

HOSPITALITY 4.0 IN THE WESTERN BALKANS: TECHNOLOGICAL INNOVATION FOR A SUSTAINABLE FUTURE

Drago Cvijanović¹ [ID](#), Aleksandra Vujko^{2,*} [ID](#), Božo Ilić² [ID](#)

¹Faculty of Hotel Management and Tourism in Vrnjačka Banja, University of Kragujevac, Serbia

² Faculty of Tourism and Hospitality Management, Singidunum University, Belgrade, Serbia

³ Academy of Vocational Studies Šumadija, Department Aranđelovac, Serbia

This study investigates the relationship between hotel location and employee familiarity with the concept and technologies of Hospitality 4.0 across five Western Balkan countries: Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia. Using a structured questionnaire and chi-square tests on a sample of 250 hotel employees, the research examines five key variables: familiarity with Hospitality 4.0, understanding of associated technologies, managerial support for its principles, perceived transformative impact, and alignment with future tourism trends. The findings reveal statistically significant associations between country and all five variables ($p < 0.001$ in most cases), indicating that national context significantly influences both awareness and adoption of Hospitality 4.0. The respondents from Albania and Bosnia and Herzegovina demonstrated the highest levels of familiarity and organizational support, while Montenegro and North Macedonia exhibited lower levels of awareness and engagement. Serbia showed internal disparities, with both high and low levels of agreement. These results point to uneven progress in digital transformation within the hospitality sector in the region. The study underscores the need for targeted policy interventions, industry training programs, and cross-country knowledge sharing to support a cohesive transition toward Hospitality 4.0. This research contributes to understanding regional dynamics of technological adoption in hospitality and offers practical insights for advancing innovation in hotel management.

Keywords: Hospitality 4.0; Western Balkans; hotel industry; digital transformation; smart tourism; innovation; chi-square analysis; regional development

* Author address: Aleksandra Vujko, Faculty of Tourism and Hospitality Management, Singidunum University, Belgrade, Serbia

e-mail address: avujko@singidunum.ac.rs



INTRODUCTION

The hospitality industry is undergoing a transformative phase known as Hospitality 4.0, characterized by the integration of advanced technologies and innovative practices aimed at enhancing customer experiences while simultaneously fostering sustainable development [1]. This evolution is not merely a response to changing consumer preferences; it is a proactive approach to redefining service delivery in a sector that is increasingly influenced by digitalization. As the industry navigates the complexities of a post-pandemic world, the significance of Hospitality 4.0 becomes apparent, illuminating pathways toward operational efficiency, personalized customer interactions, and environmentally responsible practices [2].

Hospitality 4.0 represents a paradigm shift in the way the hospitality industry operates, integrating cutting-edge technologies to enhance service delivery and customer experiences. At its core, Hospitality 4.0 is defined by its incorporation of digital tools and data-driven strategies to streamline operations and elevate guest satisfaction [3]. This evolution encompasses a wide scope of innovations, including the Internet of Things (IoT), cloud computing, and augmented reality (AR), all of which contribute to a more interconnected and responsive hospitality ecosystem [4]. According to Vongvisitsin & Tung [5], hotels are now utilizing IoT devices to provide guests with personalized room controls, allowing them to adjust lighting, temperature, and entertainment systems through their smartphones. The impact of Hospitality 4.0 on customer experience is profound, as it not only facilitates a more seamless and enjoyable stay but also enables service providers to anticipate and cater to individual preferences. This shift is evident in the use of mobile applications that allow guests to check in remotely, access room keys digitally, and even order room service with a few taps, thereby enhancing convenience and efficiency in service delivery [6].

Central to the success of Hospitality 4.0 are the technological innovations that drive its implementation, prominently featuring Artificial Intelligence (AI) and Machine Learning. These technologies are revolutionizing customer service by enabling businesses to offer personalized experiences that were previously unattainable. According to Vujko et al., [7], AI-powered chatbots provide instant support to guests, answering queries and resolving issues in real-time, which significantly enhances customer satisfaction. According to Skorupan et al., [8], machine learning algorithms analyze vast amounts of customer data to generate tailored recommendations, whether for dining options, local attractions, or personalized deals. This level of personalization not only fosters loyalty among guests but also enhances operational efficiency, as businesses can optimize marketing strategies based on consumer behavior patterns. According to Valdez-Juárez et al., [9], data analytics plays a crucial role in refining operational processes; for instance, hotels can utilize predictive analytics to forecast demand and manage inventory more effectively, ensuring that resources are allocated efficiently and reducing waste.

The intersection of technology and sustainability is a pivotal aspect of Hospitality 4.0, as the industry seeks to mitigate its environmental impact while enhancing service delivery. Technological advancements are instrumental in promoting sustainable practices, with energy-efficient systems and smart building technologies leading the way. According to



Stylos et al., [10], hotels are increasingly adopting smart thermostats and lighting systems that adjust according to occupancy, significantly reducing energy consumption. According to Ogiemwonyi et al., [11], waste reduction technologies, such as smart recycling bins equipped with sensors that monitor waste levels, empower establishments to manage resources more effectively and minimize landfill contributions. Initiatives like these not only improve operational sustainability but also resonate with environmentally conscious consumers, who are increasingly prioritizing eco-friendly practices in their travel choices [12]. By integrating these innovative technologies, the hospitality sector can align itself with global sustainability goals, ensuring a more responsible and resilient future.

The research started from the starting hypothesis of the paper H: that hotel stakeholders with a higher level of recognition of the Hospitality 4.0 concept demonstrate greater readiness for its implementation. The aim of this study is to explore how well hotel stakeholders recognize the key components of Hospitality 4.0 and to assess their readiness—technological, financial, and organizational—for integrating smart, digital, and automated solutions aligned with the Hospitality 4.0 paradigm. According to this, the main objective of the paper is to evaluate the level of awareness, understanding, and preparedness of hotel stakeholders regarding the concept of Hospitality 4.0 and its potential implementation within hotel operations.

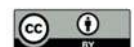
MATERIAL AND METHODS

To fulfill the aim of exploring how well hotel stakeholders recognize the key components of Hospitality 4.0 and assessing their technological, financial, and organizational readiness for integrating smart, digital, and automated solutions, this study employed a quantitative research design. A total of 73 hotel managers and owners participated in the research. The study was conducted across prominent mountain destinations in the Western Balkans, a region comprising Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia. Known for its rich cultural heritage and complex socio-political history, the Western Balkans is a growing tourism region with increasing interest in digital transformation [13].

The hotels included in the study were selected based on their recognition and popularity among tourists, ensuring the sample reflected the most frequented and competitive establishments in the region. Geographically, the study covered hotels located on Korab Mountain (Albania and North Macedonia), Radomire Village and Tomor Mountain (Albania), Zlatibor, Tara, Kopaonik, and Stara Planina (Serbia), Brezovica (Kosovo and Metohija), Durmitor (Montenegro), and Jahorina (Bosnia and Herzegovina).

Participants received a structured questionnaire via email, consisting of 10 Likert-scale statements. These statements were grouped to measure two primary dimensions:

- Recognition of the Hospitality 4.0 concept – including awareness of its technologies (e.g., IoT, AI, robotics) and strategic importance (I am familiar with the concept of Hospitality 4.0 and its relevance to the hotel industry; I understand the technologies commonly associated with Hospitality 4.0 (e.g., AI, IoT, robotics, smart rooms); Our hotel management has discussed or introduced the principles of Hospitality 4.0.; I believe that Hospitality 4.0 represents a significant



shift in how hotels operate and deliver services; Hospitality 4.0 aligns with current trends and future demands in the tourism and hotel industry).

Responses were measured using a five-point Likert scale, ranging from Strongly Disagree (1) to Strongly Agree (5). The data were analyzed using descriptive statistics to summarize stakeholders' levels of recognition and readiness. To examine potential associations between the location of the hotel (by country or region) and the observed levels of readiness and concept recognition, the Pearson Chi-Square test was employed. This allowed the identification of statistically significant variations based on geographic context.

RESULTS AND DISCUSSION

The results reveal that the implementation of Hospitality 4.0 in the Western Balkans remains uneven, with varying degrees of technological awareness and organizational readiness among hotel stakeholders. These disparities suggest that while the potential for digital transformation exists, systemic barriers—such as limited investment, insufficient training, and policy support—must be addressed to fully leverage the benefits of Hospitality 4.0 in the region.

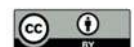
Familiarity with the Concept of Hospitality 4.0

The first statement, "I am familiar with the concept of Hospitality 4.0 and its relevance to the hotel industry," reveals statistically significant variation across the countries ($\chi^2 = 72.298$, $df = 16$, $p < 0.001$). The respondents from Albania and Bosnia and Herzegovina (BiH) are more likely to strongly agree or agree with the statement, in contrast to those from Montenegro, North Macedonia, and Serbia, where a higher proportion of respondents selected disagree, strongly disagree, or no opinion. This implies uneven dissemination or adoption of the Hospitality 4.0 concept across the region. In Serbia, despite having the largest sample size (28.8%), there is a notable concentration of negative or neutral responses. The high percentage of "no opinion" in North Macedonia and Serbia may indicate a knowledge gap or lack of exposure to digital transformation strategies in the hospitality sector.

- Implication: There is a need for targeted awareness and capacity-building initiatives, particularly in countries where technological innovation is still perceived as peripheral to hotel operations.

Understanding of Technologies Associated with Hospitality 4.0

The second item, "I understand the technologies commonly associated with Hospitality 4.0 (e.g., AI, IoT, robotics, smart rooms)," also shows significant differences ($\chi^2 = 52.935$, $df = 16$, $p < 0.001$). Albania again stands out with a high level of strong agreement, indicating a relatively advanced understanding of Hospitality 4.0 technologies. Montenegro and Bosnia and Herzegovina (BiH), in contrast, show higher levels of uncertainty or disagreement, reflecting a potential lack of technical training or limited exposure to practical applications of such technologies. Serbia shows a more polarized distribution, with the respondents both agreeing and disagreeing, suggesting internal disparities in hotel innovation practices.



- Implication: These results highlight a potential skills gap that could hinder the adoption of smart solutions in hotel management, especially in countries still lagging in digital innovation infrastructure or education.

Organizational Support for Hospitality 4.0 Principles

The third statement, "Our hotel management has discussed or introduced the principles of Hospitality 4.0," yielded the strongest statistical result ($\chi^2 = 81.403$, $df = 16$, $p < 0.001$), confirming a highly significant relationship between the country and whether the management fosters discussion on innovation. The respondents from Serbia and Albania reported higher agreement, suggesting some progress toward institutional adoption in those countries.

However, BiH and Montenegro show concerning levels of either no opinion or disagreement, pointing to a disconnect between frontline staff and upper management on innovation priorities. The very high proportion of "strong disagree" in North Macedonia (50%) raises concern about the complete lack of strategic engagement with digital transformation in that context.

- Implication: For Hospitality 4.0 to take root, top-down initiatives must be paired with inclusive, organization-wide discussions. Institutional inertia or lack of communication can stall progress, even in environments with technically capable staff.

Perceived Transformative Impact of Hospitality 4.0

The fourth statement, "I believe that Hospitality 4.0 represents a significant shift in how hotels operate and deliver services," maintains statistical significance ($\chi^2 = 44.340$, $df = 16$, $p < 0.001$), although to a slightly lesser degree. A strong affirmative trend is observed in BiH and Albania, where Hospitality 4.0 is more likely to be perceived as transformative. The respondents from Serbia show a divided perception, with some recognizing the shift and others expressing disagreement or no opinion. Again, Montenegro and North Macedonia appear less convinced of the importance of digital transformation.

- Implication: Belief in the relevance of Hospitality 4.0 appears to correlate with prior exposure to or engagement in technology-driven service delivery. This confirms the role of experiential learning and national digital ecosystems in shaping staff attitudes.

Alignment with Industry Trends and Future Demands

The statement "Hospitality 4.0 aligns with current trends and future demands in the tourism and hotel industry," is also statistically significant ($\chi^2 = 30.547$, $df = 16$, $p = 0.015$), though the strength of association is weaker than previous items. While the majority of the respondents from BiH and Montenegro agree with the alignment, disagreement is strongest among the respondents from Serbia. The notable level of "no opinion" responses in North Macedonia again indicates either ambivalence or insufficient understanding.

-Implication: Perceptions of alignment with future trends may depend not only on internal management decisions but also on national tourism strategies and the visibility of digital innovations within a country's broader hospitality and tourism ecosystem.



Table 1. Perceptions and Awareness of Hospitality 4.0 by Hotel Location in the Western Balkans

			The place where the hotel is located					Total
			Albania	BiH	Montenegro	North Macedonia	Serbia	
I am familiar with the concept of Hospitality 4.0 and its relevance to the hotel industry.	Strongly agree	Count	4	3	0	0	0	7
		% of Total	5,5%	4,1%	0,0%	0,0%	0,0%	9,6%
	Agree	Count	1	4	7	0	3	15
		% of Total	1,4%	5,5%	9,6%	0,0%	4,1%	20,5%
	No opinion	Count	0	0	1	9	10	20
		% of Total	0,0%	0,0%	1,4%	12,3%	13,7%	27,4%
	Disagree	Count	0	3	4	5	8	20
		% of Total	0,0%	4,1%	5,5%	6,8%	11,0%	27,4%
Strongly disagree	Count	6	5	0	0	0	11	
	% of Total	8,2%	6,8%	0,0%	0,0%	0,0%	15,1%	
Total		Count	11	15	12	14	21	73
		% of Total	15,1%	20,5%	16,4%	19,2%	28,8%	100,0%
		Value	df	Asymptotic Significance (2-sided)				
Pearson Chi-Square		72,298 ^a	16	,000				
			The place where the hotel is located					Total
			Albania	BiH	Montenegro	North Macedonia	Serbia	
I understand the technologies commonly associated with Hospitality 4.0 (e.g., AI, IoT, robotics, smart rooms).	Strongly agree	Count	6	3	0	4	2	15
		% of Total	8,2%	4,1%	0,0%	5,5%	2,7%	20,5%
	Agree	Count	4	8	2	1	4	19
		% of Total	5,5%	11,0%	2,7%	1,4%	5,5%	26,0%
	No opinion	Count	1	4	8	4	2	19
		% of Total	1,4%	5,5%	11,0%	5,5%	2,7%	26,0%
	Disagree	Count	0	0	2	5	7	14
		% of Total	0,0%	0,0%	2,7%	6,8%	9,6%	19,2%
Strongly disagree	Count	0	0	0	0	6	6	
	% of Total	0,0%	0,0%	0,0%	0,0%	8,2%	8,2%	
Total		Count	11	15	12	14	21	73
		% of Total	15,1%	20,5%	16,4%	19,2%	28,8%	100,0%
		Value	df	Asymptotic Significance (2-sided)				
Pearson Chi-Square		52,935 ^a	16	,000				
			The place where the hotel is located					Total
			Albania	BiH	Montenegro	North Macedonia	Serbia	
Our hotel management has discussed or introduced the principles of Hospitality 4.0.	Strongly agree	Count	2	4	2	1	8	17
		% of Total	2,7%	5,5%	2,7%	1,4%	11,0%	23,3%
	Agree	Count	8	0	0	1	2	11
		% of Total	11,0%	0,0%	0,0%	1,4%	2,7%	15,1%
	No opinion	Count	0	10	3	0	2	15
		% of Total	0,0%	13,7%	4,1%	0,0%	2,7%	20,5%
	Disagree	Count	1	1	7	5	4	18
		% of Total	1,4%	1,4%	9,6%	6,8%	5,5%	24,7%
Strongly disagree	Count	0	0	0	7	5	12	
	% of Total	0,0%	0,0%	0,0%	9,6%	6,8%	16,4%	
Total		Count	11	15	12	14	21	73
		% of Total	15,1%	20,5%	16,4%	19,2%	28,8%	100,0%
		Value	df	Asymptotic Significance (2-sided)				
Pearson Chi-Square		81,403 ^a	16	,000				
			The place where the hotel is located					Total
			Albania	BiH	Montenegro	North Macedonia	Serbia	
		Count	5	6	1	2	4	18



I believe that Hospitality 4.0 represents a significant shift in how hotels operate and deliver services.	Strongly agree	% of Total	6,8%	8,2%	1,4%	2,7%	5,5%	24,7%
	Agree	Count	0	1	5	2	5	13
		% of Total	0,0%	1,4%	6,8%	2,7%	6,8%	17,8%
	No opinion	Count	0	1	4	8	3	16
		% of Total	0,0%	1,4%	5,5%	11,0%	4,1%	21,9%
	Disagree	Count	2	3	0	0	9	14
		% of Total	2,7%	4,1%	0,0%	0,0%	12,3%	19,2%
	Strongly disagree	Count	4	4	2	2	0	12
% of Total		5,5%	5,5%	2,7%	2,7%	0,0%	16,4%	
Total		Count	11	15	12	14	21	73
		% of Total	15,1%	20,5%	16,4%	19,2%	28,8%	100,0%
		Value	df	Asymptotic Significance (2-sided)				
Pearson Chi-Square		44,340 ^a	16	,000				
			The place where the hotel is located					
			Albania	BiH	Montenegro	North Macedonia	Serbia	Total
Hospitality 4.0 aligns with current trends and future demands in the tourism and hotel industry.	Strongly agree	Count	1	5	2	4	0	12
		% of Total	1,4%	6,8%	2,7%	5,5%	0,0%	16,4%
	Agree	Count	5	5	6	1	4	21
		% of Total	6,8%	6,8%	8,2%	1,4%	5,5%	28,8%
	No opinion	Count	4	1	1	5	3	14
		% of Total	5,5%	1,4%	1,4%	6,8%	4,1%	19,2%
	Disagree	Count	0	3	3	2	10	18
		% of Total	0,0%	4,1%	4,1%	2,7%	13,7%	24,7%
Strongly disagree	Count	1	1	0	2	4	8	
	% of Total	1,4%	1,4%	0,0%	2,7%	5,5%	11,0%	
Total		Count	11	15	12	14	21	73
		% of Total	15,1%	20,5%	16,4%	19,2%	28,8%	100,0%
		Value	df	Asymptotic Significance (2-sided)				
Pearson Chi-Square		30,547 ^a	16	,015				

The results across all five items indicate that national context significantly influences attitudes and knowledge related to Hospitality 4.0. The consistent statistical significance ($p < 0.001$ in most cases) confirms that the country in which a hotel operates plays a major role in shaping awareness, organizational integration, and perceived value of technological innovation in hospitality. This points to several policy and managerial recommendations: National tourism authorities should invest in raising awareness of Hospitality 4.0 principles through conferences, training, and public-private partnerships; Hotel management must foster innovation cultures, ensuring that employees at all levels are informed, trained, and empowered to participate in digital transformation.

Cross-border collaboration and knowledge sharing could help less advanced markets learn from more proactive countries in the region, such as Albania or BiH.

CONCLUSION

In conclusion, Hospitality 4.0 embodies a crucial evolution within the hospitality industry, driven by technological innovation and a commitment to sustainability. As the sector adapts to the demands of modern travelers, it is evident that advancements such as AI, data analytics, and smart technologies are central to enhancing customer experiences and improving operational efficiencies. Moreover, the integration of sustainable practices through these technological innovations not only addresses environmental concerns but



also meets the growing expectations of eco-conscious consumers. As the hospitality industry continues to evolve in the face of ongoing challenges, embracing the principles of Hospitality 4.0 will be essential for creating a sustainable and customer-centric future. This transformative journey highlights the potential of technology not only to redefine service delivery but also to pave the way for a more sustainable and responsible hospitality landscape.

The findings of this study highlight a significant disparity in awareness and readiness for Hospitality 4.0 among hotel stakeholders across five Western Balkan countries. While Albania and Bosnia and Herzegovina show relatively higher levels of familiarity and openness to digital transformation in hospitality, other countries—particularly Montenegro, North Macedonia, and Serbia—exhibit a mix of limited knowledge, uncertainty, and organizational hesitation. These regional differences reflect broader structural and developmental disparities in digital infrastructure, investment capacities, and education systems.

Practical implications include the need for targeted capacity-building initiatives such as national training programs, transnational cooperation, and cross-sectoral workshops that bridge the knowledge and technological gaps. Policy-makers should facilitate access to funding for technological upgrades and support public-private partnerships aimed at fostering innovation. Hotel managers are encouraged to engage in strategic planning and workforce reskilling to improve technological readiness and adapt to emerging customer expectations.

From an operational perspective, a proactive integration of Hospitality 4.0 technologies—such as AI, IoT, and robotics—could help hotels streamline operations, enhance guest experience, and increase competitiveness, particularly in post-pandemic recovery contexts where digital touchpoints have become increasingly critical.

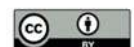
Limitations of this study include the relatively small and uneven sample size across countries, which may affect generalizability. In addition, the reliance on self-reported data may introduce subjectivity and social desirability bias. Future research should expand the sample, include qualitative interviews with hotel managers and IT specialists, and explore longitudinal data to monitor the evolution of Hospitality 4.0 adoption over time in the region.

Acknowledgement:

This research is supported by the Ministry of Science, Technological Development and Innovation of the Republic of Serbia by the Decision on the scientific research funding for teaching staff at the accredited higher education institutions in 2025 (No. 451-03-137/2025-03/200375 of February 4, 2025).

References

[1] Alam SS, Kokash HA, Ahsan MN, Ahmed S. Relationship between technology readiness, AI adoption and value creation in hospitality industry: Moderating role of technological turbulence. *International Journal of Hospitality Management*. 2025, 127, 104133. <https://doi.org/10.1016/j.ijhm.2025.104133>



- [2] Fakfare P, Manosuthi N, Lee J-S, Han H, Jin M. Customer word-of-mouth for generative AI: Innovation and adoption in hospitality and tourism. *International Journal of Hospitality Management*. 2025, 126, 104070. <https://doi.org/10.1016/j.ijhm.2024.104070>
- [3] Shang D, Wu W, Ji Y. Understanding employee digital learning engagement and innovative work behavior in hospitality sectors: A machine learning based multistage approach. *International Journal of Hospitality Management*. 2025, 125, 103985. <https://doi.org/10.1016/j.ijhm.2024.103985>
- [4] Martin-Rios C, Ciobanu T. Hospitality innovation strategies: An analysis of success factors and challenges. *Tourism Management*. 2019, 70, 218-229. <https://doi.org/10.1016/j.tourman.2018.08.018>
- [5] Vongvisitsin TB, Tung VWS. Technology start-ups in tourism and hospitality: A networked social capital theory perspective from early-stage start-up founders. *Tourism Management*. 2025, 106, 104996. <https://doi.org/10.1016/j.tourman.2024.104996>
- [6] Maiti M, Kayal P, Vujko A. A study on ethical implications of artificial intelligence adoption in business: Challenges and best practices. *Future Business Journal*. 2025, 11:34. <https://doi.org/10.1186/s43093-025-00462-5>
- [7] Vujko A, Papović Z, Cvijanović D. Artificial intelligence and its influence on sustainable travel agencies business: The role of chatbots in creating tourist arrangements. *Ekonomika*. 2025, 71(1), 1-15. <https://doi.org/10.5937/ekonomika2501001V>
- [8] Skorupan A, Vujko A, Bjelić K. The hotel industry role in terms of achieving tourism destination sustainability: Challenges and best practices. *Serbian Journal of Engineering Management*. 2025, 10(1), 68-78. <https://doi.org/10.5937/SJEM2501068S>
- [9] Valdez-Juárez LE, Ramos-Escobar EA, Rui-Zamora JA, Borboa-Álvarez EP. Drivers and pressures of industry 4.0 that generate marketing innovation and affect the innovative performance of Mexican SMEs: From the perspective of open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*. 2025, 11(2), 100541. <https://doi.org/10.1016/j.joitmc.2025.100541>
- [10] Stylos N, Fotiadis AK, Shin DD, Huan T-C. Beyond smart systems adoption: Enabling diffusion and assimilation of smartness in hospitality. *International Journal of Hospitality Management*. 2021, 98, 103042. <https://doi.org/10.1016/j.ijhm.2021.103042>
- [11] Ogiemwonyi O, Alam MN, Hago IE, Azizan NA, Hashim F, Hossain MS. Green innovation behaviour: Impact of industry 4.0 and open innovation. *Heliyon*. 2023, 9(6), e16524. <https://doi.org/10.1016/j.heliyon.2023.e16524>
- [12] Caiado RGG, Machado E, Santos RS, Thomé AMT, Scavarda LF. Sustainable I4.0 integration and transition to I5.0 in traditional and digital technological organisations. *Technological Forecasting and Social Change*. 2024, 207, 123582. <https://doi.org/10.1016/j.techfore.2024.123582>
- [13] Knežević M, Pindžo R, Čulić M, Kovačić S, Dunjić M, Vujko A. Sustainable (re)development of tourism destinations as a pledge for the future – a case study from the Western Balkans. *GeoJournal of Tourism and Geosites*. 2024, 56(4), 1564-1575. <https://doi.org/10.30892/gtg.56413-1327>



Izvod

HOSPITALITY 4.0 NA ZAPADNOM BALKANU: TEHNOLOŠKE INOVACIJE ZA ODRŽIVU BUDUĆNOST

Drago Cvijanović¹ [ID](#), Aleksandra Vujko² [ID](#), Božo Ilić² [ID](#)

¹Fakultet za hotelijerstvo i turizam u Vrnjačkoj Banji, Univerzitet u Kragujevcu, Srbija

² Fakultet za turistički i hotelijerski menadžment, Univerzitet Singidunum, Beograd, Srbija

³ Akademija strukovnih studija Šumadija, Departman Aranđelovac, Srbija

Ova studija istražuje odnos između lokacije hotela i upoznatosti zaposlenih sa konceptom i tehnologijama Hospitality 4.0 u pet zemalja Zapadnog Balkana: Albaniji, Bosni i Hercegovini, Crnoj Gori, Severnoj Makedoniji i Srbiji. Korišćenjem strukturisanog upitnika i hi-kvadrat testova na uzorku od 250 zaposlenih u hotelijerstvu, istraživanje analizira pet ključnih varijabli: upoznatost sa Hospitality 4.0, razumevanje povezanih tehnologija, podršku menadžmenta za principe Hospitality 4.0, percipirani transformativni uticaj i usklađenost sa budućim trendovima u turizmu. Rezultati pokazuju statistički značajne veze između zemlje i svih pet varijabli ($p < 0,001$ u većini slučajeva), što ukazuje da nacionalni kontekst značajno utiče na svest i usvajanje koncepta Hospitality 4.0. Ispitanici iz Albanije i Bosne i Hercegovine pokazali su najviši nivo upoznatosti i organizacione podrške, dok su Crna Gora i Severna Makedonija pokazale niže nivoe svesti i angažovanosti. U Srbiji su primećene unutrašnje razlike, sa izraženim visokim i niskim nivoima saglasnosti. Ovi rezultati ukazuju na neujednačen napredak u digitalnoj transformaciji sektora hotelijerstva u regionu. Studija naglašava potrebu za ciljanom politikom, programima obuke u industriji i međuzemaljskom razmenom znanja kako bi se podržao kohezivan prelaz ka Hospitality 4.0. Ovo istraživanje doprinosi razumevanju regionalne dinamike usvajanja tehnologije u hotelijerstvu i nudi praktične uvide za unapređenje inovacija u upravljanju hotelima.

Ključne reči: Hospitality 4.0; Zapadni Balkan; hotelska industrija; digitalna transformacija; pametni turizam; inovacije; hi-kvadrat analiza; regionalni razvoj

