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STRENGTH 2024

**STRENGTHENING SUSTAINABILITY COMMUNICATION IN TOURISM,
HOSPITALITY, AND EVEN INDUSTRIES**

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Book of Abstracts



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Novi Sad, August 2024

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HOSPITALITY, AND EVEN INDUSTRIES

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Sustainable Tourism Through Extended Reality: Lessons from Heritage Destinations in Serbia

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Abstract: "The use of extended reality visualizations in tourism, hospitality, and event industries (THE) can have a profound impact on promoting sustainability. The global pandemic provided a boost to virtual tours when none could be done in person. The field has now accelerated and 360 digital technologies are being used in marketing for hotels, tourism sites, tours, and much more. The educational power of creating engaging virtual products has been embraced by museums, cultural heritage sites, and ecotourist destinations that resonate with the UN Sustainable Development Goals. There is a growing movement to use extended reality in a variety of ways for the promotion and protection of natural and cultural heritage (SDG 11.4). Examples of recent research in this area include: Virtual Tours: the need for physical visits can be reduced, lowering carbon footprints and resource consumption; Heritage at Risk: delicate areas of sites can be avoided but still experienced through virtual or augmented reality either on site or off; Education: detailed sustainability features can be highlighted, such as energy-efficient systems and eco-friendly practices; Marketing: green initiatives and sustainability credentials can be effectively promoted; Planning and Management: 3D models can lead to better planning and management of spaces, optimizing resource use and minimizing waste; Accessibility: 3D models increase the number of people who can experience tourism destinations, including underserved and disadvantaged populations and people with disabilities. The advent of 360 imaging technologies, including Matterport, has revolutionized approaches to these practices by providing easy to use, affordable, and high-impact visualizations. Our recent work in Serbia highlights how Matterport models fit into multiple agendas for promoting equitable, accessible, and forward-thinking sustainable tourism on a global scale. Case studies include virtualization of natural and cultural heritage exhibits at Viminacium and an ecotourism and cultural heritage destination at Captain Misha's Hill. This work carries forward key concepts and methodologies from several years of international collaboration funded by the U.S. Embassy.

Keywords: Extended Reality, Virtualization, Heritage, Sustainability, Tourism

Acknowledgement: The paper is part of the activities of the project: „Strengthening digital sustainability communication in tourism and culture between US and Serbia“.



Enhancing Sustainability Communication Through the Beverage Lens

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Abstract: Enhancing digital sustainability communication in tourism and culture between the US and Serbia through a beverage lens offers a unique approach centered on five key areas: cultural heritage, sustainability, climate change, technology, and microbiomes. Traditional drinks can be digitally showcased to preserve and promote cultural heritage. Sustainable beverage production and consumption practices in tourism should be communicated online, highlighting eco-friendly initiatives. Climate change impacts on local drink ingredients and mitigation efforts need clear digital messaging. Leveraging technologies like Neuromarketing Analysis, Sustainable Development, Eye Tracking, AI leaning cutting edge methodologies, engaging in experimental methodologies, Virtual Tour, Engaging in Virtual sensory experiences for students, tourists and other stakeholders and DRONES can create immersive experiences of beverage production while reducing physical tourism impacts. Research on microbiomes in fermentation processes can inform sustainable practices and be shared digitally. Implementing cohesive digital strategies across these beverage-related areas can foster cross-cultural understanding, promote sustainable tourism, and strengthen US-Serbia relations. This requires collaboration between tourism boards, beverage producers, technology companies, and sustainability experts to develop engaging, informative digital content and platforms centered around local and traditional drinks.

Keywords: Digital Sustainability Communication, Cultural Heritage, Sustainable Tourism, Beverage Microbiomes

Acknowledgement: The paper is part of the activities of the project: „Strengthening digital sustainability communication in tourism and culture between US and Serbia“.



Addressing Artificial Intelligence Bias in Accessible Smart Tourism for Sustainable Development

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Abstract: This paper delves into the pervasive issue of algorithmic bias within Artificial Intelligence (AI) applications, particularly as it pertains to the dynamic field of accessible smart tourism. With the tourism industry increasingly incorporating AI technologies into its operations, there has been a notable enhancement in efficiency and effectiveness. However, this surge in AI adoption has also brought to the forefront the challenge of bias, which poses significant hurdles for both tourists and tourism providers.

To dissect this complex problem, the presentation utilizes illustrative scenarios to shed light on various instances of AI bias within the tourism and hospitality sector. Additionally, it introduces a framework designed to assess the global implications of bias within the realms of smart tourism for sustainable development.

The presentation underscores the potential ramifications of bias on tourist experiences across different phases: pre-travel, during travel/on-site, and post-travel, while considering viewpoints from both tourists and providers. It emphasizes that many biases originate from the utilization of AI within online platforms, thereby impacting tourists' information retrieval, decision-making processes, and the marketing strategies employed by tourism providers. Furthermore, it delves into the broader effects of AI on tourist experiences, outlining the social implications, managerial considerations, and technological implications.

This presentation represents a pioneering effort in addressing the issue of AI bias within the context of smart tourism. Moreover, it lays out pathways for future research, spanning topics such as technology adoption and consumer behavior, the economic repercussions for tourism providers, sustainable development and the regulatory landscape.

Keywords: Artificial Intelligence, Bias, Machine Learning, Smart Tourism, Accessibility, Sustainable Development.

Acknowledgement: This paper is based upon work from COST Action CA19142—Leading Platform for European Citizens, Industries, Academia and Policymakers in Media Accessibility (LEAD-ME) supported by COST (European Cooperation in Science and Technology); HORIZON TMA MSCA Staff Exchanges: ClearClimate (grant agreement No 101131220); and H2020-LC-GD-2020-3 GreenScent—Smart Citizen Education for a Green Future (grant agreement No

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The Impact of Film as a Segment of Creative and Cultural Industries on Intangible Heritage and Tourism

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Abstract: This study examines the role of the film industry within the Creative and Cultural Industries (CCIs) in promoting and preserving intangible cultural heritage, focusing on the Serbian tradition of Krsna Slava. UNESCO defined CCIs as activities related to the production, promotion, distribution, or commercialization of cultural goods and services. The film "Ivkova Slava" serves as a case study, and highlights the film industry's potential to generate film-induced tourism, a phenomenon where tourists visit locations featured in movies. This connection between film and tourism can impact the economy and cultural exchange. Through a comparative method, the study analyzes the film "Ivkova Slava", demonstrating its alignment with traditional aspects of Krsna Slava and its role in depicting Serbian customs and rituals. It emphasizes the film's dual role and contribution to preserving Serbian cultural heritage and promoting tourism. Visual representations of customs and traditional crafts in the film can attract tourists while fostering a sense of pride among Serbs.

Keywords: Creative and Cultural Industries (CCIs); Film Industry; Intangible Cultural Heritage Krsna Slava Film-induced Tourism



Strengthening Digital Sustainability Communication in Tourism and Culture Between US and Serbia Through International Cooperation

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Abstract: There are significant differences in the perceptions of sustainability and its importance in tourism and culture between the U.S. and Serbia. This paper examines the digital sustainability communication of U.S. entities in tourism and culture through the lens of international cooperation with Serbia. Specifically, using a mixed methodology, it assesses the effectiveness of various activities, including a preparatory online workshop on digital communication for sustainable tourism, field research on three exemplary case studies of sustainable practices in Florida, and three inclusive workshops held in Serbia. The findings indicate that these initiatives positively impact the effectiveness of sustainability communication among tourism stakeholders in both countries, fostering stronger cross-cultural connections and mutual understanding. Implications for further research are outlined.

Keywords: Sustainability Communication; International Cooperation; Tourism Marketing; USA; Serbia

Acknowledgement: This paper is based upon work from COST Action CA19142—Leading Platform for European Citizens, Industries, Academia and Policymakers in Media Accessibility (LEAD-ME) supported by COST (European Cooperation in Science and Technology); HORIZON TMA MSCA Staff Exchanges: ClearClimate (grant agreement No 101131220); and H2020-LC-GD-2020-3 GreenScent—Smart Citizen Education for a Green Future (grant agreement No 101036480) that have received funding from the European Union’s Horizon 2020 research and innovation programme. This chapter was also supported by the U.S. Embassy in Belgrade (grant number SRB10023GR0052).



The Digital Carbon Footprint of the Tourism, Hospitality, and Events Industries

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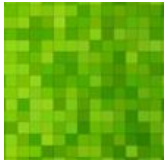
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Abstract: The digital carbon footprint refers to the greenhouse gas emissions resulting from the use of digital technologies, such as electronic devices, web servers and data centers, and treatment of electronic waste. The digital carbon footprint of the tourism, hospitality, and events industries (THE) is increasingly significant due to the proliferation of technology-driven tourism services and evolving consumption trends. Despite the necessity to understand the implications of this for green transitions and the industries themselves, scholarly investigations into THE's digital carbon footprint are limited. This paper outlines a provisional research agenda for analyzing THE's digital carbon footprint. To support its arguments, this paper draws on academic and grey literature on the emerging topic of the digital carbon footprint. The proposed research agenda considers four perspectives representing different actors in THE's value chain: suppliers, industry professionals, consumers, and policymakers. Additionally, it explores the broader societal spillover effects of THE's digital carbon footprint. This paper delineates research directions aimed at assisting various actors within THE's value chain and academics in comprehending the phenomenon of the digital carbon footprint.

Keywords: Digital Footprint; Carbon Dioxide Emissions; The Industries; Green Transition.

Acknowledgement: This paper is based upon work from COST Action CA19142—Leading Platform for European Citizens, Industries, Academia and Policymakers in Media Accessibility (LEAD-ME) supported by COST (European Cooperation in Science and Technology); HORIZON TMA MSCA Staff Exchanges: ClearClimate (grant agreement No 101131220); and H2020-LC-GD-2020-3 GreenScenT—Smart Citizen Education for a Green Future (grant agreement No 101036480) that have received funding from the European Union's Horizon 2020 research and innovation programme. This paper was also supported by the U.S. Embassy in Belgrade (grant number SRB10023GR0052).



Immersive Technologies for Sustainable Development: Case Studies of Lake Tourism in Palić and Ohrid

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This paper explores the application of immersive technologies in promoting sustainable development and enhancing rural tourism, with a specific focus on lake tourism in Ohrid and Palić. Immersive technologies, including virtual reality (VR), augmented reality (AR), and mixed reality (MR), offer innovative solutions for creating engaging and interactive tourist experiences while minimizing environmental impacts. By integrating these technologies, rural lake destinations can attract a broader audience, extend tourist seasons, and provide educational content that fosters environmental awareness and conservation efforts. Through a comparative analysis of Ohrid and Palić, this study examines how immersive technologies can be implemented to address the unique challenges and opportunities of each location. Ohrid, a UNESCO World Heritage site, faces the challenge of balancing tourism growth with the preservation of its natural and cultural heritage. Palić, with its rich history and natural beauty, aims to revitalize its tourism sector while promoting sustainability. By leveraging VR, AR, and MR, these destinations can offer virtual tours, interactive guides, and immersive educational programs that highlight their natural and cultural assets without compromising their integrity. The findings suggest that immersive technologies can significantly contribute to sustainable rural tourism by enhancing visitor experiences, reducing physical impacts on sensitive environments, and providing tools for effective destination management. Moreover, these technologies can support local communities by creating new job opportunities in digital content creation and technology maintenance. In conclusion, the integration of immersive technologies in lake tourism at Ohrid and Palić presents a promising approach to achieving sustainable development goals. By embracing these innovations, rural destinations can enhance their attractiveness, promote environmental stewardship, and ensure long-term economic benefits. Future research should focus on developing best practices for the implementation of immersive technologies in various tourism contexts and assessing their long-term impacts on sustainability.

Keywords: Immersive Technologies, Sustainable Development, Rural Tourism, Lake Tourism, Palić, Ohrid



Micro-Green Framework: Conceptualizing Green Skills Development Through Microlearning in the Workplace

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Abstract: Green skills are increasingly shaping the modern workplace, impacting everything from innovation and efficiency to regulatory compliance and corporate reputation. Equipping employees with skills related to environmental sustainability enables businesses to align operations with societal and environmental values. Despite considerable efforts, the widespread adoption of green skills faces limitations. One key challenge lies in the availability of comprehensive training programs and educational initiatives tailored to the needs of various industries and sectors. There may also be resistance to change and a lack of awareness among employers and employees regarding the importance and potential benefits of integrating green practices into their work. As seen from the GreenComp framework, green skills encompass more than just technical know-how; they involve adopting a greener lifestyle that influences companies. Therefore, to effectively drive change toward a green transition, this paper conceptualizes the development of green skills in the workplace by embracing GreenComp through microlearning experiences across different economic sectors. The framework envisions a unique adaptation of the EU GreenComp framework for four distinct industry sectors (from primary to tertiary). It suggests tailoring content and learning objectives to specific industries, ensuring relevance and applicability, and maximizing impact on the workforce. The inclusion of four different sectors broadens the framework's reach and addresses the diverse needs of various industries. Additionally, by delivering content in bite-sized modules through a microlearning approach, the framework envisions engaging workers in learning activities without significantly disrupting their workflow. This approach acknowledges the time constraints of modern workplaces while still fostering continuous skill development. The paper concludes with recommendations for further practical and theoretical research.

Keywords: Green Skills; Microlearning; Workforce; Green Transition.

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Use of ICT in Museum Interpretation - Lessons from Serbia

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Abstract: The incorporation of Information and Communication Technologies (ICT) in museum interpretation has greatly altered the way cultural material is showcased and encountered in recent times. This talk examines the utilisation of Information and Communication Technology (ICT) in Serbian museums, emphasising novel methodologies and their influence on visitor involvement and educational outcomes. This research examines case studies from famous Serbian museums to identify the essential methods and technologies used, such as augmented reality (AR), virtual reality (VR), interactive exhibits, and digital storytelling. The talk also explores the difficulties encountered in integrating these technologies, including financial limitations, technical proficiency, and visitor availability. This study offers useful insights for museum workers and cultural institutions by assessing the efficacy of ICT in enriching the interpretive experience. The results indicate that Information and Communication Technology (ICT) presents significant possibilities for enhancing museum experiences. However, effectively incorporating ICT necessitates a careful strategy that takes into account both technological and human elements. This presentation provides recommendations for optimal strategies and future advancements in utilising ICT for museum interpretation, based on insights from the Serbian context that can be universally implemented.

Keywords: ICT, Heritage, Interpretation, Museums.

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