Journal of Digital Marketing and Communication

Research Article
Volume 5(2), 2025, 170−183
https://doi.org/10.53623/jdmc.v5i2.905

Towards a Phygital Experience: Analyzing the Role of Virtual Tourism in the Attractiveness of Island Territories

Amal Makni Turki

Doctor of Marketing, IHEC Carthage – University of Carthage, Carthage, Tunisia

Correspondence: amalmakni2106@gmail.com

SUBMITTED: 19 November 2025; REVISED: 12 December 2025; ACCEPTED: 15 December 2025

ABSTRACT: Islands faced challenges related to tourism dependence and the fragility of their ecosystems. Virtual tourism (VT) emerged as an innovative solution, extending and enriching the tourist experience while reducing pressure on physical sites. This research examined the role of VT as a lever for phygital marketing, aiming to increase the attractiveness of island destinations while supporting their sustainability. It adopted a multi-stakeholder qualitative approach, combining semi-structured interviews with tourists and managers to capture perceptions, practices, and interactions related to VT. The results showed that VT enriched the tourist experience, fostered emotional and cognitive engagement, facilitated interactions with local stakeholders and other visitors, and contributed to more sustainable and responsible tourism. This study highlighted concrete recommendations allowing tourism professionals to integrate VT into the enhancement of island destinations by supporting the development of an innovative, responsible, and sustainable phygital experience.

KEYWORDS: Virtual reality; insularity; virtual experience; multi-stakeholder approach; immersive experience

1. Introduction

Islands were often perceived as havens of peace, attracting visitors with their natural beauty and cultural richness. However, this attractiveness was accompanied by significant challenges related to a high dependence on tourism and an increased vulnerability of ecosystems, exacerbated by mass tourism [1, 2]. Indeed, overtourism led to the overcrowding of sites, pressure on local infrastructure, and the degradation of fragile environments [3, 4], and the geographical isolation of the islands only accentuated these dynamics [5, 6]. Faced with these challenges, the need to rethink forms of tourism became increasingly pressing, particularly in response to contemporary ecological, health, and geopolitical crises [7].

In this context, virtual tourism (VT) emerged as an innovative solution to reduce tourist pressure while offering an immersive and sustainable experience. VT was mainly based on immersive technologies such as virtual reality (VR) and augmented reality (AR), which allowed visitors to experience remote tourist activities or to enrich their physical experience on site [8, 9]. VR, in particular, provided complete immersion in simulated environments, while

AR superimposed digital information onto the real world to enhance the perception of the territory [10, 11]. Together, these technologies made it possible to create a phygital experience, combining the virtual and the real, and thus offering experiential continuity before, during, and after the visit [12−14].

Island destinations, due to their geographical isolation and ecological fragility, benefited particularly from VT. Research showed that VT could support the resilience of these territories by diversifying access to tourist experiences while limiting the ecological impact of mass tourism [15, 16]. By allowing prolonged interaction with the territory without altering its integrity, VT offered opportunities to promote more responsible, accessible, and inclusive tourism practices, while reducing visitation to sensitive sites [1, 17, 18].

However, despite its potential, the role of VT in the context of islands remained largely under-explored, particularly regarding its implications for sustainability, destination attractiveness, and local participation [19, 20]. Very few studies systematically examined the integration of these technologies into territorial marketing strategies and their impact on interactions between local actors and visitors [21, 22]. Moreover, the existing literature highlighted a lack of focus on the sociocultural and environmental dimensions of VT, particularly in the island context [23−26]. It was this gap that the present study intended to fill by analyzing how virtual tourism could enrich the tourist experience, promote ethical and sustainable interactions, and support the governance of island territories.

This research had a twofold interest. From a theoretical perspective, it helped fill a gap in the literature on virtual tourism and island sustainability by integrating social, cultural, and environmental dimensions. From a managerial perspective, it provided destination managers and tourism marketing professionals with guidance for designing and implementing phygital experiences that enhanced the value of the territory while respecting local communities and the environment. It also paved the way for the thoughtful use of virtual tourism as a tool for sustainable governance and territorial resilience.

2. Materials and Methods

2.1. Methodological approach.

This study adopted an exploratory qualitative approach, motivated by the need to analyze in depth the perceptions, uses, and experiences associated with virtual tourism, a field that remained relatively under-theorized and characterized by the rapid evolution of practices and technologies. This approach allowed us to capture the complexity of social representations, behaviors, and interactions generated by the use of immersive solutions [27].

2.2. Data collection method.

Data collection relied on semi-structured individual interviews, a method recognized for eliciting rich, contextualized, and nuanced discourse [28, 29]. The interview guide was developed based on the literature review and research objectives. Three interviews were pre-tested with two tourists and a manager to verify the clarity, relevance, and logical progression of the questions. Adjustments primarily involved reformulating technical questions related to virtual devices. The final guide was structured around five thematic axes focusing on understanding virtual tourism, the associated uses before, during, and after the visit, the

motivations and expectations related to the phygital experience, the obstacles and barriers to the adoption or implementation of such technologies, and the perceptions related to sustainability and cultural and environmental enhancement

2.3. Sampling strategy.

The study employed purposive sampling [30], targeting actors most likely to provide relevant information on the phenomenon under study. Two main categories were selected: tourism managers and tourists who had experienced virtual tourism.

2.3.1. Recruitment of tourism managers.

Thirty-one managers were selected according to three criteria: direct involvement in the management or implementation of immersive digital devices, knowledge of the territory and participation in digital projects such as virtual tours or immersive applications, and commitment to innovative approaches oriented towards sustainable tourism (Supplementary Material A). The recruitment process occurred in two stages. The first phase involved direct contact with identified organizations (hotels, museums, travel agencies, associations) from a list provided by the tourist offices. The second phase relied on a snowball effect, gradually contacting managers involved in local digital projects. Particular attention was paid to profile diversity in terms of age, gender, and professional experience to ensure a plurality of perspectives

2.3.2. Tourist recruitment.

Thirty-two national and international tourists were recruited based on the following criteria: having used a virtual tourism device in the last six months, having visited or stayed on one of the islands studied to ensure an effective link between virtual and physical experiences, and representing socio-demographic diversity (Supplementary Material B). The recruitment process relied on two complementary channels. Firstly, invitations to participate were distributed via immersive digital platforms such as Discover Tunisia, 360Cities, and DCX Studio, which agreed to display a link to a participation form for users who had recently viewed a virtual tour. Secondly, face-to-face recruitment was conducted with tourists present at heritage sites, museums, and hotels, after verifying their prior use of a virtual experience.

2.4. Sample size and saturation procedure.

The final sample consisted of 63 participants. Theoretical saturation, according to [31], was assessed using a thematic redundancy approach. Systematic follow-up was conducted after each series of five interviews to examine the emergence of new themes, sub-themes, or dimensions of analysis. Saturation was considered reached when subsequent interviews no longer yielded new or distinctive elements. Saturation was observed around the thirtieth interview with tourists and the twenty-ninth with managers, leading to the cessation of data collection. This procedure aligns with the recommendations established by [32], emphasizing the importance of dynamic and iterative monitoring of thematic emergence in qualitative studies.

2.5. Conducting the interviews.

The interviews were conducted in person or via videoconference, depending on participant availability, and lasted between forty-five and sixty minutes. This duration aligned with the recommendations of [33, 34], allowing for a deeper exploration of the experiences recounted while minimizing the risk of cognitive fatigue. Reflective journaling accompanied each interview to identify potential biases, nonverbal reactions, and interviewing conditions. Videoconference interviews were systematically conducted with cameras activated to preserve the interactional quality and the non-verbal dimension of the exchanges.

2.6. Ethical considerations and data quality.

In accordance with the ethical principles of qualitative research [35], all interviews were recorded with the informed consent of the participants, who were informed of the research purpose, the confidential nature of data processing, and their right to withdraw. The recordings were fully transcribed. When interviews were conducted in Arabic dialect, a back-translation procedure [36] was implemented. A first translation into French was carried out by a specialized translator, followed by a reverse translation (French into Arabic) performed by a second independent translator. Comparing the two versions allowed verification of content accuracy and minimized interpretation biases.

2.7. Data analysis and reliability.

Data analysis was conducted using an inductive thematic approach inspired by Grounded Theory [31]. This approach allowed systematic identification of emerging themes, recurring motifs, and conceptual relationships present in participants' discourse, while remaining open to new dimensions not anticipated in the existing literature [34]. The analytical framework was developed iteratively: initial codes were defined based on a thorough reading of the transcripts and a literature review, and then adjusted to include emerging codes reflecting the diversity of participants' experiences and perceptions. The reliability of the analysis was assessed using systematic double coding, in accordance with the recommendations of [37]. Five interviews, representative of the total corpus, were coded independently by the author and a research assistant to verify interpretation consistency. These interviews covered both participant categories (managers and tourists) and the diversity of discussed topics. Inter-coder reliability was assessed using QDA Miner software. Calculated indicators included Scott's Pi (>0.70), Krippendorff's alpha (=0.88), and an overall agreement rate of 87%, well above the recommended threshold of 80% [29, 38, 39], confirming excellent coding consistency. Identified discrepancies were resolved through discussion and consensus, resulting in a final consolidated coding grid.

3. Results and Discussion

This research was conducted within the framework of sustainable experiential marketing and mobilized the concept of phygital marketing, which combines physical and virtual experiences to enrich the tourist experience while supporting sustainability.

3.1. Qualitative analysis results.

The qualitative analysis identified three main themes: (1) experience, (2 interaction and (3) sustainability. These dimensions have guided the collection and interpretation of data in order to identify the perceptions, practices, and meanings associated with sustainable phygital tourism (Table 1).

Table 1. Main themes and sub-themes identified in the qualitative analysis.

Main Theme	Sub-Themes
Experience immersive and enriched visit	Pre-visit and trip preparation In-situ experience enhancement Post-visit and experience prolongation
Interaction and connection with the destination	Interaction with local actors Interaction among tourists Phygital continuity
Ethics, sustainability, and environmental awareness	Tourist flow regulation Conservation awareness Impact on tourist behavior

3.1.1. Immersive experience and enrichment of the visit.

Virtual tourism is seen as a complement to physical visits, offering immersive experiences accessible from a distance. Participants use virtual tourism to explore places before travel, plan their itineraries and anticipate experiences. As expressed by one participant: "*Thanks to the virtual visit, I was able to choose the sites that I really wanted to see and prepare my day more efficiently*" (T1, Man, 25 years old). On site, the immersive devices enrich the visit by providing interactive information, historical anecdotes or 3D visualizations. A manager points out: "*VR applications make it possible to show scenes invisible to the naked eye, which further captivates visitors*" (G2, Woman, 35 years old). After the visit, virtual tourism extends the visitor's engagement through interactive content and digital souvenirs, promoting memorization and sharing experiences. A participant explains: "*Even after the stay, I continued to explore the sites virtually and share my impressions with my friends*" (T5, Man, 35 years old).

3.1.2. Interaction and connection with the destination.

Virtual tourism promotes a continuous phygital experience, creating interactions before, during and after the physical visit. It allows for dialogue with local actors, as noted by one participant: "*We can ask questions to the artisans via the application before coming on site, this makes the meeting richer and more prepared*" (T7, Man, 27 years old). Immersive platforms also facilitate exchanges between tourists, strengthening the feeling of community and attachment to the destination. A participant testifies: "*I commented on the virtual visit and exchanged with other tourists about their impressions, which enriched my experience*" (T12, Woman, 36 years old). Finally, the smooth transition between virtual and physical experience keeps visitors interested and curious: "*Even before traveling, I could virtually explore places and feel already connected to the destination*" (T3, Man, 22 years old).

3.1.3. Ethics, sustainability and environmental awareness.

Virtual tourism supports sustainability and promotes visitor awareness. It allows to regulate tourist flows, limiting the frequentation of fragile sites to reduce ecological pressure. A

manager explains: "*We can direct some visitors to the virtual tour to preserve sensitive areas*" (G5, Man, 50 years). The virtual content also incorporates educational messages on ecosystem protection and the enhancement of natural and cultural heritage. As indicated by a participant: "*Seeing virtually the state of corals or historical sites raises awareness about the need to preserve these places*" (T9, Man, 45 years). Finally, virtual experiences influence future practices, encouraging more respectful tourism: "*After this virtual experience, I pay more attention to respecting the environment and supporting local initiatives*" (T14, Woman, 26 years old). The analysis via QDA Miner confirms that virtual tourism is not limited to a technical or recreational tool: it enriches the physical visit, strengthens social interactions and supports more responsible tourist behavior. These results highlight the strategic potential of virtual tourism for a phygital marketing of the Tunisian islands, reconciling attractiveness, visitor engagement and sustainability.

3.2. Qualitative results discussion.

The results of this study confirm and enrich existing work on immersive technologies, while highlighting specificities related to the island and cultural context.

3.2.1. Convergences and divergences with the existing literature.

This research is distinguished by the articulation of the logics of phygital experience and sustainability in an emerging territory, illustrating how virtual tourism can be strategically integrated into the tourist marketing of the islands.

3.2.1.1. Complementarity of virtual tourism with physical experience.

The data shows that virtual tourism acts as a real complement to physical visit, facilitating the preparation, enrichment and extension of the tourist experience. Participants use virtual devices to anticipate the visit, select the sites to discover and familiarize themselves with cultural content. These results confirm the work of [40, 8] which demonstrate that VR boosts visitor expectations and confidence before the actual visit. Contrary to the conclusions of [41] according to which the virtual could reduce the desire for physical movement, our study shows a clear complementarity, where the virtual experience enriches the real experience rather than substituting it, thus extending the understanding of interactions between virtual and physical experience in an island context.

3.2.1.2. Cognitive, sensory and emotional enrichment of the tourist experience.

Virtual tourism contributes to an enriching cognitive and sensory experience, going beyond the simple logistical dimension. Visitors emphasize learning, stimulating curiosity and the pleasure of discovering heritage details sometimes inaccessible on site. These observations support the educational and immersive potential identified in the research of [10] and extend the conclusions of [42, 43] on the impact of digital experiences on memory and word of mouth. An original aspect of this study concerns the identity and memorial valorization of digital memories, reinforcing the theoretical contribution on the emotional and heritage dimension of virtual tourism.

3.2.1.3. Strengthening the relational dimension and co-creation of experience.

Virtual tourism facilitates interactions between tourists and with local actors, preparing and enriching the physical meeting. These results are consistent with the works of [44−46], which highlight the role of virtual in co-creating experiences and fostering emotional connectivity. However, they partially contrast with [47], which suggest a risk of disembodiment of human interactions. In the studied island context, virtual tourism acts rather as a cultural and relational mediator, bringing a new theoretical contribution on the interface between digital mediation and interpersonal relationships.

3.2.1.4. Continuous phygitalisation and territorial connectivity.

The continuous phygital experience creates an emotional and experiential continuum, confirming the observations of [48]. In an emerging island context, virtual tourism strengthens territorial and identity connectivity, increasing attractiveness to a young and connected audience. It also helps to broaden access to culture and reduce tourism seasonality. These results complement the existing literature by showing how phygitalization can be a strategic lever for the valorization of island territories.

3.2.1.5. Ethical and sustainable aspects of virtual tourism.

Participants perceive virtual tourism as a tool for ecological regulation and conservation awareness, in agreement with [10, 49, 50]. In this island context, the emphasis is placed on education and heritage enhancement, contrasting with some Western studies [51]. The integration of immersive devices promotes sustainable ecological awareness, confirming and extending the work of [52−54]. These results highlight the importance of considering virtual tourism not only as an experiential tool, but also as a vector of territorial sustainability and social responsibility.

3.2.2. Research contributions

This research made several major contributions to the field of sustainable island tourism, both theoretically, methodologically, and practically.

3.2.2.1. Theoretical contributions.

The study highlighted the unique nature of its island focus, exploring dynamics specific to emerging islands, where reconciling tourist appeal with the preservation of local resources remained a poorly documented strategic challenge. It enriched the literature on island tourism by introducing virtual tourism (VT) as a lever for phygital marketing, reconciling tourist appeal and sustainability [20, 23, 55]. The study demonstrated how VT fostered the creation of hybrid tourism experiences, combining virtual exploration with real-world interactions, and shed light on the role of experiential, interactional, and ethical dimensions in visitor behavior, an aspect that remained relatively unexplored in island contexts [12, 56−60]. Furthermore, it contributed to the framework of sustainable experiential marketing by clarifying how VT supported environmental awareness and cultural preservation, concretely influencing tourist behavior (such as limiting impacts on fragile sites and engaging local communities) [7, 61−64].

3.2.2.2. Methodological contribution.

This research was also distinguished by its multi-stakeholder qualitative approach, which remained rare in this field. By integrating the perspectives of tourists and professionals, it allowed a complementary articulation of perceptions, uses, and experiences related to virtual tourism. This triangulation of viewpoints offered a more nuanced, contextualized, and refined understanding of the phenomena studied, while simultaneously strengthening the robustness, credibility, and validity of the results obtained.

3.2.2.3. Managerial contributions and practical implications.

From a managerial perspective, this study provided island tourism managers with a phygital action framework aimed at enhancing destinations while reducing pressure on local resources. Several concrete implications could be drawn, translating insights from phygital tourism into operational actions that improved visitor experience, strengthened engagement, and promoted the sustainability of destinations. Table 2 summarizes these implications, specifying the relevant stakeholders and recommended practical actions.

Table 2. Practical actions for island tourism managers.

Managerial Implication	Target Stakeholders	Recommended Practical Actions
Enhancing the destination while reducing pressure on local resources	Island managers, tourism boards	- Develop virtual tours for sensitive sites to reduce physical visitation. - Prioritize physical access to less fragile areas. - Monitor visitor flows through digital platforms to adjust capacity.
Integration of interactive virtual tours before, during, and after the visit	Tourists, tourism boards, service providers	- Offer pre-visit virtual tours to help tourists plan their stay. - Install immersive devices (VR, AR, interactive kiosks) on-site to enrich the physical experience. - Maintain post-visit engagement with interactive content, digital souvenirs, and community exchanges.
Promoting interaction and connection with the destination	Tourists, local actors, cultural service providers	- Set up platforms allowing visitors to ask questions to artisans and local actors before the visit. - Encourage interactions among tourists through comments and exchanges on virtual platforms. - Create seamless phygital experiences linking virtual and physical components.
Environmental awareness and sustainable tourism	Tourists, tourism boards, environmental managers	- Integrate educational and informative messages on environmental protection and the valorization of natural and cultural heritage in virtual tours. - Use virtual tourism to regulate visitor flows and protect fragile sites. - Promote responsible post-visit behaviors (waste sorting, respecting sites, supporting local initiatives).
Participatory promotion of cultural and natural heritage	Tourists, local communities, cultural service providers	- Invite visitors to contribute digital content or testimonials. - Create interactive experiences showcasing local heritage. - Organize hybrid events (physical and virtual) involving the local community.

3.2.3. Limits and future directions of research.

While this study made significant contributions to understanding virtual tourism (VT) in island contexts, it had several limitations that open avenues for future research. First, its exploratory nature did not allow for empirical testing of the suggested relationships between the identified dimensions. Quantitative studies would therefore be necessary to validate these findings, using explanatory or confirmatory models capable of assessing the magnitude and robustness of these effects.

Furthermore, although the study adopted a multi-stakeholder qualitative approach, integrating the perspectives of tourists and managers, it relied exclusively on semi-structured interviews. This dependence on a single method limited the diversity of empirical data and prevented full triangulation. Future research could therefore incorporate other qualitative approaches, such as in situ observation of immersive experiences, focus groups, netnography, or the analysis of digital traces, to enrich understanding of actual practices and phygital interactions. Additionally, the results were based on a limited sample localized to certain Tunisian islands, which restricted the scope of generalization. Comparisons with other island territories, characterized by varying levels of tourism maturity, digitalization, or environmental challenges, would allow for examination of the analytical transferability of the findings.

Finally, the cross-sectional approach adopted did not permit understanding of the temporal evolution of VT usage and perceptions. Longitudinal research could provide insights into the stability of behaviors, the gradual learning of immersive devices, and the evolution of phygital engagement before, during, and after visits. Other future research avenues could explore the influence of technological familiarity on VT appropriation, investigate the phenomena of digital acceptability or saturation, and compare different phygital integration models according to destinations and their sustainability strategies.

4. Conclusion

The emergence of virtual tourism on islands has profoundly transformed the way visitors perceive and experience destinations. Beyond alleviating pressure on physical sites, it evokes emotions, stimulates curiosity, and fosters social interactions, thereby reinventing the “phygital” experience. Virtual tourism can generate sustainable engagement by combining pleasure, discovery, and awareness of the fragility of island ecosystems. As such, it constitutes a strategic tool for destination managers—both a channel for innovative marketing and a driver of shared responsibility between visitors and local actors. This approach opens the way for tourism practices in which technology, authenticity, and sustainability reinforce one another, providing a space for social and environmental experimentation and encouraging more responsible behaviors toward island territories.

Funding Statement

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Data Availability

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Acknowledgments

The author wishes to express deep gratitude to the tourism managers and tourists who generously agreed to participate in this study. Their contributions were decisive for the success of the research, and their engagement considerably enriched the results obtained. The author also sincerely thanks all those involved in the recruitment of participants, particularly the tourism offices, as well as establishments such as hotels, museums, and travel agencies, which facilitated access to diverse and relevant profiles. Their collaboration played a crucial role in ensuring the smooth execution of the recruitment process.

Author Contribution

The work was conducted by a single author, who was responsible for the entire research. All stages, from conceptualization to manuscript writing, were carried out independently.

Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.53623/jdmc.v5i2.905.

References

[1] Peeters, P.; Gössling, S.; Klijs, J.; Milano, C.; Novelli, M.; Dijkmans, C.; Eijgelaar, E.; Hartman, S.; Heslinga, J.; Isaac, R.; Mitas, O.; Moretti, S.; Nawijn, J.; Papp, B.; Postma, A. (2018). Research for TRAN Committee – Overtourism: impact and possible policy responses. European Parliament, Policy Department for Structural and Cohesion Policies, Brussels.

[2] Németh, K.; Zakharovskyi, V. (2025). From Tourism to Geotourism. Geodiversity of Samoa: An Untapped and Unique Geoheritage Hot Spot in the Southwestern Pacific; Springer Nature Switzerland: Cham, pp. 127–172.

[3] Milano, C.; Novelli, M.; Cheer, J. M. (2019). Overtourism and tourismphobia: A journey through four decades of tourism development, planning and local concerns. *Tourism Planning & Development*, *16*(4), 353–357. http://doi.org/10.1080/21568316.2019.1599604.

[4] Postma, A.; Koens, K.; Papp, B. (2020). Overtourism: Carrying capacity revisited. In *The overtourism debate: NIMBY, nuisance, commodification*; Emerald Publishing Limited: Bingley, UK, pp. 229–249.

[5] Xiang, Z.; Tussyadiah, I.; Buhalis, D. (2015). Smart destinations: Foundations, analytics, and applications. *Journal of Destination Marketing & Management*, *4*(3), 143–144. http://doi.org/10.1016/j.jdmm.2015.07.001.

[6] Buhalis, D. (2020). Technology in tourism–from information communication technologies to eTourism and smart tourism towards ambient intelligence tourism: a perspective article. *Tourism Review*, *75*(1), 267–272. http://doi.org/10.1108/TR-12-2019-0397.

[7] Gössling, S.; Higham, J. (2021). The low-carbon imperative: Destination management under urgent climate change. *Journal of Travel Research*, *60*(6), 1167–1179. http://doi.org/10.1177/0047287520933679.

[8] Yung, R.; Khoo Lattimore, C. (2019). New realities: A systematic literature review on virtual reality and augmented reality in tourism research. *Current Issues in Tourism*, *22*(17), 2056–2081. http://doi.org/10.1080/13683500.2017.1417359.

[9] Phoong, S. W.; Phoong, S. Y.; Khek, S. L. (2024). Virtual reality in the tourism sector: A bibliometric systematic literature review of the development and future trends. *SAGE Open*, *14*(4), 21582440241290933.
[10] Guttentag, D. A. (2010). Virtual reality: Applications and implications for tourism. *Tourism Management*, *31*(5), 637–651. http://doi.org/10.1016/j.tourman.2009.07.003.
[11] Liu, H.; Park, K. S. (2024). Exploring the impact of metaverse tourism experiences on actual visit intentions: An integrated model of presence, the Technology Acceptance Model, and the Theory of Planned Behavior. *International Journal of Tourism Research*, *26*(1), e2616. http://doi.org/10.1002/jtr.2616.
[12] Neuburger, L.; Beck, J.; Egger, R. (2018). The 'Phygital' tourist experience: The use of augmented and virtual reality in destination marketing. In *Tourism Planning and Destination Marketing*; Emerald Publishing Limited: Bingley, UK, pp. 183–202.
[13] Batat, W. (2024). What does phygital really mean? A conceptual introduction to the phygital customer experience (PH-CX) framework. *Journal of Strategic Marketing*, *32*(8), 1220–1243. http://doi.org/10.1080/0965254X.2024.1815023.
[14] Zheng, C.; Wen, Y.; Zhang, J.; Tussyadiah, I. (2025). The phygital tourism experience triad. *Tourism Management Perspectives*, *58*, 101402. http://doi.org/10.1016/j.tmp.2025.101402.
[15] Buhalis, D.; Amaranggana, A. (2014). Smart tourism destinations enhancing tourism experience through personalization of services. Information and Communication Technologies in Tourism 2015: Proceedings of the International Conference in Lugano, Switzerland, February 3–6, 2015; Springer International Publishing: Cham, pp. 377–389. http://doi.org/10.1007/978-3-319-14343-9_32.
[16] Carrasco-García, P. M.; Polo-Peña, A. I.; Frías-Jamilena, D. M. (2025). Can artificial intelligence-supported virtual tourist experiences improve tourist wellbeing? *Tourism Recreation Research*, 1–19. http://doi.org/10.1080/02508281.2024.1847539.
[17] Chan, W. C.; Lo, M. C.; Ibrahim, W. H. W.; Mohamad, A. A.; bin Suaidi, M. K. (2022). The effect of hard infrastructure on perceived destination competitiveness: The moderating impact of mobile technology. *Tourism Management Perspectives*, *43*, 100998. http://doi.org/10.1016/j.tmp.2022.100998.
[18] Verma, S.; Warrier, L.; Bolia, B.; Mehta, S. (2022). Past, present, and future of virtual tourism – a literature review. *International Journal of Information Management Data Insights*, *2*(2), 100085. http://doi.org/10.1016/j.jjimei.2022.100085.
[19] Borghi, M.; Mariani, M. M.; Vega, R. P.; Wirtz, J. (2023). The impact of service robots on customer satisfaction online ratings: The moderating effects of rapport and contextual review factors. *Psychology & Marketing*, *40*(11), 2355–2369. http://doi.org/10.1002/mar.21792.
[20] Mariani, M. M.; Al-Sultan, K.; De Massis, A. (2023). Corporate social responsibility in family firms: A systematic literature review. *Journal of Small Business Management*, *61*(3), 1192–1246. http://doi.org/10.1080/00472778.2021.1955122.
[21] Chen, J.; Wu, X.; Lai, I. K. W. (2023). A systematic literature review of virtual technology in hospitality and tourism (2013–2022). *SAGE Open*, *13*(3), 21582440231193297. http://doi.org/10.1177/21582440231193297.
[22] García-Buades, M. E.; García-Sastre, M. A.; Alemany-Hormaeche, M. (2022). Effects of overtourism, local government, and tourist behavior on residents' perceptions in Alcúdia (Majorca, Spain). *Journal of Outdoor Recreation and Tourism*, *39*, 100499. http://doi.org/10.1016/j.jort.2022.100499.
[23] Loureiro, S. M. C.; Guerreiro, J.; Ali, F. (2020). 20 years of research on virtual reality and augmented reality in tourism context: A text-mining approach. *Tourism Management*, *77*, 104028. http://doi.org/10.1016/j.tourman.2019.104028.

[24] Karunaratna, D.; Senevirathne, C.; Fernando, K.; Peksha, P.; Jayasinghe, P.; Samarakkody, T. (2025). Digital Pathways in Smart Tourism: A Systematic Literature Review on Key Drivers of Travelers' Decision-Making. 2025 International Research Conference on Smart Computing and Systems Engineering (SCSE); IEEE: Sri Lanka, pp. 1–7.
[25] Subadra, I.N. (2025). The Integration of Physical and Digital Experiences in Ecotourism. *Research in Hospitality Management*, *15*(3), 215–221. https://doi.org/10.1080/22243534.2025.2517269.
[26] Vourdoubas, J. (2025). The Development of Virtual Tourism in the Island of Crete, Greece: A SWOT Analysis. *Engineering and Technology Journal*, 10(2), 3876–3885. http://doi/org/10.62225/2583049X.2025.5.2.3864.
[27] Poth, C.N.; Shannon-Baker, P. (2022). State of the Methods: Leveraging Design Possibilities of Qualitatively Oriented Mixed Methods Research. *International Journal of Qualitative Methods*, 21, 1-??. http://doi/org/10.1177/16094069221115302.
[28] Jones, R. A.; Burnay, N.; Servais, O. (2000). Participant observation. Methods in the Human Sciences; De Boeck Supérieur: Brussels, pp. 45–74.
[29] Giannelloni, J.-L.; Vernette, É. (2019). *Études de marché* (5e éd.); Vuibert: Paris. http://doi.org/10.3917/vuib.giann.2019.01.
[30] Marshall, M. N. (1996). Sampling for qualitative research. *Family Practice*, *13*(6), 522–526.
[31] Glaser, B.; Strauss, A. (2017). Discovery of grounded theory: Strategies for qualitative research. Routledge: New York, USA.
[32] Patton, M. Q. (2014). Qualitative research & evaluation methods: Integrating theory and practice. Wise Publications: Thousand Oaks, USA.
[33] Evrard, Y.; Pras, B.; Roux, E. (2009). Market - Foundations and methods of marketing research, 4th ed.; Dunod: Paris, France.
[34] Braun, V.; Clarke, V. (2021). One size fits all? What counts as quality practice in (reflexive) thematic analysis?. *Qualitative Research in Psychology*, *18*(3), 328–352. http://doi/org/10.1080/14780887.2021.1876602.
[35] Seidman, I. (2006). Interviewing as qualitative research: A guide for researchers in education and the social sciences. Teachers College Press: New York, USA.
[36] Carricano, M.; Poujol, F.; Bertrandias, L. (2010). Analyse de données avec SPSS®. Pearson Education France: Paris, France.
[37] Masmoudi, M. H.; El Aoud, N. (2021). Hybrid purchasing style: conceptualization and proposal of a measurement tool. *Recherches en Sciences de Gestion*, *143*(2), 87–111.
[38] Ronan, W. W.; Latham, G. P. (1974). The reliability and validity of the critical technical incident: A closer look. *Studies in Personnel Psychology*.
[39] Lombard, M.; Snyder-Duch, J.; Bracken, C. C. (2004). A call for standardization in content analysis reliability. *Human Communication Research*, *30*(3), 434–437.
[40] Tussyadiah, I. P.; Wang, D. (2016). Tourists' attitudes toward proactive smartphone systems. *Journal of Travel Research*, *55*(4), 493–508. http://doi/org/10.1177/0047287514563168.
[41] Han, D.-I.; Tom Dieck, M. C.; Jung, T. (2018). User experience model for augmented reality applications in urban heritage tourism. *Journal of Heritage Tourism*, *13*(1), 46–. http://doi/org/10.1080/1743873X.2016.1251931.
[42] Flavián, C.; Ibáñez-Sánchez, S.; Orús, C. (2019). The impact of virtual, augmented and mixed reality technologies on the customer experience. *Journal of Business Research*, *100*, 547–560. http://doi/org/10.1016/j.jbusres.2018.10.020.
[43] Zeng, Y.; Liu, L.; Xu, R. (2022). The effects of a virtual reality tourism experience on tourists' cultural dissemination behavior. *Tourism and Hospitality*, *3*(1), 314–329. http://doi/org/10.3390/tourhosp3010021.

[44] Tom Dieck, M. C.; Jung, T. H. (2017). Value of augmented reality at cultural heritage sites: A stakeholder approach. *Journal of Destination Marketing & Management*, *6*(2), 110–117. http://doi/org/10.1016/j.jdmm.2017.03.002.

[45] Prihandini, T. F.; Triyono, M. B. (2023). A bibliometric analysis examining the adoption of augmented reality in tourism research. *International Journal of Interactive Mobile Technologies*, *17*(15).

[46] Yu, J.; Kim, S.; Hailu, T. B.; Park, J.; Han, H. (2024). The effects of virtual reality (VR) and augmented reality (AR) on senior tourists' experiential quality, perceived advantages, perceived enjoyment, and reuse intention. *Current Issues in Tourism*, *27*(3), 464–478. http://doi/org/10.1080/13683500.2023.2165483.

[47] Marasco, A.; Buonincontri, P.; Van Niekerk, M.; Orlowski, M.; Okumus, F. (2018). Exploring the role of next-generation virtual technologies in destination marketing. *Journal of Destination Marketing & Management*, *9*, 138–148. http://doi/org/10.1016/j.jdmm.2017.12.002.

[48] Tussyadiah, I. P.; Fesenmaier, D. R. (2009). Mediating tourist experiences: Access to places via shared videos. *Annals of Tourism Research*, *36*(1), 24–40. http://doi/org/10.1016/j.annals.2008.11.001.

[49] Cheong, R. (1995). The virtual threat to travel and tourism. *Tourism Management*, *16*(6), 417–422. http://doi/org/10.1016/0261-5177(95)00049-4.

[50] Wismantoro, Y.; Aryanto, V. D. W.; Pamungkas, I. D.; Purusa, N. A.; Amron; Chasanah, A. N.; Usman. (2022). Virtual reality destination experiences model: A moderating variable between Wisesa sustainable tourism behavior and tourists' intention to visit. *Sustainability*, *15*(1), 446. http://doi/org/10.3390/su15010446.

[51] Alsharif, A.; Isa, S. M.; Alqudah, M. N. (2024). Smart tourism, hospitality, and destination: A systematic review and future directions. *Journal of Tourism and Services*, *15*(29), 72–110. http://doi/org/10.2139/ssrn.3562391.

[52] Chen, X.; Cheng, Z. F.; Yang, H. J. (2024). Empowering pro-environmental behavior in tourists through digital media: The influence of eco-guilt and empathy with nature. *Frontiers in Psychology*, *15*, 1387817. http://doi/org/10.3389/fpsyg.2024.1387817.

[53] Su, Z.; Lei, B.; Lu, D.; Lai, S.; Zhang, X. (2024). Impact of ecological presence in virtual reality tourism on enhancing tourists' environmentally responsible behavior. *Scientific Reports*, *14*(1), 5939. http://doi/org/10.1038/s41598-024-56615-z.

[54] Chen, G.; Chen, J. (2025). A mixed-methods study on residents' support mechanisms in wellness tourism: the case of Songlanshan, Ningbo, China. *Asia Pacific Business Review*, 1–27. http://doi/org/10.1080/13602381.2024.1967002.

[55] Rainoldi, M.; Ladkin, A.; Buhalis, D. (2025). Digital nomads' work-leisure management practices. *Annals of Tourism Research*, *111*, 103904. http://doi/org/10.1016/j.annals.2025.103904.

[56] Lu, J.; Xiao, X.; Xu, Z.; Wang, C.; Zhang, M.; Zhou, Y. (2022). The potential of virtual tourism in the recovery of tourism industry during the COVID-19 pandemic. *Current Issues in Tourism*, *25*(3), 441–457.

[57] Velmurugan, R.; Sudarvel, J.; Jothi, K.; Thirumalaisamy, R. (2025). Use of Metaverse in Tourism and Hospitality Services. In *Cases on Metaverse and Consumer Experiences*; IGI Global Scientific Publishing: Hershey, USA, pp. 117–140.

[58] Dodds, R.; Butler, R. (2019). The phenomena of overtourism: A review. *International Journal of Tourism Cities*, *5*(4), 519–528. http://doi/org/10.1108/IJTC-03-2019-0037.

[59] Butler, R. W.; Dodds, R. (2022). Island tourism: Vulnerable or resistant to overtourism. *Highlights of Sustainability*, *1*(2), 54–64. http://doi/org/10.1108/HOS-05-2022-0017.

[60] Subadra, I. N. (2025). The integration of physical and digital experiences in ecotourism. *Research in Hospitality Management*, 1–7.

[61] Aldawsari, R.; Buhalis, D.; Roushan, G. (2025). Immersive metaverse technologies for education and training in tourism and hospitality. *International Journal of Contemporary Hospitality Management*. http://doi/org/10.1108/IJCHM-01-2024-0405.

[62] Jiang, C.; Moghavvemi, S.; Phoong, S. W. (2025). Virtual reality's promise for eco-friendly adventures: a study on its role in fostering sustainable tourism and reducing environmental footprint. *Information Technology & Tourism*. http://doi/org/10.1007/s40558-025-00320-8.

[63] Karunaratna, D.; Senevirathne, C.; Fernando, K.; Peksha, P.; Jayasinghe, P.; Samarakkody, T. (2025, April). Digital Pathways in Smart Tourism: A Systematic Literature Review on Key Drivers of Travelers' Decision-Making. 2025 International Research Conference on Smart Computing and Systems Engineering (SCSE); IEEE: Piscataway, USA, pp. 1–7.

[64] Neuhofer, B. (2025). Positive tourism experiences for human transformation: A Horizon 2050 paper. *Tourism Review*, *80*(1), 39–52.