

EDITORIAL OPEN ACCESS

Technology-Enabled Competitiveness and Experiences in Tourism: A Transformative Era

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In the digital age, tourism is undergoing a profound transformation driven by technological advancements (Pappas et al. 2021). From virtual reality experiences to AI-powered recommendations, the integration of innovative tools is redefining competitiveness and enhancing user experiences (Hoyer et al. 2020). The tourism industry is no longer confined to physical travel alone; instead, it extends into virtual, digital, and personalized realms that cater to diverse consumer needs and preferences. The rise of artificial intelligence, big data analytics, and immersive experiences has enabled businesses to offer hyper-personalized services while allowing consumers to engage with destinations in new and exciting ways (Ma et al. 2024; Zhang 2025). Additionally, the growing reliance on mobile applications, digital payments, and algorithmic pricing further exemplifies the shift towards a technology-driven ecosystem (Parapanos and Michopoulou 2023). A special issue dedicated to this theme, comprising 13 research articles, sheds light on emerging trends, challenges, and opportunities in tourism-oriented technology.

1 | Technology-Enabled Experiences (Demand Side)

One of the critical aspects explored is Virtual Tourism Experiences (VTEs). Baruah and Chatterjee (2025) delve into consumer behavior in online reviews, offering valuable insights into the design, delivery, and marketing of VTEs. As technology continues to evolve, virtual experiences are expected to play a pivotal role in bridging gaps between travelers and destinations, making tourism more inclusive and accessible.

Similarly, Zhang and Wang (2025) focus on the role of tourism short videos in stimulating consumer psychological and

behavioral engagement. Their study emphasizes that factors such as information quality, perceived similarity, decision support tools, recommendation signals, and community atmosphere contribute to a deeper cognitive and emotional connection with destinations. The proliferation of social media and video content platforms has made storytelling an essential tool for destination marketing.

Gaming has also emerged as a significant contributor to tourism experiences. Ting et al. (2025) examine how tourism-related mobile games generate visit intention, with ease of play and motivation significantly shaping traveler attitudes. Uzunogullari et al. (2025) take this a step further by exploring the sense of place developed within video game environments, suggesting that interactive experiences enhance the realism and appeal of virtual tourism settings. These findings have profound implications for gamified tourism marketing strategies.

In the realm of heritage tourism, technology is playing a dual role of preservation and engagement. Ma et al. (2025) synthesize existing knowledge on technology integration in heritage tourism, identifying both its potential benefits and inherent risks. Meanwhile, Li et al. (2025) employ GPS data analysis to investigate hiking-based linear heritage, demonstrating how location-based insights can optimize visitor experiences.

Artificial intelligence is also revolutionizing tourism demand prediction and decision-making. Nguyen et al. (2025) propose a deep learning methodology combining Convolutional Neural Networks (CNN) and Gated Recurrent Units (GRU) to efficiently predict Vietnam's tourism demand. Additionally, Stergiou and Nella explore the role of AI-driven assistants such as ChatGPT in influencing tourist decision-making. Their

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findings suggest that AI can provide accessible and diagnostic recommendations, yet its effectiveness varies across different destination contexts.

Algorithmic pricing is another area of concern in the digital tourism landscape. Wang et al. (2025) investigate how the over-reliance of Online Travel Agencies (OTAs) on pricing algorithms affects trust and loyalty. Their research suggests that, particularly during peak seasons, regular customers without premium memberships often pay higher room rates than new customers, raising ethical questions about fairness and transparency in pricing strategies.

Lastly, inclusivity remains a key consideration in technology-enabled tourism. Lukoseviciute and Nelson (2025) advocate for accessible trail tourism by introducing a novel approach to trail accessibility and difficulty rating. Their model considers individuals with mobility impairments, ensuring that the benefits of tourism extend to a wider audience.

2 | Technology-Enabled Competitiveness (Supply Side)

Beyond consumer engagement, digital tools also enhance business success in tourism. Lopes et al. (2025) highlight that Portuguese SMEs find digital marketing, updated websites, social networks, and online reservation systems essential for sustaining competitiveness. In a parallel vein, Moisa et al. (2025) emphasize the potential of leveraging digital footprints for dynamic segmentation, ensuring that businesses can tailor offerings based on individual preferences and personality traits.

The financial aspect of tourism is also witnessing a transformation with mobile payment systems (MPSs). Hameed et al. (2025) analyze the factors influencing the adoption of MPSs in travel and tourism, identifying risk, tradition, and usage barriers as critical determinants of user acceptance. Given the rise of digital wallets and contactless payments, businesses must address these concerns to encourage widespread adoption.

Artificial intelligence is also impacting tourism supply-side dynamics, particularly in demand forecasting. Nguyen et al.'s (2025) deep learning model combining CNN and GRU offers businesses a robust methodology for predicting tourism trends, allowing for better resource allocation and planning.

Moreover, Stergiou and Nella's (2025) study on AI-driven recommendations highlights how AI tools can enhance destination marketing and tourism service efficiency. Businesses leveraging AI for customer engagement can gain a competitive edge by offering more tailored and accessible experiences.

Lastly, Wang et al.'s (2025) findings on algorithmic pricing present a significant challenge for businesses relying on OTAs. While algorithmic pricing can optimize revenue, transparency concerns may erode consumer trust and loyalty. Businesses must strike a balance between profitability and fairness to sustain long-term competitiveness.

3 | Conclusion

The insights presented in this special issue underscore the transformative role of technology in tourism. On the demand side, digital tools enhance traveler experiences, engagement, and accessibility, while on the supply side, technology fosters business competitiveness through improved marketing, segmentation, and AI-driven forecasting. The rapid evolution of technology continues to challenge traditional tourism models, requiring businesses and policymakers to remain adaptable and forward-thinking.

However, while technology offers significant advantages, it also brings ethical considerations that cannot be ignored. Issues surrounding data privacy, algorithmic fairness, and digital inclusivity must be addressed to ensure that the benefits of technological advancements are equitably distributed. Additionally, while AI-driven recommendations and automated pricing systems optimize efficiency, they must not compromise consumer trust and long-term industry stability.

As digital innovations continue to reshape the industry, it is crucial to strike a balance between technological efficiency and human-centric experiences. The integration of smart solutions should aim to enhance—not replace—the emotional and cultural richness of travel. Policymakers, businesses, and consumers must work together to create a tourism ecosystem that is innovative, ethical, and sustainable. The future of tourism lies in its ability to embrace cutting-edge technologies while preserving the authenticity and accessibility that make travel truly transformative.

References

- Baruah, A., and D. Chatterjee. 2025. "Cognitive-Affective-Behavioral Themes in Post-Purchase Attitudes Toward Virtual Tourism Experiences: A Mixed-Method Approach." *International Journal of Tourism Research* 26, no. 6: e2811.
- Hameed, I., B. Zainab, and K. Khan. 2025. "Consumer Adoption of Mobile Payment Systems: A Lens Into Smartphone-Enabled Tourism." *International Journal of Tourism Research* 26, no. 5: e2786.
- Hoyer, W. D., M. Kroschke, B. Schmitt, K. Kraume, and V. Shankar. 2020. "Transforming the Customer Experience Through New Technologies." *Journal of Interactive Marketing* 51, no. 1: 57–71. <https://doi.org/10.1016/j.intmar.2020.04.001>.
- Li, Z., T. Wang, and M. Zhang. 2025. "Spatial-Temporal Distribution Characteristics of Linear Heritage Hiking Tourism Based on GPS Data Analysis: A Case Study of the Great Wall in Beijing, China." *International Journal of Tourism Research* 26, no. 5: e2784.
- Lopes, J. M., S. Gomes, J. J. Ferreira, and L. Ferreira. 2025. "What Is the Impact of Digital Tools on Hospitality Business Performance? The Case of SME Accommodation Sector in Portugal." *International Journal of Tourism Research* 27, no. 1: e70004.
- Lukoseviciute, G., and M. A. Nelson. 2025. "Accessible Trail Tourism: Trail Accessibility and Difficulty Rating Approach Designed for Individuals, Including With Mobility Impairments." *International Journal of Tourism Research* 26, no. 6: e2787.
- Ma, C., A. Fan, and A. S. Mattila. 2024. "Decoding the Shared Pathways of Consumer Technology Experience in Hospitality and Tourism: A Meta-Analysis." *International Journal of Hospitality Management* 118: 103685. <https://doi.org/10.1016/j.ijhm.2023.103685>.

- Ma, C., T. Somrak, S. Manajit, and C. Gao. 2025. "Exploring the Potential Synergy Between Disruptive Technology and Historical/Cultural Heritage in Thailand's Tourism Industry for Achieving Sustainable Development in the Future." *International Journal of Tourism Research*.
- Moisa, D. G., D. Parapanos, and T. Heap. 2025. "The Role of Digital Footprints for Destination Competitiveness and Engagement: Utilizing Mobile Technology for Tourist Segmentation Integrating Personality Traits." *International Journal of Tourism Research* 27, no. 1: e70006.
- Nguyen, D. T., Y. Li, C. L. Peng, M. Y. Cho, and T. P. Nguyen. 2025. "Monthly Tourism Demand Forecasting With COVID-19 Impact-Based Hybrid Convolution Neural Network and Gate Recurrent Unit." *International Journal of Tourism Research* 26, no. 6: e3812.
- Pappas, N., A. Caputo, M. Pellegrini, G. Marzi, and E. Michopoulou. 2021. "The Complexity of Decision-Making Processes and IoT Adoption in Accommodation SMEs." *Journal of Business Research* 131: 573–583. <https://doi.org/10.1016/j.jbusres.2021.01.010>.
- Parapanos, D., and E. Michopoulou. 2023. "Innovative Mobile Technology in Hotels and the Use of Gamification." *Tourism Planning & Development* 20, no. 2: 162–187. <https://doi.org/10.1080/21568316.2022.2107563>.
- Stergiou, D. P., and A. Nella. 2025. "ChatGPT and Tourist Decision-Making: An Accessibility–Diagnosticity Theory Perspective." *International Journal of Tourism Research* 26, no. 5: e2757.
- Ting, H., J. H. Cheah, K. Tan, A. Tham, and Q. L. Leong. 2025. "Mobile Gamification's Impact on Tourism Visit Intention." *International Journal of Tourism Research* 27, no. 1: e70002.
- Uzunogullari, S., J. Johnson, and N. Pappas. 2025. "From Controllers to Immersion: Exploring the Sense of Place in Video Games." *International Journal of Tourism Research*.
- Wang, K. Y., J. Yu, W. Chen, and J. Chen. 2025. "Beyond Convenience: Exploring the Hidden Impact of Algorithmic Pricing on Consumer Trust and Loyalty in Chinese Online Travel Agencies." *International Journal of Tourism Research* 26, no. 5: e2785.
- Zhang, J. 2025. "Patterns of Innovation-Driven Tourism Competitiveness: Insights From 270 Chinese Cities." *Tourism Management* 107: 105063. <https://doi.org/10.1016/j.tourman.2024.105063>.
- Zhang, Y., and X. Wang. 2025. "Why Engagement? The Role of Tourism Short Video in Driving Customer Engagement." *International Journal of Tourism Research* 27, no. 1: e70001.