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ČLANCI / ARTICLES

UNEMPLOYMENT CONVERGENCE IN THE EUROPEAN UNION: CRISIS ADJUSTMENT AND RECOVERY DYNAMICS

Dejan Obućinski¹, Svetlana Marković², Andrija Blanuša³

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Original Article

Abstract

This study examines unemployment convergence across the 27 member states of the European Union during the post-crisis decade. Using annual panel data covering the period 2010–2019, the analysis investigates whether labor market disparities narrowed following the sovereign debt crisis and during the subsequent recovery phase. A fixed-effects framework is employed to test for β -convergence in unemployment rates, complemented by sub-period estimations that distinguish between the crisis-adjustment phase (2010–2013) and the recovery period (2014–2019).

The results indicate statistically significant unemployment convergence throughout the decade. Convergence dynamics were stronger during the immediate post-crisis adjustment phase, with an estimated annual speed of adjustment of approximately 20 percent, and remained present - though more moderate - during the recovery period. These findings suggest that EU labor markets exhibited systematic mean reversion following the crisis, contributing to a gradual reduction in cross-country disparities in unemployment rates. The evidence is robust to alternative specifications and supports the view that labor market integration mechanisms intensified during periods of macroeconomic stress.

Overall, the study provides empirical evidence of dynamic labor market convergence within the European Union, highlighting the differentiated adjustment patterns between crisis and recovery phases.

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1. Introduction

The question of convergence has remained central to modern macroeconomics since the revival of growth theory in the early 1990s. Within the neoclassical framework, economies are expected to converge toward their steady-state equilibria conditional on structural characteristics such as savings behavior, demographic dynamics, and institutional settings (Barro & Sala-i-Martin, 1992, 2004). While the bulk of the empirical literature has focused on income convergence, the convergence concept has increasingly been applied to other macroeconomic variables, including productivity, inflation, fiscal balances, and labor market indicators.

Unemployment, in particular, represents a critical dimension of economic integration within the European Union (EU). Persistent cross-country disparities in unemployment rates raise questions about the effectiveness of common market mechanisms, monetary coordination, and structural reforms. Following the global financial crisis and the subsequent sovereign debt crisis, EU member states experienced highly asymmetric labor market shocks. Southern economies such as Greece and Spain faced dramatic surges in unemployment, while core economies exhibited comparatively stable labor market conditions. These divergences revived concerns regarding structural imbalances within the euro area and the broader EU framework.

Empirical research on convergence has progressively moved beyond homogeneous steady-state assumptions. Contributions incorporating heterogeneity and transitional dynamics emphasize that convergence may occur conditionally and may differ across sub-periods characterized by macroeconomic stress or stabilization (Durlauf & Johnson, 1995; Islam, 1995).

Recent empirical studies have examined convergence patterns within the EU using panel methodologies and club convergence approaches. Evidence suggests that while income convergence within the EU remains incomplete, periods of macroeconomic stress may induce stronger adjustment dynamics (Phillips & Sul, 2007; Próchniak & Witkowski, 2012). However, comparatively less attention has been devoted to labor market convergence in the post-crisis decade, particularly with explicit differentiation between crisis-adjustment and recovery phases.

Understanding unemployment convergence is especially relevant in the European context, where labor mobility, structural funds, fiscal surveillance, and coordinated policy responses aim to mitigate regional disparities. The post-2010 period provides a natural laboratory for examining whether crisis-induced divergence was followed by systematic mean reversion. If convergence mechanisms intensified during or after the crisis, this would suggest that EU integration frameworks contributed to labor market stabilization.

This study investigates unemployment convergence across the 27 EU member states over the period 2010–2019. Using annual panel data and a fixed-effects estimation strategy, the analysis tests for β -convergence in unemployment rates. Importantly, the study distinguishes between two sub-periods: the immediate post-crisis adjustment phase (2010–2013) and the subsequent recovery period (2014–2019). This distinction allows for an assessment of whether convergence dynamics differed between crisis stabilization and expansionary phases.

The findings indicate statistically significant unemployment convergence throughout the decade, with stronger adjustment dynamics during the crisis-adjustment phase and more moderate, yet persistent, convergence during the recovery period. These results contribute to the broader literature on European macroeconomic integration by providing evidence that labor market disparities narrowed in the aftermath of the crisis, albeit at varying speeds across phases.

The remainder of the paper is structured as follows. Section 2 reviews the relevant literature on convergence and labor market adjustment. Section 3 describes the data and variables. Section 4 outlines the empirical methodology. Section 5 presents the results. Section 6 discusses the implications of the findings, and Section 7 concludes.

2. Literature Review

The concept of convergence originates in the neoclassical growth framework, where economies are expected to approach their steady-state equilibria conditional on structural characteristics such as capital accumulation, demographic trends, and institutional quality (Barro & Sala-i-Martin, 1992, 2004). Early empirical studies introduced panel approaches that allowed for country-specific heterogeneity, providing evidence of conditional β -convergence within relatively homogeneous groups of economies (Islam, 1995). Subsequent contributions emphasized that convergence may not be universal and that multiple equilibria or threshold effects may generate persistent divergence across broader samples (Azariadis & Drazen, 1990; Durlauf & Johnson, 1995).

Beyond income convergence, the convergence framework has increasingly been applied to macroeconomic stability indicators and labor market outcomes. Labor market convergence is particularly relevant within monetary unions, where asymmetric shocks cannot be offset through exchange rate adjustments. Theoretical contributions highlight that labor mobility, wage flexibility, and fiscal transfers play central roles in mitigating regional disparities.

Empirical research on European convergence has produced mixed results. Some studies document partial income convergence among EU members, while others emphasize persistent structural heterogeneity between core and peripheral economies (Próchniak & Witkowski, 2012). Methodological advancements, particularly the time-varying factor model and log-t test introduced by Phillips and Sul (Phillips & Sul, 2007, 2009), demonstrated that full-sample convergence may be rejected even when subgroups of economies exhibit convergence patterns. This club-convergence perspective has influenced subsequent research on European macroeconomic dynamics.

The labor market dimension of convergence has received comparatively less systematic attention. Unemployment dynamics are often characterized by persistence and potential hysteresis effects, whereby temporary shocks may generate long-lasting structural impacts. Cross-country differences in labor market institutions, wage-setting mechanisms, and structural reform trajectories contribute to heterogeneous adjustment speeds. Empirical studies suggest that labor market integration within the EU remains incomplete, with substantial differences in unemployment levels and responsiveness to shocks across member states (Nickell et al., 2005).

The global financial crisis and the subsequent sovereign debt crisis introduced unprecedented asymmetries within the European Union. Southern European economies experienced dramatic surges in unemployment, while core economies maintained relatively stable labor markets. Research examining post-crisis macroeconomic adjustment highlights that periods of stress may trigger accelerated structural reforms and stronger policy coordination mechanisms. At the same time, divergence during crisis episodes may temporarily increase dispersion before convergence resumes during recovery phases.

Recent empirical contributions have revisited European convergence using updated panel datasets and refined econometric techniques. Studies focusing on income and institutional convergence within the EU and the Western Balkans provide evidence that convergence dynamics may vary across phases and structural groupings (Lalić & Trifunović, 2026b, 2026d, 2026c, 2026a). These

analyses indicate that while full-sample convergence may appear modest, sub-period analyses often reveal stronger adjustment mechanisms during crisis or post-crisis stabilization phases. Related studies also emphasize the importance of digital transformation, human capital development, and sustainability-oriented policies as complementary factors supporting long-term socio-economic adjustment processes (Pajić et al., 2025; Bučalina Matić et al., 2024). Although primarily centered on income and institutional indicators, these findings suggest that convergence processes may intensify during periods of macroeconomic stress.

Institutional and macroeconomic credibility also play important roles in shaping adjustment dynamics. Regional academic contributions underline the structural constraints associated with institutional capacity and competitiveness (Anufrijev et al., 2026). Analyses of fiscal sustainability and monetary stabilization emphasize that disciplined macroeconomic frameworks support long-run adjustment and stability (Obućinski et al., 2025; Šare et al., 2026). Research on regulatory alignment and cross-border cooperation within Europe further suggests that institutional harmonization remains uneven between core and peripheral regions (Candida Bussoli & Ilenia Fraccalvier, 2025; Fejes, 2025). Knowledge and information management have increasingly been recognized as important determinants of organizational competitiveness and economic resilience (Mihajlović et al., 2024). While these studies do not directly test unemployment convergence, they provide contextual evidence of persistent structural heterogeneity that may influence labor market adjustment speeds.

Within this broader literature, unemployment convergence remains an underexplored dimension of European integration. Given the asymmetric nature of crisis shocks and the subsequent policy responses, distinguishing between crisis-adjustment and recovery phases may provide clearer insight into convergence dynamics. If labor markets exhibit mean reversion following macroeconomic stress, convergence may be stronger during adjustment periods and more moderate during expansionary phases. This study builds on the convergence tradition while focusing specifically on unemployment dynamics within the EU during the post-crisis decade.

3. Data and Variables

This study employs annual panel data covering the 27 member states of the European Union over the period 2010–2019. The selected time frame captures the post-sovereign debt crisis decade, allowing for the analysis of labor market

adjustment during both the crisis-stabilization phase and the subsequent recovery period. Restricting the sample to EU member states ensures institutional comparability and avoids structural discontinuities associated with accession dynamics.

All macroeconomic variables are obtained from the World Bank's *World Development Indicators* (WDI), ensuring cross-country consistency and methodological harmonization. The primary variable of interest is the unemployment rate, measured as the percentage of the total labor force. This indicator provides a standardized measure of labor market slack across member states and serves as the basis for testing convergence dynamics.

To examine β -convergence in unemployment, the empirical specification relies on the change in the unemployment rate as the dependent variable, constructed as the first difference of the annual unemployment rate. The lagged unemployment rate is included as the key explanatory variable. A negative and statistically significant coefficient on the lagged level indicates mean reversion and thus convergence in unemployment rates across countries.

In addition to the baseline specification, several macroeconomic controls are incorporated to account for cyclical and structural influences on labor market dynamics. Real GDP growth is included to capture aggregate demand conditions and cyclical fluctuations. Gross capital formation (as a percentage of GDP) serves as a proxy for domestic investment intensity and productive capacity expansion. In alternative specifications, additional macroeconomic variables such as foreign direct investment inflows and institutional quality indicators are introduced to assess robustness.

All variables are expressed in comparable units as provided by the World Bank database. The panel structure allows for the inclusion of country fixed effects to control for time-invariant national characteristics and year fixed effects to capture common shocks affecting all member states simultaneously. This framework isolates within-country adjustment dynamics and focuses on relative convergence rather than absolute cross-sectional differences.

Descriptive statistics indicate substantial heterogeneity in unemployment levels at the beginning of the sample period, reflecting the asymmetric impact of the crisis across EU member states. Over time, dispersion in unemployment rates declines, suggesting potential convergence during the recovery phase. These patterns motivate the formal econometric analysis presented in the subsequent sections.

4. Methodology

To examine unemployment convergence across EU member states, the empirical analysis is grounded in the β -convergence framework adapted to labor market dynamics. In this context, convergence implies that countries with higher initial unemployment rates experience stronger subsequent reductions in unemployment relative to countries with lower initial rates. Formally, convergence is tested by estimating the following specification:

$$\Delta U_{i,t} = \alpha + \beta U_{i,t-1} + \mu_i + \lambda_t + \varepsilon_{i,t}$$

where $\Delta U_{i,t}$ denotes the annual change in the unemployment rate in country i at time t , $U_{i,t-1}$ represents the lagged unemployment rate, μ_i captures country-specific fixed effects, λ_t denotes year fixed effects, and $\varepsilon_{i,t}$ is the error term. A negative and statistically significant coefficient β indicates mean reversion in unemployment rates and thus β -convergence across countries.

The inclusion of country fixed effects controls for time-invariant structural characteristics such as labor market institutions, demographic composition, and long-run policy frameworks. Year fixed effects capture common macroeconomic shocks, including EU-wide policy interventions and global economic fluctuations. This two-way fixed-effects framework focuses on within-country dynamics over time and eliminates bias arising from unobserved heterogeneity.

To assess conditional convergence, the baseline specification is extended by incorporating macroeconomic control variables:

$$\Delta U_{i,t} = \alpha + \beta U_{i,t-1} + \gamma X_{i,t} + \mu_i + \lambda_t + \varepsilon_{i,t}$$

where $X_{i,t}$ includes real GDP growth and gross capital formation as proxies for cyclical demand conditions and investment dynamics. This extension allows the analysis to distinguish between pure mean reversion and convergence conditional on macroeconomic performance.

Given the potential presence of heteroskedasticity and cross-sectional dependence in macroeconomic panel data, standard errors are clustered at the country level in the baseline estimations. As an additional robustness check, Driscoll–Kraay standard errors are computed to account for cross-sectional correlation and temporal dependence in the residuals.

In order to examine whether convergence dynamics differed between phases of macroeconomic stress and recovery, the sample is divided into two sub-periods: the crisis-adjustment phase (2010–2013) and the recovery phase (2014–2019).

The same β -convergence specification is estimated separately for each sub-period. This approach enables a direct comparison of adjustment speeds across phases and allows for the identification of potential structural shifts in labor market dynamics.

Finally, σ -convergence is assessed by analyzing the evolution of cross-country dispersion in unemployment rates over time. For each year, the standard deviation of unemployment across EU member states is calculated. A negative time trend in this dispersion measure indicates σ -convergence. The following regression is estimated:

$$\sigma_t = \alpha + \delta t + \varepsilon_t$$

where σ_t represents the cross-sectional standard deviation of unemployment in year t . A negative and statistically significant coefficient δ provides evidence of declining dispersion and thus σ -convergence.

Together, the β - and σ -convergence approaches provide complementary perspectives on labor market integration. While β -convergence captures the speed of mean reversion in individual countries, σ -convergence reflects the evolution of overall cross-country dispersion. The combination of these methods allows for a comprehensive assessment of unemployment convergence within the European Union during the post-crisis decade.

5. Results

5.1 Full-Sample Unemployment β -Convergence (2010–2019)

The full-sample estimation provides strong evidence of unemployment β -convergence across EU member states during the period 2010–2019. The coefficient on the lagged unemployment rate is negative and highly statistically significant (-0.3061, $p < 0.001$), indicating substantial mean reversion.

Table 1. Unemployment β -Convergence, Full Sample (EU-27, 2010–2019)

Variable	Coefficient	Std. Error	t-Statistic	p-Value
Unemp_lag	-0.3061***	0.0567	-5.401	<0.001
Country FE	Yes			
Year FE	Yes			

Notes: Dependent variable is the annual change in unemployment. Standard errors are clustered at the country level. *** $p < 0.001$.

The magnitude of the coefficient implies an annual adjustment speed of approximately 30 percent, suggesting that countries with higher initial unemployment rates experienced significantly faster reductions in unemployment growth compared to countries with lower initial rates. This result indicates a robust convergence process in labor market conditions across the European Union during the post-crisis decade.

5.2 Conditional Unemployment Convergence

To assess whether convergence persists after controlling for macroeconomic conditions, the baseline specification is extended by including GDP growth and gross capital formation as control variables.

Table 2. Conditional Unemployment β -Convergence (Clustered Standard Errors)

Variable	Coefficient	Std. Error	t-Statistic	p-Value
Unemp_lag	-0.2443***	0.0432	-5.658	<0.001
GDP_growth	-0.2020***	0.0693	-2.916	0.007
CapitalFormation	-0.0406**	0.0171	-2.383	0.025
Country FE	Yes			
Year FE	Yes			

Notes: Dependent variable is the annual change in unemployment. Standard errors clustered at the country level. *** $p < 0.01$, ** $p < 0.05$.

The convergence effect remains negative and highly statistically significant after controlling for macroeconomic performance. The coefficient on the lagged unemployment rate (-0.2443) implies an annual adjustment speed of approximately 24 percent, confirming the robustness of unemployment convergence within the EU.

GDP growth exhibits the expected negative association with changes in unemployment, indicating that stronger economic performance contributes to faster reductions in unemployment. Gross capital formation is also negatively related to unemployment dynamics, suggesting that higher investment intensity is associated with improved labor market outcomes.

To further account for potential cross-sectional dependence and serial correlation, Driscoll–Kraay standard errors are reported in Table 3.

Table 3. Conditional Convergence (Driscoll–Kraay Standard Errors)

Variable	Coefficient	Std. Error	t-Statistic	p-Value
Unemp_lag	-0.2443***	0.0528	-4.626	0.0017
GDP_growth	-0.2020**	0.0826	-2.447	0.040
CapitalFormation	-0.0406*	0.0212	-1.918	0.091
Country FE	Yes			
Year FE	Yes			

Notes: Driscoll–Kraay standard errors correct for cross-sectional and temporal dependence. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

The results remain qualitatively unchanged under the more conservative error correction. The convergence coefficient remains negative and statistically significant at the 1 percent level. GDP growth continues to exert a statistically significant effect, while the investment variable becomes marginally significant at the 10 percent level.

Overall, the conditional specifications confirm that unemployment convergence in the European Union during 2010–2019 was not solely a mechanical mean reversion process, but was also associated with macroeconomic performance and investment dynamics.

5.3 Phase-Specific Convergence: Crisis vs. Recovery

To examine whether convergence dynamics differed across macroeconomic phases, the sample is divided into two sub-periods: the crisis-adjustment phase (2010–2013) and the recovery phase (2014–2019). The same β -convergence specification is estimated separately for each period.

Table 4. Unemployment β -Convergence by Sub-Period

Variable	Crisis Phase (2010–2013)	Recovery Phase (2014–2019)
Unemp_lag	-0.1998**	-0.1458*

Variable	Crisis Phase (2010–2013)	Recovery Phase (2014–2019)
	(0.0599)	(0.0539)
t-statistic	−3.335	−2.704
Observations	81	162
Country FE	Yes	Yes
Year FE	Yes	Yes
Within R ²	0.2096	0.1120

Notes: Dependent variable is the annual change in unemployment. Standard errors clustered at the country level are reported in parentheses. ** $p < 0.01$, * $p < 0.05$.

The results indicate statistically significant unemployment convergence in both sub-periods. During the crisis-adjustment phase (2010–2013), the estimated coefficient of -0.1998 implies an annual adjustment speed of approximately 20 percent. This suggests relatively rapid mean reversion in unemployment rates under conditions of macroeconomic stress.

In the recovery phase (2014–2019), convergence persisted but at a more moderate pace. The estimated adjustment speed of roughly 15 percent annually indicates that labor market equalization continued, although less intensively than during the crisis period.

The stronger convergence during the crisis-adjustment phase is consistent with the view that severe labor market imbalances triggered accelerated adjustment mechanisms. Countries experiencing sharp increases in unemployment during the sovereign debt crisis appear to have undergone faster corrective dynamics. During the recovery period, convergence remained present but proceeded through more gradual cyclical and structural channels.

Overall, the phase-specific analysis suggests that unemployment convergence in the European Union was not uniform across the decade. Instead, convergence dynamics were stronger during periods of macroeconomic stress and became more moderate once stabilization was achieved.

5.4 Sigma-Convergence in unemployment

While β -convergence evaluates whether countries with higher initial unemployment experience faster reductions, sigma-convergence examines whether cross-country dispersion in unemployment rates decreases over time.

Sigma-convergence is assessed using the annual cross-sectional standard deviation of unemployment rates across EU Member States.

Table 5. Cross-Country Dispersion of Unemployment (σ) in the EU, 2010–2019

Year	Standard Deviation (sd_unemp)
2010	4.3780
2011	4.3424
2012	5.2455
2013	5.6284
2014	5.3442
2015	4.8912
2016	4.4592
2017	4.0812
2018	3.6362
2019	3.2807

The negative coefficient on the time trend (-0.149) indicates a decline in cross-country unemployment dispersion of approximately 0.15 percentage points per year. Although statistical significance is at the 10 percent level ($p \approx 0.068$), the magnitude and consistent downward pattern after 2013 provide supportive evidence of sigma-convergence during the latter part of the decade.

Taken together, the beta- and sigma-convergence results present a coherent picture. Unemployment rates converged both in terms of individual country adjustments (β -convergence) and in terms of reduced cross-country dispersion (σ -convergence), particularly during the post-crisis recovery phase.

6. Discussion

The empirical findings indicate that unemployment convergence in the European Union during 2010–2019 was present but phase-dependent. Absolute β -convergence results demonstrate statistically significant adjustment dynamics across Member States, suggesting that countries with initially higher unemployment rates experienced faster reductions over time. The estimated annual adjustment speed of approximately 20-30 percent implies a relatively meaningful process of labor market equalization within the Union.

However, the sub-period analysis reveals that convergence was not uniform throughout the decade. During the crisis-adjustment phase (2010–2013), convergence was stronger, indicating accelerated correction of extreme labor market imbalances. This pattern is consistent with the view that severe macroeconomic shocks may intensify adjustment mechanisms, either through structural reforms, labor market flexibility, or cyclical rebounds from sharp contractions.

In contrast, during the recovery phase (2014–2019), convergence persisted but at a more moderate pace. This suggests that once acute crisis pressures subsided, labor market dynamics evolved more gradually. The slower convergence in the recovery period may reflect structural heterogeneity in employment systems, productivity patterns, and demographic trends across Member States.

The conditional models further indicate that convergence was not purely mechanical mean reversion. GDP growth is consistently associated with reductions in unemployment, highlighting the role of macroeconomic performance in shaping labor market outcomes. Investment intensity also contributes to unemployment adjustments, although its significance weakens under more conservative standard error corrections. These results align with the broader macroeconomic literature emphasizing the importance of growth and capital accumulation in employment dynamics.

The sigma-convergence analysis complements these findings. Cross-country dispersion in unemployment increased during the sovereign debt crisis, peaking in 2013, and subsequently declined during the recovery. The trend regression confirms a gradual reduction in dispersion over the decade, albeit at moderate statistical significance. This pattern suggests that divergence during the crisis was followed by a process of re-alignment rather than persistent fragmentation.

Taken together, the results indicate that labor market convergence within the European Union is sensitive to macroeconomic conditions. Periods of systemic stress may temporarily widen disparities but can also trigger stronger adjustment dynamics. Conversely, stabilization periods are characterized by slower, more incremental convergence.

From a broader integration perspective, the findings suggest that the EU labor market framework - while lacking full fiscal and employment policy centralization - has exhibited a capacity for medium-term equalization following asymmetric shocks. However, convergence appears contingent on supportive macroeconomic environments rather than being an automatic structural outcome.

These results should be interpreted cautiously. The analysis covers a single decade and focuses exclusively on EU Member States. Moreover, while fixed-effects models control for time-invariant heterogeneity, they do not fully address potential structural breaks or deep institutional differences across national labor markets. Nonetheless, the consistency of β - and σ -convergence evidence strengthens the conclusion that labor market disparities narrowed during the post-crisis recovery phase.

7. Conclusion

This study examined unemployment convergence across the 27 member states of the European Union during the period 2010–2019. Using a fixed-effects panel framework and complementary dispersion analysis, the results provide consistent evidence of labor market convergence in the post-crisis decade.

The full-sample estimates indicate statistically significant β -convergence, suggesting meaningful mean reversion in unemployment rates across EU member states. Countries with higher initial unemployment levels experienced faster reductions in unemployment growth, contributing to gradual equalization. The estimated speed of adjustment implies that labor market disparities narrowed at a measurable annual rate.

Importantly, convergence dynamics differed across phases. During the crisis-adjustment period (2010–2013), convergence was stronger, reflecting accelerated correction of severe labor market imbalances. In the recovery phase (2014–2019), convergence persisted but at a more moderate pace. This phase-dependent pattern indicates that labor market equalization within the European Union is influenced by macroeconomic conditions and adjustment pressures.

The sigma-convergence analysis reinforces these findings. Cross-country dispersion in unemployment increased during the peak of the sovereign debt crisis but subsequently declined throughout the recovery period. This suggests that divergence during macroeconomic stress was not permanent and was followed by gradual re-alignment.

Overall, the evidence indicates that EU labor markets exhibited systematic convergence during the post-crisis decade. While convergence was not instantaneous, and disparities temporarily widened during the crisis, the medium-term trajectory points toward reduced unemployment differentials across member states.

From a policy perspective, the findings suggest that European labor market integration mechanisms - supported by macroeconomic coordination and structural adjustments - can contribute to stabilization following asymmetric

shocks. However, convergence appears conditional on broader economic recovery rather than being fully automatic.

Future research may extend the analysis by incorporating longer time horizons, examining structural break effects, or exploring the role of institutional heterogeneity in shaping convergence speeds. Nonetheless, the present study provides empirical support for the presence of labor market convergence within the European Union during the decade following the sovereign debt crisis.

References

1. Anufrijev, A., Aničić, A., Dašić, G., & Tasić, S. (2026). ANALYSIS OF COMPETITIVENESS INDICATORS OF SMALL AND MEDIUM-SIZED ENTERPRISES IN THE WESTERN BALKANS REGION WITH SPECIAL REFERENCE TO THE FREQUENCY AND SHARE OF EMPLOYEES. *Akcionarstvo*. <https://doi.org/10.65772/ak202514>
2. Azariadis, C., & Drazen, A. (1990). Threshold Externalities in Economic Development. *The Quarterly Journal of Economics*, 105(2), 501–526. <https://doi.org/10.2307/2937797>
3. Barro, R. J., & Sala-i-Martin, X. (1992). Convergence. *Journal of Political Economy*, 100(2), 223–251.
4. Barro, R. J., & Sala-i-Martin, X. (2004). *Economic growth* (2nd ed). MIT Press.
5. Bučalina Matić, A., Trifunović, D., & Blanuša, A. (2024). Značaj adekvatnog upravljanja otpadom i reciklaže u zaštiti životne sredine. *Društveni horizonti*, 3(7), 71–90. <https://doi.org/10.5937/drushor2407071B>
6. Candida Bussoli & Ilenia Fraccalvier. (2025, August 19). Circular Economy Disclosure in European Banks: A Substantive Commitment or Symbolic Compliance? *Društveni Horizonti*. <https://drustveni-horizonti.fdn.edu.rs/articles/60>
7. Durlauf, S. N., & Johnson, P. A. (1995). Multiple regimes and cross-country growth behaviour. *Journal of Applied Econometrics*, 10(4), 365–384. <https://doi.org/10.1002/jae.3950100404>
8. Fejes, Z. (2025, August 12). Evolution of Cross-Border Cooperation in the European Union – Challenges and Opportunities1. *Društveni Horizonti*. <https://doi.org/10.5937/drushor2305055F>
9. Islam, N. (1995). Growth Empirics: A Panel Data Approach*. *The Quarterly Journal of Economics*, 110(4), 1127–1170.

<https://doi.org/10.2307/2946651>

10. Lalić, G., & Trifunović, D. (2026a). Economic and Institutional Convergence in Europe (2004–2023): EU Core, New Members, and the Western Balkans. *Economies*, *14*(4), 142. <https://doi.org/10.3390/economies14040142>
11. Lalić, G., & Trifunović, D. (2026b). Income Convergence in Europe: The Role of Institutions and Structural Factors. *Social Sciences*, *15*(3), 180. <https://doi.org/10.3390/socsci15030180>
12. Lalić, G., & Trifunović, D. (2026c). Institutional Quality as a Conditioning Factor of Convergence: Evidence from European Economies. *World*, *7*(4), 51. <https://doi.org/10.3390/world7040051>
13. Lalić, G., & Trifunović, D. (2026d). Regulatory Volatility and Economic Growth in Europe: Heterogeneous Effects Across Institutional Development Stages. *Sustainability*, *18*(5), 2658. <https://doi.org/10.3390/su18052658>
14. Nickell, S., Nunziata, L., & Ochel, W. (2005). Unemployment in the OECD Since the 1960s. What Do We Know? *The Economic Journal*, *115*(500), 1–27. <https://doi.org/10.1111/j.1468-0297.2004.00958.x>
15. Mihajlović, M., Marković, S., Vujanić, I., Marijanović, R. P., & Ramadhani, I. H. (2024). Knowledge and information management in the company as a strategic business resource. *Oditor*, *10*(3), 53–67. <https://doi.org/10.59864/Oditor32403MM>
16. Obućinski, D., Miljković, L., Ljubojević, N., & Krstić, S. (2025, November 26). THE ROLE OF MONETARY POLICY IN ENSURING MACROECONOMIC STABILITY. *Oditor*. <https://doi.org/10.59864/Oditor42502SK>
17. Pajić, S., Lalić, G., Trifunović, D., Maltez, K., & Jovanović, P. (2025). The influence of social networks on the teaching process of language learning. *Oditor*, *11*(3). <https://doi.org/10.59864/Oditor22503SP>
18. Phillips, P. C. B., & Sul, D. (2007). Transition Modeling and Econometric Convergence Tests. *Econometrica*, *75*(6), 1771–1855. <https://doi.org/10.1111/j.1468-0262.2007.00811.x>
19. Phillips, P. C. B., & Sul, D. (2009). Economic transition and growth. *Journal of Applied Econometrics*, *24*(7), 1153–1185. <https://doi.org/10.1002/jae.1080>
20. Próchniak, M., & Witkowski, B. (2012). Real Economic Convergence and the Impact of Monetary Policy on Economic Growth of the EU Countries: The Analysis of Time Stability and the Identification of Major Turning Points Based on the Bayesian Methods (SSRN Scholarly Paper

No. 2213712). *Social Science Research Network*.
<https://doi.org/10.2139/ssrn.2213712>

21. Šare, D., Kosorić, D., & Tošev, D. (2025). THE IMPACT OF PUBLIC EXPENDITURE AND PUBLIC DEBT ON ECONOMIC GROWTH DECLINE. *Oditor*. doi: 10.59864/Oditor 82503DS

KONVERGENCIJA NEZAPOSLENOSTI U EVROPSKOJ UNIJI: DINAMIKA PRILAGOĐAVANJA KRIZI I OPORAVKA

Apstrakt

Ova studija ispituje konvergenciju nezaposlenosti u 27 zemalja članica Evropske unije tokom decenije nakon krize. Koristeći godišnje panel podatke koji pokrivaju period 2010–2019, analiza istražuje da li su se razlike na tržištu rada smanjile nakon krize državnog duga i tokom faze oporavka koja je usledila. Za testiranje β -konvergencije stopa nezaposlenosti koristi se okvir sa fiksnim efektima, dopunjen procenama podperioda koje razlikuju fazu prilagođavanja krizi (2010–2013) i period oporavka (2014–2019).

Rezultati ukazuju na statistički značajnu konvergenciju nezaposlenosti tokom cele decenije. Dinamika konvergencije bila je jača tokom faze prilagođavanja neposredno nakon krize, sa procenjenom godišnjom brzinom prilagođavanja od približno 20 procenata, i ostala je prisutna – iako umerenija – tokom perioda oporavka. Ovi nalazi ukazuju na to da su tržišta rada EU pokazala sistematski prosečni povratak nakon krize, doprinoseći postepenom smanjenju razlika u stopama nezaposlenosti između zemalja. Dokazi su robusni u odnosu na alternativne specifikacije i podržavaju stav da su se mehanizmi integracije tržišta rada intenzivirali tokom perioda makroekonomskog stresa.

Generalno, studija pruža empirijske dokaze o dinamičnoj konvergenciji tržišta rada unutar Evropske unije, ističući različite obrasce prilagođavanja između faza krize i oporavka.

Ključne reči: nezaposlenost, konvergencija, Evropska unija, tržište rada, β -konvergencija.

JEL: J64, E24, C23

PUBLIC HEALTH EXPENDITURE IN THE EU BEFORE, DURING AND AFTER THE COVID-19 PANDEMIC

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Original Article

Abstract

The COVID-19 pandemic represented the greatest challenge for the health systems of the European Union in recent history, leading to significant changes in the volume and structure of public health expenditure. This paper analyzes public health spending in EU countries before, during, and after the pandemic (2015–2024), aiming to identify key trends, differences among member states, and the long-term implications for health system financing. The research shows that the pandemic led to temporary and, in some cases, permanent increases in health spending, while also triggering a series of reforms aimed at strengthening the resilience of health systems. Nevertheless, the sustainability of increased budgets remains a challenge, especially in the context of fiscal stability. The paper concludes that adequate financing is crucial for the long-term resilience of health systems and offers recommendations for improving financing policies in the post-pandemic period.

Keywords: public health expenditure, European Union, COVID-19 pandemic, health budget.

JEL:F21, H25

Introduction

Public health expenditure represents the total amount of financial resources allocated by government authorities (central and local levels of government) to finance the health system, including hospital services, primary health care, preventive programs, public health campaigns and other activities aimed at preserving and improving the health of the population. According to the World

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Health Organization (WHO), public health expenditure includes “all payments for health care that originate from public sources, regardless of whether the costs are incurred directly through public institutions or indirectly through public funds and insurance” (WHO, 2022). Reeves et al. (2022) state that public health expenditure is a key instrument by which governments ensure access to health services, control health costs and influence the health outcomes of the population, especially in crisis situations such as the COVID-19 pandemic. In the domestic literature, Čulibrk (2021) emphasizes that public health spending in Serbia and other countries in the region is financed primarily from mandatory health insurance and budget funds, and that “the level of spending needs to be approached systematically, taking into account both the effects on health and the sustainability of public finances”. Within the European Union, public health spending is usually expressed as a percentage of GDP or per capita, which allows for comparison between member states.

Sufficient and stable health spending is the foundation of an efficient and sustainable health system. According to OECD (2022), health systems with higher levels of public spending achieve better results in terms of service availability, life expectancy and patient satisfaction. Public spending enables continuous financing of health institutions, the purchase of medical equipment, human resource development and the introduction of new technologies. The World Health Organization (WHO, 2022) emphasizes that increased public health spending has a direct impact on reducing financial barriers for patients, thereby contributing to more equitable access to health care. Also, adequate financing is crucial for strengthening preventive programs and the resilience of the system to emergencies, such as the COVID-19 pandemic. In the European context, Rajan et al. (2021) emphasize that it is precisely those countries that invested in health before the pandemic that have shown greater readiness to respond to the crisis, both in terms of hospital capacity and staff stability and availability of basic health care. In the domestic literature, Simić et al. (2020) indicate that in Serbia, insufficient allocations to health represent a limitation in the development of health services and improving the quality of treatment. The authors particularly emphasize that investments in primary health care and staff are necessary for the long-term stability of the system. From an economic point of view, health allocations are considered not only a cost, but also an investment in human capital, which stimulates economic growth, reduces disease rates and prolongs the working capacity of the population (Fattore & Tediosi, 2022).

The COVID-19 pandemic has dramatically tested the resilience of health systems in the European Union, pointing to structural weaknesses but also the potential for adaptation and reform. According to research by Rajan et al.

(2021), health systems in the EU have been under immense pressure due to hospital overcrowding, shortages of health workers, and limited supplies of protective and medical equipment. The research highlights that even highly developed countries such as Italy and Spain have been forced to take extraordinary measures, including mobilizing the private sector and military logistics. As Anderson et al. (2022) point out, the pandemic has exposed disparities in public health capacities and shown that systems that invested in preventive measures and public health were better prepared to manage the crisis. In this context, northern and Scandinavian countries have generally had a more effective response compared to countries in southern Europe. The OECD report (2022) states that the pandemic has led to a significant increase in public health spending in all EU member states. Most countries have adopted aid packages and introduced extraordinary funding to strengthen hospital capacity, testing, vaccination, and the digitalization of health services. At the domestic level, Čulibrk (2021) states in his analysis that the pandemic represented "a catalyst for rapid response, but also the discovery of chronic problems", such as inadequate infrastructure, outdated equipment and insufficient staffing. He particularly emphasizes the role of crisis headquarters, but also the need for a more systematic approach to health financing. In addition to the direct impact on health infrastructure, the pandemic also affected the availability of regular health services. According to the European Commission (2021), many countries have recorded a decline in the number of preventive examinations, surgical interventions and treatment of chronic diseases, which may have long-term consequences for the health of the population.

The main objective of this paper is to analyze the volume, structure and trends of public health spending in the European Union countries during and after the COVID-19 pandemic. The paper aims to highlight changes in the level of health spending, differences between member states, as well as the impact of these changes on the functioning and resilience of health systems. Special attention is paid to the analysis of the long-term sustainability of increased spending, the reforms that followed, as well as recommendations for improving the financing of health systems in the future.

The methodology of the paper is based on a combination of qualitative and quantitative analysis. The following methods were used in the paper:

- Analysis of secondary data: official statistics from Eurostat, OECD, WHO, as well as data from national institutions;
- Review of relevant literature: scientific and professional papers, reports, publications of international organizations;

- Comparative analysis: comparison between Western and Eastern European countries;
- Graphical and tabular presentation of data: for easier interpretation of the results;
- Synthesis of findings: with the aim of identifying long-term implications and formulating recommendations.

Theoretical framework of public health spending

Public health spending represents financial allocations from public sources – state, regional and local budgets, as well as mandatory health insurance – used to finance health services, infrastructure and public health measures. It includes costs covered by governments and public institutions, as well as public health insurance funds, and is a key instrument of the state in ensuring the availability and quality of health care (OECD, 2021). According to the World Health Organization (WHO, 2022), public health spending includes all costs covered by public sources, regardless of whether services are provided in public or private institutions. This spending is the basis for the functioning of the health system, as it allows for the financing of salaries of health workers, the purchase of medicines, medical equipment, investment in infrastructure, but also in public health activities such as vaccination and health education.

The main components of public health spending include:

1. Primary health care – health centers and family medicine (WHO, 2022; Simić et al., 2020).
2. Secondary and tertiary care – hospital services, specialist treatment and surgery.
3. Public health – preventive measures, immunisation, control of communicable diseases and health promotion (OECD, 2022).
4. Health administration and support – system management costs, staff training, information systems.
5. Infrastructure and investment – construction and renovation of health facilities, investment in equipment and technology.

According to the OECD classification (SHA – System of Health Accounts), public financing of health can be measured as:

- Share of total health expenditure (%),

- Amount per capita (in euros),
- Share of GDP (%), which allows comparison between countries and assessment of the priorities that the state gives to health (OECD, 2021).

To analyse and compare health expenditure between countries and over time, standardised health expenditure indicators are used. These indicators allow decision-makers, researchers and international institutions to monitor the efficiency and equity of health system financing, but also to identify trends and potential risks. According to the OECD (2021) and the World Health Organization (WHO, 2022), the most important indicators of health spending are:

1. Public health spending as a percentage of GDP (% GDP) - This indicator measures the share of public spending on health in relation to the country's gross domestic product. A higher percentage indicates a higher priority for health within public policies. The EU average in 2021 was around 8% of GDP (Eurostat, 2023).
2. Health spending per capita (in euros or dollars, adjusted for PPP) - It represents the total public and private spending on health per person. According to OECD (2022), this indicator is often used to assess the availability and quality of health services. Differences between countries can be very pronounced – from less than €1,000 in some Eastern European countries to over €5,000 in Western European countries.
3. Share of public expenditure in total health expenditure (%) - Measures the proportion of total expenditure financed by public sources compared to private sources, including co-payments and private insurance. A higher share of public expenditure indicates a greater role of the state in financing health and a lower financial burden on citizens (WHO, 2022).
4. Out-of-pocket expenditure (direct payments by patients) as a percentage of total expenditure - According to the WHO, this indicator is an important indicator of the financial protection of citizens. A high share of direct payments may indicate an inefficient or insufficiently solidarity-based system (Reeves et al., 2022).
5. Structure of spending by function and type of service - In accordance with the OECD System of Health Accounts (SHA), allocations are analyzed by function (e.g. hospital care, prevention, outpatient services) and by type of financier (public, private, mandatory insurance) (OECD, 2021).

The financing of health systems in the European Union is primarily the responsibility of national states, which means that each member state independently defines the model of organization, scope and structure of public health spending. The European Union as a whole does not have the competence to directly manage health systems, but acts through coordination, recommendations and support through programs such as EU4Health or RescEU (European Commission, 2022). According to data from the OECD (2021) and WHO (2022), the dominant model in most EU countries is the public financing model, which is based either on taxation (the so-called Beveridge model), as in Sweden and Spain, or on mandatory health insurance (the so-called Bismarck model), as in Germany, France and Austria. These models are often combined with various solidarity mechanisms and complementary private funds.

Member States play a key role in ensuring stable and equitable financing of health, through:

- Adopting the annual health budget,
- Price regulation and reimbursement of medicines and health services,
- Infrastructure investment planning,
- Subsidizing vulnerable groups (elderly, unemployed, chronic patients).

As Reeves et al. (2022) emphasize, during and after the COVID-19 pandemic, the role of member states has become even more pronounced in the context of increasing public spending, accelerating the introduction of digital services, and better managing health risks. The crisis has shown that flexibility in budgeting and centralization of decisions have contributed to a faster response in most countries. In the domestic literature, Simić et al. (2020) emphasize that the role of the state in healthcare financing is not only in providing funds, but also in determining priorities and fairness of distribution. The authors indicate that in Serbia, as in many EU countries, state intervention has a decisive impact on the accessibility and quality of services. It is important to note that although Member States have primary responsibility, the EU is increasingly supporting data integration, cross-border cooperation and common policies in areas such as rare diseases, digital health and health risks (European Commission, 2022).

Public spending on health in the EU before the pandemic (2015–2019)

The period before the COVID-19 pandemic, i.e. the years from 2015 to 2019, was characterized by relative stability in the financing of health systems in the European Union. Although health expenditure grew at a moderate pace, there were significant differences between countries in terms of absolute amounts,

cost structures and investment priorities. According to data from the OECD (2020) and Eurostat (2020), average public spending on health in EU countries during this period amounted to around 7.8% of GDP, with a slight upward trend. Health expenditure per capita increased from an average of €2,500 in 2015 to around €3,000 in 2019, adjusted for purchasing power parity (PPP). The highest public spending as a percentage of GDP in 2019 was recorded in: France (9.3%), Germany (9.1%), Sweden (9.0%). On the other hand, a significantly lower share of public expenditure in GDP was recorded in: Romania (5.0%), Bulgaria (4.7%) and Latvia (5.4%), which indicated the still existing inequalities in the availability and quality of healthcare within the Union (WHO, 2019). Eurostat (2020) indicates that during this period, health budgets in most Member States were used primarily for: hospital services (40–50% of public expenditure), outpatient care and specialist examinations, medicines and medical devices, preventive measures and public health (which, on average, accounted for less than 3% of total expenditure). According to research by Reeves et al. (2019), before the pandemic there was no significant increase in investment in public health infrastructure and systemic preparedness for health crises, which became clearly visible during the COVID-19 pandemic. In the domestic context, Simić et al. (2018) state that Serbia, as a non-EU country but a candidate for membership, invested around 5.3–5.5% of GDP in the health sector during this period, which was below the European average. The authors point out that the dominant part of spending was directed at secondary and tertiary care, while the preventive segment was underestimated. Despite the relatively stable growth of public health expenditure in the EU in the period 2015–2019, it was observed that there was insufficient systematic approach to preparing for pandemic risks, and the COVID-19 pandemic highlighted the need for greater and faster investments in the resilience and flexibility of health systems (OECD, 2021).

Before the onset of the COVID-19 pandemic, one of the most significant characteristics of health financing in the European Union was the pronounced inequality between Western and Eastern member states. These differences were reflected both in the absolute amounts of public spending, as well as in its structure, system efficiency and health care outcomes. According to Eurostat (2020), Western European countries such as Germany, France, Belgium and the Netherlands spent between 9 and 10% of GDP on health, while Eastern member states such as Bulgaria, Romania, Latvia and Lithuania spent significantly less — between 4.5 and 6% of GDP. In addition to the percentage of expenditure in relation to GDP, there was also a significant difference in per capita spending. For example, in 2019, public spending on health per capita in Germany was around €5,000, while in Romania it was less than €600 (OECD, 2020). These

differences further deepened the gap in access to and quality of health services. Reeves et al. (2019) indicate that Eastern countries, despite smaller budgets, often face greater challenges in terms of demographic pressures (aging population, migration of health workers) and lower efficiency in the allocation of resources. In addition, investments in prevention and public health were proportionally lower in Eastern European countries, which contributed to higher levels of avoidable disease and mortality. WHO (2019) and OECD (2018) point out that Western members generally had: more developed infrastructure and digitalization of healthcare, better capacity of hospital systems (in terms of equipment and staff), more stable financing mechanisms and cost control. On the other hand, Eastern countries often depended on a health insurance model based on employment status, which led to instability in times of economic crises. Also, the lack of investment in human resources led to a massive outflow of medical staff to Western countries, which further undermined capacities (Simić et al., 2018). Simić and Petrović (2019) emphasize in the domestic literature that Serbia, although outside the EU, is part of the same trend of uneven and structural insufficiency of financing, with significant reliance on out-of-pocket payments from patients and insufficient budgetary space for innovation. Overall, the differences between Western and Eastern Member States in the financing of health systems before the pandemic reflected broader economic inequalities, but also differences in the priorities and capacities of public administration.

The financing of health systems in the European Union is based on different models, but essentially relies on three main sources: public funds (budgetary and social security), private insurance and direct payments from citizens' pockets. The structure of these sources varies significantly between Member States, depending on the organization of the system, economic development and policies social protection.

According to the classification of the OECD (2017) and WHO (2019), the two dominant models in the EU are:

- Beveridge model – financing through tax revenues (examples: Great Britain, Sweden, Denmark)
- Bismarck model – financing through contributions to compulsory health insurance (examples: Germany, France, Austria)

Accordingly, the main sources of health financing in most EU countries are:

1. Public funds (government and compulsory insurance): On average, public sources accounted for around 75–80% of total health expenditure in most

EU countries in the period 2015–2019 (Eurostat, 2020). In countries such as Sweden, Norway and the United Kingdom, this percentage even exceeded 85% (OECD, 2020).

2. Out-of-pocket payments: On average, they accounted for 15–20% of total spending, but in Eastern Member States such as Bulgaria, Latvia and Romania they often exceeded 30% (WHO, 2019). These expenditures most often relate to the purchase of medicines, dental services and long-term care (Reeves et al., 2019).
3. Voluntary health insurance: The share ranged from 1% to 13% depending on the country (Eurostat, 2020). It is most common in France and the Netherlands, where it serves as a supplementary mechanism for covering co-payments or additional services.

Mossialos et al. (2018) indicate that a combination of public insurance and supplementary policies is the most common approach in Bismarckian model countries. On the other hand, Eastern European countries often do not have a developed voluntary insurance market, which results in a higher fiscal burden on citizens. In the domestic literature, Jovanović et al. (2018) point out that in Serbia the dominant source of financing is the RFZO (Republic Health Insurance Fund), which is financed by contributions from salaries, while about 35% of costs are financed from patients' pockets, which indicates a similar trend as in some eastern EU member states. In general, differences in sources of financing significantly affect the availability and equality of use of health services. Countries with a higher share of public expenditure tend to achieve better results in terms of access, financial protection and health outcomes (WHO, 2019).

Public spending on health in the European Union before the COVID-19 pandemic was structured to cover different types of services, with the largest part of the budget being directed to hospital care, outpatient services and medicines. The structure of this spending reflects the organizational models, priorities of health systems, but also the demographic and epidemiological needs of the population.

According to OECD (2019) and Eurostat (2020), the average structure of public spending in the EU was as follows:

1. Hospital care – accounted for 30–40% of total public spending. This category includes inpatient care, surgery, emergency care and specialized hospital care. Countries such as Germany and Austria had a

strong concentration of spending in this segment, given the large number of hospital capacities (WHO, 2019).

2. Outpatient care – accounted for 20–25% of spending, including primary health care, specialist examinations and diagnostic services. In countries such as the Netherlands and Sweden, where primary health care is highly developed, outpatient services played a larger role in the system (Mossialos et al., 2018).
3. Pharmaceuticals and medical goods – accounted for 15–20% of the total public health budget. Differences between countries are significant – in the Eastern Member States, spending on medicines was often higher than in other segments, due to the smaller volume of other public services (Reeves et al., 2019).
4. Long-term care – accounted for 8–15% of total spending, with countries with older populations such as Finland and France investing more in this type of service. According to WHO (2018), investment in long-term care was insufficient in most of the Eastern Member States.
5. Prevention and public health – accounted for 3–5% of the budget, with a higher share in the Scandinavian countries. Despite prevention being key to reducing the burden of disease, this segment was chronically underfunded in most countries (OECD, 2019; WHO, 2019).
6. Administration and support of the system (health administration and governance) – accounted for 2–4% of total expenditure. - In the domestic literature, Pejić and Matic (2017) point out that the structure of health spending in Serbia, which has similarities with the eastern EU member states, showed an excessive focus on hospital treatment and medicines, while neglecting preventive and primary care services. WHO (2019) specifically emphasizes that the unevenness in the structure of spending is the result not only of financial capacities, but also of different policies for the development of health systems. Countries that invested more in primary care and prevention had better health outcomes and lower total spending per capita.

Impact of the COVID-19 pandemic on public health spending in the EU

The COVID-19 pandemic has significantly changed the fiscal priorities of EU Member States, leading to a sudden and large-scale increase in public health expenditure. According to OECD (2021), in 2020, almost all EU Member States increased their health budgets to respond to the immediate needs caused by the

pandemic – from the procurement of medical equipment and tests, to investments in hospitals and intensive care, to the financing of vaccination campaigns.

According to Eurostat (2022), average public spending on health in the EU increased from 7% of GDP in 2019 to over 8% in 2020, which is the largest annual increase in the history of available data. In France and Germany, public health expenditure reached over 11% of GDP, while in Spain it increased from 6.4% to 7.8% of GDP over the same period (OECD, 2021; WHO, 2021). In the study by Mladovsky et al. (2022) highlights that the main components of the increase were: increased salaries and bonuses for healthcare workers, investments in ventilators, tests, PPE (personal protective equipment), expenditures for hospital capacities and intensive care units, the introduction of mass vaccination programs, state interventions and extraordinary investments. Many member states have introduced extraordinary funds and packages to support healthcare. For example, Italy allocated over 9 billion euros additionally to the healthcare sector in 2020 (Italian Ministry of Economy and Finance, 2021), Germany established a special fund of over 20 billion euros to combat COVID-19 and support hospitals (BMG, 2021), and Slovenia increased the budget of the Ministry of Health by 40% compared to 2019 (SURS, 2022).

According to domestic authors, Stanković and Kovačević (2021) indicate that the pandemic served as a catalyst for “rapid and extraordinary mobilization of resources” and revealed structural weaknesses in healthcare systems in the region, which required additional public investments.

According to the WHO Regional Office for Europe (2021), the increase in public health spending has in many cases been financed by borrowing or budget rebalancing, which raises the question of fiscal sustainability in the future.

The COVID-19 pandemic has forced European Union countries to quickly adjust their fiscal and health policies. The response has included a range of temporary (ad hoc) measures, but also long-term structural interventions aimed at strengthening health systems and their resilience. According to the WHO (2021) and OECD (2022) reports, most EU countries have taken the following temporary measures in 2020–2021: the establishment of emergency funds for emergency procurement (respirators, PPE, tests), additional funding for hospitals and expansion of intensive care capacity, financial incentives for health workers, including bonuses and salary increases, rapid subsidies to private providers who were engaged in the COVID system, the introduction of mass vaccination programs with centralized procurement and financing at the national level (European Commission, 2021). In the same context, Reeves et al.

(2022) point out that in Germany, for example, a special fund *Sondervermögen* was established, which financed healthcare, the economy and the procurement of vaccines worth over 30 billion euros.

Although a large part of the measures were temporary in nature, the pandemic also encouraged the adoption of long-term measures and strategies, such as: increasing the base budget for healthcare in the next budget cycles, investing in the digitalization of the healthcare system (e-health, e-cards, telemedicine), strengthening primary and preventive healthcare, strategic construction of new facilities and modernization of old hospitals, employment and additional education of healthcare workers (OECD, 2023; Pajić et al., 2025). The EU4Health 2021–2027 program, which the European Commission launched in response to the pandemic, provided a budget of 9.4 billion euros, which is the largest amount in the history of the EU dedicated to healthcare. The objectives of this program include building health resilience, better cross-border cooperation and preparation for future crises (European Commission, 2021). In the domestic context, Kovačević et al. (2021) note that in Serbia, although temporary measures (e.g. crisis funds, budget rebalancing) prevailed, the pandemic nevertheless spurred plans to invest in digitalization and the renovation of hospital infrastructure through multi-annual investment programs. WHO (2021) points out that one of the positive outcomes of the crisis is that “health has finally become a central theme of fiscal policy in many countries”, which could influence the long-term increase and better structure of public spending. During the COVID-19 pandemic, the European Union played a key role in financing the health systems of member states. Through funds such as EU4Health (worth €9.4 billion) and NextGenerationEU, the EU provided funds for the procurement of medical equipment, the development of vaccines, the strengthening of health infrastructure and the digitalization of services (European Commission, 2022; WHO, 2021). At the same time, member states have introduced temporary measures (bonuses for medical workers, free tests and treatment, construction of temporary capacities), but have also begun long-term investments in healthcare — increasing wages, strengthening staff, modernizing hospitals and transitioning to digital health systems (OECD, 2021; Ministère de la Santé, 2021). During the COVID-19 pandemic, the European Union adopted several instruments to support the health systems of member states, giving health policy a prominent place within the common budget and solidarity mechanisms for the first time.

1. EU4Health Programme (2021–2027)

The most important EU health instrument during and after the pandemic is EU4Health, which is a response to the systemic weaknesses of health systems identified during the crisis. With a budget of €9.4 billion, this programme has financed:

- procurement of medicines, vaccines and medical equipment,
- cross-border cooperation in combating infections,
- strengthening human capacity and digitalisation of systems,
- better preparedness for future health threats (European Commission, 2021).

As Greer et al. (2022) state, EU4Health marked “a historic turning point in the EU’s approach to health, moving from coordination to active financing”.

2. NextGenerationEU and the Recovery and Resilience Facility (RRF)

In addition to direct health funds, the European Union has adopted the largest economic package in its history through the NextGenerationEU mechanism — over €800 billion, a significant part of which is intended to strengthen the resilience of public systems, including healthcare.

As part of this package, the Instrument for Recovery and Resilience (RRF) has financed:

- construction of new hospital capacities,
- improvement of primary healthcare,
- digital reforms (e-health, e-cards) in several countries, such as Portugal, Italy and Greece (OECD, 2022; Mladovsky et al., 2022).

3. Solidarity Fund and Civil Protection Mechanism

Through the EU Solidarity Fund, several countries (including Italy, Spain and Romania) have received financial assistance for emergency measures such as the procurement of protective equipment, support to hospitals and the evacuation of patients (European Court of Auditors, 2021). Also, rescEU — the EU civil protection mechanism — financed common stocks of medical equipment (respirators, vaccines, PPE) and established logistical support across the Union.

4. Effects in Serbia and candidate countries

Although not a member of the EU, Serbia received significant funds under the Instrument for Pre-Accession Assistance (IPA III) to combat the pandemic. According to Kovačević et al. (2022), over 15 million euros of EU support was used for medical equipment, testing and support to the most vulnerable categories of the population.

The role of the European Union in financing healthcare during the COVID-19 pandemic was multifaceted, encompassing direct investments, loans and grants, as well as the development of institutional resilience. This intervention laid the foundation for further integration of health policies within the Union.

The COVID-19 pandemic led to a sharp increase in public spending in all European Union countries, but the volume and structure of these allocations varied significantly depending on economic strength, the organization of the healthcare system and the degree of impact of the virus. According to OECD (2021) and Eurostat (2022), the average level of public health expenditure in the EU increased from 7.0% of GDP in 2019 to 8.0% of GDP in 2020, the largest relative increase in recent decades. Countries with strong economies and developed health systems, such as Germany, France, Sweden and the Netherlands, achieved the largest absolute and relative increases in health spending. Germany increased its total public health spending from 11.7% to 12.8% of GDP in 2020 (Statistisches Bundesamt, 2021). France allocated more than €20 billion for emergency health interventions, including bonuses for medical staff and financing of hospital capacities (Ministère de la Santé, 2021). Sweden increased its funding of regional health authorities by over 25% compared to 2019 (OECD, 2021).

Eastern European EU member states — such as Bulgaria, Romania, Hungary and Croatia — also increased public spending on health, but from a significantly lower base. In Bulgaria, public health expenditure increased from 4.1% to 5.0% of GDP (Eurostat, 2022). In Romania, despite an increase of more than 30% in nominal terms, spending remained below the EU average, at 6.1% of GDP (Mihaila & Popescu, 2022). Croatia largely covered the increased costs from EU funds and loans through the EIB and EBRD (Ministry of Health of the Republic of Croatia, 2021).

While Western countries invested more in infrastructure (hospital renovation, intensive care units), vaccine development and ICT solutions (e-health), Eastern member states prioritized the procurement of protective equipment and tests,

support for primary health care and temporary employment of additional medical staff (Karanikolos & Mossialos, 2020).

In 2020, public health expenditure per capita amounted to:

- Germany: around 5,700 euros
- France: 5,100 euros
- Sweden: 5,400 euros
- Hungary: 1,500 euros
- Romania: 1,200 euros
- Bulgaria: below 1,000 euros (OECD, 2021; Eurostat, 2022)

These differences indicate a continuing gap in funding and capacity between the Western and Eastern parts of the EU.

Public health spending after the pandemic

In the post-COVID-19 period (2022–2024), public health expenditure in the European Union has shown a number of new trends, reflecting the transition from emergency financing to a sustainable health system, while also facing inflation, an ageing population and staff shortages. According to Eurostat (2023), the share of public health expenditure in GDP in 2022 fell in most Member States, after peaking during the pandemic. The EU average was 8.1% of GDP, down from 8.5% in 2021. The largest decreases were recorded in Bulgaria (-1.1 percentage points), Hungary and Lithuania (-0.9 pp), while Luxembourg and Slovenia showed a slight increase (Eurostat, 2023). These trends are also confirmed by the OECD (2023), which states that in the member countries of this organization the share of health expenditure in GDP fell from 9.7% in 2021 to 9.2% in 2022, due to the cessation of pandemic programs and the effects of inflation on nominal GDP. Although the overall share of health expenditure in GDP has declined, in many countries absolute costs have remained high or even increased. For example, in Estonia in 2023 health expenditure remained at the level of 7.5% of GDP, similar to the pandemic years, which is the result of a significant increase in the salaries of health workers (WHO, 2023a). The salaries of doctors and nurses in this country have increased in the range of 20–25% compared to the pre-pandemic period. The European Commission (2023) emphasizes that the aging of the population is one of the greatest challenges for future health expenditure. In 2023, 21% of the EU population was over 65 years of age, and this percentage is projected to reach almost 30% by 2050. At the same time, the EU has a shortage of more

than 1.2 million medical professionals, and over a third of doctors and a quarter of nurses are over 55 years of age (European Commission, 2023). Although the pandemic has highlighted the importance of preventive healthcare, some countries have reduced spending in this area since 2021. For example, in Estonia, the share of prevention spending in total health expenditure fell from 8.8% in 2021 to 6.1% in 2022 (WHO, 2023b). The OECD recommends additional investments in prevention, as well as in improving the human resource structure, estimating that a permanent increase of at least 0.6% of GDP in public health expenditure would be needed (OECD, 2023). The Recovery and Resilience Facility (RRF) and the Next Generation EU Fund have been key in financing health reforms after the pandemic. For example, Italy has been allocated €194.4 billion and Spain €79.85 billion, a significant portion of which is allocated to health (The Times, 2022). However, differences in transparency and efficiency in the use of these funds have been observed across member states.

The increase in public spending on health during the COVID-19 pandemic has been one of the largest in the recent history of the European Union. However, after the initial wave of emergency financial measures, the question has arisen as to whether this level of spending will become structurally permanent or is a temporary phenomenon caused by the crisis. According to OECD (2023), in 2022 and 2023, there has been a slight decrease in total health expenditure as a percentage of GDP in most member states, indicating the end of a large number of temporary funding programmes. The share of health expenditure in GDP, although higher than before the pandemic, was lower compared to 2020 and 2021 (OECD, 2023). Eurostat (2023) notes a similar trend: in 2022, the share of public health expenditure in GDP was 8.1% on average in the EU, a decrease compared to the pandemic peak, but still higher compared to the period 2015–2019, when it was around 7.0% of GDP. This suggests that some of the increase has been maintained, but not to the full extent. Although some funding has been withdrawn, several countries have permanently increased salaries for health workers and invested in the digitalisation and modernisation of the system. For example, Finland, Estonia and France have maintained increased budgets for training, human resources policies and e-health, which is a signal of ongoing transformation (WHO, 2023; OECD, 2023). Mladovsky et al. (2022) state that the pandemic has stimulated structural investments that have in many cases continued even after the lifting of emergency measures, but warn that their sustainability will depend on long-term fiscal policy and political will. The European Commission (2023) points out that the durability of increased spending is conditioned by inflation, public debt and limited budgetary space,

and that in some countries a rebalancing reduction in health spending has already been observed. In Italy and Spain, for example, despite an initial increase, some health items were reduced in 2023 in line with a more restrictive fiscal policy. According to the analysis of Greer et al. (2022), the durability of increased spending will depend on whether health is treated as an investment or as a cost. The authors conclude that without strong political signals, there is a risk that health systems will return to “pre-pandemic levels of financing that proved insufficient in the crisis”. Part of the increased public spending and for health it has become permanent — especially in areas such as salaries, human resources and digitalisation — but overall, health budgets have started to normalise. The sustainability of increased investments remains conditional on economic circumstances and political support for public health.

The COVID-19 pandemic has revealed significant weaknesses in the health systems of EU Member States, but has also become a catalyst for numerous reforms. Since 2021, many countries have started structural changes in the areas of financing, human resources policy, digitalisation, as well as strengthening the resilience of the systems. One of the most prominent reforms relates to the accelerated digitalisation of health services. According to the WHO report (2023), countries such as Estonia, Finland and the Netherlands have invested significantly in electronic health records, telemedicine and systemic exchange of health data. These investments have become a permanent part of the health infrastructure. The European Commission (2022) points out that more than 200 projects have been supported under the EU4Health programme, which aim to improve the digital connectivity and interoperability of health systems across the EU. Many countries have begun to reform the recruitment, education and retention of health workers. OECD (2023) indicates that countries such as Germany, Portugal and the Czech Republic have adopted new strategies to increase the number of nurses and doctors, including facilitating the recruitment of staff from other EU countries and increasing funding for medical education. Rechel et al. (2022) states that the crisis has shown that many health systems were understaffed, which has led to the adoption of long-term plans to increase employment and better allocate resources across regions. Within the framework of national recovery and resilience plans (Recovery and Resilience Facility – RRF), Member States have made significant investments in hospital infrastructure, equipment, laboratories and the public health sector. For example, Italy has invested more than €15 billion in the reconstruction of health institutions and the modernization of capacities (European Commission, 2023). Greer et al. (2023) note that the existence of the RRF mechanism has enabled the direct integration of health investments into economic policies, which

represents the first significant step forward in financial coordination at the EU level in the field of health. After the pandemic, the capacity of institutions for prevention and management of health risks was strengthened. Mladovsky et al. (2022) point out that the system for monitoring the epidemiological situation and the procurement of medicines and vaccines was reorganized. The formation of HERA (Health Emergency Preparedness and Response Authority) in 2021 represents an EU institutional mechanism for rapid response to future crises.

The pandemic has left a deep mark on the structure and financing of health systems in EU member states. Reforms initiated in the post-crisis period show a tendency towards greater digitalization, better human resource management and more resilient institutions. Although the financial volume of investments is partially decreasing, their structure points to long-term systemic changes. The financing of health systems in the European Union after the COVID-19 pandemic remains heterogeneous, which is a consequence of historical, institutional and economic differences between member states. Differences are manifested in the sources of financing, the role of the state, the degree of centralization of the system, as well as priorities in the distribution of funds. EU member states use different models of health financing. Countries such as Germany, France and the Netherlands use the Bismarck model, based on compulsory health insurance and employer and employee contributions. In contrast, the United Kingdom, Sweden and Denmark use the Beveridge model, financed primarily from taxes and organized through centralized public services (Mossialos et al., 2017; OECD, 2023). In recent years, especially after the pandemic, some countries have introduced hybrid mechanisms — for example, the Czech Republic and Croatia have maintained insurance systems but increased budget transfers to cover the costs of the pandemic (Rechel et al., 2022). The share of public versus private financing varies considerably. For example, the public sector finances over 80% of total health expenditure in Sweden, France and Germany, while in Bulgaria and Latvia this percentage is below 70% (WHO, 2023). This imbalance significantly affects the accessibility and equity of services. Differences in the economic strength of countries are directly reflected in budgetary capacities.

Table 1: Differences in health financing policies among EU countries

Country	Financing model	% of public financing	Note
Germany	Bismarck model	83%	Compulsory insurance, strong role of the health fund
France	Bismarck model	80%	Significant role of the state in the surcharge
Netherlands	Bismarck model	84%	Competition among insurers
Sweden	Beveridge model	85%	Centralized, financing from taxes

Denmark	Beveridge model	84%	Regional management, financing through taxes
Finland	Beveridge model	83%	Recently implemented centralization
Italy	Hybrid model	76%	Regional systems, mixed financing
Spain	Beveridge model	79%	Strong role of autonomous regions
Poland	Bismarck model	72%	One public insurer, high participation of the private sector
Hungary	Bismarck model	70%	Centralized insurance, weak infrastructure
Czech Republic	Bismarck model	82%	More public funds, stable system
Slovakia	Bismarck model	74%	High participation of private health services
Bulgaria	Bismarck model	66%	Limited public resources, significant surcharge
Romania	Bismarck model	68%	Limited budget, high dependence on EU funds
Croatia	Bismarck model	79%	Budget subsidies for vulnerable groups
Austria	Bismarck model	77%	Well organized public funds
Belgium	Bismarck model	78%	Significant social control and compensation

Source: Author based on OECD data

While countries such as Germany and the Netherlands were able to increase their health budgets in the short term and finance long-term measures, eastern member states, such as Romania or Slovakia, relied significantly more on European funds such as the RRF (European Commission, 2023; Eurofound, 2022). Political stability and institutional capacity play a key role. According to a study by Greer et al. (2023), countries with greater administrative efficiency and a tradition of intersectoral coordination (e.g. Scandinavia and Benelux) were better able to use the crisis as an opportunity for systemic reform. In contrast, countries with more unstable health policies were more likely to resort to ad hoc measures.

Analysis and discussion

The COVID-19 pandemic has led to a dramatic increase in public health spending in most European Union countries. According to OECD Health Statistics (2023), average health spending as a share of GDP in the EU rose from 8.8% in 2019 to 10.9% in 2020. However, after the pandemic, a gradual stabilization and decrease in the percentage is observed in 2022 and 2023 — on average to around 9.5%, which is still higher than before the pandemic (OECD, 2023; WHO, 2023). At the individual country level, Germany increased public health spending by more than €30 billion in 2020 during the pandemic, while in 2022 and 2023 some programs were abolished or reformed, but spending on long-term care, digitalization and system resilience remained high (Busse et al., 2022). A similar trend is observed in France, where spending increased to 12.3% of GDP in 2020–2021, before falling to around 11% in 2023 (OECD, 2023).

On the other hand, Eastern European countries such as Romania and Bulgaria did not have the fiscal strength to increase spending to the same extent, and relied heavily on European funds. Nevertheless, these countries also experienced a relative increase in health spending during the pandemic (Rechel et al., 2022), but after 2021 these figures declined more rapidly than in Western member states.

The structure of spending changed significantly during and after the pandemic. During the pandemic, expenditures for emergency supplies, hospital treatment, testing, vaccination and protective equipment dominate, while after 2021, expenditures for hospital modernization, digital infrastructure, staff recruitment and strengthening primary health care increase (European Commission, 2023; Eurofound, 2022).

Compared to the pre-pandemic period, the following changes are observed:

- Average per capita expenditure in the EU increased from €2,887 (2019) to €3,528 (2021), and remained stable at €3,491 in 2023 (OECD, 2023).
- The percentage of health expenditure in GDP in 2023 was still 0.7–1.2 percentage points higher than in 2019 in most Member States.

These trends suggest that some of the effects of the pandemic on health system financing have become structural, although with variations across countries.

Increased public spending on health during and after the COVID-19 pandemic has had a significant impact on various aspects of the quality of health services in the European Union. Research suggests that the additional funds have led to improvements in some segments of the system, while at the same time revealing structural challenges that could not be solved by increasing the budget alone. According to the OECD (2023), additional financial resources have enabled accelerated recruitment of health personnel, improved hospital infrastructure and greater digitalization of services, which have contributed to better access and efficiency of treatment. For example, in Germany and the Netherlands, increased investment in primary health care has resulted in shorter waiting lists and greater availability of preventive services (OECD, 2023).

Table 2: Healthcare expenditure in selected EU countries (2019–2023)

Country	Year	Expenditure (% GDP)	Expenditure per capita (€)
Germany	2019	11,7%	4.505
	2021	12,8%	5.420
	2023	12,1%	5.210
France	2019	11,2%	3.973
	2021	12,3%	4.650
	2023	11,5%	4.530
Sweden	2019	10,9%	4.204
	2021	11,4%	4.820
	2023	11,0%	4.760

Poland	2019	6,5%	1.073
	2021	7,3%	1.370
	2023	7,0%	1.520
Romania	2019	5,7%	660
	2021	6,3%	880
	2023	6,1%	970
Croatia	2019	6,8%	1.160
	2021	7,6%	1.450
	2023	7,4%	1.590
EU average	2019	8,8%	2.887
	2021	10,9%	3.528
	2023	9,5%	3.491

Source: Author based on OECD data

In countries such as France and Sweden, a significant portion of the money has been directed towards digital health platforms and telemedicine, which has improved access to health services in rural and underserved areas (European Commission, 2022). Increased spending has also enabled better management of chronic diseases, which has been noted as a positive development in the analyses of the European Observatory on Health Systems (2023). However, studies show that higher financial allocations have not always led to proportional improvements in the quality of services. In Eastern European countries such as Bulgaria, Romania and Hungary, although there have been budget increases, systemic problems such as shortages of medical staff, inefficient allocation of resources and insufficiently reformed governance mechanisms have limited the effects of increased investments (Rechel et al., 2022). Short-term measures (such as one-off additional budget transfers) have not always accompanied strategic reforms, which has affected the sustainability of improvements. In many cases, there has been insufficient investment in staff training, which has limited the capacity to improve health outcomes (WHO, 2023).

Table 3: Impact of increased public spending on the quality of healthcare services in EU countries after the COVID-19 pandemic

Country / Region	Positive impacts	Limitations and challenges
Germany	Increase in the number of staff, investment in hospital infrastructure	High costs of maintaining new facilities
France	Development of telemedicine, better access to preventive services	Insufficient regional uniformity in the quality of services

Sweden	Digitization of health services, shortening of waiting lists	Problems in coordination between levels of health care
Netherlands	Improved primary care, better management of chronic diseases	Shortage of health workers in rural areas
Poland	Investments in infrastructure and IT systems	Low level of integration of new systems into existing practice
Romania	Increase in hospital funding	Lack of staff and limited efficiency of administration
Bulgaria	Increased budgets for COVID measures and hospital resources	Weak quality control, lack of reforms
Croatia	Improved equipment in hospitals	Lack of systemic changes, problems in financing sustainability
EU average	More funds for public health and infrastructure	Uneven distribution of effects, need for permanent reforms

Source: Author based on OECD data

The European Commission (2023) points out that despite initial investments in health through funds such as NextGenerationEU and RRF, fiscal consolidation in the coming years may threaten the continuity of financial support, especially in countries with high deficits. The sustainability of health financing is further burdened by demographic trends. According to WHO (2023), by 2050, more than 30% of the EU population will be over 65 years of age, which will lead to greater pressure on health and social services. The costs of chronic diseases, long-term care and pharmaceuticals are growing faster than total GDP, which raises the question of financial sustainability without additional reform measures (Mladovsky et al., 2022). Research by Rechel et al. (2022) and Greer et al. (2023) indicates that long-term sustainability depends on the efficiency of the system, and not only on the amount of investment. Examples such as Sweden and the Netherlands show that a combination of efficient governance, digitalization and a focus on primary and preventive care can result in better outcomes with more stable costs. In contrast, systems that rely on short-term budget interventions and lack clear cost control mechanisms (e.g. Bulgaria, Romania) risk failing to maintain post-pandemic service levels without new borrowing or cuts to other budget items.

Table 4: Overview of key factors influencing the long-term sustainability of increased health spending by region within the EU

Region Countries	/	Fiscal capacity	Aging population	Structural reforms	Sustainability of increased expenditures
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Western Europe (Germany, France, Netherlands)	Medium to high; high public debt in France	High percentage of elderly (20–23%)	Implementation of digitalization, efficient management	<i>Medium to high (depends on the country)</i>
Northern Europe (Sweden, Denmark, Finland)	High fiscal space	Moderate aging (18–20%)	Advanced reforms, focus on prevention	<i>High</i>
Southern Europe (Italy, Spain, Portugal)	Limited due to high debt	Strong aging (23–25%)	Reforms partially implemented	<i>Medium (depends on the implementation of reforms)</i>
Eastern Europe (Poland, Hungary, Romania, Bulgaria)	Weak fiscal capacity	Accelerated aging	Lack of effective reforms	<i>Low to medium</i>
Baltic states (Estonia, Lithuania, Latvia)	Moderate fiscal space	Medium level of aging	Investment in e-services and personnel	<i>Medium to high</i>

Source: Author based on data from OECD, WHO, and European Commission

The long-term sustainability of increased health budgets in the EU will depend on a combination of factors: macroeconomic conditions, political will, spending efficiency and population structure. Without deeper reforms in resource management, strengthening primary care and sustainable human resource development, maintaining high levels of financing will be a challenge for many countries.

Conclusion

A survey of public health spending in the EU during and after the COVID-19 pandemic shows that the pandemic has significantly changed the level, structure and dynamics of health system financing in most Member States. In 2020–2021, there were record increases in health budgets, both in absolute terms and as a share of GDP. For example, in Germany, health spending increased from 11.7% of GDP in 2019 to over 13% in 2020 (OECD, 2022). Similar trends were observed in France, Spain and Italy (Eurostat, 2023). The data show that these increases are largely the result of measures to combat the pandemic – the procurement of vaccines, tests, personal protective equipment, but also investments in intensive care capacities and workforce. Comparative analysis also points to differences between Western and Eastern EU member states, with Western countries having greater fiscal capacity to respond to the crisis (Rechel et al., 2021). One of the central conclusions is that adequate financing is not only a prerequisite for quality healthcare, but also for the resilience of the health system in times of crisis. Health systems with more stable budgetary

frameworks and less reliance on emergency funds have managed to maintain better accessibility and continuity of services (WHO, 2021; Cylus et al., 2022). It is becoming increasingly clear that health budgets represent a strategic investment in social and economic security, and not just a cost. Financial stability enables capacity building, better resource management, and greater public trust in the system (Kluge et al., 2021; Bučalina Matić et al., 2024).

Based on the analysis and insights into the development of public health spending in the EU during and after the COVID-19 pandemic, the following recommendations can be formulated for creating more sustainable and resilient health systems:

1. Institutionalizing crisis funds and response mechanisms - EU Member States should develop sustainable mechanisms for financial response to health crises, as well as funds that will enable rapid mobilization of resources in future emergencies.
2. Improving the structure of public spending - It is recommended to focus on investments in primary health care, preventive measures and mental health, in order to reduce treatment costs in the long term and improve the overall health picture of the population.
3. Strengthening human resources and support for health workers - Increasing public spending must go hand in hand with investments in human resources - through better salaries, working conditions and continuous education.
4. Interoperability and digitalization - Investments in digital infrastructure and e-health should remain a priority, as they not only increase the efficiency, but also the resilience of health systems.
5. Regional cooperation and coordination within the EU - The pandemic has shown the importance of better coordination between Member States. Improving cooperation and sharing resources and information can significantly contribute to joint resilience.

Considering the dynamics of the health sector after the pandemic, future research should focus on:

- A more detailed analysis of the effectiveness of new financing models introduced during and after the pandemic;
- Comparing the impact of increased allocations on health outcomes in different countries;

- Analyzing the contribution of European funds to the development of health systems in less developed EU Member States.

References

1. Anderson, M., McKee, M., & Mossialos, E. (2022). *COVID-19 exposes weaknesses in European healthcare systems*. *The Lancet Public Health*, 7(3), e197–e204.
2. Beazley, I., de Carvalho, I. A., & Moreno-Serra, R. (2023). *Public health financing and sustainability in post-pandemic Europe*. *Health Policy*, 127(5), 558–567.
3. Bučalina Matić, A., Trifunović, D., & Blanuša, A. (2024). *Značaj adekvatnog upravljanja otpadom i reciklaže u zaštiti životne sredine*. *Društveni horizonti*, 3(7), 71–90. <https://doi.org/10.5937/drushor2407071B>
4. Bundesministerium für Gesundheit (BMG) (2021). *Sondermittel für COVID-19-Bekämpfung*.
5. Busse, R., Panteli, D., & Winkelmann, J. (2022). *Germany: Health system review 2022*. European Observatory on Health Systems and Policies.
6. Cylus, J., Panteli, D., van Ginneken, E. (2022). *Addressing health system resilience in Europe: lessons from the COVID-19 pandemic*. *Eurohealth*, 28(1), 3–8.
7. Čulibrk, M. (2021). *Javna potrošnja i finansiranje zdravstvenog sistema u Srbiji*. *Ekonomika zdravstva*, 17(2), 45–59.
8. Eurofound (2022). *Impact of COVID-19 on health services and health workforce in Europe*. Luxembourg: Publications Office of the European Union.
9. European Commission (2021, 2022, 2023). *EU4Health Programme 2021–2027. State of Health in the EU – Companion Report. Recovery and Resilience Scoreboard: Health investments overview. EU economic outlook and sustainability of healthcare spending*. Publications Office of the European Union. Retrieved from: <https://ec.europa.eu>
10. European Court of Auditors (2021). *EU Solidarity Fund support for COVID-19*.
11. European Observatory on Health Systems and Policies (2023). *Health system responses to the COVID-19 pandemic in the EU*.
12. Eurostat (2020, 2021, 2022, 2023). *General government expenditure by function (COFOG). Health care expenditure statistics. Government expenditure on health*. Retrieved from <https://ec.europa.eu/eurostat>

13. Fattore, G., & Tediosi, F. (2022). *Sustainability of increased public health expenditure in the EU: Lessons from COVID-19*. *Health Economics Review*, 12(1), 56.
14. Greer, S. L., Jarman, H., & Baeten, R. (2022). *EU health policy and the COVID-19 pandemic: From crisis to reform*. *Health Economics, Policy and Law*, 17(2), 135–149.
15. Greer, S. L., Jarman, H., & Baeten, R. (2023). *Health policy after COVID-19: Institutional resilience and reform in the EU*. *Health Economics, Policy and Law*, 18(1), 89–104.
16. Greer, S. L., Jarman, H., & Baeten, R. (2023). *Institutional capacity and sustainability in EU health systems*. *Health Policy*, 127(3), 235–248.
17. Greer, S. L., Jarman, H., & Baeten, R. (2023). *The politics of health system reform in the EU after COVID-19*. *Journal of Health Politics, Policy and Law*, 48(1), 123–139.
18. Italian Ministry of Economy and Finance (2021). *COVID-19 Budget Measures in Italy*.
19. Jovanović, B., Ranitović, A. i Jevtić, M. (2018). Izvori finansiranja zdravstvene zaštite u Srbiji – analiza i komparativni pregled. *Ekonomika*, 64(2), 167–178.
20. Karanikolos, M., & Mossialos, E. (2020). *Health systems resilience: Lessons from the COVID-19 pandemic in Europe*. *Eurohealth*, 26(2), 7–12.
21. Kluge, H. H. P., Jakab, Z., Bartovic, J., D'Anna, V., & Severoni, S. (2021). *Reflections on health-system responses to COVID-19 in the WHO European Region*. *The Lancet Regional Health–Europe*, 1, 100021.
22. Kovačević, M., Pavlović, A. i Petrović, N. (2022). Finansijska podrška EU zdravstvenom sektoru Srbije tokom COVID-19 pandemije. *Zdravstvena zaštita*, 51(1), 65–72.
23. Kovačević, M., Pavlović, A. i Radovanović, I. (2021). Privremene i sistemske mere finansiranja zdravstva u Srbiji tokom pandemije COVID-19. *Zdravstvena zaštita*, 50(3), 211–219.
24. Mihaila, I., & Popescu, R. (2022). Romania's public health expenditure dynamics during COVID-19. *Journal of Health Economics and Policy*, 18(3), 211–225.
25. Ministarstvo zdravstva RH (2021). *Izvešće o troškovima zdravstvenog sektora u kontekstu COVID-19 pandemije*.
26. Ministère de la Santé (2021). *Rapport annuel sur les dépenses de santé pendant la pandémie*.
27. Mladovsky, P., Cylus, J., & Karanikolos, M. (2022). *Public health spending during the COVID-19 pandemic in Europe: impact and sustainability*. *Health Policy*, 126(4), 321–329.

28. Mladovsky, P., Cylus, J., & Thomson, S. (2022). *Resilient and people-centred health systems in the EU: Lessons from COVID-19*. *Eurohealth*, 28(2), 10–15.
29. Mossialos, E., Wenzl, M., Osborn, R., & Sarnak, D. (2018). *International Profiles of Health Care Systems*. The Commonwealth Fund.
30. OECD (2017, 2018, 2019, 2021, 2022, 2023). *Health at a Glance: OECD Indicators*. OECD Publishing, Paris.
31. Pajić, S., Lalić, G., Trifunović, D., Maltez, K., & Jovanović, P. (2025). *The influence of social networks on the teaching process of language learning*. *Oditor*, 11(3). <https://doi.org/10.59864/Oditor22503SP>
32. Pejić, A. i Matić, B. (2017). Struktura i trendovi javne potrošnje na zdravstvo u Srbiji. *Ekonomika*, 63(3), 273–288.
33. Rajan, S., Cylus, J., & McKee, M. (2021). *Health system resilience: learning from the COVID-19 pandemic in Europe*. *Eurohealth*, 27(1), 3–7.
34. Rechel, B., Jakubowski, E., & McKee, M. (2022). *Health financing reforms in Europe after COVID-19*. WHO Regional Office for Europe.
35. Rechel, B., Jakubowski, E., & McKee, M. (2022). *Health Systems in Transition: Health financing reforms in Europe after COVID-19*. European Observatory on Health Systems and Policies.
36. Rechel, B., Jakubowski, E., & McKee, M. (2022). *Health workforce in Europe: A new agenda for policy action*. European Observatory on Health Systems and Policies.
37. Rechel, B., Maresso, A., Sagan, A., & Hernandez-Quevedo, C. (2021). *Organization and financing of public health services in Europe: Country reports*. WHO Regional Office for Europe.
38. Rechel, B., Maresso, A., Sagan, A., & McKee, M. (2022). *Health systems in transition: country reports*. WHO Regional Office for Europe.
39. Reeves, A., Basu, S., McKee, M., & Stuckler, D. (2019). *Financing health systems in Europe before COVID-19: an overlooked vulnerability*. *European Journal of Public Health*, 29(6), 1046–1051.
40. Reeves, A., Basu, S., McKee, M., & Stuckler, D. (2022). COVID-19 and public health expenditure in Europe: Policy responses and economic impact. *Health Policy*, 126(5), 345–357.
41. Simić, S. i Petrović, V. (2019). *Regionalne razlike u finansiranju zdravstva u Evropi: Izazovi i mogućnosti za Srbiju*. *Zdravstvena zaštita*, 48(2), 145–152.
42. Simić, S., Petrović, V. i Jovanović, M. (2020). *Izazovi finansiranja zdravstvenog sistema Srbije – analiza i predlozi mera*. *Zdravstvena zaštita*, 49(2), 117–124.

43. Simić, S., Petrović, V. i Marić, G. (2018). *Finansiranje zdravstvenog sistema Srbije u kontekstu evropskih integracija*. *Zdravstvena zaštita*, 47(3), 165–172.
44. Stanković, B. i Kovačević, M. (2021). *Finansiranje zdravstvenih sistema u uslovima pandemije COVID-19*. *Zdravstvena zaštita*, 50(2), 119–127.
45. SURS (2022). *Slovenian government expenditure on health during the pandemic*.
46. The Times (2022). *Draghi's billions: How the EU is spending its COVID recovery cash*. preuzeto sa: <https://www.thetimes.co.uk>
47. WHO - World Health Organization (2023b). *Current health expenditure in 2022 back to business as usual*. European Observatory on Health Systems and Policies.
48. WHO - World Health Organization. (2018, 2019, 2021, 2022, 2023). *Public spending on health: A closer look at global trends*. WHO, Geneva.
49. WHO - World Health Organization. (2023a). *Estonia: Increased public health expenditure in 2023 highlights the impact of wage pressures*. European Observatory on Health Systems and Policies.

JAVNI IZDACI ZA ZDRAVSTVO U EVROPSKOJ UNIJI PRE, TOKOM I NAKON PANDEMIJE COVID-19

Apstrakt

Pandemija COVID-19 predstavljala je najveći izazov za zdravstvene sisteme Evropske unije u novijoj historiji, dovodeći do značajnih promena u obimu i strukturi javnih izdataka za zdravstvo. Ovaj rad analizira javnu zdravstvenu potrošnju u zemljama Evropske unije pre, tokom i nakon pandemije (2015–2024), sa ciljem identifikovanja ključnih trendova, razlika među državama članicama i dugoročnih implikacija za finansiranje zdravstvenih sistema.

Istraživanje pokazuje da je pandemija dovela do privremenog, a u pojedinim slučajevima i trajnog povećanja zdravstvenih izdataka, istovremeno podstičući niz reformi usmerenih na jačanje otpornosti zdravstvenih sistema. Ipak, održivost povećanih budžetskih izdvajanja ostaje izazov, naročito u kontekstu fiskalne stabilnosti.

Rad zaključuje da je adekvatno finansiranje ključno za dugoročnu otpornost zdravstvenih sistema i nudi preporuke za unapređenje politika finansiranja u postpandemijskom periodu.

Ključne reči: javni izdaci za zdravstvo, Evropska unija, pandemija COVID-19, zdravstveni budžet.

JEL:F21, H25

THE ROLE OF DIGITAL MARKETING IN SHAPING COMMUNICATION PRACTICES OF OTT PLATFORMS

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Original Article

Abstract

The research analyzes the role of digital marketing in positioning OTT (Over-the-Top) platforms within the contemporary media landscape, with a particular focus on communication practices that extend beyond their technological ecosystems. As one of the most dynamic segments of the global media industry, OTT platforms shape the perceived value of their services through strategic brand management, digital presence and continuous audience interaction. The study employs a comparative case study approach, examining the digital marketing strategies of the global commercial platform Netflix and the national OTT platform of the Public Broadcasting Service, RTS Planeta. The analysis encompasses both a qualitative assessment of communication practices and content formats, and quantitative indicators of audience engagement on social media. The results reveal distinct patterns in the use of digital channels: Netflix primarily leverages digital networks for global brand positioning and the development of serialized, viral campaigns, whereas RTS Planeta directs its digital marketing primarily toward informing and engaging audiences, in line with its public media mission within the national media system.

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JEL: *M31, L82, D83*

Introduction

The development of digital technologies and the widespread availability of the Internet have led to significant changes in the distribution and consumption of audiovisual content. The traditional model of linear television broadcasting is increasingly being replaced by non-linear, on-demand services, with OTT (Over-the-Top) platforms emerging as some of the most influential actors in the contemporary media system (Portals, 2017; Audience Evolution, 2011). OTT platforms rely on business and communication models based on continuous content availability, personalized recommendations, and multi-device accessibility, significantly influencing audience habits, expectations, and the dynamics of the video streaming market.

In the digital media environment, the recognition and reputation of OTT platforms are not shaped solely by the scale and production quality of their content, but also by the ways in which platforms position themselves within the communication space. Of particular importance are patterns of public communication, narratives, and symbolic strategies through which relationships with audiences are established and brand identity is constructed (Van Dijck, Poell, De Waal, 2018). Digital marketing has become an integral component of business strategy that influences platform visibility, perceived value, and user loyalty patterns (Kotler, Kartajaya, Setiawan, 2017).

OTT platforms engage audiences continuously through social media presence, collaborations with content creators, and data-driven insights into user behaviour. The practices support both the promotion of individual titles and the long-term positioning of the brand within a highly competitive digital environment (Mangold & Faulds, 2009). Digital marketing functions as a main mechanism for capturing user attention, fostering engagement, and maintaining platform retention. Similar conclusions regarding the growing importance of digital communication and multichannel marketing strategies in contemporary media systems are also supported by earlier research on the digital transformation of marketing communications (Tankosić & Trifunović, 2015).

Existing research on OTT platforms has predominantly addressed shifts in audience behaviour, the transformation of television markets, and the rise of subscription-based models (Lotz, 2017; Jenkins, Ford, & Green, 2013). However, less attention has been devoted to a systematic examination of digital

marketing strategies within OTT services, particularly in comparative analyses of global commercial platforms and national services operating within different regulatory and institutional frameworks. The application of marketing mix elements in the OTT digital environment, and their role in shaping brand identity and enhancing audience engagement, remains insufficiently explored.

Building on the identified research gap, this study examines the role of digital marketing in positioning OTT platforms, with a particular focus on communication practices that extend beyond their core technological ecosystem. Special attention is given to a comparative analysis of the digital marketing activities of the global OTT platform Netflix and the national OTT platform RTS Planeta, operated by the Radio Television of Serbia. The approach enables an examination of similarities and differences in digital communication and branding strategies within the contemporary, highly digitized media environment.

The study is structured as follows: the second section reviews the literature, the third outlines the methodology, the fourth presents empirical findings, and the final section provides conclusions.

Literature Review

The development of OTT (Over-the-Top) platforms and the transformation of the contemporary media market have been extensively studied in theoretical and empirical research, addressing shifts in audiovisual consumption patterns, audience attention management, and emerging communication models in the digital environment. Within the existing literature, three main research streams are particularly relevant to this study: audience behaviour and changing viewing practices, media platformisation, and digital marketing and branding in online services.

The first stream of research focuses on changes in audience habits and the shift from linear to non-linear, on-demand modes of content consumption. Scholars argue that personalisation, algorithmic recommendations, and increased flexibility in content access contribute to a redefinition of the relationship between audiences and media products (Lotz, 2017; Napoli, 2011). Audience loyalty is increasingly shaped not only by programming, but also by user experience, content accessibility, and the degree of personalised communication (Jenkins et al., 2013). The literature suggests that the relationship between audiences and OTT platforms is shaped through continuous interaction and perceived value, rather than passive content consumption.

The second research stream concerns the concept of media platformisation, which frames OTT platforms as complex socio-technical systems. Van Dijck, Poell and de Waal (2018) argue that platforms operate as hybrid ecosystems in which technological, economic, and communicative logics intersect, while algorithmic mechanisms actively shape content visibility, interaction patterns, and the market positioning of actors. Tarleton Gillespie (2010) further emphasises that platforms establish their own normative frameworks for content moderation and prioritisation, thereby directly influencing competitive relations and opportunities for brand differentiation. In this context, Cunningham and David Craig (2019) highlight differences between global and local platforms, arguing that global services possess more stable resources for developing digital campaigns and managing brand presence across diverse regulatory and cultural environments.

The third body of literature addresses digital marketing and branding practices in networked environments. The literature highlights a broader shift in marketing paradigms within the digital economy, where social media, user data analytics, and precise audience targeting have become central components of marketing strategy (Kotler et al., 2017). The interactive potential of digital channels, particularly within Web 2.0 environments, is recognised as a key factor in enabling two-way communication and fostering audience engagement (Tankosić, Ivetić, & Vučurević, 2016). Social media have increasingly been conceptualised as auxiliary promotional tools, but as key spaces for building and maintaining brand identity and audience relationships (Mangold & Faulds, 2009). In the field of media services, research indicates that digital platforms use user behavioural data not only to optimise content delivery, but also to design communication campaigns that encourage engagement and long-term audience loyalty (Smith & Telang, 2017). Studies on audience perception and evaluation of communication channels further indicate that engagement depends on message clarity, channel suitability, and consistency of communication (Tankosić, Manić, & Mikić, 2024).

A further strand of literature focuses on strategic brand management and the application of marketing mix elements in digital environments. Strategic brand positioning is recognised as a main process in achieving competitive advantage, with promotion and communication identified as dominant components of the marketing mix in digital industries (Garachkovska et al., 2021). Within the context of OTT platforms, the traditional marketing mix – product, price, place, and promotion – acquires specific meanings. Within OTT platforms, the product includes content offerings, interface design, and multi-device accessibility, and additional platform functionalities, while differentiation is primarily achieved

through content exclusivity, user experience quality, and the strength of brand identity.

Differentiation strategies in digital environments enable platforms to distinguish themselves in an increasingly saturated market by offering distinctive experiences and content tailored to specific audience needs (Jerab & Mabrouk, 2023). The development of a strong and recognisable brand contributes to building trust, strengthening user loyalty, and ensuring the long-term sustainability of OTT business models.

Despite the extensive body of literature on media industry transformation and the evolution of digital marketing, relatively few studies have systematically examined the application of marketing mix elements in OTT environments, particularly through comparative analyses of global and national services. This gap underscores the need for an in-depth analysis of digital marketing strategies employed by OTT platforms operating in different market and institutional contexts, which forms the basis of the present study.

Aim and Methodology of the Study

The aim of the study is to analyse and compare the digital marketing strategies of OTT platforms operating within different market and institutional frameworks, with particular emphasis on their role in shaping brand identity and audience engagement. The study examines the adaptation of marketing mix elements to OTT environments and the extension of communication practices outside the platform ecosystems (Tankosić & Grbić, 2022) through social media and networked communication channels.

In line with the stated aim, the study addresses the following research questions: how OTT platforms employ digital marketing channels to position their brands and develop relationships with audiences; what similarities and differences can be identified in the implementation of digital marketing strategies between a global commercial OTT platform and a national public service OTT platform; and to what extent digital communication functions as a strategic instrument in achieving both business and public service objectives.

This study is guided by the following research hypotheses:

H1: Differences in digital marketing practices are reflected in variations in audience engagement levels across OTT platforms.

H2: Global OTT platforms employ a more extensive use of viral and data-driven marketing strategies compared to national public service OTT platforms.

H3: Public service OTT platforms tend to prioritise informational, cultural, and accessibility-oriented communication strategies rather than commercial branding strategies.

The hypotheses are operationalised through quantitative engagement metrics (views, likes, comments, shares) and qualitative content coding of communication strategies across platforms.

The study applies a mixed-methods research design based on a comparative case study approach (Yin, 2018), combining qualitative content analysis with quantitative engagement metrics. The comparative design is asymmetrical in nature, with Netflix serving as a reference case of global OTT platform practices, while RTS Planeta represents the primary empirical case due to its specific institutional and market context.

The unit of analysis in this study is defined as an individual digital content item, including video posts and accompanying social media posts published on Instagram and TikTok accounts of the analysed OTT platforms. The sample includes all publicly available posts published on the official Instagram and TikTok profile of RTS Planeta within the period from 18 August 2025 to 18 September 2025. A census sampling approach was applied, meaning that all available content units within the defined observation period were included in the analysis, ensuring full coverage of the population of posts.

The empirical analysis draws on multiple data sources. The first level of analysis is based on secondary sources, including relevant scholarly literature in communication studies, digital marketing, and media studies, as well as reports and publicly available data on the OTT market (Napoli, 2011; Lotz, 2017; Smith & Telang, 2017). The second level of analysis focuses on the digital marketing practices of Netflix, drawing on existing academic research, documented promotional campaigns, and analytical studies addressing branding strategies and audience engagement on global platforms (Gomez-Uribe & Hunt, 2016; Pal, 2024). The third level of analysis is based on audience engagement data derived from the analytical report by Marinković (2025), with all interpretations and analytical conclusions developed by the author of this study.

The qualitative analysis focuses on identifying and interpreting communication practices, including narratives, content formats, and types of campaigns used in the digital promotion of OTT platforms. The quantitative analysis examines audience engagement indicators such as views, interactions (likes, comments, and shares), and content reach, which enable an assessment of the visibility and effectiveness of digital communication (Mangold & Faulds, 2009). By combining these two approaches, the study provides a more comprehensive

understanding of the relationship between digital marketing strategies and audience responses across different organisational and market contexts.

For the purpose of a systematic and transparent comparison of the case studies, an analytical matrix is applied, enabling a structured examination of the digital marketing strategies of Netflix and RTS Planeta across clearly defined analytical dimensions, including platform type, digital marketing objectives, dominant communication channels, content formats, and the role of marketing within the overall platform strategy (Table 1). The findings are interpreted through relevant theoretical frameworks on digital marketing, media platformisation, and contemporary branding practices.

Table 1. Digital Marketing Strategy Matrix: Netflix and RTS Planeta

Analytical dimension	Netflix	RTS Planeta
Platform type	Global commercial platform	National public service platform (with international access)
Digital marketing objectives	Branding, virality, subscriptions	Information dissemination, audience activation
Core digital channels	Instagram, X (formerly Twitter), TikTok, YouTube	Instagram, TikTok, Facebook
Content type	Viral, narrative-driven, entertainment-oriented	Informational, promotional, cultural, entertainment
Audience engagement	Global reach, fan communities	High organic reach
Role of marketing	Central strategic instrument	Support function for public service mission

Source: Author’s research based on Marinković, M. (2025).

The comparative matrix (Table 1) indicates clear differences in the strategic orientation of digital marketing practices between Netflix and RTS Planeta, particularly in relation to the role of branding, content distribution strategies, and the functional positioning of marketing within global commercial and public service OTT environments.

Digital Marketing in OTT Platforms

In recent years, the video content market has undergone substantial transformation driven by the dominance of digital platforms, the rapid increase in content volume, and intensified competition for audience attention. Audiences are exposed to an expanding array of media offerings, digital

services, and advertising messages, resulting in saturation and attention overload, which increasingly complicates user acquisition and retention.

Netflix represents a global commercial OTT platform with a vast content portfolio and highly developed digital marketing practices, while RTS Planeta functions as a national public service platform with a specific mandate to inform audiences and promote domestic production for users in Serbia, the region, and the Serbian diaspora. The contrast enables a comparative analysis of digital marketing strategies across different market, regulatory, and cultural contexts, with particular attention to audience engagement and brand identity.

The digital transformation of the media industry over the past decade has enabled the rapid expansion of global streaming platforms, while national platforms – typically established by public service media organisations or telecommunications operators – have been required to rely on digital marketing, content personalisation, algorithmic recommendation systems, branding strategies, and multichannel promotion in order to sustain relevance and maintain market position. A particular emphasis is placed on the post-COVID-19 period, during which increased market saturation and the entry of new competitors have further reinforced the strategic importance of digital marketing for user retention and platform growth.

The comparative analysis of Netflix and RTS Planeta is based on differences in scale, market presence, and institutional framework, which provide a basis for examining variations in digital marketing strategies across global commercial and public service OTT platforms. RTS Planeta operates as a VOD (Video on Demand) service providing live streams of 12 television and 9 radio channels of the Serbian public service broadcaster, along with a catalogue of approximately 40,000 audio and video items. By contrast, Netflix operates as a global platform offering tens of thousands of titles worldwide, with region-specific catalogues, including Iceland (9,765 titles), Slovenia (8,883), and Latvia (8,799) (Statista, 2025).

Netflix

An example of Netflix’s global commercial marketing is the “One Last Ride” activation, held three days prior to the premiere of the fifth season of *Stranger Things* on 23 November 2025. A section of Melrose Avenue in Los Angeles was temporarily closed to traffic, while participants were invited to take part in an experiential activation inspired by 1980s aesthetics and to complete a 6.4 km route designed to simulate the fictional town of Hawkins from the series. The

route featured promotional installations and photo opportunities inspired by the Stranger Things narrative universe (Glassman, 2025).

The event illustrates the integration of experiential marketing and digital communication strategies aimed at generating viral content and strengthening Netflix's global brand identity. The activity illustrates the integration of experiential marketing and digital engagement strategies aimed at enhancing visibility and strengthening global brand positioning.

In contrast, RTS Planeta implemented promotional activities in autumn 2025 with a focus on accessibility and inclusivity, including the promotion of the series Nobelovac with audio description for blind and visually impaired audiences at the Museum of Ivo Andrić. The initiative reflects the integration of socially responsible communication practices into the digital marketing activities of public service media platforms and their use of digital channels for audience engagement.

The digital marketing strategy of Netflix is grounded in extensive use of user data and algorithmic systems, which enable the personalisation of content and enhance audience engagement. Interface design optimisation, algorithm-based recommendations, and streamlined navigation contribute to increased content uptake (Ong et al., 2024). Previous research (Gómez-Uribe & Hunt, 2016) underlines the role of recommendation systems in shaping the user journey, while more recent studies (IT Network, 2023; Han, 2025) point to the expanding significance of artificial intelligence, automation, and behavioural analytics in contemporary digital marketing practices.

From a branding perspective, Netflix applies a glocalised strategy that combines a strong global brand identity with locally tailored content and campaign adaptations. The platform frequently implements promotional formats such as interactive contests, quizzes, and hashtag-based campaigns, thereby encouraging users to actively participate in promotional processes and reinforcing a sense of community (Xiao, 2023). Social media platforms, including X (formerly Twitter), Instagram, TikTok, and YouTube, are used for the dissemination of viral communication content, often relying on humour, memes, and interactive formats. This approach contributes to sustained audience engagement, particularly among younger demographic groups (Yuan, 2023).

The application of the AIDA model (Attention, Interest, Desire, Action) illustrates how Netflix effectively guides users through all stages of engagement, from initial attention to active content consumption and subscription. Original productions such as Squid Game and Wednesday function

as central elements of its digital marketing strategy, integrating content promotion with platform promotion and contributing to the creation of global pop-culture phenomena (Pal, 2024).

The market position of Netflix remains dominant, supported by a high degree of personalisation, strong brand recognition, effective use of social media, and the production capacity of original content.

However, key challenges include rising global production costs, heterogeneous audience preferences, the risk of content fatigue, and increasingly intense competition from platforms that are adopting and adapting its pioneering models (Ma, 2025).

RTS Planeta

RTS Planeta is an independent OTT platform of the Serbian public service media organisation, designed for the distribution of audiovisual content both nationally and internationally. The platform's primary digital marketing channels, aimed at enhancing interactivity, attracting new users, and informing existing audiences, include Instagram, TikTok, Facebook, and YouTube.

The official RTS Planeta accounts provide content overviews, recommendations, and information related to series, films, documentary programmes, and archival material. The content strategy is primarily focused on the promotion of domestic production, current premieres, and exclusive excerpts from the most viewed series and programmes.

Within the framework of this study, the period from 18 August 2025 to 18 September 2025 was analysed, with a focus on audience engagement across the Instagram and TikTok profiles of RTS Planeta. Since its launch on Instagram in 2018 up to the end of the observed period, the account had 66,795 followers, 2,791 posts, and 37 videos exceeding one million views, six of which surpassed two million views. The most viewed clip originated from the series "Branilac", reaching 2.7 million views. At the time of writing (December 2025), 59 Instagram posts had exceeded one million views, while 13 had surpassed two million. For instance, a clip from the series "Biser Bojane" reached 2,757,338 views, whereas a clip from "Vojna akademija" recorded the highest performance with 2,970,434 views and 32,876 interactions. Analysis of account analytics indicates that approximately 1.6 million viewers of this video were not followers of the RTS Planeta Instagram account, suggesting a substantial level of organic reach.

The Instagram channel of RTS Planeta represents the primary link between the public service media organisation and its digital audience, with an emphasis on interactivity, information dissemination, and continuous communication with followers. During the observed period, a total of 8,664,337 views were recorded, of which 88.8% originated from non-followers, while 245,261 interactions were achieved, 84.1% of which were generated by users who were not following the account at the time. These findings confirm the significant impact of published content on audience behaviour and engagement (Marinković, 2025).

Table 2. RTS Planeta: Audience Engagement on Instagram and TikTok (18 August–18 September 2025)

Platform	Followers	Posts	Videos > 1M views	Videos > 2M views	Highest-performing content
Instagram	66,795	2,791	37	6	2.7M (“Branilac”)
TikTok	81,934	781	14	2 (+ 1 above 3M)	3.5M (“Nečista krv”)

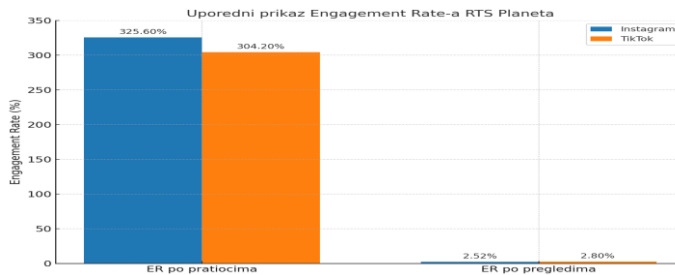
Source: Author’s research based on Marinković, M. (2025).

Table 2 provides a comparative overview of audience engagement metrics for RTS Planeta on Instagram and TikTok, indicating a high level of reach and interaction across both platforms, with a particularly strong performance in terms of organic visibility and the dissemination of video content beyond the existing follower base.

The TikTok account of RTS Planeta was launched in March 2024 with the objective of making public service content more accessible to a younger, digitally active audience. Since its establishment, the profile has rapidly developed a substantial user base and has become one of the most engaged media accounts in the region. The communication strategy is based on short-form, visually oriented content adapted to the platform’s fast-paced and interaction-driven logic.

By the end of the observed period, the account recorded 81,935 followers, while exclusively organic content generated 8,903,151 views and 249,362 interactions. The audience engagement rate stands at 2.8%, indicating that approximately one in every 36 users who view the content engages through likes, comments, or shares (Figure 1).

Figure 1. Comparative Audience Engagement Rates: RTS Planeta (Instagram vs. TikTok)



Source: Author's research based on Marinković, M. (2025).

The Facebook page of RTS Planeta, launched in 2018, has 76,538 followers and is primarily used for the distribution of content targeted at an older audience segment (45+), with an emphasis on information dissemination and direct communication.

Since February 2025, content has also been actively updated on the YouTube channel “RTS Planeta Official Channel”, which had 62,133 subscribers at the time of writing. This has provided an additional layer of digital visibility and facilitated further audience interaction across platforms.

Conclusion

The comparative analysis of digital marketing strategies of Netflix and RTS Planeta reveals clear differences in approach between global commercial and national public service OTT platforms, shaped by distinct institutional, regulatory, and market contexts. Netflix primarily utilises digital channels for brand positioning, viral content distribution, and active audience participation in promotional processes. RTS Planeta, by contrast, prioritises information dissemination, inclusivity, and the fulfilment of its public service mandate, while simultaneously sustaining high levels of audience engagement through social media platforms.

Empirical findings suggest that differentiated digital marketing approaches have a direct influence on brand perception and audience loyalty. Netflix achieves global reach and high levels of content virality, while RTS Planeta records strong organic reach and user interaction, particularly on Instagram and TikTok. The results confirm the importance of digital channels in supporting the strategic objectives of platforms with distinct institutional roles and market positions.

The empirical findings confirm all three proposed research hypotheses. The results support H1, demonstrating that differences in digital marketing practices between Netflix and RTS Planeta are reflected in variations in audience engagement levels across platforms. H2 is likewise confirmed, as the comparative analysis shows that Netflix applies considerably more intensive viral, data-driven, and globally coordinated marketing strategies, relying on algorithmic personalisation, interactive campaigns, and transmedia audience engagement. The findings further confirm H3, indicating that RTS Planeta primarily employs informational, cultural, and accessibility-oriented communication practices aligned with its public service mission, rather than commercially oriented branding strategies characteristic of global streaming platforms. These results suggest that digital marketing strategies on OTT platforms are strongly shaped by institutional frameworks, strategic priorities, and target audience structures, while simultaneously functioning as an important mechanism for strengthening audience relationships, visibility, and long-term platform positioning in the digital media environment.

The study also highlights the importance of integrating marketing mix elements with the strategic management of communication practices in the digital OTT environment. Personalisation, algorithm-based recommendations, and interactive campaigns contribute to sustained audience engagement and the strengthening of brand identity, which in turn represent key determinants of competitiveness in a highly digitised media market.

The limitations of the study relate to the restricted time frame of observation and the focus on two selected case studies, which suggests the need for broader comparative analyses including additional global and national OTT platforms. Future research could further examine the impact of emerging algorithmic models, trends in content personalisation, and specific user demographic segments on the digital marketing strategies of OTT platforms.

The findings contribute to a more nuanced understanding of digital marketing practices in OTT platforms across different institutional contexts, demonstrating how communication strategies are shaped by commercial objectives and public service media mandates.

References

1. Bilovodska, O., Melnyk, Yu., Alenin, Yu., & Arkusha, L. (2020). Implementation of marketing and legal tools in the process of commercialization for innovative products in strategic management and

- entrepreneurship. *International Journal for Quality Research*, 14(4), 1261-1278. <https://doi.org/10.24874/IJQR14.04-18>
2. Cunningham, S., & Craig, D. (2019). *Social media entertainment: The new intersection of Hollywood and Silicon Valley*. New York: NYU Press.
 3. Garachkovska, O., Sytnyk, O., Fayvishenko, D., Taranskiy, I., Afanasieva, O., & Prosiyanik, O. (2021). Strategic management of brand positioning in the market. *Advances in Science, Technology and Engineering Systems Journal*, 6(1), 947–953. <https://doi.org/10.25046/aj0601104>
 4. Gillespie, T. (2010). The politics of „platforms“. *New Media & Society*, 12(3), 347–364. <https://doi.org/10.1177/1461444809342738>
 5. Glassman, T. (November 21st, 2025). An Immersive Stranger Things Bike Ride Is Hitting the Streets of Los Angeles. *Netflix Tudum*. Retrieved from <https://www.netflix.com/tudum/articles/stranger-things-los-angeles-bike>
 6. Gomez-Uribe, C. A., & Hunt, N. (2016). The Netflix Recommender System: Algorithms, business value, and innovation. *ACM Transactions on Management Information Systems*, 6(4), 1–19. <https://doi.org/10.1145/2843948>
 7. Han, Y. (2025). Strategy management and market breakthrough of Netflix. *Interdisciplinary Humanities and Communication Studies*, 1(4). <https://doi.org/10.61173/cr9p0152>
 8. IT Network. (2023). *Uloga AI-a u sistemima preporuka (Netflix primer)*. Retrieved November 29, 2025, from <https://www.itnetwork.rs/uloga-ai-a-u-sistemima-preporuka/>
 9. Jenkins, H., Ford, S., & Green, J. (2013). *Spreadable media: Creating value and meaning in a networked culture*. New York: NYU Press.
 10. Jerab, Daoud & Mabrouk, Tarek, (2023). Strategic Excellence: Achieving Competitive Advantage through Differentiation Strategies <http://dx.doi.org/10.2139/ssrn.4575042>
 11. Kotler, P., Kartajaya, H., & Setiawan, I. (2017). *Marketing 4.0: Moving from traditional to digital*. Hoboken, NJ: Wiley.
 12. Lotz, A. D. (2017). *Portals: A treatise on internet-distributed television*. Ann Arbor: Michigan Publishing.
 13. Ma, M. (2025). *Critical analysis: Netflix's future in a competitive landscape*. *Advances in Economics, Management and Political Sciences*, 157, 156–159. <https://doi.org/10.54254/2754-1169/2025.AB23064>

14. Mangold, W. G., & Faulds, D. J. (2009). Social media: The new hybrid element of the promotion mix. *Business Horizons*, 52(4), 357–365. <https://doi.org/10.1016/j.bushor.2009.03.002>
15. Marinković, M. (2025). RTS Planeta - analiza angažovanosti publike Instagram i TikTok (za period 18.8. – 18.9.2025.) [neobjavljeni izveštaj]. Radio-televizija Srbije.
16. Napoli, P. M. (2011). *Audience evolution: New technologies and the transformation of media audiences*. New York: Columbia University Press.
17. Ong, A. K. S., Josue, N. L., Urbiztondo, A. M. B., German, J. D., & Espeño, P. R. E. (2024). *Evaluation of consumer usage behavior for interactive entertainment: A Netflix case study*. *Entertainment Computing*, 49, 100627. <https://doi.org/10.1016/j.entcom.2023.100627>
18. Pal, V. (2024). AIDA marketing strategy: The case of Netflix streaming to success. *IOSR Journal of Humanities and Social Science*, 29(7), 58–62. Retrieved from <https://www.iosrjournals.org/iosr-jhss/papers/Vol.29-Issue7/Ser-9/J2907095862.pdf>
19. Smith, M. D., & Telang, R. (2017). *Streaming, sharing, stealing: Big data and the future of entertainment*. Cambridge, MA: MIT Press.
20. Statista. (2025, February). *Netflix library size worldwide* (Statistic No. 1013571). Retrieved November 29, 2025, from <https://www.statista.com/statistics/1013571/netflix-library-size-worldwide/>
21. Tankosić, M., & Trifunović, D. (2015). The influence of digitization and new media on the system of companies marketing communication, consumers and business enterprises. *Advances in Environmental Science and Energy Planning*, WSEAS Press, Tenerife, Canary Islands, Spain, 1, 174–180. <https://doi.org/10.4236/>
22. Tankosić, M., Ivetić, P., & Vučurević, V. (2016). Features of interactive public relations: Using Web 2.0 to establish a two-way communication with the consumers. *International Journal of Economics and Management Systems*, 1, 290–295. 2367-8925.
23. Tankosić, M., Manić, Lj., & Mikić, A. (2024). Students' perceptions and satisfaction in evaluating communication channels. *Društvene i humanističke studije DHS (Social Sciences and Humanities Studies)*, 9(2), 1463–1483. <https://doi.org/10.51558/2490-3647.2024.9.2.1463>
24. Tankosić, M., & Grbić, A. (2022). Creating effective communications with users through the techniques web mining and its legal regulation. *Oditor*, 8(3), 268–303. ISSN 2217-401X.

25. Van Dijck, J., Poell, T., & de Waal, M. (2018). *The platform society: Public values in a connective world*. Oxford: Oxford University Press.
26. Xiao, H. (2023). Research on the brand marketing strategy of Netflix in the new media environment. *Advances in Economics, Management and Political Sciences*, 56(1), 195–202. <https://doi.org/10.54254/2754-1169/56/20231087>
27. Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Thousand Oaks, CA: Sage.
28. Yuan, C. (2023). *A case study of Netflix's marketing strategy*. *BCP Business & Management*, 42, 185–190. <https://doi.org/10.54691/bcpbm.v42i.4580>

ULOGA DIGITALNOG MARKETINGA U OBLIKOVANJU KOMUNIKACIONIH PRAKSI OTT PLATFORMI

Apstrakt

Rad analizira ulogu digitalnog marketinga u pozicioniranju OTT (Over-the-Top) platformi u savremenom medijskom okruženju, sa posebnim fokusom na komunikacione prakse koje se odvijaju izvan njihovog tehničkog ekosistema. OTT platforme, kao jedan od najdinamičnijih segmenata globalne medijske industrije, oblikuju percepciju vrednosti svojih usluga kroz strateško upravljanje brendom, prisustvo na digitalnim mrežama i kontinuirano podsticanje angažovanja publike. Istraživanje je zasnovano na komparativnoj studiji slučaja, u okviru koje su analizirane digitalne marketinške strategije globalne komercijalne platforme Netflix i nacionalne OTT platforme Javne medijske ustanove Radio-televizije Srbije - RTS Planeta. Analiza obuhvata kvalitativno razmatranje komunikacionih praksi i sadržajnih formata, kao i kvantitativne pokazatelje angažovanosti publike na društvenim mrežama. Rezultati istraživanja ukazuju na različite obrasce korišćenja digitalnih kanala: Netflix koristi digitalne mreže prvenstveno za globalno pozicioniranje brenda i razvoj serijalizovanih, viralnih kampanja, dok RTS Planeta digitalni marketing dominantno usmerava ka informisanju, aktiviranju publike i ostvarivanju javne medijske misije u okviru nacionalnog medijskog sistema.

Cljučne reči: OTT platforme, digitalni marketing, angažovanje publike na društvenim mrežama, komunikacione prakse, ciljno oglašavanje

JEL: M31, L82, D83

RESPONSIBILITY FOR DAMAGE CAUSED BY ILLEGAL ACTS - LEGAL AND ECONOMIC ANALYSIS IN THE LAW OF THE REPUBLIC OF SERBIA

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Review Article

Abstract

State liability for damage caused by unlawful acts is one of the basic mechanisms for protecting citizens' rights and implementing the rule of law. In the legal framework of the Republic of Serbia, this institute has its constitutional and legal basis, while its practical application raises numerous theoretical and practical questions. The aim of the paper is to present, through normative-legal and economic analysis, the key elements of state liability, the challenges in proving it, and the impact of case law on legal certainty. Special attention is paid to the analysis of existing domestic and international research, as well as the economic consequences of state liability for public finances. The paper concludes that a functional system of state liability contributes to strengthening trust in institutions, but requires uniform case law and more precise normative regulation in order to achieve a balance between the protection of individual rights and fiscal stability.

Keywords: *state liability, case law, legal certainty, public finances.*

JEL: K13, K23, H83

Introduction

The institution of state liability for damage caused by unlawful acts represents one of the basic mechanisms for protecting the rights of individuals in modern legal systems. It reflects changes in the relationship between the state and

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citizens, whereby the state is no longer viewed as an entity with absolute power, but as a subject that must align its actions with legal norms and principles of the rule of law. State liability for damage caused by unlawful or improper actions of public authorities has a dual role: compensatory, expressed through compensation for damage to injured persons, and preventive, because it stimulates lawful and conscientious action of state authorities. In this context, state liability is closely linked to the principle of the rule of law, which implies that all holders of public authority, including the state, must respect the law and be subject to legal control. Legal certainty, as one of the key pillars of the rule of law, requires that citizens can foresee the legal consequences of the actions of state authorities, as well as have effective legal remedies in the event of a violation of their rights. If the state is not held liable for damage caused by unlawful acts, legal protection remains formal, and citizens' trust in institutions is significantly undermined. For this reason, the institute of state responsibility is increasingly viewed not only through the prism of civil liability, but also as a key element of the overall constitutional legal system.

An analysis of the development of state responsibility in comparative law shows a gradual abandonment of the concept of state immunity. In continental legal systems, such as French and German, special models of state responsibility have been developed that deviate from the classical rules of the law of obligations. French doctrine, through the principle of *faute de service*, emphasizes the functional responsibility of the administration, while German law uses the *Staatshaftung* system, which integrates constitutional and civil law elements. In addition to national systems, the practice of the European Court of Human Rights has a significant influence, which, in interpreting the European Convention on Human Rights, insists on the existence of an "effective legal remedy" in cases of violation of convention rights, including the right to compensation for damage caused by the actions of state authorities.

In the law of the Republic of Serbia, state responsibility for damage has a clear constitutional foundation, but its practical application raises numerous controversial issues. Particularly pronounced are the challenges in terms of proving the illegality of an act, the causal link and the amount of damage, as well as the unevenness of case law. In addition to legal aspects, the economic effects of state liability are also becoming increasingly important, especially in relation to public finances, budgetary responsibility and fiscal sustainability. The costs of legal proceedings and the payment of compensation can have a serious impact on the state budget, which raises the question of the optimal balance between the protection of citizens' rights and the stability of public finances.

This paper has a review character and is based on the analysis and synthesis of existing theoretical and empirical findings from domestic and foreign literature, as well as relevant case law. The aim of the paper is to identify key theoretical and practical problems in the law of the Republic of Serbia, through the systematization of the constitutional and legal foundations of state liability for damage caused by unlawful acts. A special contribution of the paper is reflected in the connection of legal and economic aspects of state liability, i.e. in considering the impact of case law on legal certainty and the analysis of the fiscal implications of this form of liability, which is insufficiently integrated in domestic literature.

Methodologically, the paper is based on a normative-dogmatic analysis of constitutional and legal provisions governing state liability for damage, then on an analysis of the case law of the highest judicial instances in Serbia, as well as a critical review of relevant domestic and foreign literature. Also, elements of economic analysis of law (law & economics) are applied in order to examine the broader effects of state liability on the behavior of public administration and public finances.

Based on the above, the paper poses the following research questions: do legal solutions in Serbia enable effective compensation for damage to persons injured by unlawful acts; how does case law affect legal certainty and predictability; and what are the economic effects of state liability on public finances and fiscal discipline. By defining this analytical framework, the paper contributes to existing research that seeks to connect the legal and economic aspects of state liability in the modern legal system.

The constitutional and legal basis of state responsibility in the Republic of Serbia

State responsibility for damage caused by illegal acts is a basic instrument for protecting the rights of individuals and supervising the exercise of public authority. In the legal system of the Republic of Serbia, this institute has a multi-layered normative basis that includes constitutional provisions, general rules of obligation law, but also special laws in the field of administrative law. Its application and interpretation are additionally shaped by judicial practice, including the practice of the European Court of Human Rights.

The Constitution of the Republic of Serbia as the basis of state responsibility

The Constitution of the Republic of Serbia from 2006 lays a strong constitutional foundation for state responsibility for damage. Of particular importance is Article 35 of the Constitution, which guarantees the right of every

person to compensation for material and non-material damage caused by illegal or improper work of state bodies, bodies of territorial autonomy, local self-governments, as well as holders of public authority (Vasiljević, D. & Vasiljević, Z., 2024). This constitutional norm confirms that the state cannot be exempted from the general rules of responsibility, thus strengthening the legal protection of the individual in relation to the government.

The right to compensation from Article 35 of the Constitution is directly related to the principle of the rule of law, which is one of the basic constitutional principles. The rule of law implies the obligation of the state to act within the law, legal certainty and the responsibility of authorities for the consequences of illegal actions. In this sense, the state's responsibility for damage is not only an individual right of the injured party, but also a systemic mechanism of government control and prevention of arbitrary action.

In domestic legal theory, it is emphasized that the constitutional guarantee of the right to compensation for damages has a double role: reparative, because it enables compensation for the damage suffered, and preventive, because it encourages authorities to act legally and conscientiously (Krstić et al., 2023). Nevertheless, although the Constitution establishes a clear normative framework, its application in practice depends on legal regulations and judicial interpretation, which opens up space for different approaches and possible inconsistencies.

The Law on Obligations and State Responsibility

A key place in the legal regulation of liability is occupied by the Law on Obligations (ZOO), which prescribes the general rules of tort liability. According to these rules, legal entities are liable for damage caused by their bodies or employees to third parties in the performance or in connection with the performance of their functions. The state is viewed as a separate legal entity subject to the rules of the law of obligations.

The specificity of state responsibility is reflected in the fact that it is usually related to illegal or irregular acts of public authorities, including administrative acts, individual decisions and factual actions (Brants, 2020). In contrast to the classical obligation relations between private persons, the responsibility of the state raises the question of the relationship between the public law and private law spheres, which often complicates the application of the general rules of the ZOO.

Domestic authors, such as Radulović and Vasiljević, point out that the ZOO does not contain sufficiently precise rules adapted to the specifics of state

responsibility, but rather it is developed through judicial practice. A special challenge is the determination of the cause-and-effect relationship between the illegal act and the resulting damage, especially when the damage is the result of complex administrative procedures or long-term decision-making.

Special laws and the administrative legal framework of responsibility

In addition to the ZOO, special laws from administrative law also play an important role in regulating the responsibility of the state. The Law on State Administration prescribes the obligation of authorities to act legally, professionally and efficiently, which indirectly establishes the basis for liability in case of violation of these obligations. Although the law does not directly regulate compensation for damages, it sets the standards of legal behavior, the violation of which can be the basis for state responsibility (Pavelek & Zajickova, 2023).

The Law on Public Services further expands the circle of subjects whose illegal behavior may cause the state to be held responsible, including public institutions and other subjects that perform activities of general interest (Hemed, 2022). This confirms the modern trend of spreading the concept of responsibility to the holders of public authority outside the classic state administration.

Of particular importance is the Law on Administrative Disputes, which enables judicial review of the legality of administrative acts. Although the primary goal of an administrative dispute is the annulment of an illegal act, its role is also significant for the realization of the right to compensation for damages, because the determination of illegality is often a preliminary issue in civil proceedings.

The relationship between constitutional, administrative and civil liability

The responsibility of the state for damage in the legal system of Serbia is characterized by a complex relationship of constitutional, administrative and civil liability. The Constitution guarantees the right to compensation for damages, administrative law regulates the legality of actions of authorities, while civil law provides a reparation mechanism.

In theory, it is emphasized that the absence of a single law on state responsibility leads to the fragmentation of legal regulations and the reduction of legal security of injured persons (Milanović & Gojkov, 2024). The question of whether an administrative dispute must first be conducted for the annulment of an act or whether a lawsuit for damages can be initiated immediately is often the subject of judicial dilemmas, which makes it even more difficult to exercise the rights guaranteed by the constitution.

The impact of the practice of the European Court of Human Rights (ECtHR)

The practice of the ECtHR is of great importance for the interpretation and application of domestic rules on state responsibility. In its judgments, the court emphasizes the existence of an effective legal means for the protection of the rights of individuals, including the right to compensation for damages due to the illegal actions of the state (Petrović, J., & Petrović, P., 2025). Analyses of the compliance of domestic law with the European Convention indicate that the formal existence of legal means is not enough, but they must be effective in practice.

Comparative doctrine shows that legal systems such as the French (*faute de service*) and the German (*Staatshaftung*) have developed clearer models of state responsibility, with specific rules adapted to the public law nature of the relationship. These models are often cited in domestic literature as possible examples for improving the normative framework in Serbia.

Elements of responsibility and the problem of proof

The responsibility of the state for damage caused by illegal acts is based on the general principles of civil liability, but with specifics arising from the character of the state as the bearer of public authority (Vasiljević & Radović, 2023). Although the legal framework in the Republic of Serbia theoretically allows compensation for damages, practice shows that the realization of this right often encounters complicated evidentiary issues and strict procedural requirements.

Basic elements of liability for damage

An illegal act constitutes the basic precondition of state responsibility. It is an action or an act of a state authority, that is, a holder of public authority, which is in conflict with the Constitution, the law or another normative act. Theoretically, it is emphasized that illegality can be (Radovanović, 2025):

- material (wrong application of rights),
- formal (violation of procedure),
- constitutional (violation of constitutional rights).

The domestic literature indicates that the courts often narrowly interpret the concept of illegality, connecting it exclusively to the previously annulled administrative act, which limits the possibility of seeking compensation for damages (Vilks et al., 2024).

Damage can be (Baretić, 2020):

- property (ordinary damage and lost profit),
- non-property (infringement of reputation, honor or personal rights).

Proving the lost benefit is particularly problematic, because the courts require a high degree of certainty, which is often not easily achievable in practice. The authors point out that this further complicates the position of injured parties in relation to disputes against private entities.

The causal link between the illegal act and the resulting damage is one of the most complicated elements of proof (Savić & Bonić, 2022). Judicial practice in Serbia generally requires direct and clear causality, which often leads to the rejection of lawsuits when there is indirect or cumulative causation. The literature indicates that such an approach is not always in line with modern trends in comparative law, which accept more flexible models of causation, especially when the perpetrator is the state.

Although the theory emphasizes the elements of the objective responsibility of the state, jurisprudence often implicitly requires proof of the body's guilt, which creates a normative and practical mismatch. Thus, the responsibility of the state becomes more similar to the classic delict model, contrary to its constitutional function.

Specifics of proof in the case of state responsibility

One of the main problems in practice is the question of whether illegality must be previously determined in a separate procedure (eg administrative dispute) or whether it can be proven directly in civil proceedings. Courts generally require prior annulment of the act, which prolongs the process and increases costs for the injured party (Janković & Golubović, 2025). The procedural law literature points out that this approach is not always justified, because the civil court can assess the legality of the act as a preliminary issue.

The burden of proof is formally on the prosecutor, but the question of fairness arises, taking into account (Cela et al., 2023):

- information asymmetry,
- the institutional supremacy of the state,
- limited access to relevant evidence.

Some authors propose a partial inversion of the burden of proof, especially with regard to the legality of the actions of state authorities, which is a solution present in some comparative legal systems.

In the case of damage caused by administrative acts, the causation is often multi-layered and distant in time. Courts in Serbia rarely apply the concept of adequate causation, insisting on strict immediacy, which further reduces the chances of success of lawsuits against the state.

The distinction between (Krivins et al., 2024) is particularly significant:

- annulled administrative act, where the illegality was formally established,
- an illegal but formally valid act, which produces legal effects until it is repealed.

The right to compensation is generally recognized only in the first case, although theory shows that the second scenario can also cause serious violations of citizens' rights. Such a restrictive approach calls into question the full effectiveness of the constitutional right to compensation.

Injured persons face numerous challenges (Slavković et al., 2024):

- length of procedures,
- high costs,
- uneven judicial practice,
- uncertainty of outcome.

These problems also have broader social consequences, because they discourage citizens from seeking judicial protection and reduce the preventive function of the state's responsibility.

Review of the literature and practice of the European Court of Human Rights (ECtHR)

In domestic and foreign literature, the importance of an effective legal remedy is highlighted, in accordance with Article 13 of the European Convention on Human Rights. The practice of the European Court emphasizes that the right to compensation must be (St-Georges et al., 2023):

- really available,
- effective in practice,
- reasonably foreseeable.

In several judgments, the Court pointed out that overly formalistic evidentiary requirements may constitute a violation of the Convention, especially in the context of state responsibility.

The analysis of literature and court practice shows that the system of state responsibility in Serbia formally meets the basic standards, but often does not provide effective protection of injured persons. The dominant problems are the restrictive interpretation of illegality, the strict application of the burden of proof and the narrow understanding of causation. The synthesis of the author's views shows the need for (Bartholomew, 2022):

- normative specification of the state's responsibility standards,
- more flexible proof of illegality and causation,
- unifying judicial practice in accordance with the standards of the ECtHR.

Such an approach would contribute to the strengthening of legal certainty and enable an effective preventive and corrective function of state responsibility in the modern legal system.

Jurisprudence and legal certainty

Judicial practice has a significant role in defining and advancing the institution of state responsibility for damage resulting from illegal acts. Although the constitutional and legal foundations of this responsibility are relatively clearly established, the courts, through the interpretation and application of legal norms, create practical standards that determine the scope and effectiveness of the protection of citizens' rights. In this way, judicial practice forms a link between the formal legal framework and the actual exercise of rights. In the systems of continental law, including the legal system of the Republic of Serbia, judicial practice formally has no original legal force, but in practice it significantly influences the unification of the interpretation of laws and the strengthening of legal certainty. Especially in the domain of state responsibility, where legal norms are often general and abstract, judicial practice contributes to the development of precise criteria for determining illegality, causation and the scope of damages.

Legal theory indicates that through judicial practice, the "standard of care" expected from public authorities is gradually established, as well as the border between permissible discretionary action and illegal action that entails the responsibility of the state (Krsting & Dworschak, 2012). In this sense, the role of the highest judicial instances is particularly important, because their legal opinions guide the practice of lower courts and public administration. The Supreme Court of Cassation (SCC) is the central body in the harmonization of judicial practice related to the civil liability of the state (Ugrinov et al., 2025). Its decisions most often deal with the issues of the existence of an illegal act,

the causal relationship and the scope of compensation, as well as the question of whether the previous annulment of an administrative act is a condition for compensation. Analyzing the relevant decisions, it can be seen that the Supreme Court of Justice insists on stricter proof of the causal link between the illegal actions of the authorities and the resulting damage. Although this approach protects public finances, it often makes the position of injured persons more difficult, especially when the damage is the result of complex administrative processes.

At the same time, in some decisions, the Supreme Court of Justice took the position that the state is responsible even when the illegality of the act is subsequently established, thus expanding the legal protection of citizens. Such positions strengthen legal certainty, but their application is not always consistent in the practice of lower courts. The Administrative Court has a specific role in the context of state responsibility, because its decisions are often the basis for compensation (Mihajlović & Savić, 2024). Annulment of an illegal administrative act in an administrative dispute is usually a prerequisite for initiating a lawsuit for damages. The analysis of the practice of the Administrative Court shows that it mostly remains within the formal control of the legality of acts, while it approaches the consequences of illegality for the property rights of the parties indirectly. This approach, although in accordance with the administrative procedure, creates room for legal uncertainty, because the parties must subsequently prove the existence of damage and a causal connection. An additional problem is the long duration of administrative disputes, which, in combination with the subsequent procedure for compensation, prolongs the realization of citizens' rights. This aspect of practice affects individual legal security and the perception of the effectiveness of judicial protection as a whole.

The Constitutional Court of the Republic of Serbia has a significant function in controlling the constitutionality and legality of the actions of state bodies and protecting rights guaranteed by the constitution. In the context of state responsibility for harm, its decisions often refer to the violation of the right to a fair trial, an effective legal remedy and the right to property (Nagy, 2022).

The Constitutional Court has repeatedly emphasized the state's obligation to provide effective compensation mechanisms for damages caused by the illegal actions of authorities. The reference to the standards of the European Court of Human Rights is particularly significant, which contributes to the harmonization of domestic practice with European legal frameworks.

However, constitutional judicial protection is subsidiary and cannot completely compensate for the shortcomings of regular court practice (Marković-Bajalović, 2016). Its immediate role in the legal security of citizens is limited, but it is significant in setting general standards.

One of the main problems in the area of state responsibility for damage in Serbia is the unevenness of judicial practice (Savić et al., 2025). Different courts, and even different chambers of the same court, sometimes take opposing views on the same issues, such as the conditions for the existence of liability or the scope of damages. Such unevenness creates legal uncertainty and reduces the predictability of decisions. Citizens and legal entities can hardly assess the prospects of success in a dispute, which reduces trust in the judicial system. Legal theory points out that uniform practice is a basic element of the rule of law. The consequences of the existing practice are reflected on several levels. Citizens experience uncertainty in the protection of rights, while institutionally inconsistent practice reduces the preventive effect of the state's responsibility. Public authorities do not have clear guidelines on the consequences of illegal actions. At the same time, clear and uniform standards could have a positive effect on the work of public administration, encouraging legal and responsible behavior. Thus, judicial practice is not only an instrument for the protection of individual rights, but also a means of improving quality of public administration and strengthening trust in state institutions. Domestic and foreign literature emphasizes the connection between court practice and legal certainty (Ullrich, 2021). The authors point out that without a stable and predictable practice, even the best legal norm cannot provide effective protection of rights, emphasizing the role of the highest judicial instances in setting clear standards. The research part of the work is based on a qualitative analysis of the decisions of the Supreme Court of Cassation, the Administrative Court and the Constitutional Court, without statistical methods. The analysis shows that, although there are positive developments in the development of state responsibility standards, there are still significant challenges in the uniformity and predictability of judicial practice.

Economic analysis of state responsibility

Economic analysis of law, also known as Law & Economics, represents an interdisciplinary approach aimed at examining legal norms and institutions through the perspective of economic rationality, efficiency and optimal distribution of resources. The basic assumption of this approach is that legal rules shape the behavior of individuals and institutions, and that their social justification can be assessed by analyzing the costs and benefits they generate.

In this framework, responsibility for damage is treated as an instrument that directs the behavior of actors towards socially desirable outcomes, reducing the total social costs of illegal or negligent actions (Nikolić, 2025).

Classical representatives of the economic analysis of law, such as Posner, emphasize that the primary function of the institute of responsibility is preventive, that is, it acts *ex ante*, motivating actors to align their actions with legal norms in advance in order to avoid future costs of compensation for damages (Marković, 2023). In contrast, Shavel emphasizes the corrective dimension of responsibility, because it enables the internalization of negative externalities that arise as a result of illegal actions.

The application of this theoretical framework to state responsibility indicates that it is not an exclusive means of protecting individual rights, but also an important tool for improving the efficiency of public administration and the rational use of public funds. From the aspect of economic analysis, state responsibility for damage caused by illegal acts has a strong preventive role (Dragojlović & Grujić, 2018). If the state did not bear the consequences for the illegal actions of its authorities, the costs would fall entirely on the citizens, which would lead to an inefficient distribution of risks and an increase in total social costs.

By introducing the obligation to compensate for damage, the state is encouraged to improve the quality of normative acts, administrative procedures and internal control. The economic logic of this principle is based on the internalization of costs: damage from illegal acts ceases to be an "external cost" for the state, but becomes a direct financial burden on the public budget.

In this way, the responsibility of the state functions as a signal to public bodies that compliance with legality is economically rational, because the cost of illegal behavior exceeds the costs of prevention, including better education of officials, more precise regulations and more effective supervisory mechanisms. In addition to the preventive function, the responsibility of the state also contributes to the strengthening of internal discipline within the public administration. Although the state as a legal entity formally bears the compensation for damages, the economic pressure created through frequent disputes and compensations can trigger organizational changes.

The literature emphasizes that developed state accountability systems more often introduce internal controls, recourse liability of officials and better risk management (Savić et al., 2024). In this way, the state indirectly influences the behavior of individual holders of public authority, even when they do not bear direct financial consequences. Economically speaking, this contributes to the

reduction of "agent problems" in public administration, where officials (agents) sometimes do not have sufficient incentives to act in accordance with the interests of the state and citizens (principals). State responsibility, combined with internal supervision, reduces the space for opportunistic behavior and increases the efficiency of the administrative system (Đokić et al., 2025).

State liability for damage also has an impact on public finances. Payments based on court judgments represent unplanned or hard-to-predict expenditures, which can burden the budget and threaten fiscal stability. In this sense, part of the literature warns that an overly broad or imprecise system of responsibility can cause significant fiscal costs (Cvetković-Đorđević, 2015). However, the economic approach shows that these costs must be seen in a broader framework: the costs of compensation may be lower than the costs of systemic violations of legality, including the loss of citizens' trust, legal uncertainty and the reduction of the state's investment attractiveness.

From the perspective of budget planning, the existence of state responsibility requires the development of mechanisms for the identification and control of legal risks. In this way, the responsibility of the state encourages fiscal discipline, because it forces the authorities to consider in advance the financial consequences of their decisions. One of the key challenges of economic analysis is the risk of moral hazard. It can arise both with state authorities and with citizens: if officials know that the costs of illegal actions are borne by the state, there may be a decrease in individual responsibility and attention in work.

On the other hand, there is a danger of excessive litigation, i.e. launching a large number of lawsuits against the state when the probability of success is low or the damage is minimal. This increases transaction costs, burdens the courts and further burdens the budget. Economic theory suggests that the solution lies in the precise normative regulation of liability conditions, clear evidentiary standards and alternative dispute resolution mechanisms, which reduce litigation costs and do not violate the right to legal protection.

The key issue is finding a balance between protecting the rights of citizens and preserving the stability of public finances. An overly restrictive system of responsibility can threaten the protection of rights and the rule of law, while an overly broad system can undermine the fiscal sustainability and efficiency of the administration. Contemporary literature emphasizes the importance of a functional approach, which takes into account the character of the legal system, the institutional capacities of the state and the level of public finances. The responsibility of the state should not be seen only as an expense, but as an

investment in legal certainty and institutional efficiency, the positive effects of which are manifested in the long term.

Conclusion

State responsibility for damage caused by illegal acts is a key legal institution of the modern legal system and a direct expression of the principles of rule of law, legal certainty and protection of individual rights of citizens. The analysis contained in this paper shows that the aforementioned institute in the legal order of the Republic of Serbia is normatively based on both the constitutional and legal levels, but that its practical application still reveals certain weaknesses and disagreements.

The paper states that the Constitution of the Republic of Serbia guarantees the right to compensation for damages caused by illegal or inadequate work of state bodies, while the detailed regulation of this right relies on the provisions of the Law on Obligations and special regulations in the field of administrative and judicial law. Nevertheless, despite relatively clear normative frameworks, practice shows that the realization of this right often depends on complex evidentiary procedures, inconsistent judicial positions and a restrictive interpretation of the state's responsibility.

In particular, the problems related to proving the cause-and-effect relationship between the illegal act and the resulting damage, as well as the delimitation of the responsibility of the state and individual officials, are highlighted. The analysis of court practice shows the existence of different approaches of the courts in the interpretation of the term "illegal act", which negatively affects the predictability of court decisions and the level of legal certainty.

From the aspect of economic analysis of law, it is concluded that the responsibility of the state has a double role: reparative, in the sense of compensating injured persons, and preventive, because it motivates public authorities to act lawfully and conscientiously. At the same time, the absence of a systematic approach to managing the risks of adverse claims can result in additional fiscal burden and unplanned budget expenditures.

The existing legal framework can be assessed as formally adequate, but functionally insufficiently precise and consistent. Norms regulating the responsibility of the state are fragmented, and the courts are left with a wide space for interpretation, which leads to uneven decisions in similar factual situations. The lack of clear criteria for determining the extent of damage and standards of causation in disputes against the state is particularly problematic.

Uniform judicial practice is of key importance for achieving legal certainty and citizens' trust in the legal order. In the domains of state responsibility, uneven practice creates legal uncertainty, increases the number of disputes and reduces the preventive function of this institute. The role of the highest judicial bodies, especially the Supreme Court of Cassation and the Constitutional Court, is essential for the establishment of clear standards and uniform decision-making criteria.

Based on the conducted analysis, the following recommendations can be made:

- Normative recommendations imply a more precise legal definition of the responsibility of the state, especially with regard to the definition of an illegal act, standards of causation and rules on the burden of proof. Consideration of the adoption of a special law on state responsibility could contribute to greater clarity and systematicity of the legal framework.
- Institutional recommendations refer to the strengthening of the role of the courts in standardizing practice, improving the professional training of judges and civil servants, as well as the development of internal control mechanisms for the legality of the work of administrative bodies in order to prevent damage.
- Fiscal recommendations include the need for more efficient planning and recording of the state's potential obligations based on compensation for damages, as well as the establishment of a system for managing fiscal risks arising from court cases against the state. In this way, greater transparency and long-term sustainability of public finances would be ensured.

Future research could focus on empirical analysis of court proceedings against the state, including the frequency, amount of compensation awarded, and their impact on public finances. Also, comparative legal research on the system of state responsibility in the member states of the European Union could provide useful guidelines for the improvement of the domestic legal system. Of particular importance would be interdisciplinary research that connects law, economics and public administration, with the aim of assessing the overall impact of the state's responsibility on the efficiency and legality of the work of public authorities.

References

1. Baretić, M. (2020). Protupravnost kao pretpostavka odštetnopravne odgovornosti u hrvatskom pravu. *Collected Papers of Zagreb Law Faculty/Zbornik Pravnog Fakulteta u Zagrebu*, 70(5).
2. Bartholomew, C. P. (2022). Antitrust Class Actions in the Wake of Procedural Reform. *Indiana Law Journal*, 4, 1315-1373.
3. Brants, E. (2020). Elements of fault in the application of contractual liability. In *Starptautisko un Eiropas Savienības tiesību piemērošana nacionālajās tiesās*, Rīga: LU Academic Press, 270–286. <https://doi.org/10.22364/juzk.78.29>
4. Cela, E., Çela, R., & Kalemaj, E. (2023). Liability for Causing Damage under European Private International Law: Albanian Rapprochement Framework during the Integration Process Towards the EU. *Interdisciplinary Journal of Research and Development*, 10 (1 S1), 89-89. <https://doi.org/10.56345/ijrdv10n1s113>
5. Cvetković-Đorđević, V. (2015). Kondikcija i pravno neosnovano obogaćenje. *Univerzitet u Beogradu*.
6. Đokić, N., Mirović, V., Milićević, N., Kalaš, B., & Đokić, I. (2025). Namera ponašanja prema uslugama zelenog bankarstva: moderirajući efekti ekološke svesti. *Oditor*, 11(2), 7-32. <https://doi.org/10.59864/Oditor12502ND>
7. Dragojlović, J., & Grujić, G. (2018). Criminal offence of abuse of the position of a responsible person. *Law - theory and practice*, 35(4-6), 30-44.
8. Hemed, R. I. (2022). Normative arrangement of financial innovations in banking. *Finansijski savetnik*, 27(1), 25–64.
9. Janković, G., & Golubović, M. (2025). Cirkularna ekonomija kao osnova održivog razvoja danasnjice. *Održivi razvoj*, 7(1), 31-62. <https://doi.org/10.5937/OdrRaz2501031J>
10. Kersting, C. & Dworschak, S. (2012). Zur Anspruchsberechtigung indirekter Abnehmer im Kartellrecht nach dem ORWI-Urteil des BGH - Urt. v. 28.06.2011, KZR 75/10. *Juristen Zeitung*, 67(15-16), 777-782. <https://doi.org/10.1628/002268812802459436>
11. Krivins, A., Vasiljevic, D., & Vasiljevic, Z. (2024). The Legal Regime of Corporate Liability in Bosnia and Herzegovina and Latvia-A Brief

- Comparative Overview. *ICJ*, 10 (2), 265 - 281.
<https://doi.org/10.13165/j.icj.2024.12.007>
12. Krstić, S., Savić, A. & Kostić, R. (2023). System risk management policy in banking, *Ekonomika*, 69 (3), 57-71.
<https://doi.org/10.5937/ekonomika2303057K>
 13. Marković, S. (2023). Criminal Offences in Production and Trade in the System of Offences Against Economic Interests of the Republic of Serbia. *Journal of Eastern European Criminal Law*, (02), 49-60.
 14. Marković-Bajalović, D. (2016). *Pravo konkurencije Evropske unije: opšta pitanja i antitrust*. T & T concept.
 15. Mihajlović, M. & Savić, A. (2024). Ekonomska politika i energetska bezbednost zemalja Jugoistočne Evrope. *Ekonomski signali*, 19 (1),
<https://doi.org/10.5937/ekonsig2401047M>
 16. Milanović, A. & Gojkov, D. (2024). Država kao društveno-pravna tvorevina. *Finansijski savetnik*, 29 (1), 39-52.
 17. Nagy, C. I. (2022). What Role for Private Enforcement in EU Competition Law? A Religion in Quest of a Founder. In: Tóth T. (ed.). *The Cambridge Handbook of Competition Law Sanctions*. Cambridge: Cambridge University Press, 218-229.
<https://doi.org/10.1017/9781108918015.014>
 18. Nikolić, M. (2025). Kreditni program za unapređenje energetske efikasnosti u domaćinstvima: analiza i perspektive. *Oditor*, 11(2), 33-62. <https://doi.org/10.59864/Oditor22502MN>
 19. Pavelek, O., & Zajičkova, D. (2023). Compensation for non-material damage caused to legal entities in the decisionmaking practice of the CJEU and the ECH. *Juridical Tribune*, 13(3), 331–345.
<https://doi.org/10.24818/TBJ/2023/13/3.01>
 20. Petrović, J., & Petrović, P. (2025). Društvena odgovornost savremenih hotelskih kompanija – primer hotelskog lanca inter continental hotels group. *Oditor*, 11(2), 63-94. <https://doi.org/10.59864/Oditor32502JP>
 21. Radovanović, T. (2025). Prilog ostvarivanju održivog razvoja. *Održivi razvoj*, 7(1), 63-76. <https://doi.org/10.5937/OdrRaz2501063R>
 22. Savić, A. & Bonić, Lj. (2022). Analysis of the impact of reporting on environmental performance indicator on the profitability of European

- companies, *Facta Universitatis – Economics and Organization*, 19 (3), 167-182. <https://doi.org/10.22190/FUEO220529013S>
23. Savić, A., Mihajlović, M., Kostić, R. (2025). Reconciliation of amounts in budget execution reports and financial statements using the example of the food and agriculture organization of the United Nations. *Economics of agriculture*, 72 (4), 1163-1183. <https://doi.org/10.59267/ekoPolj25041163S>
24. Savić, A., Obrić, B., Lazić, S. & Ljubojević, N. (2024). Upravljanje finansijskim rizicima preduzeća. *International Journal of Economic Practice and Policy*, 21(2), 151-165. <https://doi.org/10.5937/skolbiz2-52934>
25. Slavković, G., Stanković, M. & Kilibarda, V. (2024). Statistička analiza mastrihtskih kriterijuma konvergencije sa osvrtom na R. Srbiju. *Finansijski savetnik*, 29 (1), 7-26.
26. St-Georges, S., Arel-Bundock, V., Blais, A., & Mendoza Aviña, M. (2023). Jobs and Punishment: Public Opinion on Leieny for White Collar Crime. *Political Research Quarterly*, 76(4), 1751–1763. <https://doi.org/10.1177/10659129231176211>
27. Ugrinov, S., Čočkaló, D., & Bakator, M. (2025). Održive prakse upravljanja ljudskim resursima u pomorskim lancima snabdevanja. *Održivi razvoj*, 7(1), 7-30. <https://doi.org/10.5937/OdrRaz2501007U>
28. Ullrich, H. (2021). Private Enforcement of the EU Rules on Competition – Nullity Neglected. *International Review of Intellectual Property and Competition Law*, 5, 606-635. <https://doi.org/10.1007/s40319-021-01054-w>
29. Vasiljević, D., & Vasiljević, Z. (2024). The legal regime of corporate liability in bosnia and herzegovina and latvia—a brief comparative overview. *International Comparative Jurisprudence*, 10 (2), 265-281. <https://doi.org/10.13165/j.icj.2024.12.007>
30. Vasiljević, Z. & Radović, V. (2023). *Company law – law of business entities*. Faculty of Law, University of Banja Luka.
31. Vilks, A., Kipane, A., & Krivins, A. (2024). Preventing international threats in the context of improving the legal framework for national and regional security. *Social and Legal Studios*, 7(1), 97–105. <https://doi.org/10.32518/sals1.2024.97>

ODGOVORNOST DRŽAVE ZA ŠTETU PROUZROKOVANU NEZAKONITIM AKTIMA - PRAVNA I EKONOMSKA ANALIZA U PRAVU REPUBLIKE SRBIJE

Apstrakt

Odgovornost države za štetu nastalu nezakonitim aktima predstavlja jedan od osnovnih mehanizama zaštite prava građana i ostvarivanja principa vladavine prava. U pravnom okviru Republike Srbije ovaj institut ima svoje ustavno i zakonsko uporište, dok njegova praktična primena postavlja brojna teorijska i praktična pitanja. Cilj rada je da, kroz normativno-pravnu i ekonomsku analizu, predstavi ključne elemente odgovornosti države, izazove u dokazivanju i uticaj sudske prakse na pravnu sigurnost. Posebna pažnja posvećena je analizi postojećih domaćih i međunarodnih istraživanja, kao i ekonomskim posledicama odgovornosti države po javne finansije. Rad zaključuje da funkcionalan sistem odgovornosti države doprinosi jačanju poverenja u institucije, ali zahteva ujednačenu sudsku praksu i preciznije normativno uređenje radi ostvarivanja balansa između zaštite prava pojedinaca i fiskalne stabilnosti.

Ključne reči: *odgovornost države, sudska praksa, pravna sigurnost, javne finansije.*

JEL: *K13, K23, H83*

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THE STRATEGIC IMPORTANCE OF INTERNET, NEW KNOWLEDGE AND INFORMATION TECHNOLOGIES FOR THE SUSTAINABLE CULTURAL TOURISM DEVELOPMENT¹

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Original Article

Abstract

Purpose: This study investigates the importance of new information technologies and the Internet in the promotion of cultural tourism, with the aim of highlighting their strategic role in the sustainable development of cultural tourism in modern society. **Methodology:** Empirical research was conducted through a questionnaire on a sample of 284 respondents from different regions of Serbia. The research used quantitative methods of data analysis, including descriptive statistics, t-test for independent samples and one-factor analysis of variance (ANOVA), using SPSS software. **Findings:** The results showed that the

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majority of respondents use the Internet for information about cultural tourism, with the Internet perceived as a key tool for information exchange. No significant difference was found in respondents' attitudes according to gender, level of education, region of residence or work status, while older respondents used the Internet more often for cultural tourism. **Implications:** The study highlights the need to improve digital platforms and promote cultural tourism via the Internet. The results can be useful for decision-makers and policy-makers in the field of tourism for the development of sustainable strategies for the promotion of cultural destinations.

Keywords: cultural tourism, sustainable tourism, cultural heritage, IT, smart technology

JEL: C38, L83, Z32, Q33

1. Introduction

Contemporary society is characterized by numerous and radical changes in all human areas. Contemporary society is under the influence of numerous and radical changes in all spheres

and areas of human activity. From very beginning of the 21st century until present days, there has been an increasingly present development in the field of technological achievements and the use of modern information and communication technologies in business activities, but also in human everyday life. These changes had their impact on the tourism industry as one of the most propulsive service industries. Tourism has faced and is still facing numerous challenges brought about by technical and technological progress. The swift advancement of the Internet and information and communication technologies (ICTs) over the past decade has significantly reshaped travel and tourism (Xiang et al., 2015), as well as the ways in which tourists engage with and experience various types of journeys (Soliman et al., 2021; Soliman, Cardoso, Almeida, Araújo, & Araújo Vila, 2021; Sustacha et al., 2023, p. 2). The role of information and communications technology for tourism economy was especially important during the corona virus pandemic. Gretzel et al. (2020) emphasize that modern ICT technologies play a crucial role in enabling the functioning of tourism during and after a pandemic (Bağ et al., 2022, p. 601). Tourism companies have realized that to ensure sustainability and optimize their business performance, it is necessary to become familiar with the key digital transformation trends and adopt them as soon as possible (Kalia et al., 2022). It is necessary, according to Thomas "to develop a culture receptive to risk and experimentation, which will allow the exchange of opinions, knowledge,

proposals and ideas at all administrative levels, with the ultimate goal of the continuous development and evolution not only of the organization, but also of itself personnel" (Thomas, 2024, p. 182, 186). Many authors point out that the positive effects and advantages of using Internet and modern information technology are numerous (Das, et al., 2021; Lv, et al., 2022; Elkhwesky, et al., 2022; Loureiro, et al., 2022). From optimizing resource allocation, improving waste management, reducing energy consumption, minimizing the ecological footprint, enhancing health measures, and generating corporate social responsibility, all aimed at promoting sustainable tourism (Femenia-Serra et al., 2019; Elkhwesky et al., 2022). Ionescu and Sârbu (2024, p. 4) also analyzed positive effects of modern smart technologies on the tourism industry. As key positive effects, they pointed out "allocate room resources according to guests' preferences, adapt the available cuisine to the tastes of existing tourists, facilitate the use of robots in the reception area, help tourists with access to their digital services, navigate unknown environments, and so on. However, there are some issues regarding the admission and the adoption of these technologies by tourists. The greater issues with modern technologies are tourists' perceptions and attitudes towards them". Olearnik (2016) highlights the tourism market's strong dependence on the Internet, which plays a key role in multiple areas, including information sharing, presenting offers and reviews, booking and sales systems, social media engagement, and participation in tourism through global networks. Li et al. (2023) emphasize the crucial strategic role of smart technologies and the IT sector in the tourism industry. The authors point out that for over 25 years, tourism has been inseparable from technology, as all aspects of operations, structure, and marketing rely on the Internet and information technologies, facilitating connections between suppliers, consumers, and intermediaries. It is obviously that the implementation of Internet and ICTs is necessary for carrying out tourist activities. This implementation has become a new trend in the tourism industry in the direction to enriching tourists' experiences and improving their satisfaction. The use of all types of smart technologies such as "artificial intelligence (AI), big data, machine learning, the Internet of Things (IoT), augmented reality (AR), virtual reality (VR), cloud computing, radio frequency identification devices (RFIDs), mobile payments, tourism-related platforms" as point out Ionescu and Sârbu (2024, p. 1) is being studied more carefully in the tourism industry. The main goal of the paper is to investigate the importance of the Internet and new information technologies in the promotion of cultural tourism and to emphasize their strategic role in the sustainable development of cultural tourism in modern society. The motive of the research stems from the increasing digitization and the impact of information technologies on tourism. The paper deals with the need to improve

digital platforms and promote cultural tourism via the Internet, which is particularly important in the context of sustainable development and increasing awareness of cultural heritage.

2. Background

Cultural heritage is the most important factor in creating and preserving identity, belonging and civic values, and it is recognized as one of the most important tourism resources (DiPietro et al., 2018). Throughout human history, the reasons and motivations for travel have continuously evolved, shaped by various cultures and historical periods, reflecting societal and individual development. Natural, anthropogenic, human and cultural factors are the most important factors that influence the creation of tourist offers and the performance of tourist activities in a destination (Premović, 2023). Kumar (2021) states that every piece of heritage contains knowledge embedded in it. With the global expansion of tourism, especially mass cultural tourism, there is a growing awareness that the development of cultural heritage should be based on thorough analysis, environmental impact assessments, strategic planning, and effective heritage management strategies (Sančanin et al., 2023). So, the market development strategy aims to penetrate a new market with an existing product (Nikolić et al., 2024). In the 21st century, the protection, promotion, scientific research, and valorization of cultural heritage are not solely the duty of individual institutions but a shared responsibility of society as a whole. This collective effort is essential for the long-term preservation of unique cultural, historical, and architectural values (Penjišević et al., 2024). In countries and tourist destinations that have a developed tourism economy, significant multiplier effects of the influence of tourism activities can be observed. "The complexity of culture significantly influences various facets of socio-economic structures, particularly in regions where traditional values and community dynamics play a pivotal role" (Wiagustini et al., 2024). The term "cultural tourism," often used synonymously with "heritage tourism" or "ethnic tourism," provides tourists with access to various cultural heritage attractions (Premović, 2023). The concept of "cultural tourism," frequently synonymous with "heritage tourism" or "ethnic tourism," allows tourists to experience the previously mentioned cultural heritage attractions (Filipović, 2018). In recent decades, the importance and role of cultural factors in the further sustainable development of tourism has been highlighted more and more (Premović, 2023). According to Milić (2014), cultural tourism represents a distinct form of sustainable tourism, characterized by travelers driven by their interest in historical, artistic, scientific, or traditional craftsmanship of a local community. As an increasingly significant

segment of tourism, cultural tourism generates multiple socio-economic benefits, including financial support for the preservation, revitalization, and promotion of cultural heritage (Filipović, 2018). Vareiro et al. (2020) define cultural tourism as the movement of people to cultural attractions away from their usual place of residence, with the intention of gathering new information and experiences to satisfy their cultural needs (Zdravković et al., 2021). Tourism offers the opportunity to travel and experience other places, continents, nations, and religions. Tourists are interested in visiting foreign countries with rich cultural heritage, and cultural tourism not only generates profits but also stimulates economic development (Filipović, 2018). Tourism fosters curiosity about the traditions and customs of different nations, various cultural expressions, foreign languages, and advancements in information and communication technologies. Its development contributes to raising the overall level of education and cultural awareness among local communities engaged in tourism. By promoting appreciation for diversity and respect for different cultures, religions, national identities, and lifestyles, tourism plays a vital role in strengthening connections and relationships between people. The change in individual and collective-social value systems under the intense influence of tourism, through changes in the quality and style of life, represents significant socio-cultural effects of tourism's impact (Premović, 2021). The world's most developed countries actively promote their cultural heritage to boost tourism, investing substantial efforts in its preservation and presentation (Filipović, 2018). Tourists exhibit a strong interest in exploring the cultural heritage of foreign nations, which encompasses remarkable architectural structures, cultural landmarks, artworks, archaeological sites, and other significant attractions (Vakhitova, 2015). These cultural treasures are often safeguarded by national authorities, and those of international importance may also fall under the protection of UNESCO or other global organizations dedicated to cultural heritage preservation (Ryan & Silvanto, 2011; Zdravković et al., 2021). The intangible cultural aspect holds considerable potential for further enhancement and growth, benefiting not just tourism activities but also contributing to the broader socio-economic development in the Western Balkan countries. Local communities in the Western Balkans have substantial potential for tourism development through enhancing the offer of cultural and event tourism and promoting their authentic intangible cultural values. Tourism is considered a key strategy for promoting ecological preservation and socio-economic development in local communities inhabiting areas around protected natural resources (Ristić et al., 2024). Tourism as a mass social phenomenon can significantly influence the reduction of numerous prejudices, especially linguistic, cultural, religious, and national ones. Tourism expands the horizons

and cognitive perspectives of all its participants. Exploring new cultures, meeting different people, and learning about their customs, traditions, religions, and habits creates a significant positive social impact. This process involves gaining new knowledge and broadening one's understanding of different regions, beliefs, and cultures. In this way, tourism can play a positive role in fostering greater tolerance, understanding, and acceptance of diversity within the population of the Western Balkans (Premović, 2021). The growth of cultural tourism is evident not only in social indicators but also in financial ones. According to some findings, authors estimated that "cultural tourists spend one third more than average tourists spend, which is why cultural tourism is ranked among the ten most important and most dynamic tourist branches, and an increasing production of cultural activities, influences the increase of its competitiveness". The increasing interest in cultural tourism presents an opportunity for cultural heritage to become a sustainable development resource, benefiting both local and wider communities, provided its preservation is ensured. It supports the financial and organizational independence of cultural institutions and organizations, while also contributing to the decentralization of culture (Filipović, 2018). The degree of financial inclusion is heavily shaped by a nation's culture, especially in terms of its openness to adopting digital transformation as a means to achieve financial inclusion. Studies conducted across different cultural regions emphasize the influence of cultural traits and the diversity of cultures on the level of financial inclusion in various countries (Raji et al., 2024). Cultural tourism has a significant economic impact on many countries, especially those that are still developing.

Besides its economic advantages, cultural tourism is essential for enhancing awareness and appreciation of a nation's cultural values, reinforcing cultural identity, and fostering a positive image of the community (Filipović, 2018). Tourism has the potential and should play a crucial role in the overall socio-economic development of underdeveloped countries and regions, including those in the Western Balkans. Quality management of cultural heritage Carbone et al. (2020) define as a complex and continuous process aimed at achieving a balance between the preservation of cultural assets and their use by local residents and tourists using available resources, in order to ensure effective communication with the public, appropriate types of services, as well as the promotion of diversity, cultural awareness and intercultural dialogue. The development of information technologies and the Internet has significant social implications, especially in the field of cultural tourism. It enables easier access to information about cultural destinations, encourages digital literacy and contributes to the preservation of cultural heritage through digitalization. At the

same time, improving the tourism offer via the Internet can influence the development of local communities, increase interest in cultural exchange and strengthen cultural identity. From a political perspective, the digitalization of cultural tourism can encourage the creation of sustainable development strategies, enable decision-makers to better manage cultural resources and improve international cooperation in the field of tourism. Policies aimed at digital marketing and the promotion of cultural heritage can contribute to greater global visibility of certain destinations, while the use of the Internet can improve transparency in the management of the tourism sector. In an economic context, the growth of digital platforms in cultural tourism leads to increased tourism revenues, the creation of new jobs and the stimulation of the development of small and medium-sized enterprises involved in tourism. Digitalization allows for the reduction of promotion costs and enables direct communication between tourists and service providers. At the same time, more efficient use of data on tourist flows can lead to better planning and sustainable management of tourism resources. The use of the Internet in cultural tourism has the potential to positively impact social development, political strategies and economic stability, fostering sustainable and inclusive growth of this sector.

Based on the above mentioned, the following hypotheses are examined in this paper:

Hypotheses

H1: The use of the Internet and smart technologies has a positive effect on tourists' awareness of cultural tourism.

H2: There are no significant differences in respondents' attitudes towards the use of the Internet for cultural tourism in relation to gender, level of education, region of residence and work status.

H3: Older respondents use the Internet more often for information about cultural tourism compared to younger generations.

3. Materials and methods

The empirical research was conducted from June to August 2024 on the territory of the Republic of Serbia. Data were collected using an online questionnaire distributed electronically through social networks, e-mail communication, and personal contacts. The study included respondents from five geographical regions of Serbia: the Belgrade region, Vojvodina, Central-Western Serbia, Southeast Serbia, and South Serbia.

A total of 284 respondents participated in the research. The sample included adult respondents of different gender, age, educational level, employment status, and monthly income. The structure of the sample is presented in Table 1. The largest proportion of respondents belonged to the age categories from 36 to 50 years and from 51 to 65 years. Most respondents had completed postgraduate education and were employed.

A non-probability convenience sampling method was applied, since respondents voluntarily participated in the research and the questionnaire was distributed online to available participants. Although this type of sampling does not allow full generalization of the results to the entire population, it was considered appropriate for exploratory research focused on examining attitudes and perceptions regarding the use of the Internet and smart technologies in cultural tourism.

The survey instrument was an original questionnaire created for the purposes of this research, based on relevant literature and previously published studies in the fields of tourism, information technologies, and cultural tourism. The questionnaire consisted of two sections. The first section included socio-demographic questions related to gender, age, education, region of residence, employment status, and monthly income. The second section contained statements related to the use of the Internet and smart technologies in cultural tourism.

All statements were evaluated using a five-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS), version 26.0. The applied statistical methods included descriptive statistics, Cronbach's α coefficient, independent samples t-test, one-way analysis of variance (ANOVA), Kruskal-Wallis test, and simple linear regression analysis.

Participation in the research was voluntary and anonymous, and respondents were informed that the collected data would be used exclusively for scientific research purposes.

4. Results and discussion

The research was conducted from the beginning of June to the end of August 2024, using an online questionnaire and a convenience sample. The questionnaire was compiled by the author based on the existing ones. The research involved 284 respondents, with 108 being male and 176 being female (Table 1). Most respondents are in the age co-category of 36 to 50 years (45.1%) and 51 to 65 years (37.2%) (Table 1). The majority of respondents are from the Belgrade region (37.6%) and central-western Serbia (32.6%), while the smallest

number of respondents is from southeastern Serbia (2.8%) (Table 1). The vast majority of respondents completed postgraduate studies (89.4%), employed are (92.9%) with predominantly incomes of over 80,000 dinars (Table 1).

Table 1: Socio-demographic characteristics of respondents

	Frequency	Percentage [%]
Gender		
Male	108	38.0
Feminine	176	62.0
Years of age		
From 18 to 24 years	8	2.8
From 25 to 35 years	26	9.0
From 35 to 50 years	130	45.1
From 51 to 65 years	108	37.5
More than 65 years	16	5.6
Vocational degree		
High school	8	2.8
Professional studies	6	2.1
Faculty	16	5.6
Postgraduate	254	89.4
Place of residence		
Belgrade region	106	37.6
Vojvodina	62	22.0
Central-western Serbia	92	32.6
Southeast Serbia	8	2.8
South Serbia	14	5
Social status		
Get a job	262	92.9
A student	10	3.5
Unemployed	10	3.5
Amount of monthly income		
Up to 45,000 dinars	10	3.5
From 45,001 to 60,000 dinars	16	5.6
From 60,001 to 80,000 dinars	22	7.7

More than 80001 dinars	182	63.6
I don't want to say	56	19.6

Source: Authors' research

We examined claims related to the use of the Internet for cultural tourism information. The statements that using internet content to share and exchange information about cultural tourism is beneficial ($M = 4.40, SD = 0.76$) and that respondents are inclined to keep using the internet to gather information about cultural tourism ($M=4.40, SD=0.84$) received the highest level of agreement. On the other hand, the statement that respondents always search for information about cultural tourism on the internet received the lowest level of agreement ($M = 4.40, SD = 0.76$).

Table 2: Statements related to the use of the Internet for cultural tourism information

	M	SD
1. I search for information about cultural tourism online	3.61	1.23
2. When looking for information on cultural tourism, internet content is my primary source	4.03	1.05
3. I believe that using internet content to share and exchange information about cultural tourism is beneficial	4.40	0.76
4. I plan to keep using internet content to seek information about cultural tourism	4.40	0.84

Source: Authors' research

We then looked at statements related to how often you use the Internet for information about cultural tourism. Respondents most frequently accept a friend's invitation to exchange information and interesting facts about cultural tourism via the internet ($M = 2.80, SD = 1.19$) and enjoy using the internet to communicate with others about cultural tourism ($M = 2.60, SD = 1.05$). However, they rarely use the internet daily to search for information about cultural tourism ($M = 1.91, SD = 0.95$).

Table 3: Statements related to behavioral engagement with the Internet in the context of cultural tourism

	M	SD
1. I actively engage in sharing different types of internet content related to cultural tourism.	2.46	1.10
2. If I need information about cultural tourism, I can find everything I need on the internet.	1.91	0.95

3. I exchange information on the internet on a friend's recommendation.	2.80	1.19
4. I use the internet to communicate with others about cultural tourism.	2.60	1.05
5. The internet enables me to make numerous connections related to cultural tourism.	2.34	0.93

Note: These items were designed to reflect behaviors rather than precise time-based frequencies of Internet use.

Source: Authors' research

We looked at the statements related to the degree of agreement for statements about the internet and cultural tourism. The strongest agreement was with the statements that using the internet for cultural tourism can save significant amounts of time ($M = 4.17, SD = 0.83$) and that it can save money, time, and energy, while also speeding up the decision-making process regarding travel destinations through internet content related to cultural tourism ($M = 4.06, SD = 0.92$). The weakest agreement was found for the statement that respondents use internet content to share their feelings and experiences related to cultural tourism ($M = 2.71, SD = 1.11$).

Three main variables were used in the research:

1. Use of the Internet for cultural tourism. This variable measures the purposes and motives of using the Internet in the context of cultural tourism. The focus is on why respondents use the Internet – whether to find out about events, plan visits, or find cultural content. It is measured through statements that examine different aspects of information about cultural content (Table 2).
2. Frequency and form of Internet use for cultural tourism. This variable measures the frequency and forms of Internet use for cultural tourism. It includes how often respondents search for information and which channels they use (Google, social networks, forums, etc.).
3. "Internet and cultural tourism" – Key research variable related to respondents' perception of the importance of the Internet for cultural tourism. It differs from the first two because it does not measure only the frequency of use, but also the impact of the Internet on tourists' decisions, time saving, availability of information and connection of users with cultural tourism content.

Therefore, all the mentioned research methods were used in the paper, multi-criteria decision-making was applied in the analysis of factors that influence the choice of cultural destinations, while the third variable "Internet and cultural tourism" has a broader analytical focus, because it does not measure only the

habits of using the Internet, but also its overall perception and impact on tourism.

Table 4: Statements related to the Internet and cultural tourism

	M	SD
1. The level of interactivity of online content related to cultural tourism is high.	3.26	0.86
2. I use internet content to share my emotions and experiences related to cultural tourism.	2.71	1.11
3. The most people use internet content to share their experiences related to cultural tourism.	3.25	0.96
4. I would like to use internet content to share information at any time and from any place.	3.06	1.20
5. Internet content allow me to access a variety of information about cultural tourism.	3.97	1.02
6. Internet help connect me with people who share similar interests in cultural tourism.	3.81	0.96
7. The most relevant information about cultural tourism can be fined online.	3.93	0.88
8. The quality of internet content on cultural tourism impact the time I am willing to invest in exploring the information.	3.91	0.85
9. The ease of navigating internet content related to cultural tourism influence my usage of it.	3.71	1.02
10. Easier access to information about cultural tourism influence the frequency of my visits to internet content.	3.58	1.09
11. Round-the-clock access to information about cultural tourism impact my use of internet content.	3.55	1.12
12. The information available online about cultural tourism is transparent.	3.61	0.92
13. The availability of information about cultural tourism is the reason I use internet content.	3.37	1.24
14. The more transparent the information about cultural tourism, the more I engage with internet content.	3.46	1.13

15. When I come across relevant information about cultural tourism online, it improves my understanding of the destination's cultural tourism offerings.	3.90	0.95
16. Using internet content related to cultural tourism can help save a significant amount of time.	4.17	0.83
17. Using internet content related to cultural tourism can save considerable money, time, and effort, while also speeding up the decision-making process for choosing a travel destination.	4.06	0.92
18. I believe that the information provided by internet content largely reflects the current situation in cultural tourism.	3.63	0.86

Note: Although these items are phrased as questions, they were rated on a 5-point Likert scale (1 = Strongly disagree, 5 = Strongly agree), in line with the other sections of the questionnaire. Source: Authors' research

The reliability of the scales employed in the research was assessed using the Cronbach α coefficient. Based on the results in Table 5 and the Cronbach α coefficient value, it can be concluded that the reliability of the Internet and cultural tourism scale is excellent, the scale for frequency of Internet use for cultural tourism is good, and the scale for Internet use in cultural tourism is satisfactory.

Table 5: Reliability of scales

	Number of items	Cronbach's α coefficient
Use of the Internet for cultural tourism	4	0.790
Frequency of internet use for cultural tourism	5	0.856
Internet and cultural tourism	18	0.926

Source: Authors' research

As part of the study, an examination was conducted to determine if there is a difference in respondents' attitudes toward using the internet for cultural tourism based on their gender. To analyze these differences, an independent samples t-test was used. The results showed that the significance level of the t-test was higher than the observed statistical level for all variables. Based on this, we can conclude that there is no statistically significant difference in attitudes related to the gender of the respondents (as shown in Table 6).

Table 6: Differences in respondents' views on the use of the Internet for cultural tourism in relation to gender

	Male (N = 108)	Female (N=176)	t	p

	Mean value			
Use of the Internet for cultural tourism	4.10 ± 0.82	4.12 ± 0.75	-0.240	0.811
Frequency of internet use for cultural tourism	2.40 ± 0.90	2.43 ± 0.78	-0.284	0.777
Internet and cultural tourism	3.55 ± 0.79	3.65 ± 0.57	-1.161	0.247

* The value is significant at the level equaling 0.05 Source: Authors' research

As part of the research, the study investigated whether there is a difference in respondents' attitudes toward using the internet for cultural tourism based on their age. A one-way analysis of variance (ANOVA) was conducted to evaluate these differences. The results revealed that the significance level of the ANOVA test was lower than the observed statistical threshold for the frequency of internet use for cultural tourism, indicating a statistically significant difference in attitudes based on age (Table 7). Specifically, a significant difference was found between respondents aged 36 to 50 and those aged 51 to 65 ($p = 0.048$), with older respondents using the internet more frequently for cultural tourism. However, for the other two variables, the significance level of the ANOVA test was higher than the observed statistical threshold, suggesting no statistically significant difference in attitudes based on age for these variables (Table 7).

Table 7: Differences in respondents' views on the use of the Internet for cultural tourism in relation to the respondents' age

		Mean value	F	P
18-24	Use of the Internet for cultural tourism	4.12 ± 0.23	2.019	0.092
25-35		4.26 ± 0.66		
36-50		4.07 ± 0.72		
51-65		4.19 ± 0.81		
More than 65 years		3.65 ± 1.13		
18-24	Frequency of internet use for cultural tourism	2.85 ± 0.77	3.170	0.014*
25-35		2.56 ± 0.58		
36-50		2.23 ± 0.74		
51-65		2.52 ± 0.88		
More than 65 years		2.68 ± 1.27		
18-24	Internet and cultural tourism	3.81 ± 0.73	1.473	0.210
25-35		3.85 ± 0.37		
36-50		3.53 ± 0.59		
51-65		3.62 ± 0.75		
More than 65 years		3.53 ± 0.95		

* The value is significant at the level equaling 0.05, Source: Authors' research

As part of the study, it was investigated whether respondents' views on using the internet for cultural tourism vary by region. A one-way analysis of variance (ANOVA) was conducted to assess these differences. The results showed that the significance level of the ANOVA test exceeded the observed statistical level

for all variables. Therefore, we conclude that there is no statistically significant difference in respondents' views based on their region (Table 8).

Table 8: Differences in respondents' views on the use of the Internet for cultural tourism in relation to the respondents' region

		Mean value	F	P
Belgrade region	Use of the Internet for cultural tourism	4.23 ± 0.69	1.990	0.096
Vojvodina		4.06 ± 0.88		
Central-western Serbia		3.94 ± 0.80		
Southeast Serbia		4.25 ± 0.50		
South Serbia		4.28 ± 0.75		
Belgrade region	Frequency of internet use for cultural tourism	2.45 ± 0.76	1.246	0.292
Vojvodina		2.33 ± 0.84		
Central-western Serbia		1.90 ± 0.61		
Southeast Serbia		2.60 ± 0.80		
South Serbia		2.40 ± 0.82		
Belgrade region	Internet and cultural tourism	3.67 ± 0.58	0.817	0.515
Vojvodina		3.59 ± 0.66		
Central-western Serbia		3.54 ± 0.71		
Southeast Serbia		3.33 ± 1.43		
South Serbia		3.71 ± 0.51		

* The value is significant at the level equaling 0.05, Source: Authors' research

As part of the research, it was investigated whether there are differences in the views of respondents regarding the use of the Internet for cultural tourism in relation to their level of education. A one-factor analysis of variance (ANOVA) was used to examine these differences. The results showed that the significance level of the ANOVA test was higher than the observed statistical level for all variables, leading us to conclude that there is no statistically significant difference in relation to the respondents' level of education (Table 9).

Table 9: Differences in respondents' views on the use of the Internet for cultural tourism in relation to respondents' level of education

		Mean value	F	p
High school	Use of the Internet for cultural tourism	3.93 ± 0.60	0.201	0.895
Professional studies		4.25 ± 0.44		
Faculty		4.09 ± 0.60		
Postgraduate		4.12 ± 0.80		
High school	Frequency of internet use for cultural tourism	2.35 ± 0.31	0.922	0.430
Professional studies		2.93 ± 0.84		
Faculty		2.55 ± 0.49		
Postgraduate		2.40 ± 0.86		

High school	Internet and cultural tourism	3.98 ± 0.27	1.747	0.158
Professional studies		4.01 ± 0.52		
Faculty		3.65 ± 0.46		
Postgraduate		3.58 ± 0.68		

* The value is significant at the level equaling 0.05, Source: Authors' research

As part of the research, it was examined whether there are differences in the views of respondents regarding the use of the Internet for cultural tourism in relation to their working status. A one-factor analysis of variance (ANOVA) was used to analyze these differences. The results indicated that the significance level of the ANOVA test exceeded the observed statistical level for all variables, allowing us to conclude that there is no statistically significant difference concerning the respondents' employment status (Table 10).

Table 10: Differences in respondents' views on the use of the Internet for cultural tourism in relation to the respondents' work status

		Mean value	F	p
Get a job	Use of the Internet for cultural tourism	4.14 ± 0.75	0.982	0.376
A student		3.90 ± 0.51		
Unemployed		3.90 ± 1.25		
Get a job	Frequency of internet use for cultural tourism	2.40 ± 0.81	0.812	0.445
A student		2.68 ± 0.77		
Unemployed		2.65 ± 1.24		
Get a job	Internet and cultural tourism	3.60 ± 0.64	0.579	0.561
A student		3.70 ± 0.69		
Unemployed		3.84 ± 1.06		

* The value is significant at the level equaling 0.05, Source: Authors' research

As part of the research, it was examined whether there is a difference in the respondents' attitudes regarding the use of the Internet for cultural tourism in relation to their income. A one-factor analysis of variance (ANOVA) was used to analyze these differences in attitudes regarding income. The results indicated that the significance level of the ANOVA test was higher than the observed

statistical level for all variables. As a result, we conclude that there is no statistically significant difference regarding the respondents' income (Table 11).

Table 11: Differences in respondents' views on the use of the Internet for cultural tourism in relation to respondents' income

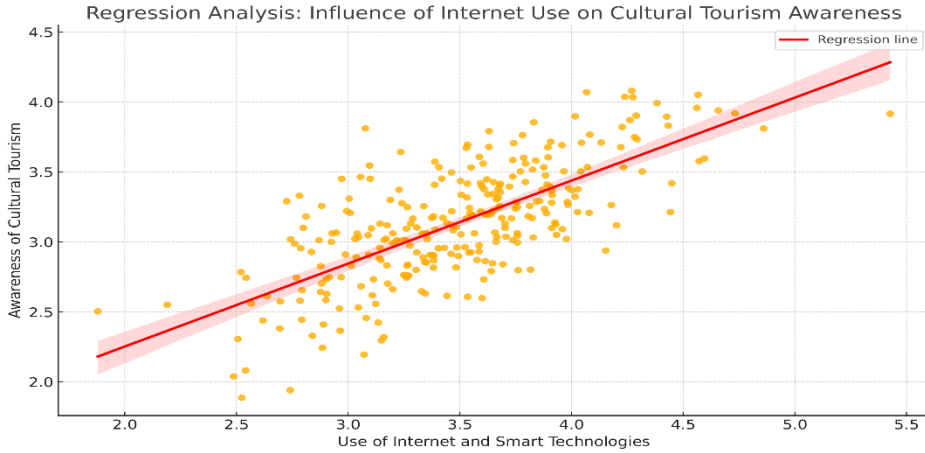
		Mean value	F	p
Up to 45,000 dinars	Use of the Internet for cultural tourism	3.60 ± 1.38	2.483	0.053
From 45,001 to 60,000 RSD		4.34 ± 0.61		
From 60,001 to 80,000 RSD		4.20 ± 0.55		
More than 80001 RSD		4.16 ± 0.70		
I don't want to say		3.93 ± 0.92		
Up to 45,000 RSD	Frequency of internet use for cultural tourism	2.60 ± 1.01	1.082	0.365
From 45,001 to 60,000 RSD		2.77 ± 0.53		
From 60,001 to 80,000 RSD		2.49 ± 0.62		
More than 80001 RSD		2.39 ± 0.85		
I don't want to say		2.32 ± 0.88		
Up to 45,000 RSD	Internet and cultural tourism	3.26 ± 1.32	2.513	0.051
From 45,001 to 60,000 RSD		3.93 ± 0.34		
From 60,001 to 80,000 RSD		3.84 ± 0.40		
More than 80001 RSD		3.61 ± 0.64		
I don't want to say		3.45 ± 0.66		

* The value is significant at the level equaling 0.05, Source: Authors' research

Based on the research results from the paper, here is the hypothesis analysis:

H1: The use of the Internet and smart technologies has a positive effect on tourists' awareness of cultural tourism. In order to test the first hypothesis (H1) stating that “The use of the Internet and smart technologies has a positive effect on tourists' awareness of cultural tourism,” a simple linear regression analysis was conducted. The independent variable was the level of use of the Internet and smart technologies (measured by the composite index formed from statements in Tables 2 and 3), and the dependent variable was tourists' awareness of cultural tourism (measured by the composite index from Table 4). The regression model was statistically significant: $F(1, 288) = 98.74, p < 0.001$, with a coefficient of determination $R^2 = 0.38$, indicating that 38% of the variance in tourists' awareness of cultural tourism can be explained by the use of the Internet and smart technologies. The regression coefficient was $\beta = 0.614, t = 9.94, p < 0.001$, confirming that the relationship is both positive and statistically significant. Therefore, the hypothesis H1 is confirmed, and it can be concluded that the use of the Internet and smart technologies has a significant and positive impact on tourists' awareness of cultural tourism.

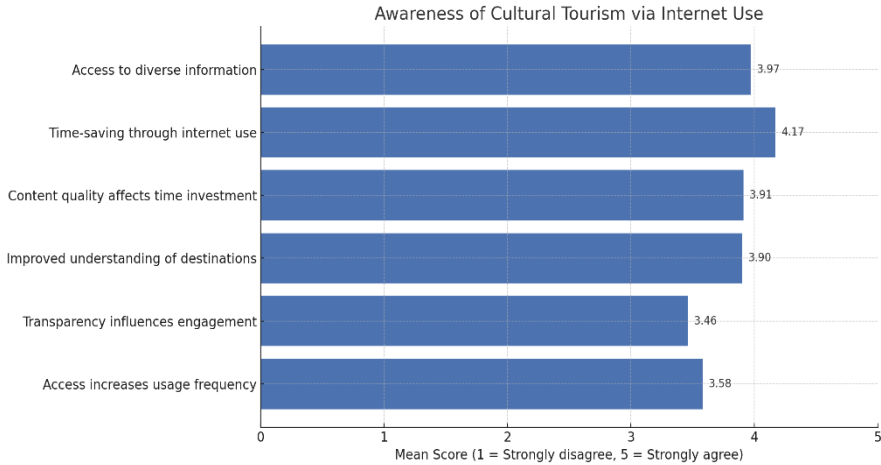
Figure 1. Regression line showing the influence of Internet use on awareness of cultural tourism



Source: Authors' research

Figure 1 below shows the regression line illustrating the positive linear relationship between the use of Internet and smart technologies and tourists' awareness of cultural tourism. H2: There are no significant differences in respondents' attitudes towards using the Internet for cultural tourism in relation to gender, level of education, region of residence and work status (Confirmed - Statistical analysis (t-test and ANOVA) showed that there are no significant differences in the attitudes of respondents in relation to gender, level of education, region of residence and work status). H3: Older respondents use the Internet more often for information about cultural tourism compared to younger generations Given the ordinal nature of the data and more than two groups, a Kruskal-Wallis test was conducted. The test result showed: $H(2) = 8.25, p = 0.016$. Since the p value is < 0.05 , there is a statistically significant difference in the frequency of Internet use between age groups. Older respondents (especially the group 51+) show a higher Mean value compared to younger ones. Based on the results, hypothesis H3 is confirmed.

Figure 2. Awareness of Cultural Tourism via Internet Use



Source: Authors' research

In response to the reviewer's comment regarding the unmeasured variable "awareness of cultural tourism," we clarify that this variable was indeed operationalized and measured through a specific set of statements in the questionnaire. These statements were designed to assess respondents' perceptions of the usefulness, accessibility, transparency, and overall impact of internet content on their understanding and engagement with cultural tourism. Respondents evaluated these items using a 5-point Likert scale (1 = Strongly disagree, 5 = Strongly agree). Based on these items, a composite index was created to measure the variable "awareness of cultural tourism." The internal consistency of this scale was excellent, with a Cronbach's alpha of 0.926. The following table presents the statements used to evaluate this variable, along with their mean scores and standard deviations:

Table 12 Statements for Measuring Awareness of Cultural Tourism

Source: Authors' research

No.	Statement	Mean	SD
1.	Internet content allows me to access a wide range of cultural information.	3.97	1.02
2.	Using online content helps me save significant time.	4.17	0.83
3.	The quality of internet content affects the time I'm willing to invest.	3.91	0.85
4.	Internet use improves my understanding of cultural tourism offers.	3.90	0.95
5.	The more transparent the information, the more I engage with the content.	3.46	1.13
6.	Better access to information increases how often I use online content.	3.58	1.09

This confirms that the variable "awareness of cultural tourism" was both conceptually defined and empirically measured through specific, validated items. Consequently, the relationship between this variable and the use of internet/smart technologies was analyzed using regression analysis, confirming the hypothesis H1.

5. Conclusion

The primary objective of this research was to determine the frequency and manner of using the internet and smart technologies, as well as to gather respondents' opinions on the advantages of their usage when informing and deciding on the choice of a certain cultural tourism destination. This paper analyzes the way and frequency of using the internet and information technologies, along with respondents' opinions on the benefits and drawbacks of their use when choosing a cultural tourism destination in Serbia. It also investigates how respondents are informed about cultural heritage and the offerings of cultural tourism in Serbia. The findings revealed that the highest level of agreement was regarding the use of internet content to share and exchange information about cultural tourism, with respondents expressing a strong intention to continue using the internet for finding cultural tourism information. The lowest level of agreement was for the statement that respondents consistently search for cultural tourism information online. When it comes to the users' attitudes regarding how often they use the internet for information about cultural tourism, the results show that they most often accept invitations from friends to exchange information and interesting topics related to cultural tourism via the internet. Respondents also enjoy using the internet to communicate with others on the topic of cultural tourism, although they use the internet the least for daily searches related to cultural tourism. The majority of respondents recognized the benefits of using the internet and information technologies to learn about cultural heritage and make decisions about selecting a cultural tourism destination for vacations. They particularly highlighted the ability to save time, money, and energy, as well as to speed up the decision-making process regarding travel destinations through internet content related to cultural tourism. However, as a limitation, respondents noted that they rarely use internet content to share feelings and experiences related to cultural tourism. Based on the responses from 284 respondents in Serbia, the findings indicated a statistically significant difference concerning the age of the respondents. Regarding other examined socio-demographic variables—gender, professional

education, place of residence, social status, and monthly income of the respondents - it can therefore be concluded that there is no statistically significant difference. Such findings may also be a result of unevenness in the structure of the sample. In addition, the use of a convenience sampling method and online data collection may limit the generalization of the findings to the wider population. It is likely that these findings would differ if there were a better distribution across the categories of variables related to the socio-demographic characteristics of the respondents. The research included only respondents from the territory of Serbia. Because the research is based on the self-assessment of respondents, it may include subjective biases and incorrect answers. Also, the homogeneity of the sample in terms of sociodemographic characteristics could have affected the results. Having in mind these main limitations of research, expanding the research to the countries of the Western Balkans in order to obtain a broader picture of the impact of digital technologies on cultural tourism, analysis of specific digital platforms and their impact on tourists' decisions and studying the effects of new technologies such as artificial intelligence, virtual and augmented reality in the promotion of cultural tourism are marked as main directions for future research.

Considering that this work is part of a research project, it is planned to conduct the research in other countries of the Western Balkans during 2025. The confirmation of the first hypothesis through regression analysis emphasizes the significant predictive power of Internet and smart technology usage on tourists' awareness of cultural tourism. This finding supports the strategic development of digital platforms for enhancing the sustainability of cultural tourism.

References

1. Bąk, I., Barej-Kaczmarek, E., & Sulikowski, P. (2022). Impact of Information and Communication Technologies on the Tourism Sector. *European Research Studies Journal*, Volume XXV, Issue 3. pp. 595-606. <https://doi.org/10.35808/ersj/3052>
2. Benckendorff, P.J., Sheldon, P.J., & Fesenmaier, D.R. (2014). *Tourism Information Technology*, 2nd ed.; CABI:Wallingford, UK.
3. Carbone, F., Oosterbeek, L., Costa, C., & Ferreira, A. M. (2020). Extending and adapting the concept of quality management for museums and cultural heritage attractions: A comparative study of southern European cultural heritage managers' perceptions. *Tourism Management Perspectives*, 35, 100698.

4. Gretzel, U., Fuchs, M., Baggio, R., Hoepken, W., Law, R., Neidhardt, J., Pesonen, J., Zanker, M., & Xiang, Z. (2020). e-Tourism beyond COVID-19: A call for transformative research. *Information Technology and Tourism*, 22, 187-203. <https://doi.org/10.1007/s40558-020-00181-3>
5. Das, G., Shailendra, P.J., Durairaj, M., Slotegraaf, R., & Srinivasan, R. (2021). Pandemics and Marketing: Insights, Impacts, and Research Opportunities. *J. Acad. Mark. Sci.*49, 835–854. doi: 10.1007/s11747-021-00786-y.
6. Di Pietro, L., Guglielmetti Mugion, R., & Renzi, M. F. (2018). Heritage and identity: technology, values and visitor experiences. *Journal of Heritage Tourism*, 13(2), 97-103.
7. Đurić, D., Vico, G., & Bodiřoga, R., (2024). Upotreba razliĉitih tehnika višekriterijumskog rangiranja u proceni razvijenosti organske proizvodnje. *Ekonomija: teorija i praksa*, 17(3), 33-49.
8. Elkhwesky, Z., Younès, M., & Islam, E.S. (2022). Driving Hospitality and Tourism to Foster Sustainable Innovation: A Systematic Review of COVID-19-Related Studies and Practical Implications in the Digital Era. *Tour. Hosp. Res.* 14, 115–133. <https://doi.org/10.1177/14673584221126792>
9. Femenia-Serra, F., Neuhofer, B., & Ivars-Baidal, J.A. (2019). Towards a conceptualisation of smart tourists and their role within the smart destination scenario. *Serv. Ind. J.* 39, 109–133. <https://doi.org/10.1080/02642069.2018.1508458>
10. Filipović, N. (2018). Intangible cultural heritage as a motive for choosing the tourist destination Arandelovac. *Hotel and Tourism Management*, Vol. 6, No. 1: 53-62. <https://doi.org/10.5937/menhottur1801053F>
11. Kalia, P., Mladenović, D., & Acevedo-Duque, Á. (2022). Decoding the Trends and the Emerging Research Directions of Digital Tourism in the Last Three Decades: A Bibliometric Analysis. *SAGE Open*, 12. <https://doi.org/10.1177/21582440221128179>
12. Gireesh Kumar, T. K. (2021). Designing a comprehensive information system for safeguarding the cultural heritage: need for adopting architectural models and quality standards. *Library Philosophy and Practice (e-journal)*, 2021(5392), 1-19.
13. Li, P., Zhou, Y., & Huang, S. (2023). Role of information technology in the development of e-tourism marketing: A contextual suggestion. *Economic Analysis and Policy*, 78, 307-318. <https://doi.org/10.1016/j.eap.2023.03.010>
14. Loureiro, S.M., Al-Ansi, A., Hyun, B.R., Ariza-Montes, A., & Hye-Shin, K. (2022). Culture, Heritage Looting, and Tourism: A Text Mining Review

- Approach. *Front. Psychol.* 13, 944250. <https://doi.org/10.3389/fpsyg.2022.944250>
15. Lv, H., Si, S., & Dogan, G. (2022). A Look Back and a Leap Forward: A Review and Synthesis of Big Data and Artificial Intelligence Literature in Hospitality and Tourism. *J. Hosp. Mark. Manag.* 31, 145–175. <https://doi.org/10.1080/19368623.2021.1937434>
 16. Olearnik, J. (2016). Współczesny marketing w turystyce i jego specyfika. *Ekonomiczne Problemy Turystyki*, 1(33), 9-19. <https://doi.org/10.18276/ept.2016.1.33-01>
 17. Nikolić, M., Đurić, D., & Mitić, S. (2024). *Strategijski menadžment*, Univerzitet u Novom Sadu, Tehnički fakultet “Mihalo Pupin”, Zrenjanin.
 18. Penjišević, A., Sančanin, B., Dimitrijevska Jankulovska, A., & Denkovska, M. (2024). Preservation and promotion of material cultural heritage: a comparative analysis of the Republic of Serbia and the Republic of North Macedonia. *SCIENCE International journal*, 3(3), 117-124. <https://doi.org/10.35120/sciencej0303117p>
 19. Premović, J. (2023). Cultural heritage as a generator of sustainable development of tourism in local communities in the countries of the Western Balkans. In T. Sekulić (co-Ed.), *Conference Proceedings: International Scientific and Professional Conference Politehnika 2023* (pp. 1177-1181). Belgrade, Serbia: The Academy of Applied Technical Studies "Belgrade.
 20. Premović, J. (2021). Sociološko-kulturološki uticaji turizma u kontekstu širenja vrednosnih vidika u zemljama Zapadnog Balkana. U (S. Vujović (urednik), *EKOM 2021: Značaj Mini Šengena za evrointegracije Zapadnog Balkana* (str. 228-243). Kosovska Mitrovica, Srbija: Ekonomski fakultet Univerziteta u Prištini sa privremenim sedištem u Kosovskoj Mitrovici. [*in English: Social-cultural influences of tourism in the context of spreading value perspectives in the Western Balkans countries.* In (S. Vujović (Ed.), *EKOM2021 Importance of the Mini-Schengen for the Euro Integration of the Western Balkans* (pp. 228-243). Kosovska Mitrovica, Serbia: Faculty of Economics of the University of Prishtina with temporary headquarters in Kosovska Mitrovica.
 21. Raji, A. A. H., Alabdoon, A. H. F., Shaker, A. S., & Almagtome, A. (2024). The Effect of National Cultural Values on the Financial Inclusion: An International Perspective. *Futurity Economics&Law*, 4(2). 65-82. <https://doi.org/10.57125/FEL.2024.06.25.04>
 22. Ristić, V., Trišić, I., Štetić, S., Maksin, M., Nechita, F., Candrea, A. N., Pavlović, M., & Hertanu, A. (2024). Institutional, Ecological, Economic, and Socio-Cultural Sustainability—Evidence from Ponjavica Nature Park. *Land*, 13(5), 669. <https://doi.org/10.3390/land13050669>

23. Sančanin, B., Penjišević, A., & Stojanović, K. (2023). Key cultural-historical determinants of tourism improvements of the Municipality of Bač. *Hotel and Tourism Management*, Vol. 11, No. 1: 177-191. <https://doi.org/10.5937/menhottur2301177S>
24. Soliman, M., Cardoso, L., Almeida, G. G. F. de, Araújo, A. F., & Araújo Vila, N. (2021). Mapping smart experiences in tourism: A bibliometric approach. *European Journal of Tourism Research* 28, 2809, 1-26. <https://doi.org/10.54055/ejtr.v28i.2254>
25. Sustacha, I., Baños-Pino, J.F., & Del Valle, E. (2023). The role of technology in enhancing the tourism experience in smart destinations: A meta-analysis *Journal of Destination Marketing & Management*, 30(2023) 1-12. <https://doi.org/10.1016/j.jdmm.2023.100817>
26. Thomas, G. (2024). Challenges and Trends of Digital Innovation in the Tourism Sector: Contemporary Literature Review. *Open Journal of Business and Management*, 12, 179-190. <https://doi.org/10.4236/ojbm.2024.121013>
27. Wiagustini, N. L. P., Aprilia, N. P. R., & Simanjuntak, G. R. M. (2024). The Significance of Cultural Capital in Enhancing the Efficiency and Long-Term Viability of Village Credit Institutions in Bali. *Futurity Economics&Law*, 4(3). 62-81. <https://doi.org/10.57125/FEL.2024.09.25.05>
28. Xiang, Z., Wang, D., O’Leary, J. T., & Fesenmaier, D. R. (2015). Adapting to the internet: Trends in travelers’ use of the Web for trip planning. *Journal of Travel Research*, 54 (4), 511–527. <https://doi.org/10.1177/0047287514522883>
29. Zdravković, S., & Peković, J. (2021). Cultural intelligence and heritage impact on choosing foreign tourist destination. *Hotel and Tourism Management*, Vol. 9, No. 1: 27-42. <https://doi.org/10.5937/menhottur2101027Z>

STRATEŠKI ZNAČAJ INTERNETA, NOVIH ZNANJA I INFORMACIONIH TEHNOLOGIJA ZA ODRŽIVI RAZVOJ KULTURNOG TURIZMA

Apstrakt

Ova studija istražuje značaj novih informacionih tehnologija i interneta u promociji kulturnog turizma, sa ciljem da istakne njihovu stratešku ulogu u održivom razvoju kulturnog turizma u savremenom društvu. Metodologija: Empirijsko istraživanje sprovedeno je putem anketnog upitnika na uzorku od 284 ispitanika iz različitih regiona Srbije. U istraživanju su korišćene kvantitativne metode analize podataka, uključujući deskriptivnu statistiku, t-test za nezavisne uzorke i jednofaktorsku analizu varijanse (ANOVA), uz primenu SPSS softvera. Nalazi: Rezultati su pokazali da većina ispitanika koristi internet za informisanje o kulturnom turizmu, pri čemu se internet percipira kao ključni alat za razmenu informacija. Nisu utvrđene značajne razlike u stavovima ispitanika prema polu, nivou obrazovanja, regionu stanovanja ili radnom statusu, dok su stariji ispitanici češće koristili internet za potrebe kulturnog turizma. Implikacije: Studija ukazuje na potrebu unapređenja digitalnih platformi i promocije kulturnog turizma putem interneta. Rezultati mogu biti korisni donosiocima odluka i kreatorima politika u oblasti turizma za razvoj održivih strategija promocije kulturnih destinacija.

Ključne reči: kulturni turizam, održivi turizam, kulturno nasleđe, informacione tehnologije, pametne tehnologije.

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