



Modern Tourism : Virtual Tourism Conceptualization

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ABSTRACT

The emergence of the industrial revolution 4.0 has profoundly changed various sectors around the world, especially the tourism industry. This study aims to investigate the changes in the traditional tourism model to a modern form, especially virtual tourism, driven by rapid technological advances. Modern tourism will help the world of tourism better so that it will help the economy both micro and macro to individuals in a narrow way and the country in a large way. Using a qualitative descriptive approach, this study conducted a literature review of relevant journals and articles to analyze the impact of virtual technology on tourism. The research findings reveal that (1) virtual tourism increases accessibility, allowing exploration of destinations without geographical boundaries; (2) virtual reality (VR) and augmented reality (AR) technologies provide immersive and interactive experiences that empower tourist engagement; and (3) ethical and data security challenges must be addressed to ensure the sustainability of virtual tourism. The modern tourism industry is very much needed in accordance with the times so that it helps massively develop the modern economy. This insight highlights the need for the tourism industry to adapt to technological changes and consider the impact of virtual tourism for future development.

ARTICLE INFO

Article History:

Submitted/Receive; 29 Jan 2024

First Revised; 27 May 2024

Accepted; 05 Okt 2024

First Available online; 30 Dec 2024

Publication; 30 Dec 2024

Keyword:

Tourism, Technology,
Virtual Tourism.

1. INTRODUCTION

The era of the industrial revolution 4.0 makes industrial growth more effective and efficient due to sophisticated technology. This revolution is significantly reshaping various industries, driven by the adoption of advanced technologies that enhance operational efficiency and effectiveness. One of the most transformative developments of this era is the internet, which has become a fundamental component of modern society. The internet facilitates seamless communication and instant access to vast amounts of information, effectively breaking down geographical barriers and enabling global connectivity. In this context, the tourism industry one of the largest and most dynamic sectors in the global economy has undergone profound changes. Travelers today are increasingly seeking personalized, immersive experiences that transcend traditional offerings, prompting a (Logaya et al., 2023 ; Darmawan & Parhan, 2022). reevaluation of how tourism services are delivered. This evolution presents both challenges and opportunities, particularly with the rise of virtual tourism as a compelling alternative to conventional travel methods.

Despite the growing body of literature exploring the intersection of technology and tourism, there remains a significant gap regarding the specific implications of virtual tourism, especially in light of the challenges posed by the COVID-19 pandemic. Previous research, such as that conducted by Voronkova (2022) and Godovykh (2022), has examined various facets of tourism, including cultural tourism and the role of virtual experiences. However, these studies often fail to provide a comprehensive framework that captures the nuances of tourists' perceptions and their willingness to adopt virtual tourism technologies. This gap is particularly critical given the drastic decline in international travel during the pandemic, which saw tourist arrivals drop from 1.461 billion in 2019 to just 381 million in 2020. As the tourism industry grapples with these unprecedented challenges, understanding the factors that influence the acceptance of virtual tourism is essential for sustaining and revitalizing this vital sector (Voronkova, 2018 ; Godvykh et al., 2022).

To address this research gap, this study employs the Technology Acceptance Model (TAM) as its theoretical framework. TAM posits that two primary factors perceived ease of use and perceived usefulness significantly influence an individual's decision to adopt a new technology. By applying this model to the context of virtual tourism, the research aims to uncover the specific elements that affect tourists' willingness to engage with virtual experiences. This exploration is particularly relevant as stakeholders within the tourism industry seek innovative solutions that leverage digital technologies to enhance visitor engagement. By gaining insights into how potential users perceive and accept virtual tourism, this study hopes to provide practical recommendations that can guide the development of more effective virtual travel offerings (Salira et al., 2022 ; Ruhimat et al., 2023).

This alternative is digitalization in the tourism sector by utilizing the internet to create virtual tourism. Virtual tourism makes tourists do not have to make accommodations or move directly to tourism objects. Virtual tourism is a new innovation in the world of the tourism industry where tourists can carry out tourism activities remotely and do not have to visit the object (Darmawan et al., 2023 ; Salira et al., 2024 ; Bretos et al., 2024). The shift from traditional to modern tourism methods adapts technological developments such as artificial intelligence, three-dimensional (3D) technology, augmented reality, and so on. This innovation not only increases accessibility for those who may face financial, geographical, or physical barriers but also introduces opportunities for enriched engagement through immersive technologies such as virtual reality (VR) and augmented reality (AR). These technologies can simulate real-world experiences, allowing users to interact with digital environments in ways that were previously unimaginable. However, the transition to virtual

tourism is not without its challenges. Many travelers continue to express skepticism regarding the authenticity of virtual experiences compared to traditional travel, raising questions about the emotional and sensory aspects of engagement. Additionally, concerns surrounding data security and privacy must be addressed to foster trust among users, as the reliance on digital platforms becomes more pronounced (Rauschnabel et al., 2022 ; Azimova & Solidjonov, 2023 ; Hidayat et al., 2021).

This change will certainly be difficult for global tourists to accept because of the very real difference between real and virtual. Tourists cannot directly experience the tourism object but can only see the object virtually with limited experience. However, with the development of technology that is still very sophisticated, it will make new changes to improve the shortcomings of virtual tourism. Therefore, this research article discusses the shift of the traditional tourism industry to modern by utilizing technological developments through the form of virtual tourism (Buhalis et al., 2023 ; Collins & Ram, 2021).

2. LITERATURE REVIEW

In this study, a literature review was conducted using previous research sources. These studies are relevant to the topics discussed, namely the tourism industry, technological developments, modern tourism, and the concept of virtual tourism which is an innovation today. The first study with the title "Virtual Tourism: on the Way To the Digital Economy" was researched by L P Voronkova. The purpose of this research is to discuss the role and importance of cultural tourism in the modern tourism industry, as well as to provide a comprehensive understanding of cultural tourism and its significance in the tourism industry. The results show that cultural tourism has a complex and important role in the modern tourism industry (Voronkova, 2018). Cultural tourism can be divided into heritage tourism and art tourism, with secondary elements such as lifestyle and creative industries. The types of cultural tourists also vary, ranging from special purpose to chance tourists. UNESCO world heritage sites play an important role in promoting cultural tourism. Cultural tourism also has a significant impact on city development and rebranding, and provides economic and social benefits to local communities.

The second research with the title " Metaverse tourism for sustainable tourism development: Tourism agenda 2030" which was researched by Go. The purpose of this research is to conceptualize virtual tourism in a mobile context. Through the concept of telepresence, this research aims to develop a typology of virtual experiences. The results showed that the use of mobile technology in virtual tourism has great potential to enhance the tourist experience (Go & Kang, 2023). The article also highlights the importance of destination marketing strategies that are innovative and oriented to the needs of mobile tourists. In addition, the research shows that the classification of virtual experiences and mobile user perceptions are interesting research areas to be further explored. The article also discusses the barriers and enablers in destination marketing through mobile technology, and proposes a business model of cooperation between destination marketing organizations and local entrepreneurs.

The third research with the title "Virtual reality and modern tourism" was researched by Almir Pestek and Maida Sarvan. The purpose of this research is to explore the potential and impact of virtual reality (VR) technology on tourism planning and management, technology-based marketing of tourism destinations, and the influence of VR on consumer needs (Pestek & Sarvan, 2020). This research explores the impact of virtual reality (VR) on the tourism and hospitality industry. It discusses how VR has changed tourism planning and management, tourism destination technology-based marketing, and consumer needs. It also highlights

potential future developments and trends in VR technology for the tourism sector. The findings suggest that VR has the potential to fundamentally change the way tourist experiences and needs are managed. This research is based on a systematic literature review and provides valuable insights for practitioners and scholars in this field.

The fourth study with the title "VR in Tourism: A New Call for Virtual Tourism Experience amid and after the COVID-19 Pandemic" which was researched by Maksim Godovykh. The purpose of this study is to explore the virtual tourism experience and its impact on tourist behavior (Godovykh et al, 2022). The results showed that virtual tourism experiences have great potential in influencing tourist behavior and can provide significant benefits for tourism destination marketing and management. The use of virtual reality technology in tourism is also considered to have a positive impact in enriching the tourist experience and can be an effective tool in the recovery of the tourism industry, especially in the context of the COVID-19 pandemic. This research also highlights the importance of further development in the field of virtual tourism to expand research and provide new opportunities for tourism businesses and destinations.

3. METHODS

This research employs a qualitative approach, utilizing descriptive analysis to explore the topic of virtual tourism. The data collection is conducted through a comprehensive literature review, focusing on relevant journals, articles, and previous research studies that contribute to the understanding of the transition from traditional tourism to virtual tourism. The analysis will involve descriptive techniques to summarize and interpret the findings from the selected literature. This method allows for the identification of key themes, patterns, and trends related to virtual tourism, providing a clear and accessible overview of the current state of knowledge in this area.

Furthermore, this research aims to highlight the advantages and challenges associated with virtual tourism, considering factors such as technological advancements, user engagement, and economic implications. By examining various case studies and existing frameworks, the study seeks to provide insights into how virtual tourism is reshaping the travel industry and influencing consumer behavior. Additionally, the research will explore the potential of virtual tourism as a sustainable alternative, reducing environmental impacts while enhancing accessibility for individuals who may face physical or financial limitations in traditional travel experiences.

4. FINDINGS AND DISCUSSION

Findings

The findings of this study reveal three critical aspects of virtual tourism that are essential for understanding its transformative impact on the tourism industry. First and foremost, virtual tourism significantly enhances accessibility (Shukla et al, 2024). By eliminating geographical barriers, virtual tourism allows individuals from diverse backgrounds to explore destinations they might not have the opportunity to visit in person. This is particularly beneficial for those facing financial constraints, physical disabilities, or logistical challenges. As a result, virtual tourism democratizes travel experiences, enabling a broader audience to engage with cultural and natural attractions worldwide. This increased accessibility fosters inclusivity in the tourism sector, allowing a wider range of people to experience and appreciate different cultures and environments.

Secondly, the integration of virtual reality (VR) and augmented reality (AR) technologies enriches the tourist experience by providing immersive and interactive environments (Marzouk et al, 2019). These technologies enable users to engage with destinations in ways that traditional tourism cannot offer. For instance, through VR, travelers can virtually walk through historical sites or natural wonders, while AR can enhance real-world settings with digital overlays, providing additional context and information. This immersive interaction not only captivates users but also fosters deeper emotional connections to the destinations, enhancing overall satisfaction with virtual tourism offerings. Such experiences can leave a lasting impression, making virtual tourism a compelling alternative for contemporary travelers.

However, the rise of virtual tourism also brings forth important ethical and data security challenges (Vermaa et al., 2022). As more individuals engage with virtual experiences, concerns about the protection of personal data and user privacy become increasingly pertinent. Additionally, the ethical implications of digitally representing cultures and places must be carefully considered. Stakeholders in the tourism industry, including service providers and platform developers, must address these challenges proactively to build trust with users. By prioritizing ethical practices and robust data security measures, the sustainability of virtual tourism can be ensured, allowing it to thrive in an evolving digital landscape.

4.1 Technology Development in Tourism

Technological developments in the tourism industry not only include responses to the challenges of the COVID-19 pandemic, but also mark the onset of the 4.0 industrial revolution in the context of travel and tourism experiences. This revolution is manifested in the integration of technologies such as artificial intelligence, Internet of Things (IoT), and big data analytics in the tourism ecosystem. The existence of smart travel platforms powered by artificial intelligence enables personalization of unique travel experiences based on individual preferences, creating a more purposeful and fulfilling travel paradigm (Komurcu et al, 2021 ; Komalasari et al., 2019).

The use of IoT in tourism also opens up new potential, enabling real-time tracking of travelers' location and behavior, and providing the ability to expand connectivity between travelers and destinations. In addition, big data analytics offer deep insights into consumer trends, helping industry and policy makers to design smarter strategies that are responsive to market needs. These technologies, along with the sophistication of virtual reality (VR) and augmented reality (AR), are also creating a more breathless tourism experience. Travelers can explore the destination virtually before leaving, while on-site, these technologies provide additional information and new dimensions to the physical tourism experience. In this era of industrial revolution 4.0, technology is not just a tool to bridge challenges, but also a key driver to reshape and improve the overall quality of the tourism experience (Streimikiene et al., 2021).

4.2 Virtual Tourism

Virtual tourism relies on advanced technology systems to provide users with near-reality experiences. These systems include hardware and software that support virtual simulation and interaction with destinations or attractions. The advantages of virtual tourism systems include greater accessibility, allowing people to explore destinations without leaving home. The system can also provide time flexibility, allowing users to time their exploration according to their schedule (Zhang et al, 2022 ; Faizah & Septiana, 2024). In addition, virtual tourism can

be an environmentally friendly alternative solution, reducing the negative impact of physical travel on the environment.

However, like any other technological innovation, virtual tourism also has its pros and cons (Siddiqui et al, 2022). The main advantage can be the main obstacle, especially in terms of the experience provided. While providing an overview of the destination, virtual experiences cannot yet fully replace the real sensations gained through physical travel. In addition, there are ethical concerns related to the increased reliance on virtual worlds, with the risk of separating people from direct interaction and real experiences. Another aspect to consider is the issue of security and privacy in the use of virtual tourism. The collection of user data to enhance the experience may raise concerns about the use of personal data. Also, the sustainability and long-term impact of virtual tourism on local economies and cultural preservation remains an important area of research and consideration.

In addition, the debate between the pros and cons of virtual tourism also includes aspects of welfare and benefit distribution. While these technologies provide access to travel experiences without geographical restrictions, there is still a risk of access disparities. For those without access or technological skills, the potential exclusion from virtual tourism experiences is a concern. Therefore, efforts need to be made to ensure that the benefits of virtual tourism can be enjoyed inclusively by different segments of society. Furthermore, virtual tourism also has an impact on the traditional tourism economy. While it can be a solution in addressing emergency situations such as pandemics or environmental issues, the implementation of virtual tourism may reduce the economic impact gained by physical destinations. The balance between these two aspects requires careful planning and strategies to integrate virtual tourism as a complement to, not a substitute for, physical experiences.

5. CONCLUSION

Overall, technological developments and the phenomenon of virtual tourism mark a profound transformation in the way we approach and celebrate the travel experience. While technology has provided unprecedented accessibility and creative solutions to overcome challenges, as demonstrated by virtual tourism during times of pandemic and ecological paradigm shifts, the debate of pros and cons illustrates that this evolution is not without complexity. The importance of creating a balance between technology and physical experiences is highlighted, while ensuring inclusivity, sustainability and ethical considerations. In crafting the future of tourism, these challenges call us to think holistically and collaboratively, bridging the gap and ensuring that technology not only changes, but also enhances, the diversity and beauty of the global travel experience.

7. REFERENCES

- Azimova, D., & Solidjonov, D. (2023). Learning English Language As A Second Language With Augmented Reality. *Qo 'Qon Universiteti Xabarnomasi*, 1, 112-115.
- Bretos, M. A., Ibáñez-Sánchez, S., & Orús, C. (2024). Applying virtual reality and augmented reality to the tourism experience: a comparative literature review. *Spanish Journal of Marketing-ESIC*, 28(3), 287-309.
- Buhalis, D., Leung, D., & Lin, M. (2023). Metaverse as a disruptive technology revolutionising tourism management and marketing. *Tourism Management*, 97, 104724.
- Collins-Kreiner, N., & Ram, Y. (2021). National tourism strategies during the Covid-19 pandemic. *Annals of tourism research*, 89, 103076.

- Darmawan, R. A., & Parhan, M. (2023). Development Of Social Studies Learning Media Based On Augmented Reality (AR) As A Historical Literacy Medium. *Journal on Education*, 6(1), 5544-5553.
- Darmawan, R. A., Salira, A. B., Kurniawati, Y., Logayah, D. S., & Arrasyid, R. (2023). Enhancing Digital Literacy in Social Studies through Augmented Reality Media. *Jurnal Pendidikan Ilmu Sosial*, 33(1), 69-76.
- Faizah, F. N., & Septiana, V. (2024). Digitalization of traditional markets through tumbasin. id in facing industrial revolution 4.0: The Islamic business perspectives. *SERAMBI: Jurnal Ekonomi Manajemen dan Bisnis Islam*, 6(1), 1-14.
- Go, H., & Kang, M. (2023). Metaverse tourism for sustainable tourism development: Tourism agenda 2030. *Tourism Review*, 78(2), 381-394.
- Godovykh, M., Baker, C., & Fyall, A. (2022). VR in tourism: A new call for virtual tourism experience amid and after the COVID-19 pandemic. *Tourism and Hospitality*, 3(1), 265-275.
- Hidayat, H., Sukmawarti, S., & Suwanto, S. (2021). The application of augmented reality in elementary school education. *Research, Society and Development*, 10(3), e14910312823-e14910312823.
- Komalasari, R., Pramesti, P., & Harto, B. (2019). Teknologi Informasi E-Tourism Sebagai Strategi Digital Marketing Pariwisata. *Altasia Jurnal Pariwisata Indonesia*, 2(2).
- Kömürçü, S., Ertamay, S. İ., & Güler, M. E. (2021). Impacts of technological development on employment structure of tourism industry. *Journal of Management and Economics Research*, 19(1), 146-165.
- Logayah, D. S., Salira, A. B., Kirani, K., Tianti, T., & Darmawan, R. A. (2023). Pengembangan Augmented Reality Melalui Metode Flash Card Sebagai Media Pembelajaran IPS. *Jurnal Basicedu*, 7(1), 326-338.
- Marzouk, A., Maher, A., & Mahrous, T. (2019). The influence of augmented reality and virtual reality combinations on tourist experience. *Journal of the Faculty of Tourism and Hotels-University of Sadat City*, 3(2), 1-19.
- Pestek, A., & Sarvan, M. (2020). Virtual reality and modern tourism. *Journal of Tourism Futures*, 7(2), 245-250.
- Rauschnabel, P. A., Babin, B. J., tom Dieck, M. C., Krey, N., & Jung, T. (2022). What is augmented reality marketing? Its definition, complexity, and future. *Journal of business research*, 142, 1140-1150.
- Ruhimat, M. A. M. A. T., Logayah, D. S., & Darmawan, R. A. (2023). Mobile augmented reality application through metaverse approach as social studies learning media in junior high school. *Journal of Engineering, Science and Technology*, 18, 176-185.
- Salira, A. B., Logayah, D. S., Darmawan, R. A., & Tianti, T. (2022). Development of the Augmented Reality Model (DISMUS) as Social Studies Digital Learning Media. *heritage*, 3(2), 176-190.
- Salira, A. B., Logayah, D. S., Darmawan, R. A., Holilah, M., & Rakhman, M. A. (2024). Implementation of augmented reality media through the metaverse approach in social science learning. *Research and Development in Education (RaDEn)*, 4(2), 736-745.
- Shukla, V., Rana, S., & Prashar, S. (2024). Examining the potential of virtual and augmented reality in enhancing tourism experiences. *The Bottom Line*.
- Streimikiene, D., Svagzdiene, B., Jasinskis, E., & Simanavicius, A. (2021). Sustainable tourism development and competitiveness: The systematic literature review. *Sustainable development*, 29(1), 259-271.

- Verma, S., Warriar, 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.
- Voronkova, L. P. (2018, December). Virtual tourism: on the way to the digital economy. In *IOP Conference Series: Materials Science and Engineering* (Vol. 463, p. 042096). IOP Publishing.
- Zhang, S. N., Li, Y. Q., Ruan, W. Q., & Liu, C. H. (2022). Would you enjoy virtual travel? The characteristics and causes of virtual tourists' sentiment under the influence of the COVID-19 pandemic. *Tourism management*, 88, 104429.