to more effectively support these sectors.

Additive Manufacturing (AM), or 3D printing, is a revolutionary technology increasingly being applied within creative industries, including design, art, architecture, fashion, and entertainment. This technology enables the rapid and efficient production of complex and customized products, significantly enhancing processes in creative sectors and opening new opportunities for innovation.

One of AM's key potentials in creative industries is personalization. Creators can design unique, tailor-made products for consumers, promoting individualization in fashion, jewelry, interior design, and other fields. For example, fashion designers use 3D printing to create one-of-a-kind clothing, footwear, or accessories, allowing for the production of items that could not be made using traditional methods. AM also enables rapid prototyping, speeding up the development of new ideas and products. In architecture and design, this technology allows for the creation of physical models of complex structures in a short period, facilitating project presentation and modification before final production. This flexibility accelerates the creative process and reduces production costs.

Creative industries like film and entertainment also benefit from AM for the production of props, sets, and special effects. The ability to quickly produce complex and detailed items enables the creation of authentic and visually impressive environments while reducing time and costs. Additionally, AM contributes to sustainability in creative industries by reducing waste and optimizing resources. Since material is added layer by layer, there is less waste compared to traditional methods, which often involve removing excess material. Although additive manufacturing offers numerous advantages, its full implementation in creative industries still depends on technological advancements, reducing material costs, and increasing the availability of these technologies. Nonetheless, given its innovative potential, 3D printing is a key tool for the future development of creative sectors (Abisuga, de Beer, 2023).

The paper by Xiaodi Z., Lei S., and Zhengyun J. (2024) examines the relationship between the digital economy and creative industries. It explores how technological advancements, such as cloud computing, the Internet of Things (IoT), and digital infrastructure, have driven the development of creative sectors in China between 2012 and 2019. The study identifies several key gaps in previous research, particularly the lack of understanding of how digital technologies directly impact creative industries. The authors propose a model that integrates the digital economy and innovation efficiency as key factors driving the growth of creative industries. Using a two-way fixed effects model, the research tests the hypothesis that regional innovations, spurred by the digital economy, play a mediating role in the development of creative industries.

One of the paper's main contributions is providing empirical evidence supporting the claim that the digital economy is a driving force behind the growth of creative industries. Analyzing data from 29 provinces, the study reveals that digital technologies have not only enhanced regional innovations but have also significantly contributed to the development of creative sectors such as media, entertainment, and design. The findings highlight the importance of government policies and technological support in fostering innovation within the creative economy. This research is particularly relevant for policymakers and stakeholders seeking to leverage digital technologies to enhance creative industries. By identifying key mechanisms such as innovation efficiency, the study offers valuable insights for improving the competitiveness and sustainability of creative sectors in the digital age.

Some authors (McIntyre et al., 2023) critically analyze the way creative industries operate on both global and local levels. They explore the intersection of creative practices with local culture, the global market, and technological advancements. The authors also seek to understand how regional creative industries integrate into global networks while maintaining their unique local identity. The study emphasizes that, while global market forces significantly influence regional creative industries, local practices, traditions, and cultural resources remain crucial in shaping creative outcomes. This tension between global integration and local identity is a recurring theme in the study. The authors argue that regional creative industries can thrive by relying on their local cultural heritage while simultaneously entering global markets. They highlight the importance of developing strong local ecosystems that foster creativity through collaboration, innovation, and access to resources. In conclusion, the interaction between local culture and global economic forces creates unique opportunities and challenges for creative industries in regional areas. The authors assert that regional creative industries can be globally competitive if supported by policies that balance the preservation of local culture with participation in the global market.

Creative industries often generate multiplier effects in economies. These sectors encompass various branches such as design, film, music, publishing, the digital industry, art, and cultural heritage. Here are a few ways creative industries contribute to multiplier effects:

1. Creative industries directly contribute to the economy by generating jobs, sales revenue from services and products, and attracting investment and tourism.
2. Creative industries often promote innovation through the

development of new technologies, digital platforms, and creative solutions, which can have a broader impact on different sectors of the economy.

3. By supporting artists, cultural events, and the preservation of cultural heritage, creative industries contribute to maintaining the identity and cultural legacy of communities.
4. Creative industries encourage the development of education and training in fields such as art, design, and technology, leading to the development of new talents and skills.
5. Creative industries can enhance a country's global perception and influence through the promotion of its cultural products, artists, and brands worldwide.

Certain studies show that investments in creative industries often result in multiple economic benefits, including stimulating growth in other sectors of the economy, such as tourism, technology, and services. These effects can be a strong driver of economic development and innovation in modern societies. Each creative job generates approximately 1.9 jobs in non-market sectors of surrounding urban economies, mostly due to local spending by creative workers. However, there is limited evidence of spillover effects from creative industries into market sectors (Dašić, 2022). Economic benefits are especially pronounced in a small number of cities, suggesting that creative economy policies may have localized rather than widespread economic impacts. While creative jobs positively impact local economies, their overall effect is relatively small due to the limited number of creative jobs in most cities. This implies that creative industries, although beneficial, are not a solution for broader economic growth (Gutierrez Posada et al., 2021). Although creative industries can stimulate local job growth, these effects are partial and localized, suggesting that broader policies are needed to foster more comprehensive urban economic development.

Research on the creative economy has significantly grown over the past decade, reflecting its increasing importance in global business and economic discussions. The creative economy is now recognized as a key driver of economic development. The study by Rodríguez-Insuasti et al. (2022) reveals that most research on the creative economy originates from developed countries, with the United States, the United Kingdom, and China as major contributors. However, there is growing interest in developing countries, particularly in Latin America and Asia. The research identifies several thematic clusters within the study of the creative economy, including:

- Creative industries and innovation: Focuses on the role of creative industries in driving innovation and economic growth.
- Creative entrepreneurship: Explores how entrepreneurship within the creative economy can foster new business models and economic development.
- Cultural and social implications: Examines how creative industries influence cultural policies and social change.

The study emphasizes that the creative economy is becoming increasingly relevant to business and management studies, particularly in areas such as innovation management, intellectual property, and creative entrepreneurship. The authors conclude that the creative economy is a growing field of research, especially within the realms of business and management (Milanović, Bučalina Matić, & Jurčić, 2023). They stress the need for continued interdisciplinary research to better understand the economic, social, and cultural consequences of creative industries. Additionally, they suggest that future research should focus on the role of the creative economy in sustainable development and its contribution to innovation-driven growth.

Creative industries encompass a wide range of sectors such as film, music, design, publishing, digital technologies, and art. Success in these industries depends on effective business models and intellectual property protection, which safeguard innovative and creative products.

Searle's (2017) study classifies business models within the creative industries using the taxonomy presented by Baden-Fuller (2016). These models include production-based, service-based solutions, multisided triadic, and intermediary models. The paper highlights the predominance of production-based models, particularly in industries such as television and independent game development. Furthermore, it explores how digital platforms like You

Tube and free-to-play games utilize multisided models, where content consumers and advertisers are connected within dynamic ecosystems. One of the key findings of the study is the relative stability of business models despite technological advancements. It is noted that while digital platforms introduce new revenue models, such as subscriptions and freemium services, the core structures of these business models remain largely unchanged. Moreover, the study argues that concerns over copyright infringement do not significantly alter business models in the creative industries; instead, creators often adopt alternative strategies to mitigate risks associated with intellectual property violations.

This study is significant as it highlights how creative industries continue to rely on traditional business models while simultaneously adapting to new digital realities. It also suggests that while the digital age has transformed aspects of production and distribution, the fundamental business models in creative sectors remain consistent.

The creative industries face significant challenges regarding intellectual property (IP) protection, especially in the digital age, where it is easier to copy and distribute content without permission. Piracy and unauthorized use of intellectual property remain serious issues. Intellectual property protection (IP) is crucial for the preservation and advancement of the creative industries, as it provides a legal framework to safeguard copyrights, patents, designs, trademarks, and other forms of intellectual property. These protections allow creators to maintain control over the use and distribution of their products, preventing unauthorized use or duplication. On the other hand, digitalization and global connectivity present new opportunities for monetizing intellectual property through global markets, digital platforms, and innovative business models.

All studies on creative industries share a common theme: investigating the role of the creative sectors in economic development and innovation. They focus on how creative industries, such as art, media, technology, and culture, contribute to both global and local markets. Thro-ugh bibliometric analyses, these studies recognize the growing importance of creative industries within business and economic disciplines, frequently highlighting the role of digital technologies, global networks, and local resources. Furthermore, all studies emphasize the need for continued research and policy support to further develop this sector.

3. Creative industries in Serbia

The development of creative industries in Serbia has become a significant segment of the national economy over the past decade. According to data from various reports, the creative industries in Serbia encompass sectors such as design, film, music, publishing, digital arts, and the advertising industry, with their contribution to gross domestic product (GDP) increasing year by year.

Cultural and creative industries in Serbia were under the direct jurisdiction of the Ministry of Culture and Information (from July 2012 to December 2020) within the Sector for Contemporary Creation and Cultural Industries, which ceased to exist due to the reorganization of the Ministry at the end of 2020. The Sector for Contemporary Creation and Cultural Industries does not provide a precise definition of creative industries, but it includes literature and publishing; contemporary visual arts and multimedia; theater and dance creation; music art and discography; cinematography; and amateur creation.

Babić and Milojević (2020), in their paper „Creative Industries in Serbia: Analysis of the Situation and Recommendations for Improvement“, examine the specific challenges and opportunities for the development of creative industries in Serbia. The authors emphasize the importance of state support and investment in education and infrastructure as key factors for further development.

According to the 2019 report „Mapping Creative Industries in Serbia“, published by the Ministry of Culture and Information, creative industries in Serbia employ over 100,000 people, which represents about 4.4% of the total workforce. These industries generate approximately 5% of Serbia's GDP. The fastest growth has been recorded in sectors such as digital media, video games, and design, particularly graphic design and fashion (Stojanović, 2020).

The policies for creative industries in the Republic of Serbia are defined by various public acts and are present in numerous laws, strategies, and action plans. Despite this, there is no clear policy for creative industries or a strategic approach in which a single governmental or public body would be responsible for the phenomenon of creative industries. Based on analyses of the presence of creative industries in legal and other acts in the Republic of Serbia, as well as how they are defined, positioned, and criticized in the public sphere, it can be unequivocally concluded that they are an economic rather than an artistic or creative phenomenon (Ničić, 2023).

4. Conclusion

This literature review on Creative Industries provides a comprehensive insight into the development of these industries, highlighting their significance in both global and local contexts. All studies indicate that creative industries are key drivers of innovation, economic development, and cultural transformation, and further research is needed to better understand specific regional and sectoral characteristics.

In this research, we analyzed creative industries through the lens of literature reviews, with a focus on the situation in Serbia. Based on previous works, we can conclude that creative industries are a significant factor in economic and cultural dynamics, not only at the global level but also within national frameworks. The development of creative industries in Serbia shows potential for creating new jobs and wealth, thanks to the rich cultural heritage and talented individuals. However, we are also faced with numerous challenges, including a lack of adequate support and resources, as well as the need to adapt to the rapid changes brought about by digital transformation.

Political and economic strategies aimed at supporting creative sectors are crucial for overcoming these obstacles. The introduction of integrated approaches that encompass economic, cultural, and urban policies can significantly strengthen Serbia's position on the global creative scene. Furthermore, the development of creative industries can serve as a tool for promoting innovation, cultural diversity, and social cohesion. Through collaboration among various stakeholders - from government institutions to the private sector and artistic communities - space is created for new ideas and creative solutions that will contribute to sustainable development.

References

Abisuga, O.A., de Beer, D. (2023) The opportunities of additive manufacturing in the creative industries: a bibliometric analysis. Prog Addit Manuf 8, 1179–1193. https://doi.org/10.1007/s40964-022-00392-6

Babić, M., & Milojević, J. (2020). Kreativne industrije u Srbiji: Analiza stanja i preporuke za unapređenje. Sociološki pregled, 54(2), 329-346.

Dašić, D. (2018) Sport i industrija sporta kao centralna komponenta socijalnog i ekonomskog razvojnog procesa. Srpska akademska misao. 3 (1), 27-42. https://www.sam.edu.rs/index.php/sam/article/view/16

Dašić, D., Vučić, V., Turčinović, Ž., Tošić, M. (2023) Digital marketing - marketing opportunities and the power of virtual consumers. Economics of Agriculture, Vol 70, бр. 4,- 1187-1199. doi:10.59267/ekoPolj 23041187D

Dašić, D. (2022) Unwanted cultural heritage of the republics of the former Yugoslavia, In: Kabila Hmood (ed), Conservation of Urban and Architectural Heritage - Past, Present, Future. WIT Transactions on The Built Environment - IntechOpen, London. ISBN 978-1-83768-614-8. https://www.intech open.com/chapters/85286

Dašić D., Kostadinović, G. (2022) Film Industry in the Function of Destination Branding. In: Vuk Bevanda, Snežana Štetić (eds) 6th International Thematic Monograph Modern Management Tools and Economy of Tourism Sector in Present Era. UDEKOM, 441-456. https://doi.org/10.31410/tmt.2021.441

Dašić, M. (2022). The influence of the quality of logistics services on user satisfaction in Serbia. Oditor, 8(2), 109-138. https://doi.org/10.5937/Oditor2 202108D

DCMS (1998). Creative Industries Mapping Document. London: Department for Culture, Media and Sport.

European Commission (2021) - European Monitor of Industrial Ecosystems: Cultural and Creative Sectors. https://monitor-industrial-ecosystems.ec.europa.eu/industrial-ecosystems/creative-and-cultural-industries

Flew, T. (2012). The Creative Industries: Culture and Policy. SAGE Publications.

Gutierrez Posada, D., Kitsos, T., Nathan, M. and Massimiliano, N. (2021) Do creative industries generate multiplier effects? Evidence from UK cities 1997 – 2018. Multiple: Creative Industries Policy and Evidence Centre; City-REDI, the University of Birmingham; University College London. Available from: https://www.pec.ac.uk/discussion-papers/do-creative-industries-generate-multiplier-effects

Xiaodi Z.,Lei S. ,Zhengyun J. (2024) The Impact of the Digital Economy on Creative Industries Development: Empirical Evidence from China. PLOS ONE. https://doi.org/10.1371/journal.pone.0299232

KEA (2021) - Market Analysis of the Cultural and Creative Sectors in Europe. https://keanet.eu/

Kovačević, A., & Dašić, D. (2022). The importance of knowledge management and the impact of social networks application on industry 5.0. Ekonomski signali: poslovni magazin, 17(2), 51-64. https://doi.org/10.5937/ekonsig2202051K

Ministarstvo kulture i informisanja (2019). Mapiranje kreativnih industrija u Srbiji. Beograd: Ministarstvo kulture.

Majdúchová H., Rybárová, R. (2021) Reliability of the Slovak Legislative Categorization in Comparison with the Selected Prediction Models – Application in Companies from the Creative Industry – Architecture in Slovakia. In: SHS Web of Conferences 115, 02011. https://doi.org/10.1051/shsconf/202111502004

McIntyre, P., Kerrigan, S., Fulton, J., King, E., Williams, C. (2023). Creative Industries: Global and Local Perspectives. In: Creativity and Creative Industries in Regional Australia. Palgrave Studies in Creativity and Culture. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-031-45972-6_3

Milanović, V., Bučalina Matić, A., & Jurčić, A. (2023). The internal green marketing dimensions, employees' satisfaction, and employees' organizational identification. Oditor, 9(1), 47-70. https://doi.org/10.5937/Oditor2301047M

Ničić, M. (2023) Kreativne industrije u savremenoj Srbiji: kulturološka analiza, doktorska disertacija, Univerzitet u Beogradu Fakultet političkih nauka. https://nardus.mpn.gov.rs/handle/123456789/21595

Nikolaos, V. 2022. „Digital Entrepreneurship and Creative Industries in Tourism: A Research Agenda“ Economies 10, no. 7: 167. https://doi.org/10.3390/economies10070167

Oskina, A. N., Darinskaia L. A. (2020) Developing creative activity of socio-humanities students: faculty members' perspective. European Proceedings of Social and Behavioural Sciences EpSBS. DOI: 10.15405/epsbs.2020.08.02.34

Pratt, A. C. (2008). Creative Cities: The Cultural Industries and the Creative Class. Geografiska Annaler: Series B, Human Geography, 90(2), 107-117.

Phillip McIntyre , Janet Fulton, Susan Kerrigan, Michael Meany (2023) Entrepreneurship in the Creative Industries How Innovative Agents, Skills and Networks Interact. Springer Nature. https://link. springer.com/book/10.1007/978-3-031-19455-9

Rodríguez-Insuasti, H., Néstor M. B., Otto S. R., Marcela Y.M., and Katherine P. G. (2022). Creative Economy: A Worldwide Research in Business, Management and Accounting Sustainability 14, no. 23: 16010. https://doi.org/10.3390/su142316010

Searle, N. (2017) Business Models, Intellectual Property and the Creative Industries: A MetaanalysisInstitute for Creative and Cultural Entrepreneurship Goldsmiths, University of London. https://www.create.ac.uk/publications/business-models-intellectual-property-and-the-creative-industries-a-meta-analysis/

Stojanović, D. (2020). Kreativne industrije u Srbiji: Potencijali i razvoj. Novi Sad: Filozofski fakultet.

Stanković, M., Dašić, D. (2023) The stone of the iron road - a forgotten legacy, Kultura polisa, Vol 20, no 2. 266-285, https://doi.org/10.51738/Kpolisa2023.20.2r.266sd

Towse, R. (2010). A Textbook of Cultural Economics. Cambridge University Press.

UNCTAD (2010). Creative Economy Report. Geneva: UNCTAD.

UNESCO (2006). Understanding Creative Industries: Cultural statistics for public policy making. Pariz: UNESCO.

Vuković, M., Urošević, S., & Dašić, D. (2023). Threats to objectivity in the social science research. Sport, media and business, 9(2), 143–158. https://doi.org/10.58984/smb2302143v

Venkatesh Sneha, R. Kavitha (2024) Exploring the economy of creativity and culture in the light of Industry 5.0: a systematic literature review of the setup of creative industries, Journal of Strategy and Management. https://www.emerald.com/insight/content/doi/10.1108/JSMA-05-2023-0095/full/html

EKONOMSKI, SOCIJALNI I KULTURNI ASPEKTI KREATIVNIH INDUSTRIJA- PREGLED LITERATURE

Rezime: Ovaj rad pruža sveobuhvatan pregled literature o kreativnim industrijama, fokusirajući se na njihov razvoj, izazove i prilike. Analiza ispituje postojeća istraživanja o ulozi kreativnih industrija u ekonomskom rastu, kulturnom razvoju i socijalnoj inovaciji. Ističe jedinstvene karakteristike srpskog kreativnog sektora, uključujući njegovu istorijsku pozadinu, trenutne trendove i uticaj digitalne transformacije. Pored toga, pregled identifikuje ključne aktere, političke okvire i potencijal za međunarodnu saradnju kako bi se povećala konkurentnost srpskih kreativnih industrija. Sintezom postojeće literature, ovaj rad ima za cilj da doprinese dubljem razumevanju kreativne ekonomije u Srbiji i da informiše buduća istraživanja i donošenje politika.

Ključne reči: Kreativne industrije, pregled literature, Srbija, ekonomski rast, kulturni razvoj, digitalna transformacija, socijalna inovacija, politički okviri

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ACCOUNTING PLANNING OF EXPENSES AND REVENUES IN THE FUNCTION OF BUSINESS DECISION-MAKING

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Abstract: A budget is a detailed plan that indicates the means of acquiring resources and their use in a certain period of time. The process by which prepared plans get their binding formal quantitative expression is budgeting. The focus of the work is on the analysis of budgeting and strategic planning in the elementary school „Vitko i Sveta“ Gadžin Han, which represents the basis of business decision-making. Adequate financial management contributes to making the right decisions, as well as planning the school's operations in the future. Ultimately, effective financial management affects all aspects of the school's operations, i.e. employees involved in the educational process, students and the quality of education offered to them. The subject of the work is to review the budget savings planning strategy and analyze the implementation of the Elementary School budget in the first half of 2023. The goal of the research is to indicate the significant role of the budget execution report in providing information about the school's financial position and operations. By analyzing the execution of the budget in the first 6 months, the goal is to check the accuracy of financial planning. The contribution of the research is to enable management to make business decisions more easily. The research was conducted on the basis of secondary data (financial plan and execution of the school budget). In order to gain knowledge about new facts, the inductive method was used, then comparative analysis was used to compare similarities, common characteristics and differences between events, the description method was used to describe facts and processes, while the deduction method was used to predict future events.

Keywords: budgeting, strategic planning, financial plan

1. Introduction

Managing non-profit organizations requires defining the organization's mission and strategic goals. The business of non-profit organizations is, by nature, focused on acting in the direction of the realization of goods and services in order to satisfy social needs, and not on the realization of profit. Budgeting is the process of planning income and expenses within an organization for a specific period of time, usually one year. Budgeting in an elementary school involves a planning process as in any other public enterprise. The basis of the success of any organization implies an adequate and clear definition of the business goal. In order to achieve the defined goal, it is necessary to plan and organize the business, as well as control the execution. One of the key instruments for implementing the strategic plan is the budget. Through the budget, funds are provided that are crucial for the realization of activities to achieve and realize the goals defined by the strategic plan. Bearing that in mind, budget users are obliged to plan expenditures and expenses that will be covered from those revenues based on planned own revenues.

The paper will first talk about strategic management accounting, characteristics and management structure in non-profit organizations, budget and budgeting. Then the process of strategic management and planning will be pointed out on the example of the elementary school „Vitko i Sveta“ Gadžin Han. In the practical part of the work, the focus is then on the financial plan and execution of the budget for the first 6 months of 2023 in this elementary school. The goal of the work is to point out the importance of precise planning of financial resources through the analysis of planned and spent funds. Precise planning is the basis of effective school management, in order to ensure equal conditions for the acquisition of knowledge for all students of the school.

2. Management accounting vs. strategic management accounting

Management accounting is a process in the function of providing information to the company's management for planning, implementation and control of its activities. This process includes activities such as: determining, measuring, collecting, analyzing, preparing, interpreting and communication of information. Management accounting is applied in all organizations that are focused on production, trade, financial and service activities, and for the purpose of making a profit, as well as in the state and other non-profit associations of all kinds (Anthony & Reece, 2004, 327). It involves the preparation of accounting information in a way and in a form that allows managers to use it in planning and controlling business operations and making decisions. The primary users of management accounting information are internal users who have significant participation in decision-making. Bearing in mind that company managers make a large number of different decisions on a daily basis, management accounting aims to prepare specific reports that contain special information adapted to make a specific business decision.

On the basis of management accounting information, management is able to plan, make decisions and ultimately monitor the implementation of decisions. Based on such information, it is possible to forecast future business events in the company. In this regard, the activity of management accounting refers to the reporting of past events in the company, but how that financial information could be used in predicting the future. In carrying out tasks, management accounting performs the following activities (Novićević & Antić, 2009):

1. analytical interpretation of financial accounting information,
2. making calculations for management purposes,
3. accounting planning (budgeting),
4. accounting control.

Budgeting is the process of arriving at the situation in the future, forecasting the future flows of funds and sources, costs, income and results of the company and its parts. The budgeting process contributes to the creation of future information and at the same time sets the basis for appropriate control of the realization of planned states and flows.

A turning point in the development of management accounting theory and practice came in the 80s of the last century, when strategic management accounting was developed as a process of collecting and analyzing data about the company and its competitors, in order to develop and analyze the company's business (competitive) strategies. Strategic management accounting is viewed from the aspect of:

- supply, monitoring and analysis of financial information on the production market of companies,

- monitoring and analysis of competition costs, product structure costs, and
- projections and analyzes of company strategies, competition on given markets during a certain period of time.

The development of strategic management accounting is due to the inability of traditional management accounting to respond to the new requirements of the modern production and competitive environment (Malinić, 2004). The main difference between strategic and classic management accounting is in the subject of calculation, which in classic management accounting includes costs, revenues and results by narrower organizational units, for shorter periods of time and by unit of performance. In contrast, in strategic management accounting, the subject of calculation, in addition to these elements, also includes elements related to the selection, development, implementation and change of competitive strategy.

The expansion of the model of classic management accounting comes in the direction of collecting and providing external information about competitors. For this reason, there is a need for a more external orientation of management accounting, in order to provide assistance to the company in assessing its competitive position in relation to other participants from the environment, based on the collection of data on costs, prices, sales volume, market share and cash flows of competitors. With this in mind, strategic management accounting is forward-looking, providing information that indicates in advance the need for a change in competitive strategy, with an emphasis on the long term.

3. Management structure in non-profit organizations

Non-profit organizations are organizations that primarily aim to ensure progress in society as a whole, but also to groups of people and individuals, through various sources of funding, human resources and appropriate technologies and services that they produce and provide, as well as certain material goods (Marić, 2009).

What characterizes non-profit organizations is: a characteristic legal and tax status; socially beneficial goals; use of economic and social methods; focus on established goals; prominence of services in business; problems when measuring work results; generally less financial dependence on service users. Within the non-profit sector, numerous organizations with diverse goals can be classified.

Effective management in non-profit organizations implies the existence of an internal system of checks and reconciliations in order for the organization to act in the public interest. If an effective management system is established, support is provided (when limiting or reducing control by an individual or group), as well as adequate use of resources in the organization, while the focus of non-profit organizations on the public interest is preserved.

The legal regulations of a particular country form the basis for the management of non-profit organizations. It defines the internal management structure, in relation to the type of organization. The governing body (or bodies) of the organization are defined according to the provisions of the law in the basic documents, i.e. in the founding decision, statute, charter or any other legal document. By appointing the governing body, the basic responsibilities for decision-making and supervision in the organization are determined. In doing so, it is necessary to have one main governing body, e.g. executive board, board of directors, or board in the function of constant supervision and decision-making authority. The board has the function of collectively managing the organization, as well as representing the interests of various interest groups within the non-profit organization. There is a possibility of forming a Supervisory Board, which has the role of controlling the way in which decisions are made and implemented, as well as the spending of funds.

4. Budget planning

The budget means a plan of income and expenditure in a certain period of time, usually in a period of one year (January 1 ending with December 31 of the same year). It represents a document on the basis of which the financing of public expenditures and the planning of public revenues are carried out based on a precisely defined and pre-given budget classification. A budget describes a financial plan for future activities, which involves the preparation of detailed projections of future amounts (Ho, 2018).

Elementary schools and other budgetary organizations prepare a budget for a period of one year based on the plan, on the basis of which they monitor the movement of planned revenues and expenditures within the planning period. If the method of creating the budget projection is precisely planned, there will be no significant deviations or imbalances in the budget. Creating and preparing the budget is the first stage in its adoption and is carried out by the management bodies in the organization. The initiation of budgeting originates from the administration that deals with financial data. When creating a budget proposal in elementary schools, a direct method of planning or estimation is used, so that all income and expenses realized in the previous year are increased based on certain parameters (eg inflation rate, GDP). Proper budget management reflects the effectiveness of corporate leadership in directing, leading and motivating team members to achieve desired goals (Ralev, 2019).

Budgeting is the process of projecting the sources of financial resources that serve to achieve the established goals and strategy of the company. Budgeting is an integral part of short-term (operational) planning, and thus an integral part of the company's management control system (Božić, 2008). Accounting planning (budgeting) is an integral part of the planning process, i.e. the process through which the translation of general and specific goals, policies and strategy into formally quantitative projections, and as support for management in the processes of managing the company's operations. Accordingly, budgeting is associated with activities such as (Bešlić & Bešlić, 2009):

- specification and implementation of general and special goals of the company;
- recognition of the strategy for achieving the set goals; development of long-term financial plans, both at the company level and at the level of strategic business units;
- specification of short-term plans or budgets by budget units;
- determining the system of periodic reporting on achievements by centers of responsibility;
- control of the realization of the set plans with comparison of the realization and plans, identification of deviations, their interpretation and implementation of corrective actions, which may also include revision of the set plans.

The goal of the development and implementation of the budgeting system is to create an instrument for the effective organization of the management of the activities of the institution and its structural units based on planning, control of income and expenses, and analysis of economic and financial indicators (Shawe, 2023).

The budget consists of operational and financial management plans that serve to achieve the company's strategic goals for the budget period. The role of the budget includes the planning and coordination of business activities. Company management involves 4 basic phases: planning, organizing, leading and controlling.

Planning is the first stage in the creation of a budget and includes the determination of goals, determination of priority goals, planning and preparation of the plan, acceptance, execution, as well as control and analysis of the executed plan.

Organization and management include the implementation of established goals, but also ensuring the proper functioning of the company so that there are no deviations from the planned, that is, the balance between the planned and realized.

Control involves comparing income and expenditure items of the budget, as well as giving explanations in case certain deviations occur.

Budgeting must be accompanied by the control of the realization of planned activities and costs, in the function of achieving the set strategic goals. Applying budgeting and control successively and simultaneously has an effect on effective management, while otherwise it will have no effect. Budgetary control means control of the implementation of the set plans through the comparison of the implementation and plans, determination of deviations, their interpretation and taking measures to correct the established plans. The basis of budget control is financial reports that serve the management to assess the achieved profitability and liquidity.

5. Strategic management in primary school „Vitko i Sveta“ Gadžin Han

Elementary school „Vitko i Sveta“ is a small school at the foot of Suva mountain, the only school in the municipality of Gadžin Han. In addition to the main school in Gadžin Han, there are 5 eight-grade and 9 four-grade separate schools. The home school is located in Gadžin Han and is an institution of primary education, which deals with the education and training of students from the first to the eighth grade.

The strategic goal of the school in the school year 2022/23. year is to ensure equal conditions for learning for all students of the school, regardless of how far they are from the central school.

In order to achieve the goal, it is necessary to precisely plan funds from the republican and municipal budgets, as well as the participation of parents for the realization of extracurricular activities.

The goals of Elementary School „Vitko i Sveta“ are:

- functioning of the student support system,
- encouraging the personal, professional and social development of students,
- provision of material and technical resources,
- raising common life and work at school to a higher level,
- achieve cooperation with other schools in the region,
- motivate students to compete,
- have an educated and highly motivated teaching staff, a strong parents' council and a student parliament,
- continue equipping the school with modern teaching aids,
- adaptation of school buildings.

Budget accounting includes the conditions and methods of keeping business books and other records and documentation that serve as the basis for recording all business transactions and events that affect assets and capital, claims and liabilities, sources of financing, income and receipts, i.e. expenditures and expenditures, as well as the result of the budget user's business (Regulations on the work of the accounting service and the arrangement of budgetary accounting of Elementary School „Vitko i Sveta“ Gadžin Han, 2021). Financial management and control is a system of procedures and responsibilities of all persons who perform tasks of interest to the budget user. The goal is to provide assurance to a reasonable extent that the goals of the budget user's business will be realized in a proper, economical, efficient and effective manner.

The financial management and control system is part of the regular business system of the budget user or is implemented as necessary at the request of the management body. In order to fulfill the conditions for the user in financial business to act in accordance with the regulations, measures and procedures are determined and implemented within the framework of internal accounting control.

The internal control system in schools must be regulated in accordance with internal control standards, and its organization in accordance with the Law on Budgets of the Republic of Serbia, the Law on the Budget System of the Republic of Serbia and other regulations.

Due to the growing demands of the market, governments and citizens, there is a need to adopt new practices to improve organizations (Bolivar et. al., 2020). In order to implement adjustments and development initiatives, the manager is required to establish the scope of processes, tasks and procedures, with the involvement of stakeholders, whereby it is necessary to formalize strategic planning as guidelines for achieving not only social, but also organizational goals (Krier, 2022; Weston, 2020). The development and implementation of planning should be of high quality, providing a basis for evaluating strategic performance that serves as a public relations document and form of communication for external and internal audiences (Lee et al., 2017; Gandrita, 2023). In addition, the systematic process contributes to the overall responsibility of those involved in the organization, and allows them to create more transparent policies based on clear goals and objectives (Goli et al., 2023).

Strategic planning in schools is the process of setting goals, developing and implementing plans in order to achieve the set goals. A strategic plan enables work plans to be developed and thus provides workers with instructions and clearly defined goals against which their work can be compared and evaluated. Strategic planning is management that ensures that all employees are working towards the same goals. It is necessary to strive to be a constant process in the function of supporting assessment processes and aligning goals to an environment that is constantly changing. Strategic planning:

- ensures focus on future goals,
- harmonizes local interests,
- determines deviations between current and desired activities,
- creates a base for assessing progress,
- increases the performance of investing public resources,
- identifies and determines responsibilities.

The budget is a key instrument for the implementation of the strategic plan, because it deals with providing the funds needed to carry out the activities of achieving and achieving the goals foreseen in the strategic plan.

Budget users plan their activities for the next year and determine the costs related to the implementation of the activities. Income and expenditure planning must be interactive, and when establishing new policies and plans, it must respect the achievements of the past and present, thus encouraging the desired future.

In order to realize and carry out the basic activity of the school, i.e. upbringing and education, it is necessary for the school director to realistically plan the income and expenses of the school budget. Some of the preparatory actions aimed at timely and realistic planning of the school's income and expenses include the following:

- update knowledge about the regulations governing this area;
- review the latest amendments to legal provisions and by-laws (regulations, instructions);
- review the financial regulations used in the school and see if they are harmonized with the applicable legal regulations;
- perform an analysis of the business in the last four years, especially in the part of the execution of the school's income and expenses;
- review the trend in the number of students in previous years;
- analyze the implementation of the general four-year work plan so far;
- carry out a realistic assessment of priority capital investments and possible sources of their financing in facilities, equipment, schools, furniture, necessary reconstructions and investment maintenance of facilities, the need for worker education, improvement of conditions for working with children with special needs, public school performances, student competition.

6. Budget process and income and expenditure planning on the example of „Vitko i Sveta“ primary school Gadžin Han

During the creation of the budget proposal for the year 2023 in the „Vitko i Sveta“ Gadžin Han Elementary School, it is necessary to plan the expenses with as much precision as possible. Planning with the help of direct assessment methods is used when creating budget proposals and work programs. The method of direct assessment represents the initial basis for the preparation of the budget, which consists of realized income and expenses in the previous year corrected for the percentage predicted for the following year.

The preparation of the budget for the year 2023 in Elementary School

„Vitko i Sveta“ Gadžin Han implies that the republican budget will finance the salaries of employees and severance pay for retirement. Funds for 2023 are planned based on 2022 and announced salary increases in 2023, as well as based on the number of employees who will be eligible for retirement in 2023.

„Vitko i Sveta“ Primary School, as an indirect beneficiary of the Municipality of Gadžin Han, received on July 29, 2022, Instructions for the preparation of the budget of the Municipality of Gadžin Han for the year 2023 with a projection for the year 2024 (Table 1). The starting basis for the preparation of the budget proposal is the Financial Plan for 2022, to which the parameters stated in the Instruction are applied. Based on the instructions received, a budget proposal was drawn up for the elementary school „Vitko i Sveta“ Gadžin Han (Table 2, Figure 1).

The costs financed from the budget of the Municipality include compensation for workers based on the Special collective agreement for employees in primary and secondary schools and student dormitories („Official Gazette of the RS“ no. 92/2020), the Law on the Basics of the Education System („Official Gazette of the RS“ no. 6/2020), Rulebook on criteria for determining the price of services in primary school („Official Gazette of the RS“ no. 72/2015). The costs financed from the budget of the Republic include the financing of employees' wages and severance pay for retirement. During the preparation of this part of the financial plan, the plan to increase wages in 2023 compared to 2022 and according to the number of workers who will acquire the right to retire in 2023 was taken into account.

Table 1: Basic macroeconomic assumptions for 2023

Serbia	2022	2023
GDP billion dinars (current prices)	6.904,4	7.465,2
GDP nominal growth rate, %	10,1	8,1
GDP annual nominal growth rate, %	3,5	4,0
Inflation, annual average, %	9,2	5,3

Source: [Instructions for the preparation of the budget of the Municipality of Gadžin Han for the year 2023, 2022]

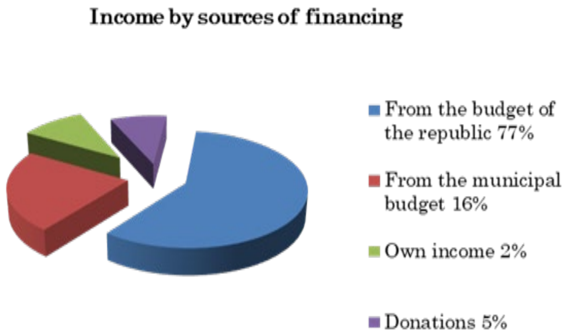
Table 2. Proposal of the financial plan of Elementary School „Vitko i Sveta“ Gadžin Han for the year 2023 (in relation to the base year 2022 and the projection for the year 2024)

In thousands of dinars

Source of finance	ACCOUNT	Type of income/expenditure	Amounts of planned revenues, expenses and expenses by sources of financing		
			Budget resources in 2022	Budget resources in 2023	Budget resources in 2024
1	2	3	4	5	6
		TOTAL REVENUES AND RECEIVING	124.240	138.817	148.955
05	731	Donations from foreign countries	-	6.829	-
01	733	Transfers from other levels of government	22.296	22.088	29.755
04	742	Income from the sale of goods and services	1.280	2.730	3.000
01	791	Revenues from the budget of the republic	100.624	107.170	116.200
		PRIMARY SCHOOL - EXPENDITURE PLAN			
		CURRENT EXPENSES AND EXPENDITURE FOR NON-FINANCIAL ASSETS	*124.240*	*138.817*	*148.955*
	4	CURRENT EXPENSES	*123.781*	*138.817*	*148.955*
01	*411*	Wages, allowances and benefits of employees	*85.000*	*92.380*	*101.000*
01	*412*	Social contributions at the expense of the employer	*13.730*	*14.040*	*14.700*
01	*413*	Fees in kind	*2.814*	*3.000*	*4.000*
01	*414*	Gifts for employees' children	*2.165*	*870*	*800*
01	*415*	Assistance to employees in medical treatment	*7.525*	*7.800*	*10.000*
01	*416*	Reimbursement of expenses for employees - transportation	*765*	*450*	*1.900*
01	*421*	Rewards for employees	*5.081*	*5.300*	*6.350*
01, 04	*422*	Insurance costs	*1.215*	*2.680*	*550*
01	*423*	Student travel expenses	*1.712*	*1.760*	*2.160*
01	*424*	Representation	*150*	*160*	*230*
01	*425*	Other specialized services	*570*	*538*	*250*
01	*426*	Ongoing repairs and maintenance of equipment	*2.716*	*2.450*	*2.500*
01	*444*	Material for special purposes	*3*	*3*	*5*
01	*472*	Penalties for late payment	*310*	*410*	*410*
01	*482*	Fees from the budget for education, culture, science and sports	*23*	*33*	*40*
01	*483*	Mandatory fees	*2*	*0*	*10*
01,05	*5*	Fines and penalties	*459*	*6.943*	*1.050*
01,05	*512*	EXPENSES FOR NON-FINANCIAL ASSETS	*400*	*6.913*	*1.000*
01	*515*	Equipment for education, culture and sports	*59*	*30*	*50*

Source: [ ]

Figure 1: Income by sources of financing based on the financial plan



Source: [Authors' illustration]

Expenses financed from the income of the student's parents include expenses for the needs of the student's snacks and for student excursions. Donations from foreign countries include the costs of transport equipment - the purchase of a delivery vehicle for the needs of delivering snacks to students in all separate departments of the school and the costs of administrative equipment - the purchase of kitchen equipment and dining room furniture. Elementary school „Vitko i Sveta" Gadžin Han applied to the Japanese Embassy for a project to equip the school kitchen and purchase a delivery vehicle. The funds received (58,200 euros) will be used to provide snacks for all students. The donation will enable the purchase of a delivery vehicle and equipping the kitchen with new appliances in order to enable the preparation and delivery of snacks to all stu dents of the school in separate classes.

In the period from 01.01. - 30.06. In 2023, funds were transferred to the account of the „Vitko i Sveta" Elementary School Gadžin Han:

1. from the Budget of the Republic in the amount of 53,549,000 dinars (rounded in thousands of dinars) and the same amount was spent.

2. from the Budget of the Municipality of Gadžin Han in the amount of 11,576,000 dinars (rounded in thousands of dinars), and 11,567,000 dinars (rounded in thousands of dinars) were spent. More remitted funds in the amount of 9,000 dinars refer to the costs of payment transactions (Table 4). The reason for this is the impossibility of accurately predicting the amount of the Treasury Board's commission.

During the implementation of the budget, certain problems arise. Given that the Municipality of Gadžin Han belongs to the ranks of underdeveloped municipalities and does not have enough income from which to finance the expenses of its indirect beneficiaries, sometimes it is not possible to realize the financial

Table 4: Deviations between approved funds and execution for the period 01.01.- 30.06.2023.

In thousends of dinars

Ordinal number	Economic classification	Name of the acount	Agreed transfer from the Budget of the Municipality of Gadžin Han	Executed at user	Difference (4-5)
1	421100	Payment transaction costs	100	91	9

Source: [Report on budget execution in the period from 01.01.2023. until 30.06.2023.]

Table 5: Overview of planned and spent funds in the first six months of 2023.

In thousends of dinars

	Total planned	Executed	% of execution
	138.817	**66.664**	**48 %**
Republic	107.170	53.549	50 %
Municipality	22.088	11.576	52 %
Own income	2.730	1.539	56 %
Donations	6.829	0	0%

Source: [Authors' calculation based on Report on budget execution in the period from 01.01.2023. until 30.06.2023.]

plan in full. By the decision on the budget for the year 2023, the obligations assumed in 2022 in accordance with the approved appropriations in that year, and not fulfilled during the year 2022, are transferred to the year 2023 and have the status of assumed obligations and are carried out at the expense of the approved appropriations in 2023. In 2022, the planned funds from the municipal budget amounted to 22,296,000.00 dinars, and 17,263,866.27 dinars were spent. Obligations from 2022 to 2023 were transferred in the amount of 3,070,060.47 dinars. The budget for 2023 is loaded for that amount.

Overview of planned and spent funds in the first six months of 2023 is shown in Table 5.

Based on the Financial Plan, the budget proposal was prepared. The proposal of the financial plan was submitted to the local self-government for consideration within the statutory deadline. The proposal was adopted in its entirety. The decision on the budget of the municipality of Gadžin Han was made on November 25, 2022, and is applicable from January 1, 2023. The budget of Elementary School „Vitko i Sveta“ is part of the municipal budget. Data in Table no. 5 show that 48% of the plan was realized (realization of the plan from the republican and municipal budget is over 50%). This proves that the planning was precise. Regarding funds from donations from the Japanese Embassy, public procurements have been carried out and contracts with suppliers have been concluded. Based on these data, possible changes in certain positions during the budget rebalancing can be predicted. The results of the research showed that although the planning was precise and justified, problems may arise during the execution of budget appropriations. The proof is the transferred obligations from 2022 to 2023, which automatically burden the budget for 2023.

7. Conclusion

State educational institutions are not profit-oriented, but serve to satisfy public needs. Users of these services must be satisfied with the quality and efficiency of operations.

Although schools are budget users and were founded with the aim of satisfying the general interests and common needs of the wider community, and not for profit, the school, like any other organization, must have effective management in order to achieve successful business and use of funds, in accordance with the law and principles of good management. Good financial management affects the whole school; that is, on all employees involved in the educational process, and first of all it affects students and the quality of education offered to them.

The goal of this research was to prove through the analysis of the financial plan and budget execution that for the good management of the Elementary School „Vitko i Sveta“ it is necessary to accurately plan the necessary financial resources. This research was conducted in July 2023. The academic year was successfully completed, all students in the territory of the municipality had the same conditions for learning, eighth grade students enrolled in the desired schools, and teachers had equal conditions for providing new knowledge to students. The adaptation of the home school in Gadžin Han and the implementation of the Japanese Embassy project are underway. These were the management's strategic goals for this school year. Bearing in mind the results of the research, it can be concluded that the analysis of budget execution represents a very useful way of checking the operations of budget users, that is, the basis for making key business decisions in the future.

References

Anthony, R. N., & Reece, J. S. (2004). Računovodstvo: Financijsko i upravljačko računovodstvo, Zagreb.

Bešlić D, & Bešlić, I. (2009). Računovodstveno planiranje (budžetiranje) i kontrola troškova po segmentima preduzeća. Škola biznisa, 3, 86-96.

Bolivar, M., Muñoz, C., & Munõz, L. (2020). Characterising smart initiatives' planning in smart cities: An empirical analysis in Spanish smart cities. Paper presented at 13th International Conference on Theory and Practice of Electronic Governance, online, 23–25, 585–95.

Božić, D. (2008). Proces budžetiranja i budžeti kao njegov formalno-kvantitativni izraz, Škola biznisa, 4.

Gandrita, D. M. (2023). Improving Strategic Planning: The Crucial Role of Enhancing Relationships between Management Levels. Administrative Sciences 13, 211. https://doi.org/10.3390/admsci13100211

Godišnji plan rada (2022). OŠ „Vitko i Sveta", Gadžin Han.

Goli, A., Ahmadi, H., Avazpoor, P., & Hemmat, M. (2023). Identifying resilience strategies for disruption management in the healthcare supply chain during COVID-19 by digital innovations: A systematic literature review. Informatics in Medicine Unlocked 38, 101199.

Ho, A. T. (2018). From Performance Budgeting to Performance Budget Management: Theory and Practice. Public Administration Review, 78, 748-758. https://doi.org/10.1111/puar.12915

Izveštaj o izvršenju budžeta u periodu od 01.01.2023. godine do 30.06.2023. godine (2022). Obrazac 5, Izvršenje bužeta Republike Srbije, korisnik budžetskih sredstava Osnovna škola „Vitko i Sveta".

Krier, L. (2022). A framework for shared leadership: A perspective on strategic planning for academic libraries. The Journal of Academic Librarianship 62, 899–930.

Lee, D., Mc Guire, M., & Kim, J. (2017). Collaboration, strategic plans, and government performance: The case of efforts to reduce homelessness. Public Management Review 20, 360–76.

Malinić, S. (2004). Upravljačko računovodstvo i obračun troškova i učinaka, Ekonomski fakultet, Kragujevac.

Marić, R. (2009). Menadžment neprofitnih organizacija, Beogradska poslovna škola, Beograd.

Novićević, B., & Antić, Lj. (2009). Upravljačko računovodstvo, Ekonomski fakultet u Nišu, Niš.

Odluka o budžetu za 2023. godinu (2022). Opština Gadžin Han, http://Gadžinhan.rs, Accessed on: 10.04.2024.

Opština Gadžin Han (2024), http://Gadžinhan.rs, Accessed on: 10.04.2024.

Pravilnik o bližem uređivanju poslova javnih nabavki (2020). OŠ „Vitko i Sveta“, Gadžin Han.

Pravilnik o radu računovodstvene službe i uređenju budžetskog računovodstva (2021). OŠ „Vitko i Sveta“, Gadžin Han.

Ralev, R. (2019). Guidelines for Effective Management of the Municipal Budget. In International Scientific and Practical Conference Bulgaria of Regions. http://regions.uard.bg/index.php /regions2018/regions2018/paper/ view/281

Razvojni plan rada za period 2020-2025 godine (2020), OŠ „Vitko i Sveta“, Gadžin Han.

Shawe, R. (2023). Budget and Organization Management. Open Journal of Business and Management, 11, 910-919. https:// doi.org/10.4236/ojbm.2023.1130 49

Uputstvo o pripremi budžeta Opštine Gadžin Han za 2023. godinu sa projekcijom za 2024. i 2025. godinu (2022). Opština Gadžin Han, http://Gadžinhan.rs, Accessed on: 10.04.2024.

Weston, M. (2020). Strategic planning in an age of uncertainty: Creating clarity in uncertain times. Nurse Leader 18, 54–58.

Zakon o budžetskom sistemu (2020). Službeni glasnik RS, br. 149/2020.

Zakon o osnovama sistema obrazovanja i vaspitanja (2021). Službeni glasnik RS, br. 129/2021.

OŠ „Vitko i Sveta" – Gadžin Han (2024), https://osvitkoisveta Gadžinhan.nasaskola.rs/, Accessed on: 15.04.2024.

RAČUNOVODSTVENO PLANIRANJE RASHODA I PRIHODA U FUNKCIJI POSLOVNOG ODLUČIVANJA

Sažetak: Budžet je detaljan plan koji ukazuje na način sticanja resursa i njihovo korišćenje u određenom vremenskom periodu. Proces kojim pripremljeni planovi dobijaju svoj obavezujući formalni kvantitativni izraz je budžetiranje. Fokus rada je na analizi budžetiranja i strateškog planiranja u OŠ „Vitko i Sveta“ Gadžin Han, što predstavlja osnovu poslovnog odlučivanja. Adekvatan finansijski menadžment doprinosi donošenju ispravnih odluka, kao i planiranju poslovanja škole u budućnosti. Na kraju, efikasno finansijsko upravljanje utiče na sve aspekte rada škole, odnosno na zaposlene uključene u obrazovni proces, učenike i kvalitet obrazovanja koji im se nudi. Predmet rada je sagledavanje strategije planiranja budžetskih ušteda i analiza realizacije budžeta Osnovne škole u prvoj polovini 2023. godine. Cilj istraživanja je da ukaže na značajnu ulogu izveštaja o izvršenju budžeta u pružanju informacija o finansijskom položaju i poslovanju škole. Analizom izvršenja budžeta u prvih 6 meseci, cilj je da se proveri tačnost finansijskog planiranja. Doprinos istraživanja je da omogući menadžmentu da lakše donosi poslovne odluke. Istraživanje je sprovedeno na osnovu sekundarnih podataka (finansijski plan i izvršenje školskog budžeta). U cilju sticanja znanja o novim činjenicama korišćena je induktivna metoda, zatim je korišćena komparativna analiza za upoređivanje sličnosti, zajedničkih karakteristika i razlika između događaja, metoda deskripcije je korišćena za opisivanje činjenica i procesa, dok je metoda dedukcije korišćena za predviđanje budućih događaja.

Ključne reči: budžetiranje, strateško planiranje, finansijski plan

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THE IMPORTANCE OF MANAGEMENT IN DEVELOPING CITY TOURISM IN SERBIA

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Abstract: Tourism today plays an increasingly important role in the economy, and its further growth depends on the coordinated development and adaptation of the tourist product to modern market trends, where different forms of tourism of special interest are gaining more and more importance. City tourism is one of the special forms of tourism that offers this branch of the Serbian economy a long-term competitive advantage. The main strength of the city's tourist destination is the attraction complexes, which have two functions - to attract the guest and fulfill his expectations. The potential of this demand can be fully utilized by a planned and coordinated approach to the development of this tourist product. The development of urban tourism will also mean a better place for residents to live, and economic benefits for the entire community will be brought not only by higher tourist demand, but also by increased consumption of the local population stimulated by a more attractive place to live created by the development of tourist facilities. Despite numerous attractions and values, Serbian tourist products have not been properly marketed, adequately developed, nor presented and commercialized on the international tourist market. Serbia must significantly raise the competitiveness and attractiveness of tourist products through respectable world experiences and its own innovations, relying on those products and business sectors in tourism that have a global perspective and where Serbia can build global competitiveness.

Keywords: tourism, city tourism, economic development, management, international economy

1. Introduction Trends in management and planning of modern tourism

Determining the basic objectives of tourism development is a central issue within the strategic planning of tourism at the macro level. Their importance is particularly emphasized by the need to harmonize relations between all activities that meet the needs of tourists. The heterogeneity of these activities makes it necessary to have a standardized framework defined by the state and its bodies. The basic or priority goals of tourism development, within the framework of strategic planning, can be very numerous, diverse, and often conflicting (Jovanović, Đoković, & Gilić, 2024). According to OECD research, most countries consider the following as the main strategic goals of tourism development: stimulating economic growth, increasing foreign exchange inflows, and increasing employment. In addition to these basic goals, the following goals are also stated: creating a favorable image of the country, protecting nature, protecting cultural and historical heritage, improving the quality of life, protecting consumers, and encouraging economic development in cities.

Planning in tourism appears in numerous forms (development, infrastructure, organization, human resources, promotion, and marketing); structures (various governmental, quasi-governmental, and non-governmental organizations); scales (international, transnational, national, regional, about position and sectors) and arrangements (for development, implementation, evaluation and fulfillment of planning objectives) (Pavlović, Perić, & Milunović, 2023). However, planning is very rarely dedicated only to tourism. Instead, tourism planning is a set of economic, social, and environmental considerations that reflect the diversity of factors that influence tourism development. Therefore, planning and management in urban tourism appear to be the subject of organizations that have different goals, rather than specially designed tourism organizations (Hall, 2008).

The proper planning process that stands out in an urban destination planning project has a rational approach that focuses on solving problems using a process that promises to implement specific tasks (Cvijanović, Vujko, & Bojović, 2023; Čolić, Gavrilović, & Selenić, 2022). In such a process, the following steps are visible: problem identification, goal setting, whole area analysis, local area analysis, detailed studies, planning concepts and options, guidelines, education and involvement of local residents, detailed designs, implementation, administration and evaluation.

Each tourist destination uses planning and management mechanisms to cope with the problems arising from the development of tourism. Some of the problems can be: increased risk of fire, theft, atmospheric pollution, traffic congestion, and damage to architectural and archaeological integrity (Boniface, 2013).

Tourism, as one of the most important service sectors and a complex socio-economic phenomenon, attracts the attention of both researchers of this phenomenon and those responsible for economic development, to which tourism significantly contributes (Đukić, & Kojić, 2023). The exceptional place that tourism has in the development plans of many countries indicates the fact that these countries recognize the opportunities that tourism provides for economic development, revitalization of cities and villages, development of the cultural sector, increase in employment, improvement of the infrastructure of destinations, etc. Knowledge of the numerous benefits arising from the successful development of tourism led to a high degree of competition in the tourist market, and the tourism sector responded to the changes in tourist demand, which were observed after the 80s of the last century, with a diverse offer of tourist products of selective types of tourism. Among these types of tourism, city tourism occupies a special place, so according to the estimates of the World Tourism Organization, 30 percent of all trips today include some form of urban tourism, and it is predicted that this demand will increase by 15 percent per year, which has faster growth than tourism as a whole, which is confirmed by numerous studies, including those from the World Tourism Organization (2001).

Modern tourist demand is directly influenced by all the changes that are taking place in the tourist market today. Competition in the tourist market has recently become increasingly fierce - not only among countries in one region but also among regions on a world, global level. An increasing number of existing and new destinations are fighting for tourists. The difficult possibility of substituting the choice of a destination within one region grows into the possibility of substituting the choice of a destination in another region of the world, regardless of its distance. Changes caused by globalization processes directly affect the bearers of business activities within the tourism sector (Raletić, Ratković, & Dašić, 2015). If a segment of the tourism market wants to become competitive, it cannot avoid joining global groups because, otherwise, it will be pushed out of the market.

Many authors see the causes of changes in modern tourism as changes in the value system, which influenced the establishment of a new lifestyle. New, completely different tourist needs and new forms of tourism are emerging from the aforementioned relationship, which is being developed to meet newly created needs (Ratković, Pavlović, & Anđelković, 2017). There was an affirmation of such life needs that completely changed the industrial model of tourism. Emphasis was placed on its individualization by the new lifestyle that was changing, among other things, under the influence of globalization processes.

New tourist needs require the adjustment of the tourist offer to the requirements of the tourist demand. Reconciling these opposites, which are the product of global society, is not possible without an active approach to changing the current tourism policy (Ratković, Grubić, & Tasić, 2012).

To respond to the increasingly complex and diverse demands of demand on the tourist market as efficiently as possible, the operators of tourist activities strive to integrate their business activities. The process of globalization of the tourist market is the process of internationalization of tourism and catering activities. In this way, there is a business connection between domestic and foreign companies, and thus diversification of activities across the borders of the national tourism industry. This process is one of the newer ones, better known as a megatrend in the tourist market (Ratković, Raletić, & Dašić, 2016).

The twenty-first century presents numerous significant inquiries, especially within the realm of tourism. Among these is the challenge of determining the types of tourism that will captivate travelers. Various authors, in their writings, articulate forecasts of megatrends that are expected to play a central role in future tourism dynamics. The WTO emphasizes five mega-trends (2001):

- Eco-tourism has transitioned from being characterized as an 'ecologically and socially responsible journey' to a 'journey incorporating natural elements', thereby creating avenues for development and funding for protected areas.

- Cultural tourism encompasses a range of options, from small markets with niche interests to large groups visiting cultural landmarks during holidays, each with distinct focuses.
- Theme tourism is centered on specific interests and constitutes a relatively niche market. While special interests offer certain benefits, they also present challenges related to factors such as climate and location.
- Adventure tourism represents a modest yet growing segment of the population eager to explore mountain peaks, ocean depths, the Antarctic, and even outer space.
- Cruising enables individuals to experience a wide array of attractions within a limited timeframe.

International tourism in the world is constantly increasing. Competition in the world tourism market is becoming increasingly competitive, not only among countries of one region but also among regions on a global level. For tourists, the most important thing is to spend little money on most services, so good prices in plane traffic help those cross great distances and meet new destinations with the same or even less spending. In this way, even the furthest destinations that have better conditions become serious competitors in the world tourism market.

2. The role of urban tourism as an increasingly important component of modern tourism

Today, the city's tourist destinations are considered to be among the most visited locations in Europe, with the cultural sector serving as a vital resource for the advancement of this type of tourism. Gaining insight into the motivations behind tourists visits to cities is essential for comprehending the urban tourism phenomenon. A comprehensive investigation into the reasons tourists choose particular locations necessitates a psychological examination of tourist behavior, particularly regarding their motivations. It can generally be concluded that tourists are drawn to cities due to the unique functions they provide and the variety of offerings available. Shaw and Williams (2002) elucidate the significance of cities in the tourism landscape, positing that cities possess a geographical concentration of amenities and attractions designed to meet the needs of both tourists and residents. Researchers observe urban tourism from three distinct perspectives (Shaw & Williams, 2002):

1. Towns are heterogeneous by nature, which means that they are different in size, location, function, looks, and inheritance.
2. They are multi-functional because they at the same time provide different functions.
3. Urban tourist functions are very rarely consumed exclusively by tourists, but they are used by the local population too.

To identify the forms and trends characteristic of urban tourism, research conducted by the European Touristic Committee was referenced. The key characteristics of urban tourism include (Mazanec & Wöber, 2010):

- The typical visitor of a town is younger than 35 (42%), well-educated, and with higher incomes;
- Except for young, towns are often visited by older guests, there is a strong correlation between the height of personal income and traveling to towns, so Europeans with the highest personal incomes travel to towns four times more than those with the lowest incomes,
- Women visit towns more than men,
- The most represented market segment is couples without children socalled DINKS (double income no kids), and the least couples with kids (only 20%),
- Tourists in towns more than others stay in hotels (42%) and travel by plane (43%), although in town they often come by cars (34%), and every third visitor stays with relatives or friends,
- Recommendation from relatives and friends is the main source of information (31%), usage of the internet (19%), and tourist brochures (17%),
- Among foreign visitors to most European towns, most of the tourists come from boarding countries (the exceptions are tourists from Germany, Great Britain, and France who are important market segments without consideration of distance),
- The most important emotive markets in European urban tourism are Germany and British which generate more than 40% of all travel;
- Except for Germans and British people, among foreign visitors to most towns the most represented are tourists from the USA, Italy, France, and Japan, and more commonly to towns Europeans

from developed small countries of north-west Europe,
- Sightseeing is the most often activity of visitors to towns, and the main motives for visits are an introduction to cultural and historical inheritance, enjoyment in the atmosphere, food and drink, shopping,
- Because of often attractions people travel to towns more than because of occasionally organized cultural events,
- Museums are the most visited attractions (51% of answers) in almost all towns,
- Visitors to the towns are more likely to spend more than traditional resting and swimming tourists.

Analysis of motivation for tourist journeys (including business travels) identifies the following reasons that explain why people go on holiday to urban tourist destinations:

- Fulfillment of a wish
- Shopping
- Wish to escape from everyday life
- Tendency for relaxation and holiday
- Chance for a game
- Prestige, since different destinations can provide a person to be seen in society
- Social interaction
- Chances to learn

Since it is possible to identify these reasons, it is possible to classify the tourists. For example, Cohen points four types of touristic passengers (Cohen, 1972):

1. *The mass tourists* – go on holidays which are organized in details. Their contact with the domestic community is minimal.
2. *The individual mass tourist* – uses similar advantages as mass tourists, but wants to visit other sights whose visit is not organized by the agency.
3. *The explorers* – organize their journeys by themselves and want to experience the social and cultural living style of the community they visit.
4. *The drifters* – do not want any contact with other tourists, they want to live with the domestic community.

Based on stated sources on the European touristic market, there are these long-term trends in urban tourism:

- The participation of domestic guests in the structure of visitors has increased in most European cities,
- The usage of the internet grows during the organization of visits to cities,
- The usage of planes is increasing when people are arriving in cities

because of low-cost companies that offer better flights,

- Big cities are still destinations that must be seen but there is growth in interest for a visit to smaller (unknown) cities;
- Because of curiosity people more and more travel to cities from middle, eastern and southern Europe and new members of the spread EU, so more intensive growth is predicted for eastern-European cities from Bulgaria and Romania, including cities from Serbia,
- The competition is more and more harsh for every visitor, but the offer is higher than the demand,
- Attention is higher and higher for the creation of especially recognizable urban products with an emphasis on authenticity (cooking, urban infrastructure, fashion, atmosphere, ambiance, etc.),
- There is a trend of connection of traditional cultural experience and new interesting actions of accommodation in cities,
- Visits to cities grow faster than traditional holidays in Europe.

3. Tourism trends in Serbia

Tourism is one of the fastest-growing economic activities in Serbia. According to data from the Ministry of Tourism and Youth of the Republic of Serbia in 2023, the total number of tourist arrivals in the Republic of Serbia was 4,192,797 (an increase of 8.4% compared to 2022), of which 2,058,492 were domestic tourists (a decrease of 1.8%). That is, they participated with 49.1% of total arrivals. The number of foreign tourist arrivals was 2,134,305 (an increase of 20.4% compared to 2022), which represents a share of 50.9% in total tourist arrivals. The largest number of foreign visitors to Serbia comes from neighboring countries, but also from other European countries. Serbia's income from foreign tourists increased by 127 percent in the last five years. It is estimated that 2.5 billion euros was Serbia's income from foreign tourists in 2023. Foreign exchange inflow from tourism in the first quarter of 2024 amounted to 575 million euros, which is 127 percent more than in the period January-March 2019 when income from foreign guests amounted to 252 million euros (Source: Ministry of Tourism and Youth of the Republic of Serbia).

Table 1: Tourist arrivals in Serbia

Year	ARRIVALS						Share in the total number of arrivals in Serbia (in %)	
	Total	Index	Domestic	Index	Foreign	Index	Domestic	Foreign
2016.	2.753.591	113,0	1.472.165	112,8	1.281.426	113,2	53,5	46,5
2017.	3.085.866	112,1	1.588.693	107,9	1.497.173	116,8	51,5	48,5
2018.	3.430.522	111,2	1.720.008	108,3	1.710.514	114,2	50,1	49,9
2019.	3.689.983	107,6	1.843.432	107,2	1.846.551	108,0	49,9	50,1
2020.	1.820.021	49,3	1.374.310	74,6	445.711	24,1	75,5	24,5
2021.	2.591.293	142,4	1.720.054	125,2	871.239	195,5	66,4	33.6
2022.	3.869.235	151,8	2.096.472	131,6	1.772.763	185,5	54,2	45,8
2023.	4.192.797	108,4	2.058.492	98,2	2.134.305	120,4	49,1	50,9

Source: Ministry of Tourism and Youth of the Republic of Serbia

In the course of 2023, a total of 12,440,935 overnight stays by tourists were realized (an increase of 1.6% compared to 2022), of which domestic tourists achieved 6,858,331 overnight stays (a decrease of 6.1%), that is, they participated with 55.1% in the total number of overnight stays, while foreign tourists achieved 5,582,604 overnight stays (an increase of 13%), that is, they participated with 44.9% in the total number of overnight stays.

Table 2: Tourist overnight stays in Serbia

Year	OVERNIGHT STAYS						Share in the total number of nights in Serbia (in %)	
	Total	Index	Domestic	Index	Foreign	Index	Domestic	Foreign
2016.	7.533.739	113,3	4.794.741	113	2.738.998	113,7	63,6	36,4
2017.	8.325.144	110,5	5.150.017	107,4	3.175.127	115,9	61,9	38,1
2018.	9.336.103	112,1	5.678.235	110,3	3.657.868	115,2	60,8	39,2
2019.	10.073.299	107,9	6.062.921	106,8	4.010.378	109,6	60,2	39,8
2020.	6.201.290	61,6	4.936.732	81,4	1.264.558	31,5	79,6	20,4
2021.	8.162.430	131,6	5.732.833	116,1	2.429.597	192,1	70,2	29,8
2022.	12.245.613	135,6	7.306.219	127,7	4.939.394	149,3	59,7	40,3
2023.	12.440.935	101,6	6.858.331	93,9	5.582.604	113,0	55,1	44,9

Source: Ministry of Tourism and Youth of the Republic of Serbia

According to data from the Ministry of Tourism and Youth of the Republic of Serbia, the average length of stay of tourists in Serbia in 2023 was 2.96 days, with domestic tourists staying for 3.33 days and foreign tourists for 2.61 days.

In 2023, Belgrade recorded a total of 1,384,616 tourist arrivals (an increase of 17.4% compared to 2022), whereby the number of domestic tourist arrivals was 193,346 (a decrease of 2.1%), and the number arrivals of foreign tourists amounted to 1,191,270 (a growth of 21.2%).

A total of 685,540 arrivals were recorded in spa towns in 2023 (a drop of 2.6% compared to 2022), of which domestic tourists made 564,972 arrivals (a drop of 7.4%), and foreign tourists 120,568 (growth of 28.4%).

A total of 842,124 tourist arrivals were registered in the mountain centers in 2023 (an increase of 4.7% compared to 2022). The number of domestic tourist arrivals was 653,063 (a decrease of 0.9%), while the number of foreign tourist arrivals was 189,061 (a 30.4% increase).

According to data from the Ministry of Tourism and Youth of the Republic of Serbia, the total number of overnight stays in Belgrade in 2023 was 3,453,132 (an increase of 8.6% compared to 2022), with domestic tourists achieving 482,796 overnight stays (a decrease of 3.3%), and foreign 2,970,336 (growth of 10.8%).

Table 3: Tourist arrivals by types of tourist places in 2023

2023.	ARRIVALS					
	Total	Index	Domestic	Index	Foreign	Index
Spa centers	685.540	97,4	564.972	92,6	120.568	128,4
Mountain centers	842.124	104,7	653.063	99,1	189.061	130,4
Other places	2.779.997	113,0	928.985	101,9	1.851.012	119,6
Belgrade	1.384.616	117,4	193.346	97,9	1.191.270	121,2
Novi Sad	234.708	107,2	80.113	95,1	154.595	114,8
Niš	156.808	115,1	67.700	109,2	89.108	120,0
Subotica	154.940	92,6	68.960	104,4	85.980	84,9

Source: Ministry of Tourism and Youth of the Republic of Serbia

Table 4: Overnights of tourists by types of tourist places in 2023

2023.	OVERNIGHTS					
	Total	Index	Domestic	Index	Foreign	Index
Spa centers	2.813.388	92,1	2.402.214	88,9	411.174	116,3
Mountain centers	2.819.429	100,7	2.292.806	96,6	526.623	123,2
Other places	7.149.809	106,8	2.440.986	97,6	4.708.823	112,3
Belgrade	3.453.132	108,6	482.796	96,7	2.970.336	110,8
Novi Sad	567.926	101,2	159.035	93,1	408.891	104,8
Niš	335.350	120,9	156.269	108,4	179.081	134,5
Subotica	351.285	87,6	148.863	96,9	202.422	81,9

Source: Ministry of Tourism and Youth of the Republic of Serbia

Table 5: Tourist arrivals spa centers in 2023

2023.	ARRIVALS					
	Total	Index	Domestic	Index	Foreign	Index
Spa centers	685.540	97,4	564.972	92,6	120.568	128,4
Vrnjačka Banja	194.140	93,5	162.447	88,5	31.693	131,9
Sokobanja	148.907	92,8	137.188	89,1	11.719	180,6
Bukovička Banja	33.279	125,5	27.356	127,3	5.923	118,0
Banja Koviljača	23.754	95,5	18.004	91,7	5.750	109,9
Gornja Trepča	11.620	77,8	10.654	75,4	966	118,2
Vranjska Banja	3.051	117,3	2.817	117,1	234	120,0
Banja Kanjiža	8.549	93,4	6.032	93,2	2.517	93,8
Novopazarska Banja	3.193	105,2	1.359	79,4	1.834	138,6
Banja Vrdnik	89.873	113,2	64.252	99,9	25.621	170,2
Banja Rusanda	1.597	81,7	1.460	78,7	137	137,0
Banja Palić	40.279	84,6	22.768	89,2	17.511	79,2
Selters Banja	3.695	192,0	3.544	205,6	151	75,5
Lukovska Banja	33.509	95,2	25.955	85,9	7.554	152,4
Gamzigradska Banja	175	26,2	112	19,7	63	63,0
Ribarska Banja	11.442	87,1	11.077	87,3	365	82,2
Sijarinska Banja	10.968	88,7	10.716	87,9	252	150,0
Banja Vrujci	14.568	77,8	13.886	76,8	682	107,4
Niška Banja	6.967	103,2	5.418	97,9	1.549	127,4

Source: Ministry of Tourism and Youth of the Republic of Serbia

In spa towns, the total number of overnight stays by tourists was 2,813,388 (7.9% decrease compared to 2022). Domestic tourists registered 2,402,214 overnight stays (11.1% decrease) and foreign tourists registered 411,174 overnight stays (16.3% increase).

Table 5: Tourist arrivals spa centers in 2023

2023.	OVERNIGHTS STAYS					
	Total	Index	Domestic	Index	Foreign	Index
Spa centers	2.813.388	92,1	2.402.214	88,9	411.174	116,3
Vrnjačka Banja	686.556	90,8	587.974	87,0	98.582	123,1
Sokobanja	656.489	85,5	624.176	83,3	32.313	176,6
Bukovička Banja	91.520	147,5	75.380	161,1	16.140	105,9
Banja Koviljača	177.731	98,9	101.835	89,5	75.896	115,1
Gornja Trepča	96.988	75,6	84.719	71,8	12.269	119,7
Vranjska Banja	23.761	106,7	22.331	112,3	1.430	59,9
Banja Kanjiža	49.426	98,1	42.125	101,1	7.301	83,7
Novopazarska Banja	7.714	106,8	3.817	90,6	3.897	129,4
Banja Vrdnik	220.027	109,0	157.380	96,3	62.647	162,6
Banja Rusanda	15.182	85,5	14.175	83,5	1.007	130,9
Banja Palić	89.992	73,7	53.728	83,1	36.264	63,1
Selters Banja	50.321	269,3	49.164	278,1	1.157	114,6
Lukovska Banja	189.115	92,3	162.933	87,6	26.182	139,2
Gamzigradska Banja	500	17,9	231	9,4	269	82,3
Ribarska Banja	61.637	78,6	59.874	78,8	1.763	73,2
Sijarinska Banja	77.134	82,4	76.210	82,1	924	119,1
Banja Vrujci	68.594	69,6	65.706	69,2	2.888	80,0
Niška Banja	36.715	94,6	31.793	91,2	4.922	125,0

Source: Ministry of Tourism and Youth of the Republic of Serbia

A total of 2,819,429 overnight stays were registered in mountain centers (an increase of 0.7% compared to 2022), of which domestic tourists had 2,292,806 overnight stays (a decrease of 3.4%), and foreign tourists had 526,623 overnight stays (growth of 23.2%).

A total of 685,540 arrivals were recorded in spa centers in 2023 (a drop of 2.6% compared to 2022), of which domestic tourists made 564,972 arrivals (a drop of 7.4%), and foreign tourists 120,568 (growth of 28.4%).

The average length of stay in spas in 2023 is 4.10 days (4.25 days for locals and 3.41 days for foreigners).

In spa centers, the total number of overnight stays by tourists was 2,813,388 (7.9% decrease compared to 2022). Domestic tourists registered 2,402,214 overnight stays (11.1% decrease) and foreign tourists registered 411,174 overnight stays (16.3% increase).

Table 6: Overnights Stays Spa centers in 2023

2023.	OVERNIGHTS STAYS					
	Total	Index	Domestic	Index	Foreign	Index
Spa centers	2.813.388	92,1	2.402.214	88,9	411.174	116,3
Vrnjačka Banja	686.556	90,8	587.974	87,0	98.582	123,1
Sokobanja	656.489	85,5	624.176	83,3	32.313	176,6
Bukovička Banja	91.520	147,5	75.380	161,1	16.140	105,9
Banja Koviljača	177.731	98,9	101.835	89,5	75.896	115,1
Gornja Trepča	96.988	75,6	84.719	71,8	12.269	119,7
Vranjska Banja	23.761	106,7	22.331	112,3	1.430	59,9
Banja Kanjiža	49.426	98,1	42.125	101,1	7.301	83,7
Novopazarska Banja	7.714	106,8	3.817	90,6	3.897	129,4
Banja Vrdnik	220.027	109,0	157.380	96,3	62.647	162,6
Banja Rusanda	15.182	85,5	14.175	83,5	1.007	130,9
Banja Palić	89.992	73,7	53.728	83,1	36.264	63,1
Selters Banja	50.321	269,3	49.164	278,1	1.157	114,6
Lukovska Banja	189.115	92,3	162.933	87,6	26.182	139,2
Gamzigradska Banja	500	17,9	231	9,4	269	82,3
Ribarska Banja	61.637	78,6	59.874	78,8	1.763	73,2
Sijarinska Banja	77.134	82,4	76.210	82,1	924	119,1
Banja Vrujci	68.594	69,6	65.706	69,2	2.888	80,0
Niška Banja	36.715	94,6	31.793	91,2	4.922	125,0

Source: Ministry of Tourism and Youth of the Republic of Serbia

A total of 842,124 tourist arrivals were registered in the mountain centers of Serbia in 2023 (an increase of 4.7% compared to 2022). The number of domestic tourist arrivals was 653,063 (a decrease of 0.9%), while the number of foreign tourist arrivals was 189,061 (a 30.4% increase).

Table 7: Tourist arrivals mountain centers in 2023

2023.	ARRIVALS					
	Total	Index	Domestic	Index	Foreign	Index
Mountain centers	842.124	104,7	653.063	99,1	189.061	130,4
Zlatibor	348.922	161,0	248.639	155,4	100.283	176,7
Kopaonik	151.181	102,9	116.493	100,0	34.688	114,1
Tara	68.387	124,7	62.110	123,1	6.277	142,1
Mokra gora	12.521	84,2	8.063	77,4	4.458	100,0
Divčibare	57.772	145,3	54.308	144,7	3.464	154,8
Fruška gora	93.688	115,0	67.158	102,0	26.530	169,5
Zlatar	22.003	101,7	19.892	98,1	2.111	156,8
Rudnik	4.126	426,2	4.046	526,1	80	40,2
Stara planina	13.854	91,1	11.725	89,0	2.129	104,9
Goč	20.150	161,4	19.646	163,2	504	111,5
Golija	2.326	120,2	2.244	122,4	82	81,2

Source: Ministry of Tourism and Youth of the Republic of Serbia

Table 8: Overnights stays in mountain centers in 2023

2023.	OVERNIGHTS STAYS					
	Total	Index	Domestic	Index	Foreign	Index
Mountain centers	2.819.429	100,7	2.292.806	96,6	526.623	123,2
Zlatibor	1.096.979	162,8	843.438	161,9	253.541	166,0
Kopaonik	589.907	100,8	455.030	98,1	134.877	111,4
Tara	258.185	142,0	242.736	142,1	15.449	140,4
Mokra gora	25.359	77,6	18.169	73,1	7.190	91,7
Divčibare	200.331	171,5	187.597	170,2	12.734	192,1
Fruška gora	215.441	118,9	148.662	105,8	66.779	164,3
Zlatar	85.826	96,7	81.692	94,8	4.134	165,2
Rudnik	25.587	416,9	24.997	622,4	590	27,8
Stara planina	51.598	85,2	44.996	83,2	6.602	101,8
Goč	100.863	168,2	99.103	168,9	1.760	136,8
Golija	10.638	113,6	10.110	111,1	528	202,3

Source: Ministry of Tourism and Youth of the Republic of Serbia

A total of 2,819,429 overnight stays were registered in the mountain centers of Serbia (an increase of 0.7% compared to 2022), of which domestic tourists had 2,292,806 overnight stays (a decrease of 3.4%), and foreign tourists had 526,623 overnight stays (growth of 23.2%).

The average length of stay in mountain centers in 2023 is 3.35 days (3.51 days for locals and 2.79 days for foreigners).

4. Urban tourism management in Serbia

At present, the primary tourist attraction in Serbia consists of its urban centers. Data from the Republic Bureau of Statistics indicates that the foremost cities for tourism are Belgrade, Novi Sad, Niš, and Subotica. Collectively, these four cities welcomed over 1,931,000 tourists, both domestic and international, resulting in 4,707,000 overnight stays. This accounts for 47% of the total tourist revenue and 38% of the overall overnight stays in Serbia. Furthermore, these cities attracted more than 70% of the foreign tourists and their corresponding overnight stays in the country. When considering the statistics for other cities, the figures are even more pronounced. The current prominence of urban tourism, compared to other segments of Serbia's tourism offerings, can be attributed to their unique characteristics as cultural, historical, business, and administrative hubs, alongside the political, economic, and social development of the nation. The future role of these cities in the tourism sector will be influenced by the strategic direction and policies governing tourism development, which may lead to fluctuations in their participation in the overall tourism market.

Belgrade is the most important domestic tourist destination which is seen through its participation in touristic turnover in the Republic of Serbia. Out of total touristic turnover on the level of the Republic, the city participates with 32.5% of arrivals and 27% of overnight stays. According to data from the Republic and Urban Bureau for statistics, 60% of arrivals and overnight stays of foreign tourists in the Republic are realized in Belgrade itself.

City tourism can be viewed as a complex system of organizing resources and processes that functions in a dynamic and multi-conditional environment, to create economic values for cities and consumers of hospitality-tourist services (Cohen, 1972). With a concrete system, committed funds are transformed into valuable results for consumers and business owners. This conversion of funds is carried out under conditions of constant changes in the environment, which define opportunities, dangers, and limitations for the city's tourism and hospitality companies. These are the main reasons why cities must constantly adapt to the changing conditions in the environment. This, at the same time, presupposes a constant change in the scope and structure of the resources and employees involved in the adaptation of the functional characteristics of the organization and technological processes, and the redefinition of value criteria for consumers and company owners.

Environmental influences, means, and value criteria are dynamic and multidimensional, so it is necessary for city tourism and hospitality companies to precisely define and at the same time realize a large number of goals, which must necessarily be mutually compatible and integrated.

All components of urban tourism management should be viewed integrally because this approach is the most current in the process of managing marketing, finances, and human resources. Under the given circumstances, the integral concept of management is derived from this. The integral concept of management consists of strategic, operational, and tactical management. Such a model of organizing integral management ensures the adaptation of assets to changing environmental conditions and the complete realization of defined business results. Constant control and assessment of achieved results create conditions for maintaining a consistent relationship between the organization and its environment.

The challenge and complexity of urban tourism stem from the multidimensional nature of the environment, the complex structure of the resources employed, and the results achieved. The focus of urban tourism management activities is on achieving a consistent and stable relationship between the environment and the company (Page & Connel, 2020).

Environmental elements that have an impact on the management of urban tourism do not only refer to the structure and behavior of consumers - guests - and distribution channels in the market. Opportunities and dangers arise from the complex mechanism of competition, but also from the influence of the state and instruments of economic and tourism policy.

Resources and employees in urban tourism are also multi-dimensional. The structure of the employees consists of managers, specialists for individual functional jobs, as well as a wide circle of employees in numerous operational and professional jobs. The basic assets come to the fore in the physical characteristics of the city's tourism and catering companies. It is about the number and size of assets, location, and other business conditions.

An analysis of the current situation reveals that Serbia possesses the necessary conditions to develop a long-term tourism offering and enhance its image as a city tourism destination. Research indicates that visitors, both foreign and domestic, are particularly drawn to cultural and historical heritage, museums and galleries, performances, sports events, and various other activities during their time in urban areas. However, the lack of effective management of urban tourism resources as attractions has led to visitor dissatisfaction with the available offerings in this sector.

This oversight not only hinders the opportunity to cultivate a more favorable image based on these attractions over time but also fails to leverage the wealth of appealing resources present in Serbian urban destinations. Furthermore, it prevents the utilization of existing potential tourist demand, which could generate additional revenue for maintenance and development.

To initiate a systematic approach to developing Serbia as a city tourism destination, it is essential to enhance the quality of presentation and interpretation of urban tourism resources. Additionally, it is crucial to facilitate easy access to information regarding the offerings of urban tourism destinations for visitors and the entire tourism distribution system.

In this context, the strategic objective for the development of urban tourism in Serbia over the coming years should be to establish a substantial array of tourism products that are well-presented, modernly interpreted, and professionally promoted (Garača, Ratković, & Raletić, 2013). These products should be integrated into the offerings of urban tourism destinations, creating an image of destinations that are rich in thoughtfully curated tourism experiences. This approach aims to ensure visitor satisfaction, stimulate spending, extend the tourism season, attract new market segments, and boost domestic demand.

To achieve the strategic objective, it is essential to establish specific conditions. Given the demand from both international and domestic visitors, the following priorities should be addressed (Page & Connel, 2020).

- Foster a positive environment that encourages the development of urban tourism products.
- Implement an organizational framework and mechanisms for inter-sector collaboration.
- Enhance the knowledge and skills required for the creation of high-quality tourism products.
- Elevate the standards of interpretation, equipment, and overall quality of urban tourism offerings.
- Refine the information flow, promotion, and distribution systems for urban tourism products.

5. Conclusion

Serbia is one of the few countries with an extremely high-quality and diverse basis for the successful development of tourism. It has numerous natural motifs, a rich cultural and historical heritage, and an enviable geographical and traffic position. Cultural and historical monuments, healing mineral spas, mountains, villages, and a large number of events, form the basis of tourism in Serbia. International roads and railway lines passing through Serbia connect Western and Central Europe with Asia and Africa. The main lines of air traffic between West and East and North and South also pass through this country. Although Serbia has a wide base and pronounced differential advantages for the development of tourism, the only way to use them is to first remove the influence of those factors that have negatively affected the tourist flows and the development of this area and to make the necessary structural adjustments of a strategic nature. As a potentially new tourist country that is still looking for its place in the tourist market, while respecting global trends and processes on the market, Serbia has good opportunities to use its current „low profile" position, because it can learn from good and bad experiences.

Serbia possesses diverse and significant potential for the development of urban tourism, yet only a fraction of this potential has been realized. As one of the largest cities in the Balkans, Belgrade boasts considerable tourist appeal that remains underutilized. The city serves as a hub for culture, tradition, art, sports, and business. Serbian tourism products are not sufficiently developed or marketed within the international tourism arena, despite the presence of numerous attractions and cultural assets. To enhance its competitiveness, Serbia must significantly improve the appeal of its tourism offerings by drawing on respected global practices and fostering its innovations, focusing on tourism products and sectors that possess a global outlook and where Serbia can establish a competitive edge on the world stage.

References

Hall, C.M. (2008) Tourism planning, Policies, Processes and Relationships; Harlow, Prentice Hall.

Boniface, P. (2013) Managing quality cultural tourism; London, Routledge.

Garača, N., Ratković, M., & Raletić, S. (2013). Achieving competition advancement through communication. Informatologi a, 46(4), 361-371.

Shaw, G., Williams, A. (2002) Critical Issues in Tourism, A geographical perspective, Oxford: Blackwell.

European Travel Commission (ETC), World Tourism Organization (UNWTO) (2005): City tourism & culture – the European experience. Brussels.

Cohen, E., (1972) Towards a sociology of international tourism, Social Research.

Čolić, M., Gavrilović, A., & Selenić,

U. (2022). Sports tourism at tara national park. Sport, media and business, 8(1), 45-66. https://doi.org/10.58984/smb2201045c

Cvijanović, D., Vujko, A., & Bojović, R. (2023). Indicators of the development of sports and recreational tourism as an integral product of rural destinations. SPORTICOPEDIA - SMB, 1(1), 171-177. https://doi.org/10.58984/smbic2301171c

Đukić, A., & Kojić, V. (2023). Sports and recreational facilities – drivers of modern tourism in Bosnia and Herzegovina. SPORTICOPEDIA - SMB, 1(1), 189-197. https://doi.org/10.58984/smbic2301189d

Tourism Development Strategy of the Republic of Serbia for the period from 2016-2025 Ministry of Trade, Tourism and Telecommunications of the Republic of Serbia.

Milačić, D.(2005) Strategija razvoja urbanog turizma u Srbiji, doktorska disertacija, Fakultet za trgovinu i bankarstvo, Beograd.

Tourism Highlights, World Tourism Organization Edition, Madrid, (2003) Tourism Market Trends: World Overview & Tourism Topics, WTO, Madrid

Mazanec, J., Wöber, K. (2010) Analyzing international city tourism, Springer Wien New York

Page, S., Connel, J. (2020) Urban Tourism; London, Routledge.

Pavlović, M., Perić, M., & Milunović, M. (2023). Investigation of the attitudes of users of sports tourism on mountain Goč. Sport, media and business, 9(2), 95-110. https://doi.org/10.58984/smb2302095p

Jovanovic, S., Djokovic, G., & Gilic, M. (2024). The factors of service quality in ski tourism on the example of the republic of serbia. Sport, media and business, 10(1), 7-24. https://doi.org/10.58984/smb2401007j

Raletić, J. S., Ratković, M., & Dašić, D. (2015). The differences between human resource management in domestic and international environment. Vojno delo, 67(6), 159-175.

Ratković, M., Grubić, G., & Tasić, S. (2012). Evolution of marketing: from product up to employment. International Journal of Economics and Law, 5, 72-78.

Ratković, M., Raletić, S., & Dašić, D. (2016). Impact of the factorstrademark and propaganda messages on the consumer behaviour in Serbia. Enterpreneurship for a Suistanable Economy. Beograd: Faculty of Business Studies and Law: Faculty of Strategic and Operational Management, 229-250.

Ratković, M., Pavlović, M., & Anđelković, M. (2017). Comparative analysis of customer satisfaction in postal and banking services. International review, (1-2), 108-120.

Ministry of Tourism and Youth of the Republic of Serbia.

World Tourism Organization: Tourism Market Trends: World Overview Tourism Topics. Madrid: World Tourism Organization, 2001. 100 pp.

ZNAČAJ MENADŽMENTA U RAZVOJU GRADSKOG TURIZMA U SRBIJI

Sažetak: Turizam danas ima sve značajniju ulogu u privredi, a njegov dalji rast zavisi od koordinisanog razvoja i prilagođavanja turističkog proizvoda savremenim tržišnim trendovima, gde različiti oblici turizma od posebnog interesa dobijaju sve veći značaj. Gradski turizam je jedan od posebnih oblika turizma koji ovoj grani srpske privrede nudi dugoročnu konkurentsku prednost. Glavna snaga gradske turističke destinacije su kompleksi atrakcija, koji imaju dve funkcije – da privuku gosta i ispune njegova očekivanja. Potencijal ove potražnje može se u potpunosti iskoristiti planskim i koordinisanim pristupom razvoju ovog turističkog proizvoda. Razvoj urbanog turizma značiće i bolje mesto za život stanovnika, a ekonomsku korist za celu zajednicu doneće ne samo veća turistička potražnja, već i povećana potrošnja lokalnog stanovništva stimulisana atraktivnijim mestom za život. nastala razvojem turističkih kapaciteta. Uprkos brojnim atrakcijama i vrednostima, srpski turistički proizvodi nisu adekvatno plasirani, adekvatno razvijeni, niti predstavljeni i komercijalizovani na međunarodnom turističkom tržištu. Srbija mora značajno da podigne konkurentnost i atraktivnost turističkih proizvoda kroz respektabilna svetska iskustva i sopstvene inovacije, oslanjajući se na one proizvode i poslovne sektore u turizmu koji imaju globalnu perspektivu i gde Srbija može da gradi globalnu konkurentnost.

Ključne reči: turizam, gradski turizam, privredni razvoj, menadžment, međunarodna ekonomija

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THE CONCEPT OF ARTIFICIAL INTELLIGENCE AND ITS SCOPE IN ECONOMIC DEVELOPMENT

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Abstracts: The enormous growth and development of technology, especially since the beginning of the 21st century, has led to an increase in the amount of information we are surrounded by. Thanks to this fact, the basis for action and accelerated development of programs based on artificial intelligence concepts was created. The mentioned programs base their work on the automated processing, collection and systematization of data without the participation of human activity in these processes, that is, without the use of human intelligence. Due to the speed and efficiency of such a way of manipulating a large amount of data, the concept of artificial intelligence introduces numerous changes and totally changes the way numerous social areas function. The subject of the author's interest will be pointing out the very importance and way of functioning of the concept of artificial intelligence, pointing out the advantages and disadvantages of that concept, and all through looking at its impact on economic development.

Keywords: artificial intelligence, personal data, economy, economic development, algorithm

1. Introduction

The world we are surrounded by rests on a large number of data points that together form a perfectly structured, interconnected system. The ways in which people have gained knowledge about this system have evolved over time. The initial stage in this process involved individuals using their own intelligence to determine the significance of data, its connections to other data within the system, and using that knowledge to classify it in desired ways. This manual data manipulation implied human intervention in every phase of data processing. However, with the development of digital and information technologies, the situation rapidly improved. Under the influence of modern technologies, the volume of information surrounding us increased dramatically. This information grew so rapidly that over time, human intelligence, which had been the sole method of processing this information, proved inadequate in dealing with the growing volume of data. This fact gradually led to the emergence of increasingly sophisticated artificial intelligence systems and the programs based on them. Artificial intelligence attempts to simulate intelligent behavior within a system, requiring accurate and comprehensive information and knowledge representation. Artificial intelligence systems, in other words, are based on the idea that through the application of machine learning rules, automated information processing is conducted by computer systems, and this system consists of „software and possibly hardware that uses artificial intelligence technologies“ (Borges, 2021). Artificial intelligence, in other words, is based on the premise that data processing, classification, and integration are performed without the presence of human intelligence, which specifically means that instead of humans, all these processes are carried out by computers using machine learning rules. Simply put, what is the essence of machine learning? Machine learning is a branch of computer science focused on enabling artificial intelligence to learn certain tasks in the way humans do, meaning that in this process, it imitates human learning[4]. This imitation is best achi-

[4] The essence, in other words, boils down to artificial intelligence imitating human behavior, meaning it represents the adaptation of artificial intelligence to human intelligence in order to manipulate vast amounts of data in the most realistic way possible through automated processes. For more on this, see...: https://raf.edu.rs/citaliste/najnoviji-it-dogadjaji/sta-je-masinsko-ucenje-i-sta-su-inteligen-

eved through the establishment of algorithms. An algorithm refers to „... a set of steps that artificial intelligence can use to solve problems."[5] This means that artificial intelligence, by imitating human intelligence, follows a series of steps (instructions) through which it approaches the processing and systematization of data. It implies that „Computational Intelligence (CI) refers to the use of intelligent techniques and algorithmic models applied to processes characterized by incomplete definitions, nonlinearity, time variation, and stochasticity" (Šešum, Čavić, 2023).

This nature of artificial intelligence enables its practical application in various fields of human activity, from economics, law, and informatics to medicine and pharmacy (Makojević, 2024). However, in theory, there are debates regarding the usefulness of the artificial intelligence concept. While there are numerous undeniable advantages, there are also significant drawbacks that must be highlighted to ensure that artificial intelligence becomes a partner in overall development rather than an antithesis to everything created so far.

The primary advantage of the artificial intelligence concept lies in saving both material and human resources in the process of data processing and selection, simultaneously modernizing and improving economic operations, which leads to faster economic growth of the state as a whole. Proponents point out that artificial intelligence is the driving force behind the fourth technological revolution and, as such, will impact the economic growth and development not only of developed countries but also of underdeveloped and developing countries (Makojević, 2024).

On the other hand, the main drawback of the artificial intelligence concept is that it will bring about tectonic changes in many markets, including the labor market. The need for certain jobs will be called into question, and a large number of people will lose their jobs. Furthermore, „opponents of artificial intelligence place particular emphasis on the fact that its development is funded by companies that control a significant portion of the technology products and services market, further threatening the business of less

tni-algoritmi/, the date of access to the specified document: 19.09.2024.

[5] See more about this in: https://raf.edu.rs/citaliste/najnoviji-it-dogadjaji/sta-je-masinsko-ucenje-i-sta-su-inteligentni-algoritmi/, the date of access to the specified document: 19.09.2024.

influential players and raising concerns about control" (Makojević, 2024). This creates a significant risk of monopolies forming in most markets, thereby endangering the survival of weaker competitors.

When we talk about the concept of machine learning, which aids artificial intelligence in performing activities, its main drawbacks primarily relate to the quality of data that artificial intelligence has access to. It is essential that the data be consistent, both in qualitative and quantitative terms. Therefore, if the data provided to artificial intelligence is limited, biased, or of low quality, we will end up with biased artificial intelligence of limited scope.[6]. However, there are times when the data might be perfectly fine—high quality and unbiased—yet the artificial intelligence system can still be misused by people. An example of this can be false video or audio recordings, which are especially common on social media and often used as tools for blackmail. It is well known, for instance, that „deepfake videos originated from technology used to enhance special effects in cinema, but they can also be used to deceive people."[7] From all of the above, we can clearly conclude that „artificial intelligence (AI) is a broad field that today encompasses numerous methods and deals with solving various real-life problems, typically complex and difficult to solve by other approaches.[8]

2. Business ethics and contemporary business environment Automated data processing as a key concept on which the artificial intelligence system is based

Since artificial intelligence, as we have emphasized, processes a large amount of data through the application of machine learning rules, the key way it does this, which also reflects its nature, is through automated processing and systemaization of the mentioned data. The key difference lies in the human approach to data collection. Unlike manual pro-

[6] See more about this in: https://raf.edu.rs/citaliste/najnoviji-it-dogadjaji/sta-je-masinsko-ucenje-i-sta-su-inteligentni-algoritmi/, the date of access to the specified document: 19.09.2024.

[7] See more about this in: https://raf.edu.rs/citaliste/najnoviji-it-dogadjaji/sta-je-masinsko-ucenje-i-sta-su-inteligentni-algoritmi/, the date of access to the specified document: 19.09.2024.

[8] See more about this in: Šešum, Čavić, V., *Uvod u veštačku inteligenciju,* Građevinski fakultet, Univerzitet u Beogradu, 2023., page 9.

cessing, which is based on human intervention and the use of natural intelligence to handle vast amounts of data, automated processing, on which the artificial intelligence system is based, completely eliminates humans and their intelligence from this process, leaving it all to the computer. The computer, by applying algorithms and through the process of machine learning, imitates human intelligence and follows instructions and corresponding steps in data collection, processing, and systematization.

Automated data processing is most commonly performed through profiling procedures. Simply put, profiling is „any form of automated processing of personal data that involves the use of personal data to evaluate certain personal aspects related to a natural person, particularly for analyzing or predicting aspects related to job performance, economic status, health, personal preferences, interests, reliability, behavior, location, or movements of that natural person."[9] Drugim rečima, suština koncepta profilisanja se svodi na to, da veštačka inteligencija, praćenjem ličnih afiniteta i sklonosti određenog lica, u dužem vremenskom periodu, predvidi ponašanje i delanje istog u nekom budućem vremenskom periodu. Analizirajući predmetnu definiciju, možemo ustanoviti da se „profilisanje … sastoji od tri elementa: mora biti automatizovan oblik obrade; mora se izvršiti na ličnim podacima; i cilj profilisanja mora biti procena ličnih aspekata fizičkog lica"[10]. Profilisanje karakteriše činjenica da rukovalac automatski obrađuje lične podatke kako bi uz pomoć algoritama analizirao ili predvideo određene aspekte koji se odnose na osobu[11]. However, just like artificial intelligence systems based on automated data processing, profiling, in addition to its many advantages, also has certain drawbacks. What exactly does this mean? It is an undeniable fact that tracking a person's preferences, affinities, and personal inclinations over a long period is highly useful, as

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[9] To see: *Opšta uredba 2016/679 o zaštiti fizičkih lica u odnosu na obradu podataka o ličnosti, i o slobodnom kretanju takvih podataka,* čl. 4, st. 1, tač. 4.

[10] See more about this in: *Guidelines on Automated individual decision-making and Profiling for the purposes of Regulation 2016/679,* 2017, str. 6.

[11] See more about this in: Hanold, S., *Profiling und automatisierte einzelentscheidungen im versicherunsbereich*, 2019, str. 4. The mentioned source can be accessed at: https://www.repo.uni-hannover.de/bitstream/handle/123456789/5167/Profiling%20und%20automatisierte%20Einzelentscheidungen%20im%20Versicherungsbereich_Stefanie%20H%C3%A4nold.pdf?sequence=1, the date of access to the specified document: 24.09.2024.

this approach can reveal many insights about the individual, potentially making it easier to predict future behavior.

However, it would be ideal if a person's desires and wants were constant. In reality, the opposite often occurs—these aspects can be volatile and change over time, which can complicate accurate predictions of future behavior through profiling. On the other hand, there are certain personal data points that can be subject to profiling but are less dependent on the individual and more influenced by external factors beyond their control. This is especially evident in the cases of health and financial status, if they are considered in the profiling process.

For instance, a person's financial situation can fluctuate, meaning they may show interest in specific activities during a particular period, but over time, due to a lack of resources, they may lose interest. Similarly, health conditions can both „drive“ or „hinder“ the activities people undertake. These examples highlight the primary weaknesses of profiling processes, as they make it difficult to draw accurate and complete conclusions about future behavior based on such data.

Despite these shortcomings, it is important to acknowledge that the advantages still prevail. Therefore, we can conclude that „profiling and automated decision-making are increasingly used across various sectors, both private and public, such as banking and finance, healthcare, taxation, insurance, marketing, and advertising… just to name a few examples where profiling is regularly implemented to assist in decision-making.“[12]

- The three-step model on which the process of automated data processing and profiling is based

It has already been emphasized that the existence of a large amount of data is the fundamental and most necessary prerequisite for the concept of artificial intelligence. The essence lies in the specific way data is collected, processed, and systematized. By applying the principles of machine learning through automated processing, artificial intelligence „handles“ vast amounts of information. When discussing automated processing as well as the concept of profiling, it is important to highlight that profiling procedures must

[12] See more about this in: *Guidelines on Automated individual decision-making and Profiling for the purposes of Regulation 2016/679,* 2017, page 5.

be treated as separate and distinct processes from decision-making and execution. Decision-making and execution stem from the results obtained from profiling, but they are quantitatively and qualitatively different from it.

To clarify this fact in the simplest way, we will use the example of the so-called „three-step model," which is widely applied when conducting profiling and automated data processing. This model is based on three phases that must be followed successively to reach a satisfactory result—namely, a decision made based on a correctly assessed factual and real framework. Only such a decision provides a valid foundation for proceeding with its execution.

i. First phase of the three-step model – data collection

Considering all that has been said about the profiling process so far, and recognizing that data (information) is the foundation of the concept of artificial intelligence, it is no surprise that this phase receives significant attention during the profiling process. Given that vast amounts of data are handled, the nature of the data is of great importance. Here, a distinction is made between personal data, which directly relates to the individual being assessed in a particular case, and abstract comparative data, which are collected and evaluated on a large scale (often, though not necessarily, in an anonymous form) to generate experience sets and form comparison groups.[13] As can be observed, the artificial intelligence system faces a significant test right from the first step. By imitating human intelligence through the application of machine learning systems, artificial intelligence must assess the interrelationship of the relevant data (information) and their connections. However, it is also essential to indicate whether the observed data is associated with a specific „personal characteristic." Recognizing this fact is of utmost importance since one of the greatest challenges in this field is a potential conflict between the artificial intelligence system and the need to protect personal data.

It is necessary to ensure that data containing characteristics that could identify individuals are processed,

[13]See more about this in: Wiedemann, K., *Rechtliche Implikationen Profling-basierter Preispersonalisierung*, Munich Studies on Innovation and Competition, 2023, page 37. The mentioned source can be accessed at: https://library.oapen.org/bitstream/id/8eefa175-856b-4036-8ca4-b636e94f4e7e/978-3-662-67452-9.pdf, the date of access to the specified document: 24.09.2024.

classified, and systematized by artificial intelligence in a manner that does not compromise their confidentiality. In other words, the use of artificial intelligence cannot be an excuse for violating the principles of confidentiality regarding specific personal data. Thus, the need for personal data protection and the artificial intelligence system must be „partners“ in the modernization process, not „antipodes“.

Data acquisition is crucial, and through this action, the essence of the entire first phase of the three-step model, upon which profiling procedures are based, is revealed. There are various sources from which relevant data can be collected. However, the method of collection largely depends on the type of data in question. In this regard, a distinction is often made between abstract comparative data, anonymous data, anonymized data, and personal data.

The first in this series is abstract comparative data, which is considered highly significant in profiling procedures. This type of data is also referred to as „experience data“ or „comparison data.“[14] From these two names, it may be easiest to conclude what their essence consists of. The goal is to observe and track the experiences of individuals connected to specific experiential events to draw conclusions about how other individuals in similar situations might behave. An example can be drawn from the practice of an American retail chain that monitored the purchasing habits of pregnant women over an extended period. Based on the abstract data obtained, this retail chain could, with high probability, conclude whether women were pregnant based on their responses. In other words, the assumption underlying the idea of using abstract comparative data is based on the premise that people in the same life and experiential situation tend to behave similarly.

Abstract comparative data is vital for retail chains as it provides insights into the types of goods/services preferred by specific customer categories. This means that, based on the obtained abstract comparative data, correct conclusions can be drawn about the personal characteristics of individuals connected by the same life or experiential fact.

In addition to a large volume of abstract data, which is essential for conducting profiling, it is also crucial

[14] These terms, among others, are used by: Wiedemann, K., *Rechtliche Implikationen Profling-basierter Preispersonalisierung*, Munich Studies on Innovation and Competition, 2023, page 39.

that this data is characterized by accuracy. It is important that the data is updated and aligned with the real social state. Incorrect or outdated data cannot lead to correct conclusions, and consequently, one cannot expect correct decision-making, let alone the execution of such decisions. It is essential to emphasize that the implementation of the profiling concept cannot be imagined without the use of this type of data. Moreover, the question arises as to whether abstract comparative data is associated with a specific personal characteristic that could be used to assess an individual's identity. With abstract comparative data, it is certain that a certain degree of „personal" aspect exists.

In the case of pregnant women, during this data collection phase, artificial intelligence is not interested in the identity of the pregnant woman but rather in her state, which still contains a degree of personal characteristic. Thus, in other words, this data is known as anonymized data, which is sufficient for comparison.

The next category includes anonymous data. Although it may not seem so at first glance, they can also be used in the context of profiling. In simple terms, these are data that lack any personal reference. In other words, analyzing this data cannot, in any way, identify a specific individual to whom the data refers. For example, this can include data about time, geographical location, altitude, and similar information, as well as any data relating to a pre-defined group of people not connected by any personal attributes. In the context of profiling, using anonymous data, conclusions can be drawn about which products or services are, for instance, the best sellers in mountain resorts compared to those in spas or coastal areas.

Additionally, there are anonymized data that are the most useful. Their significance arises from the fact that they once contained a specific personal reference that could link them to the identities of specific individuals. However, thanks to numerous technical procedures, they have lost that characteristic and can no longer be associated with the specific individual who had that personal reference. Nevertheless, the usefulness of this data lies in the fact that correct conclusions can be drawn about their behavior based on similar circumstances connecting specific individuals, as it is assumed that individuals in similar life circumstances will behave similarly.

Finally, there are personal data, which are the most sensitive, placing the artificial intelligence system under the greatest scrutiny in this regard. According to the GDPR, personal data is defined as „any information relating to an identified or identifiable natural person“[15], this includes, for example, names, addresses, genetic characteristics, or identification numbers of an identifiable person. [16] [17] These are data that determine the identity of a specific individual in such a way that their identity is known with certainty, as the personal references that distinguish that person, and no one else, are known. Such data can also be used by artificial intelligence, with the important note, as we previously emphasized, that their use must not in any way compromise the data. In other words, it is essential to ensure the protection of this data during the profiling process, as well as in other processes on which automated data processing is based. More specifically, „personal data thus play a key role in profiling: only access to them allows abstract sets of experiences obtained from abstract comparative data to be transferred to individual cases and thus become usable.“[18]

ii. The Second Phase of the Three-Step Model – Profiling

This is the most important phase within the aforementioned three-step model. The essence lies in the necessity to carry out the profiling process based on the data collected in the first phase. The core concept of profiling is to assess personal aspects related to the functioning of an individual based on the collected data and to predict their future behavior according to these parameters. Therefore, to conduct this profiling process, having access to a large volume of data is of fundamental importance. This is because a greater amount

[15] *Datenschutz-Grundverordnung* Art. 4, Nr. 1, https://dejure.org/gesetze/DSGVO/4.html, the date of access to the s To see: *Opšta uredba 2016/679 o zaštiti fizičkih lica u odnosu na obradu podataka o ličnosti, i o slobodnom kretanju takvih podataka,* čl. 4, st. 1, tač. 4.

[16] *Datenschutz-Grundverordnung* Art. 4, Nr. 1, https://dejure.org/gesetze/DSGVO/4.html, datum pristupa navedenom dokumentu: 24.09.2024.; To see: *Opšta uredba 2016/679 o zaštiti fizičkih lica u odnosu na obradu podataka o ličnosti, i o slobodnom kretanju takvih podataka,* čl. 4, st. 1, tač. 4.

[17] The source served as the basis for the aforementioned presentation: Schönner, K, *Compliance unter Berücksichtigung der neuen DSGVO und national geltender Gesetze,* Mittweida, den 29.11.2019, str 10. The mentioned source can be accessed at: https://monami.hs-mittweida.de/files/12200/ComplianceunterBerksichtigungder.pdf, the date of access to the specified document: 24.09.2024.

18 Wiedemann, K., Rechtliche Implikationen Profling-basierter Preispersonalisierung, Munich Studies on Innovation and Competition, 2023, page 44.

of data increases the representativeness of the findings. Namely, the larger the dataset, the higher the chances of successfully predicting an individual's future actions. The focus is exclusively on personal aspects related to the individual. We are all aware that each person's personality is a combination of various factors that have influenced its formation, making the assessment of these personal aspects a highly complex and intricate matter. Especially considering the unpredictability and instability of human nature, as well as the changes in one's desires, aspirations, and ambitions over time. This highlights why this phase receives the most attention.

iii. Third Phase of the Three-Step Model – Decision-Making and Execution

In this phase, the decision-making and execution process is carried out based on the completed profiling procedure. Exclusively automated decision-making is the ability to make decisions using technological means without human participation.[19]. Through numerous examples, the process of automated decision-making can be observed in practice. These examples can be found practically anywhere. Since the introduction of traffic lights and traffic light systems in the 1950s and 1960s, road traffic has been automatically regulated almost everywhere in Europe[20]; Shortly thereafter, the automation of tax systems and social security sys-tems followed, along with automated invoicing of telephone expenses. [21]. However, the complete transfer of the decision-making process to arti-ficial intelligence understandably creates fear and distrust among ma-ny people. These decisions are often diffuse and frequently accompanied by fundamental mistrust in technological progress and a fear of losing human autonomy.[22] Many people, as

[19] See more about this in: *Guidelines on Automated individual decision-making and Profiling for the purposes of Regulation 2016/679,* 2017, page 7.

[20] Videti: Huber, H., *Das Recht im technischen Zeitalter: Rektoratsrede*, Bern, 1960, str. 12 ; Zeidler, K., *Über die Technisierung der Verwaltung*, Karlsruhe, 1959, page 16.

[21] See more about this in: Ulrich, K., *Elektronische Datenverarbeitungsmaschinen im Recht*, Köln/Berlin 1964, page 189 -190; Simitis, S., *Automation in der Rechtsordnung – Möglichkeiten und Grenzen*, Karlsruhe 1967, page 13., a svoje stavove na istim autorima zasniva i: Thouvenin, F., Früh, A., *Automatisierte Entscheidungen: Grundfragen aus der Perspektive des Privatrechts*, 2020, page 5-6.

[22] See more about this in: Busch, C., *Algorithmic Accountability*, ABIDA Gutachten, 2018, page 65, The mentioned source can be accessed at:

well as certain proponents of such approaches, expect that „machines" will soon rule over „humans" or even wipe them out entirely"[23]. Automated decisions can be based on any type of data, such as: data provided directly by the individuals in question (such as answers to a questionnaire); data observed about individuals (such as location data collected through an application); and derived data, such as a profile of an individual that has already been created (e.g., credit score)[24]. When examining the concept of automated decision-making, „the focus is on the quality, fairness, transparency, and traceability of the decisions made by machines, as well as the issue of accountability for incorrect decisions."[25] which artificial intelligence systems should have.

We have already emphasized that the profiling process must be clearly distinguished from the decision-making and execution process. These are two entirely separate and inherently different procedures, which follow one another. If the profiling process is not properly conducted, one cannot expect to make a correct or accurate decision. This usually occurs as a consequence of two causes. First, that in the initial phase, insufficient amounts of data were collected, or the data were inaccurate, incomplete, or outdated. Second, during the profiling process, the personal aspect was not properly assessed, or individuals showed a tendency to change those aspects over a long period of time, which certainly does not contribute to making an appropriate decision in the specific situation.

Additionally, two very important, yet controversial, questions arise regarding the decision that needs to be made and executed. In this context, does the decision have to be entirely based on the results of the profiling? In other words, is it possible to make

https://www.abida.de/sites/default/files/ABIDA%20Gutachten%20Algorithmic%20Accountability.pdf, the date of access to the specified document: 24.09.2024.

[23] The following authors, among others, rest on these views: Bostrom, N., *SuperIntelligence*, Oxford, 2014, ili Metzinger, T., *Die mitfühlende Superintelligenz, die Böses schafft*, 2017, The mentioned source can be accessed at: https://www.nzz.ch/feuilleton/die-mitfuehlende-superintelligenz-die-boeses-schafft-ld.1334142, the date of access to the specified document: 24.09.2024.

[24] See more about this in: *Guidelines on Automated individual decision-making and Profiling for the purposes of Regulation 2016/679,* 2017, page 7-8.

[25] See more about this in: Thouve-nin, F., Früh, A., *Automatisierte Entscheidungen: Grundfragen aus der Perspektive des Privatrechts,* page 4.

a decision that is not based on profiling results and still be valid? It is extremely difficult to answer this question, as there are very specific situations in practice that do not allow us to confidently respond either positively or negatively.

For example, if we consider banks and their loan operations, besides profiling, the bank may use other criteria to assess the creditworthiness of a client. This is because there is a significant risk in relying solely on profiling results, given that an individual's financial capability is a relative matter that is subject to change over a longer period, and loans typically involve such extended timeframes. In other words, the bank has every right to apply various criteria to ensure that it grants loans only to those clients it deems creditworthy during the loan repayment period. However, as real-life situations are not uniform, „automated decisions can be made with or without profiling; profiling can take place without automated decision-making."[26]

The second question concerns whether humans, in any way, influence the decision-making and execution process or if it is entirely left to artificial intelligence. In most fields, after the profiling process is completed, decisions are made and executed by artificial intelligence without any human intervention in the decision-making or execution stages. The „three-phase model" is the most commonly used model in profiling and automated personal data processing, as it is, among other things, based on the rules set forth by the General Data Protection Regulation (GDPR) regarding the protection of individuals concerning the processing of personal data and the free movement of such data.

3. Ethics amd accounting The Right of an Individual Not to Be Subject to a Decision Based Solely on Automated Processing

In accordance with the regulations of the international community as well as in accordance with domestic legal regulations in the field of personal data protection, in certain situations, an individual to whom a decision made based on automated processing applies retains the autonomous right to request that it not be applied to them. However, to prevent hindering modernization and auto-

[26] See more about this in: *Guidelines on Automated individual decision-making and Profiling for the purposes of Regulation 2016/679,* 2017, page 8.

mation in decision-making processes, all situations in which it is deemed justified for an individual to invoke this right are explicitly enumerated. In this regard, only two situations are cited where the individual possesses the aforementioned right. It seems that the legislator is extremely restrictive regarding the situations in which an individual could find themselves to which the mentioned norm applies. This would be quite acceptable if these two exceptions were not so clumsily formulated.

The first situation essentially implies that the decision produces legal consequences for the individual to whom it pertains. An objection can be made regarding the excessively broad wording of this exception. Legal consequences can vary widely in nature and can pertain to any human activity, so it is unjustifiable to leave this formulation unclear and ambiguous. Secondly, is the quality of the legal consequence affecting the individual significant? The presumption is, but only a presumption, that the individual will invoke this exception only if the decision in question produces negative consequences for them. However, it can always be hypothetically questioned whether the subject has this right even when the decision is positive for them. Furthermore, can the subject invoke this exception when the decision in question produces legal consequences for individuals with whom they are associated? As can be seen, there are too many questions that the legislator has not answered concerning this exception.

On the other hand, the second exception implies that the decision „significantly affects" the legal status of the individual to whom the decision relates. A critique of this exception can be directed at the provision of a „legal standard" as a type of exception in this case. Legal standards, as is known, due to their indeterminacy and imprecision, should not be included in legal regulations, or should only be included in specially designated circumstances.

However, the legal provisions specify three situations in which it is justified for the subject not to exercise this right, even if the decision in question produces consequences for them or „significantly affects" their position. The first situation exists if the decision in question is necessary to conclude and execute a contract between the individual to whom the decision pertains and the data controller. This exception seems very justified since, without certain personal data, it is inconceivable to proceed with concluding and executing a contract. However, the term „necessity" should be interpreted restrictively due to the sensitivity of the matter at hand. It must not only be proven that it is necessary, but a way must also be found to minimize the intrusion into the subject's privacy.

The second situation implies that the decision in question is based on the law. We must acknowledge that this exception is not clearly formulated since every decision must be based on a legal provision. The third situation implies that the decision is made based on the written and explicit consent of the individual to whom it pertains, and this exception applies as long as the individual does not revoke their freely given consent. Here, it is necessary to pose the following question: does the revocation have retroactive effects or only for future situations, i.e., situations that arise after the revocation? The relevant acts clearly specify that the revocation only applies going forward and not retroactively, which means that the revocation does not affect the legality of processing personal data up to the moment of revocation. Retroactive revocation would be impossible and legally unsustainable, as it would conflict with the principle of legal certainty. The roots of these provisions, which were the subject of our interpretation, trace back to the French Data Protection Act of 1978 concerning the processing of data, files, and individual freedoms.[27].

4. The Concept, Characteristics, and Significance of Economic Development

We often encounter the term „economic development." Economic development is a multidimensional and complex process that, in addition to economic growth, encompasses changes in the structure of the economy, as well as changes in resources, institutions, technology, processes, and numerous other changes within the social system.[28]

The concept of economic development can be viewed in relation to two essential facts. First, a state must have the ability to create new wealth and maintain existing wealth over a long period, engaging all

[27] See more about this in: Mendoza, I., By-grave, L., *The Right not to be Subject to Automated Decisions based on Profiling,* EU Internet Law: Regulation and Enforcement, 2017, page 3., and all in accordance with: *Loi no. 78-17 du 6. janvier 1978 relative à l'informatique, aux fichiers et aux libertés*, čl. 2.

[28] See more about this in: Mićić, V., *Ekonomski razvoj Republike Srbije determinisan sektorskom strukturom privrede*, Ekonomski horizonti, vol. 19, 2017., page 31.

the productive capacities it possesses. Second, all these processes should positively impact the life and well-being of the citizens within that state. „Economic development is a normative concept that encompasses three key values: (1) mere existence, which includes an increase in the standard of living—growth in per capita income, elimination of absolute poverty, greater employment opportunities, reduction of income inequality, etc.; (2) improvement of self-esteem needs; and (3) freedom, or the right to choose, as well as a greater range of choices.“[29]

Based on which indicators can we assume that a certain state is economically developed? One of the first indicators is the state's attitude toward its available resources. In this regard, we can say that economically developed countries make use of almost all available resources for the purpose of economic development, ensuring that there are no unused resources. The second indicator is the stability, consistency, security, continuity, and sustainability of the state's policies toward economic development and overall well-being. Income distribution may not be perfectly even in such countries; in fact, it is questionable whether this can be achieved in any country in the world, aside from a theoretical framework. However, the majority of citizens must enjoy a commendable quality of life and lifestyle, while the state must provide support to materially disadvantaged citizens.

The next indicator is the existence of a developed and efficient state, economic, legal, political, and social order. This means that the independence and effectiveness of all authorities in the power system must be guaranteed. There must be a clear delineation of responsibilities, with no one authority overstepping its bounds in a manner that would hinder the efficiency and rationality of their operations. Additionally, it is crucial that the citizens of such a state are not passive regarding the issues surrounding them. In other words, it is important to encourage activism and the social inclusion of as many citizens as possible in the growth and development of the state, rather than demotivating

[29] See more about this in: Beg, M., *Održivi ekonomski razvoj – prepreke i rješenja*, Zbornik radova znanstvenog skupa: Modeli razvoja hrvatskog gospodarstva, (ur. Družić, G.; Družić, I., izdavač: Ekonomski fakultet Zagreb; Hrvatska akademija znanosti i umjetnosti), 2018, page 374, and all in accordance with: Todaro, P. M., Smith, S. C., *Economic Development*, 2006, page 19-20.

them from participating in these processes.

Furthermore, there must be a guarantee of legal and economic security. Legal security is reflected in the application of the principles of constitutionality and legality, as well as the principle of prohibition of retroactivity, in order to ensure citizens' confidence in the legal regulations governing social relations. Emphasis is placed on the development of innovations, knowledge, and education, as these are considered the fundamental „drivers" of a state's development. Without these elements, there can be no discussion of any form of progress, especially not economic development and well-being. An important aspect is also the state's openness „to the outside," meaning economic cooperation with as many countries as possible, which regulates the issues of imports and exports as crucial factors in the processes of economic development for any country in the world.30. In this sense, „previous experiences show that foreign investments have played a significant role in changes in production and exports in countries that have properly utilized foreign sources of financing (Veselinović, Maslovara, 2014)." For this reason, foreign investments significantly contribute to shaping the market of a given country and thus directly influence its economic development. They lead to „the renewal of production, upgrading outdated facilities, establishing new factories, employing workers, and through the process of multiplication, stimulate further economic growth (Đoković, Vasiljević, 2008)."

5. The Reach of Artificial Intelligence in Economic Development: Opportunities, Advantages, and Disadvantages

The aim of this section of the scientific paper is to examine the reach of artificial intelligence in the field of economic development. Given the inevitable existence of a series of advantages as well as a range of disadvantages that artificial intelligence can have in the observed area, the need to adequately elaborate on this issue becomes even more important. In this regard, we will define the opportunities presented by artificial

[30] A list of facts that characterize economic development, and which helped us a lot in the elaboration of the mentioned question, can be found at the link: https://sr.economy-pedia.com/11039617-economic-development, the date of access to the specified document: 24.09.2024.

intelligence that we anticipate in a future time frame concerning the observed phenomenon.

The advantages of artificial intelligence systems in economic development are numerous and can be seen through several facts. The use of artificial intelligence systems primarily affects the reduction of material costs and enhances the productivity of human resources, as humans are excluded from certain activities that can be performed by computers using machine learning rules, and this is done in a comparably high-quality manner. In other words, the automation of most business activities is achieved, which certainly contributes to a faster and more efficient overall development. When discussing material costs, the artificial intelligence system always identifies the weaknesses of human activities related to economic development planning, allowing for an effective profiling process that reveals where significant savings in costs and other forms of material resources can be made.

Furthermore, the artificial intelligence system is important for monitoring the legality and effectiveness of business processes aimed at economic development. In other words, artificial intelligence can much more easily recognize whether all phases within a business process have been adhered to and whether they are in accordance with applicable legal regulations, thereby preventing numerous consequences that may arise from poor planning and organization of the business process. In this way, the artificial intelligence system achieves a preventive action to either prevent harmful consequences or minimize their impact if they do occur. Additionally, „business owners gain the ability, using Artificial Intelligence, to independently conduct financial analyses and contact appropriate institutions for various forms of financing (Makojević, 2024)." In this case, the use of artificial intelligence contributes to the savings of material and human resources that would otherwise be engaged in finding the best financing solutions.

When we mention the weaknesses of human action concerning business processes, this fact reflects another aspect that can be attributed as an advantage of artificial intelligence. Specifically, through the application of artificial intelligence, it becomes easier to identify weaknesses in human actions, which will simultaneously contribute to greater and better productivity of human resources where they are still necessary. Additionally, through the profiling process and analyzing individuals' preferences, one can predict their future actions, which is best observed in the fields of trade and the sale of products/services. This treatment improves both the quality of products/services and the quality of their delivery while simultaneously eliminating those products/services from business practice that have not proven particularly attractive, allowing products/services that have garnered interest from subjects to become a fundamental part of the market. This, in turn, encourages even higher quality of products/services, which can be seen as another point in favor of the artificial intelligence system. „The development of Artificial Intelligence enables a new approach to infrastructure development through reduced costs," so „the use of artificial intelligence allows for the development of activities in the absence of traditional infrastructure that requires investments and time for construction (Makojević, 2024)." The primary advantage of artificial intelligence is „the establishment of communication" between humans and machines through active communication, which can lead to solving problems identified in the production process" (Makojević, 2024).

On the other hand, it is evident that the use of artificial intelligence also brings a range of negative aspects and risks. In this regard, the first risk is associated with workforce engagement. Although it is clearly stated that the primary advantage of the concept of artificial intelligence is that it achieves increased quality of the workforce, its engagement simultaneously reduces employment rates. This significantly negatively impacts economic development, as increasing the unemployment rate is one of the most significant „brakes" on economic development. The use of artificial intelligence systems eliminates the need for performing numerous jobs, which negatively reflects on the overall concept of economic development. In this sense, „research conducted by Goldman & Sachs (2023) has shown that nearly two-thirds of jobs are exposed to the impact of Artificial Intelligence and that it will replace a quarter of the workforce in the second decade of the 21st century, meaning that the global economy will face a loss of nearly 300 million jobs due to the influence of Artificial Intelligence" (Makojević, 2024). The application of artificial intelligence will lead to changes in the organizational structure of the economy regarding the organization of production processes and the position of the workforce (Makoević, 2024). We mention this exception among the negatives, as there is no consensus in theory about whether these changes will be positive or negative, although many opinions lean toward negative changes.

Regarding future expectations from the concept of artificial intelligence, the essence boils down to the necessity of reassessing its relationship with the development of human resources and institutional development in future operations, given that there are numerous dilemmas that need to be addressed in this respect. Moreover, it is essential to work on selecting data that is of crucial importance, as well as on its accuracy, completeness, and timeliness. Furthermore, it is evident that much greater attention must be paid to analyzing personal preferences during profiling procedures, as predicting people's behavior in society heavily relies on this. The number of areas in which human intelligence will be replaced by artificial intelligence must gradually increase, while simultaneously ensuring the protection of human and material resources. In addition, efforts should be made to refine the concept of artificial intelligence to minimize the errors that arise in this regard.

6. Concluding Considerations

The modern era brings with it a different position for the individual, which requires certain adjustments. Such adjustments can carry both advantages and disadvantages, potentially weakening the individual's position, no matter how strong they may believe themselves to be. One of the phenomena surrounding which there are disagreements regarding its nature is certainly the system of artificial intelligence. The fact that problems can be solved without human intervention, solely through the use of computers and artificial intelligence systems employing machine learning algorithms, is quite appealing. Although there are numerous advantages to this concept, there are also significant drawbacks. It is precisely because of these shortcomings, along with the errors that may arise when decisions are made by artificial intelligence, that caution and gradual implementation into real social frameworks are necessary.

While it is highly probable that in most social domains artificial intelligence will perform tasks equally well, if not better, than humans applying their own intelligence, there remain areas where this cannot be confidently assessed. In such a system, the processing of personal data is conducted automatically, completely excluding the human factor. We have highlighted the benefits of automated decisions as well as the subject's right not to be subject to automated decisions, along with the exceptions to this established rule. As we have noted, this is an area that is still developing, and thus society is expected to seriously „grapple“ with all the shortcomings and challenges that the use of the artificial intelligence concept will bring.

References

Accounting Professional and Ethical Standards Board (APESB), (2017). APES 110 Code of Ethics for Professional Accountants.

Šešum, Čavić, V., Uvod u veštačku inteligenciju, Građevinski fakultet, Univerzitet u Beogradu, (2023);

Borges, G., Potenziale von künstlicher intelligenz mit blick auf das datenschutzrecht, Universität des Saarlandes, (2021);

https://raf.edu.rs/citaliste/najnoviji-it-dogadjaji/sta-je-masinsko-ucenje-i-sta-su-inteligentni-algoritmi/;

Makojević, N., Veštačka inteligencija - nov izazov institucionalnom okviru, Institucionalne promene kao determinanta privrednog razvoja Republike Srbije, Ekonomski fakultet, Kragujevac, (2024);

Opšta uredba 2016/679 o zaštiti fizičkih lica u odnosu na obradu podataka o ličnosti, i o slobodnom kretanju takvih podataka;

Guidelines on Automated individual decision-making and Profiling for the purposes of Regulation 2016/679, (2017);

Hanold, S., Profiling und automatisierte einzelentscheidungen im versicherunsbereich, (2019);

Wiedemann, K., Rechtliche Implikationen Profling-basierter Preispersonalisierung, Munich Studies on Innovation and Competition, (2023);

Datenschutz-Grundverordnung, https://dejure.org/gesetze/DSGVO/4.html;

Schönner, K, Compliance unter Berücksichtigung der neuen DSGVO und national geltender Gesetze, Mittweida, (2019);

Huber, H., Das Recht im technischen Zeitalter: Rektoratsrede, Bern, (1960) ;

Zeidler, K., Über die Technisierung der Verwaltung, Karlsruhe, (1959);

Ulrich, K., Elektronische Datenverarbeitungsmaschinen im Recht, Köln/Berlin, (1964);

Simitis, S., Automation in der Rechtsordnung – Möglichkeiten und Grenzen, Karlsruhe, (1967);

Thouvenin, F., Früh, A., Automatisierte Entscheidungen: Grundfragen aus der Perspektive des Privatrechts, (2020);

Busch, C., Algorithmic Accountability, ABIDA, Gutachten, (2018);

Bostrom, N., SuperIntelligence, Oxford, (2014);

Metzinger, T., Die mitfühlende Superintelligenz, die Böses schafft, (2017);

Mendoza, I., Bygrave, L., The Right not to be Subject to Automated Decisions based on Profiling, EU Internet Law: Regulation and Enforcement, (2017);

Loi no. 78-17 du 6. janvier 1978 relative à l'informatique, aux fichiers et aux libertés;

Zakon o zaštiti podataka o ličnosti, Sl. glasnik RS, br. 87/2018;

Konvencija o zaštiti lica u odnosu na automatsku obradu ličnih podataka;

Zakon o potvrđivanju Konvencije o zaštiti lica u odnosu na automatsku obradu ličnih podataka;

Beg, M., Održivi ekonomski razvoj – prepreke i rješenja, Zbornik radova znanstvenog skupa: Modeli razvoja hrvatskog gospodarstva, (ur. Družić, G.; Družić, I., izdavač: Ekonomski fakultet Zagreb; Hrvatska akademija znanosti i umjetnosti), (2018);

Todaro, P. M., Smith, S. C., Economic Development, (2006);

Mićić, V., Ekonomski razvoj Republike Srbije determinisan sektorskom strukturom privrede, Ekonomski horizonti, vol. 19, (2017);

https://sr.economy-pedia.com/11039617-economic-development;

Veselinović, P., Maslovara, J., Uticaj stranih direktnih investicija na ekonomski razvoj Srbije u tranzitornom periodu, Ekonomski pogledi, vol. 16, (2014);

Đoković, V., Vasiljević, D., Barijere za investicije u Jablaničkom i Pčinjskom okrugu, Centar za razvoj Jablaničkog i Pčinjskog okruga, Leskovac, (2008).

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KONCEPT VEŠTAČKE INTELIGENCIJE I NjENI DOMETI U EKONOMSKOM RAZVOJU

Sažetak: Enormni porast i razvoj tehnologije, naročito od početka 21. veka, je uslovio porast broja informacija kojima smo okruženi. Zahvaljujući toj činjenici, stvoren je osnov za delovanje i ubrzani razvoj programa koji su zasnovani na konceptima veštačke inteligencije. Pomenuti programi svoj rad zasnivaju na automatizovanoj obradi, prikupljanju i sistematizaciji podataka bez učešća ljudske aktivnosti u ovim procesima odnosno bez upotrebe ljudske inteligencije. Zbog brzine i efikasnosti takvog načina manipulisanja sa velikim brojem podataka, koncept veštačke inteligencije unosi brojne promene i totalno menja način na koji funkcionišu brojne društvene oblasti. Predmet interesovanja autora će biti ukazivanje na sam značaj i način funkcionisanja koncepta veštačke inteligencije, ukazivanje na prednosti ali i loše strane tog koncepta a sve kroz sagledavanje njegovog uticaja na ekonomski razvoj.

Ključne reči: veštačka inteligencija, podaci o ličnosti, ekonomija, ekonomski razvoj, algoritam

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SCIENCE AND METHOD: METHODOLOGY OF SCIENTIFIC RESEARCH IN SPORT

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Abstracts: The monograph titled „Science and Method: Methodology of Scientific Research in Sport“, authored by Dejan Dasić, presents an in-depth analysis of the foundations of a scientific approach within the context of sports sciences. This manuscript examines the essential elements of any scientific research, regardless of the discipline in which it is conducted—ranging from the planning of research and the development of a scientific design to the selection of methodological approaches, data collection, and analysis. Published in 2023 by the Faculty of Sport at „Union University Nikola Tesla“ (Belgrade), this work serves as a valuable resource for researchers focused on phenomena and processes in the fields of sports and physical education.

Keywords: methodology, sports sciences, research process, interdisciplinarity, research planning and organization

1. Introduction

Science, as a dynamic and comprehensive field of human knowledge, has undergone significant transformations over the centuries. Its development has been marked not only by discoveries that radically altered our understanding of the world but also by changes in approaches, methods, and objectives dictated by contemporary conditions. One characteristic of modern societies is that science is no longer confined to laboratory research or theoretical debates within academic circles; on the contrary, it is increasingly interdisciplinary, global, and oriented towards practical issues. The influence of science is felt in all areas of social life—from medicine and ecology to economics and education—opening up numerous new opportunities as well as challenges (Vuković & Dašić, 2024; Dašić et al., 2024).

In the first chapter of the monograph „Science and Method: Methodology of Scientific Research in Sport," the essence of science is presented, along with its relationship to knowledge (Dašić, 2023a). The author elaborates on the role of science in the development of society and sports, emphasizing how sports institutions are becoming centers of knowledge and innovation. Special attention is given to the trends of digital transformation in sports, which is a key aspect of the modern sports system. Through a discussion of the characteristics of scientists in sports, this chapter provides deeper insight into the responsibility and significance of researchers in this field. Thanks to a detailed analysis of the concepts and postulates of science, readers are given the opportunity to gain insight into the issues of systematicity, objectivity, and precision in scientific knowledge. Some space is also dedicated to considering the relationship between science and other systems of ideas, including ethics, politics, art, and religion, contributing to an understanding of the complexity of their interactions (Dašić et al., 2023).

The author of this monographic work, after defining the concept of science, analyzes its basic elements, objectives, and tasks. At the center of the analysis are the postulates of science, such as objectivity, systematicity, precision, and organization of scientific knowledge, which provide a methodological framework for further consideration.

2. Methodology and Method

Methodology and methods are fundamental elements of any scientific research, regardless of the discipline in which the research is conducted. While methodology refers to the theoretical framework guiding the research and determining the approach to be used, methods represent the specific techniques and procedures for collecting and analyzing data. In modern science, appropriate methodology and well-chosen methods are crucial for ensuring the validity, reliability, and reproducibility of research.

The second chapter is dedicated to the methodology of scientific research. It primarily focuses on defining the concepts of methodology and the scientific method. The author details the structure of scientific knowledge, explaining key concepts such as scientific laws, hypotheses, and theories, and discusses the various levels of scientific knowledge. A noteworthy section addresses the transfer of scientific knowledge and its different forms, such as scientific explanation and prediction. The author engages with a wide range of scientific viewpoints and their practical applications, using examples like the Delphi method in a sports context.

Methodology involves a systematic plan that researchers use to address a research question or hypothesis. It encompasses the choice between qualitative and quantitative approaches, as well as the combination of both within the framework of mixed research. Thus, methodology provides a framework for research, guiding researchers in selecting the methods most appropriate for addressing specific research problems.

The author also reflects on various types of scientific views, explaining concepts such as facts, definitions, axioms, and theorems. The second chapter provides readers with foundational tools for understanding the functioning of scientific research in practice, paying special attention to the verification and falsification of scientific views, which is crucial for the development and confirmation of scientific theories.

Methods, on the other hand, include the specific techniques applied within the research process. These may involve data collection techniques such as surveys, interviews, experiments, or observations, as well as various methods of statistical analysis. Well-chosen methods enable researchers to obtain relevant data and draw valid conclusions. The choice of method depends on the nature of the research problem, as well as the type of data necessary to find answers to the research question.

In contemporary scientific research, the choice of methodology and methods depends not only on the research objectives but also on the technological and social conditions that shape the scientific community. Advances in technology, such as the use of artificial intelligence in analyzing large data sets, allow for new research methods that were previously impractical. These innovative trends influence how methodology and methods are applied across various disciplines, contributing to the improvement of scientific practices (Creswell & Creswell, 2023; Kovačević & Dašić, 2023).

3. Research Planning

Research planning is a crucial phase in the scientific process that allows for the systematic and organized execution of research. This phase includes defining research objectives, formulating hypotheses, selecting methodologies, and establishing the timeline and resources needed for the successful implementation of the study. Without adequate planning, research can become chaotic, insufficiently focused, and ultimately unsuccessful in providing relevant results.

The third chapter addresses research planning, describing the research process, the stages researchers go through, and the types of research applied in sports sciences. It offers an overview of general and specific scientific methods, ranging from analysis and synthesis to deduction, abstraction, and concretization. The author emphasizes the importance of selecting the appropriate research method and points out how crucial it is to adapt the methodological approach to the specifics of the research problem. Furthermore, the author explains various techniques of scientific research work, including surveys, interviews, measures, and tests. These methods and techniques provide concrete guidelines for researchers to effectively collect data and process it in a manner that meets scientific standards.

Research planning involves a series of steps designed to ensure that the research process is reliable and reproducible. The first step is identifying the research problem or question to be investigated. This step requires an in-depth analysis of existing literature to understand prior studies and identify gaps in knowledge that new research can fill. The next step is choosing the appropriate methodological approaches and methods that will enable the collection of relevant data and its analysis. During the planning process, researchers must consider all available resources, taking into account human and material capacities as well as the timeline to ensure that the study is conducted within the expected timeframe.

Thorough research planning not only contributes to the quality of scientific work but also reduces the risks associated with potential problems that may arise during the research process. It also facilitates better management of research teams and resources, which is especially important in large multidisciplinary studies. Contemporary trends in science emphasize the importance of applying strategic plans in research, which also pertains to the use of advanced technologies and big data analytics, further complicating the planning process.

Research planning is an indispensable step that ensures scientific rigor, transparency, and validity; it contributes to the successful achievement of research objectives and the quality of final results (Gray, 2023).

4. Draft of the Research Concept

A well-designed research outline enables researchers to systematically approach the resolution of research problems. This significantly reduces the likelihood of errors and enhances the credibility of the obtained results (Flick, 2018; Creswell & Creswell, 2017). The outline also provides a transparent framework for all stakeholders who wish to understand and possibly replicate the research, contributing to the validity and reliability of the scientific work (Thomas et al., 2015).

In sports sciences, a research design might include an experiment testing the impact of various training programs on athletes' physical fitness. In such a case, the researcher defines groups of athletes, measures their initial fitness levels, applies different training programs, and ultimately compares the results to conclude which program is the most effective.

The fourth chapter of the monograph focuses on defining research problems and scientifically shaping the research process. The author discusses the significance of previous research, offers explanations related to formulating hypotheses, identifies variables and indicators, and considers both scientific and social research objectives. This chapter details how to formulate the research problem both theoretically and operationally.

The author provides guidelines for establishing the scientific and social justification for the research, emphasizing the importance of both scientific and societal contributions. This chapter is particularly useful for researchers at the beginning of their studies, as it offers practical advice for creating research outlines and directs them toward understanding the complexities of scientific work.

5. Science and Sports

Chapter five examines the relationship between science and sports. This section introduces readers to the fundamental principles of sports sciences, with a particular focus on the historical development of kinesiology. The author analyzes the social and individual roles of sports through various conceptual frameworks, including humanistic, classicist, national-political, and utilitarian-economic perspectives.

Following this, the chapter explores the role of science in sports deve-lopment, considering innovations and technologies used to enhance athletic performance and proper nutrition. The chapter concludes with a discussion on data processing and statistical analysis in sports, highlighting the importance of using software tools for data analysis, which is crucial for modern scientific approaches in sports research.

The methodology of scientific research forms the foundation for a successful and valid research process across all scientific disciplines, including sports science. As a complex and multidimensional field, sports encompasses various aspects that can be analyzed from a scientific standpoint—ranging from physiological and biomechanical to psychological, sociological, and economic factors. In this context, applying systematic research methods and procedures is essential for understanding, developing, and improving sports in contemporary society.

The aim of methodology in scientific research within sports is to ensure a structured, objective, and reliable approach to collecting, analyzing, and interpreting data. A sports researcher must be able to select an appropriate methodology that fits the specific research problem, whether it involves investigating athlete performance, the impact of different training methods, or psychological factors affecting success in sports (Dašić, 2023b). The biographical method in sports sciences provides valuable insights into individual and group athletic performances by analyzing the personal and professional trajectories of athletes. This approach enables researchers to understand how factors such as socio-economic status, psychological aspects, and key developmental moments influence an athlete's success and motivation (Holt et al., 2010). Additionally, the biographical method allows for the collection of qualitative data that can enrich quantitative analyses and provide a deeper understanding of sports phenomena.

The choice of appropriate research methods—whether qualitative or quantitative—determines not only the direction of the research but also the credibility of the results obtained. Modern sports sciences increasingly rely on an interdisciplinary approach to research, connecting various scientific disciplines such as medicine, psychology, biomechanics, pedagogy, and sociology. This not only provides insights into the physical and cognitive capabilities of individuals but also into the social and cultural factors influencing athletic performance.

As technology plays an increasingly significant role in sports, the importance of scientific methodology becomes even more apparent. Advanced statistical software, performance tracking and analysis technologies, as well as the use of large databases, enable more comprehensive and precise analyses, allowing researchers to draw scientifically grounded conclusions.

6. Organization of Scientific Research

Scientific research plays a key role in the development of knowledge and addressing practical problems across various fields, including medicine, engineering, social sciences, sports, and many others. The organization of research involves a comprehensive process that includes planning, conducting, analyzing, and reporting research findings. In this context, good organization is essential for ensuring scientific rigor, data validity, and ethical approaches (Saunders et al., 2019).

Organizing scientific research requires effective management of resources such as human capital, time, and financial resources. Clear communication among research team members and other stakeholders—primarily institutions, funders, and the broader scientific community—is also necessary. Good organization implies a systematic approach to data collection and processing, ensuring reliable and reproducible results.

Chapter six focuses in detail on the organization of scientific research. It outlines guidelines for the preparation and drafting of scientific papers. The author analyzes the process of topic selection, the gathering of relevant literature and sources, and the formulation of titles and structures for the work. This part of the book provides practical advice for those planning to write scientific papers, emphasizing the importance of clear structure and systematic writing.

The most attention is given to the introductory and main sections of a scientific paper. The author highlights the significance of properly shaping introductory elements such as titles, abstracts, and acknowledgements, and offers suggestions on how to formulate content to convey information clearly and precisely.

In sports sciences, for instance, organizing research often involves collaboration between sports coaches, medical professionals, and scientists in the fields of biomechanics and physiology. (Dašić, 2023c; Vuković, et al, 2023). Well-organized studies can lead to significant discoveries in injury prevention, performance enhancement, and training optimization.

Conclusion

The monograph *„Science and Method: Methodology of Scientific Research Work in Sport“* presents a detailed and systematic overview of the methodological principles and practices essential for understanding scientific research in the field of sports. The author, Dejan Dašić, successfully combines a theoretical framework with practical examples, offering readers valuable guidelines for conducting research in sports sciences.

This book is an exceptionally useful resource for students, researchers, and scientists involved in sports sciences. It is also beneficial for those seeking comprehensive knowledge about methodology and scientific approaches to research. The wide range of topics covered, such as research planning, methodology, statistical data processing, and the role of science in sports, makes this monograph relevant for investigating various aspects of contemporary sports.

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References

Creswell, J. W. & Creswell, J. D. (2017). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. SAGE Publications.

Creswell, J. W. & Creswell, J. D. (2023). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (6th ed.). SAGE Publications.

Dašić D., Kostadinović G. & Stanković M. (2023) Ethical aspects of science and scientific knowledge. *International Journal of Cognitive Research in Science, Engineering and Education* (IJCRSEE), *11*(2), 343–350. https://doi.org/10.23947/2334-8496-2023-11-2-343-350/ impact faktor 0,7, Q2, WoS, Scopus.

Dašić, D., Ilievska Kostadinović, M., Vlajković, M. & Pavlović, M. (2024) Digital literacy in the service of science and scientific knowledge. *International Journal of Cognitive Research in Science, Engineering and Education* (IJCRSEE), *12*(1), 219-227. https://doi.org/10.23947/2334-8496-2024-12-1-219-227

Дашић Д., (2023a) *Наука и метод - методологија научноистраживачког рада у спорту.* Службени гласник, Факултет за спорт, Универзитет „Унион – Никола Тесла“, Београд

Dašić, D. (2023b) Biographical method in research in sports. *Ekonomski signali: poslovni magazin*, *18*(1), 53-67. DOI: 10.5937/ekonsig2301053D

Dašić, D. (2023c). Application of delphi method in sports. *Sport, media and business*, *9*(1), 59-71. https://doi.org/10.58984/smb2301059d

Flick, U. (2018). *An Introduction to Qualitative Research*. SAGE Publications.

Gray, D. E. (2023). *Doing Research in the Real World* (5th ed.). SAGE Publications.

Kovačević, A. & Dašić, D. (2022). The importance of knowledge management and the impact of social networks application on industry 5.0. *Ekonomski signali: poslovni magazin*, *17*(2), 51-64.

https://doi.org/10.5937/ekonsig2202051K

Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research Methods for Business Students* (8th ed.). Pearson.

Thomas, J. R., Nelson, J. K. & Silverman, S. J. (2015). *Research Methods in Physical Activity*. Human Kinetics.

Vuković, M. & Dašić, D. (2024). Methodology and research methods in public relations. Ekonomski signali: poslovni magazin, 19(1), 67-87. https://doi.org/10.5937/ekonsig2401067V

Vuković, M., Urošević, S., & Dašić, D. (2023). Threats to objectivity in the social science research. *Sport, media and business*, *9*(2), 143-158. https://doi.org/10.58984/smb2302143v

Holt, N. L., et al. (2010). „Sport and the Life Course" https://www.researchgate.net/publication/265422983_Stochastic_analysis_and_its_applications_Collection_of_scientific_works

NAUKA I METOD: METODOLOGIJA NAUČNOG ISTRAŽIVANJA U SPORTU

Sažetak: Monografija pod nazivom „Nauka i metod: metodologija naučnog istraživanja u sportu", autora Dejana Dašića, predstavlja dubinsku analizu osnova naučnog pristupa u kontekstu sportskih nauka. Ovaj rukopis ispituje bitne elemente svakog naučnog istraživanja, bez obzira na disciplinu u kojoj se sprovodi – od planiranja istraživanja i razvoja naučnog dizajna do odabira metodoloških pristupa, prikupljanja podataka i analize. Izdato 2023. godine od strane Fakulteta za sport Univerziteta Union „Nikola Tesla" (Beograd), ovaj rad služi kao dragocen resurs za istraživače fokusirane na pojave i procese u oblastima sporta i fizičkog vaspitanja.

Ključne reči: metodologija, sportske nauke, istraživački proces, interdisciplinarnost, planiranje i organizacija istraživanja

Ekonomski signali, 2024, 19 (2): 131-136

UPUTSTVO AUTORIMA ZA PRIPREMU RADOVA

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1. Uvod

Instrukcije i odgovarajući šablon MS Word dokumenta dati u ovom radu predstavljaju formu koju autori moraju poštovati prilikom pisanja radova za časopis Ekonomski signali. Radovi predati u tehnički neodgovarajućoj formi biće vraćeni na ispravku, ili odbijeni ukoliko izmene ne budu završene na vreme.

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Napomenimo da klasa/stil datoteka i šablon rada ne može biti promenjen. Zato je potrebno pridržavati se uputstva vezanog za format i veličinu fonta, sve u cilju da krajnji proizvod bude što je moguće više homogen.

2.1. Region za štampanje

Region za štampanje je 122 mm x 193 mm. Tekst treba biti poravnat sa obe strane kako bi se obezbedilo zauzimanje cele širine linije. Treba obezbediti da desna margina ne bude neravna, sa rečima koje su spojene crticom, kao što je uobičajeno.

2.2. Izgled, vrsta slova, veličina fonta i numerisanje

Koristiti font Century za sva formatiranja teksta. Koristiti veličinu 10 za ime (imena) autora i veličinu 9 za adresu (adrese) i rezime. Za glavni tekst koristiti veličinu fonta 10 i prored 1. Za naslove najvišeg nivoa (1., 2. itd.) koristiti veličinu 12, a za ostale nivoe koristiti veličinu 10. Italic stil može biti korišćen radi naglašavanja reči u tekstu. Podebljane i podvučene reči treba izbegavati. Sa ovim veličinama, prostor između linija trebao bi biti tako postavljen da na jednoj strani ima oko 45 linija punog teksta.

Naslovi. Naslovi treba da počinju velikim slovom i, sa izuzetkom naslova rada, trebaju biti poravnati sa leve strane. Veličine fonta date su u tabeli 1.

Leme, pretpostavke i teoreme. Brojevi koji se odnose na leme, pretpostavke, teoreme itd. treba da se pojavljuju u uzastopnom nizu, počev od broja 1, a ne, na primer, od broja 11.

Tabela 1. Veličine fonta za naslove. Naslovi tabela trebaju uvek biti pozicionirani iznad tabele. Poslednja rečenica naslova tabele treba biti završena bez tačke

Nivo naslova	Primer	Veličina fonta i stil
Naslov rada (centriran)	Predavanje o …	16, podebljan
Naslov prvog nivoa	**1 Uvod**	12, podebljan
Naslov drugog nivoa	**2.1 Region za štampan'e**	10, podebljan
Naslov trećeg nivoa	**Naslovi.** Tekst koji sledi …	10, podebljan
Naslov četvrtog nivoa	*Napomena.* Text koji sledi…	10, italic

2.3. Slike i fotografije

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Treba proveriti da li su linije crteža prekinute, ili cele i da li imaju konstantnu širinu. Mreža i detalji unutar slike moraju biti jasno čitljivi. Linije crteža moraju imati rezoluciju najmanje 800 dpi (poželjno je 1200 dpi). Za digitalne crno-bele ilustracije (polutonove) 300 dpi je obično dovoljno. Natpis na slikama treba da ima širinu od 2 mm (veličina 10).

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Napomena 1. U štampanim brojevima, ilustracije su generalno crno-bele (polutonovi) i samo u izuzetnim slučajevima, ukoliko je autor spreman da pokrije dodatne troškove za reprodukciju slika u boji, mogu se prihvatiti slike u boji. Ukoliko su slike u boji neophodne, molimo vas da nam pošaljete odvojene datoteke u boji.

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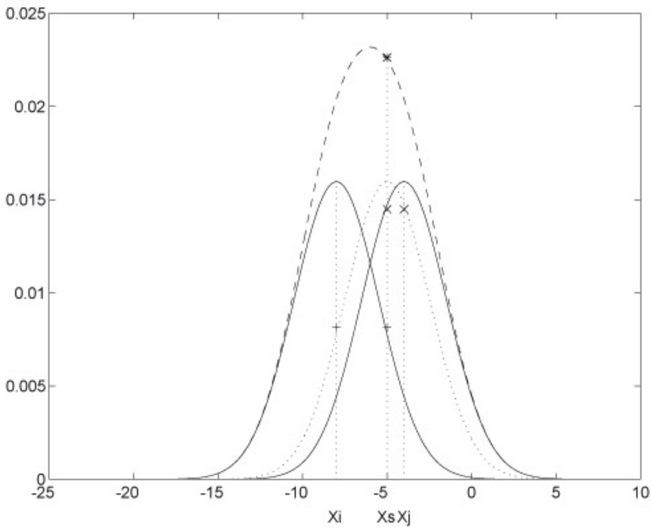

Slika 1. Ovo je prikaz slike koja se sastoji od različitih tipova linija. Elementi slike opisani u naslovu trebali bi biti napisani u *italic* stilu. Poslednja rečenica u naslovu slike treba, generalno, da se završava bez tačke

2.4. Formule

Prikazane jednačine ili formule su centrirane i stavljene u posebnu liniju (sa dodatnom linijom prostora iznad i ispod). Prikazani izrazi trebaju biti numerisani. Bro'evi trebaju biti uzastopni unutar svake sekcije, ili unutar priloga, sa bro'evima koji su zatvoreni zagradama i koji se nalaze na desnoj margini. Na primer:

$$x + y = z\ . \tag{1}$$

Molimo vas da punktirate prikazane jednačine kao i originalan tekst, ali sa malim razmakom pre interpunkcijskog znaka.

2.5. Programski kod

Programski listinzi, ili programske komande u tekstu se postavljaju u tekstu u fontovima Courier, ili Courier New.

Primer kompjuterskog programa Jensen K., Wirth N. (1991) Pascal user manual and report. Springer, New Mork

```
program Inflation (Output)
   {Assuming annual inflation rates of 7%, 8%, and
   10%,... years};
   const MaxYears = 10;
   var  Year: 0..MaxYears;
         Factor1, Factor2, Factor3: Real;
   begin
      Year := 0;
      Factor1 := 1.0; Factor2 := 1.0; Factor3 := 1.0;
      WriteLn('Year 7% 8% 10%'); WriteLn;
      repeat
          Year := Year + 1;
          Factor1 := Factor1 * 1.07;
          Factor2 := Factor2 * 1.08;
          Factor3 := Factor3 *1.10;
          WriteLn(Year:5,Factor1:7:3,Factor2:7:3,
              Factor3:7:3)
      until Year = MaxYears
end.
```

2.6. Endnote

Endnote treba smestiti na kraju rukopisa, ispred Referenaca.

Fusnote se ne prihvataju.

2.7. Citati

Prezime autora, godina publikovanja i strana izvora: na primer: (Wang, 1997, 144);

Direktno navođenje u tekstu, na primer: „Ako su ljudi zauzeti ceo dan ...“ (Heleta, 2008, 110). Ili, na primer: Heleta (2008, 112) navodi „... kreativnost predstavlja pobedu navika sa originalnošću“.

2.8. Numerisanje strana i zaglavlja

Rad ne treba da sadrži numerisane strane: njih će postaviti izdavač. Nije potrebno stavljati ni zaglavlja (Header and Footer).

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Očekuje se da, pored elektronske verzije u MS Word, i PDF formatu, treba priložiti i štampanu verziju (jednostrano štampanu). Molimo vas da koristite štampače visoke rezolucije, preporučljivo je laserske štampače sa najmanje 300 dpi. Tekst treba biti poravnat sa obe strane. Format papira (A4, Letter) je irelevantan.

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- datoteku u PDF formatu;
- jednostranu štampanu verziju (ne fotokopiju) finalne verzije rada;
- datoteke sa stilovima, šablonima i specijalnim fontovima koji su, možda korišćeni;

Ukoliko postoji dodatni materijal, potrebno je poslati:

- kratak opis dodatnog materijala;
- datoteke sa slikama u boji u elektronskoj verziji

4. Reference

U tekstu:

- u slučaju jedne reference, izvor se navodi na sledeći način: (Keur, 2014, 423-425);
- u slučaju više referenaca, izvore treba poredati hronološki, na primer: (Heleta M,. 2008, 120-121; Frain, B. 2014, 166)
- ukoliko je referenca publikacija zvanične organizacije navodi se skraćenica naziv (RZS, 2010, 22)

Kod referenci sa jednim ili dva autora, navode se prezimena autora, godina izdanja, i strana. Primer dva autora: (Talbot & McLean, 2014, 115)

Kod referenci sa tri ili više autora, navodi se prvi autor i nastavak „i dr.," (autori na engleskom nastavak „et al.,". Primer: (Trklja i dr., 2015, 125), odnosno (Keur et al., 2014, 89).

U listi referenaca na kraju rukopisa:

- treba navesti samo one izvore na koje se autori neposredno pozivaju i na njih upućuju u svom rukopisu;
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- ukoliko više od 'edne reference ima isto autorstvo i datum - da bi se obezbedilo razlikovan'e referenaca - koristi se: a, b,... nakon datuma, na primer: Jackson, M. C. (2006a);
- ukoliko neka referenca posedu'e DOI bro', treba ga navesti na kra'u reference.
- u referencu publikacije zvanične organizaci'e doda'e se skraćenice iza naziva.

4.1. Knjiga sa jednim autorom:

Frain, B. (2014). *HTML5 i CSS3, Prilagodljiv web dizajn*, Beograd, Kompjuter biblioteka

Heleta M. (2008). *Menadžment kvaliteta*, Beograd, Univerzitet Singidunum

4.2. Knjiga sa dva autora:

Talbot, J. & McLean, J. (2014). *Programiranje Android aplikacija*, Beograd, CET

4.3. Knjiga sa više od dva autora:

Keur, C., Hillegass, A. & Conway, J. (2014). *Pragramiranje aplikacija za IOS*, Beograd, Mikro knjiga

4.4. Članak u časopisu:

Trkl'a R., Dašić B. & Trklja M. (2015). Budžet Republike Srbije - pregled prihoda i rashoda. Leposavić, *Ekonomski signali*, 10(2), str. 44.

4.5. Web site:

Krstanoski, N. (2015). Trunk with branches public transport scheduling under condition of uniform headway operation, *International Journal for Traffic and Transport Engineering, 2015, 5(4): 400 - 405*, Posećeno 01.06.2016, http://ijtte.com/issues/64/

4.6. Zvanična publikacija

Republički zavod za Statistiku (RZS). (2010). Klasifikacija delatnosti. Beograd, Republika Srbi'a: Republički zavod za Statistiku.

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33

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