



Tourism Transformation : Utilizing Virtual Reality to Attract Tourists

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ABSTRACT

Indonesia possesses immense potential for tourism due to its abundant natural beauty and rich cultural variety. The tourism sector in Indonesia encounters numerous obstacles, such as insufficient infrastructure, limited advertising, and rivalry from neighboring nations. Evidence indicates that incorporating virtual reality (VR) technology in the tourist industry can be an influential instrument for enhancing the desire to visit and creating favorable experiences prior to travelers embarking on their journeys. The research aims to investigate how the utilization of virtual reality technology might augment the appeal of tourist locations and impact tourists' inclination to visit. This study employs a qualitative methodology. Utilizing virtual reality (VR) technology in the tourism sector has the capacity to enhance the appeal of tourist locations and impact travelers' inclination to visit. Virtual reality (VR) offers tourists rich and engaging experiences, enabling them to virtually explore areas prior to their physical visit. Additionally, VR serves as a potent marketing tool for promoting tourist destinations. Nevertheless, the adoption of VR technology encounters certain obstacles, including the requirement for substantial financial resources, sufficient technological infrastructure, and seamless integration with real-world trip encounters.

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1. INTRODUCTION

The tourist sector has experienced substantial changes due to the emergence of digital technologies. Virtual Reality (VR) has become a potent tool for enhancing travel experiences and drawing people to a destination (Calvagna et al., 2021; Hassan & Saleh, 2023; Jaziri et al., 2023a). Virtual reality (VR) technology generates computer-generated landscapes that accurately replicate real-world surroundings, providing users with an immersive experience (Ke, 2023; Kuching, 2023; Willems et al., 2019). Virtual Reality (VR) technology has the capability to recreate tourist attractions, landscapes, and cultural sites in the field of tourism. This allows potential visitors to have a virtual experience of a place prior to their actual visit (Calvagna et al., 2021; Yip et al., 2023). This technology has demonstrated its ability to impact travelers' intentions to visit.

Indonesia possesses immense potential for tourism due to its abundant natural beauty and rich cultural variety. Nevertheless, the tourism sector in Indonesia encounters some obstacles, such as insufficient infrastructure, limited promotional efforts, and rivalry from neighboring

nations. Applying virtual reality (VR) technology in this context can serve as a cutting-edge solution to tackle these difficulties and improve the appeal of Indonesian tourism.

The user's text is empty, virtual reality (VR) can serve as a powerful marketing tool for promoting Indonesian tourism areas to prospective visitors. Indonesia can enhance its appeal to tourists and boost tourism to different locations throughout the archipelago by developing immersive virtual experiences. Indonesia boasts numerous tourism spots situated in distant and inaccessible regions. Geropanta et al., (2018), Jaziri et al., (2023), Ramnarayan et al., (2023) through the utilization of virtual reality (VR), potential tourists can immerse themselves in the splendor of these sites without encountering any logistical or infrastructure obstacles. This can enhance the appeal of these sites to tourists, hence increasing their inclination to visit them in person.

De Canio et al., (2022), Srinivasan et al., (2024), Vichitvejpaisal et al., (2019), VR can assist travelers in developing accurate expectations and being ready for their trip experience by offering captivating virtual encounters prior to their visits. This can augment tourist contentment and motivate them to disseminate favorable experiences with others (Baik, 2021; Bhatt et al., 2020; Mandros et al., 2021).

For the successful execution of Indonesia's tourist sector, it is crucial to establish partnerships with VR technology developers and other relevant parties in order to produce top-notch and genuine virtual experiences. The design of these experiences should be meticulously crafted to showcase Indonesia's exquisite natural beauty, rich culture, and historical significance, all while preserving the integrity and authenticity of the tourism locations.

Through the strategic utilization of virtual reality (VR) technology, Indonesia has the potential to overcome many obstacles encountered by the tourism industry and improve its standing in the global market. Virtual reality (VR) has the capacity to draw in a larger number of tourists, enhance visitor contentment, and foster sustainable tourism, ultimately stimulating economic growth and development throughout the country.

Tussyadiah et al., (2018) discovered that virtual reality (VR) experiences have the potential to enhance individuals' inclination to visit tourism places. The findings of this study indicate that individuals who underwent a virtual tour of a tourist destination exhibited a greater inclination to physically visit the location, as opposed to those who solely saw conventional photographs or films.

Du et al., (2021), Zimeng et al., (2023) investigated the influence of virtual reality (VR) experiences on the construction of destination image and inclinations to visit. The results suggest that virtual reality (VR) experiences have a good impact on both the cognitive and

emotional perception of tourism locations. This, in turn, leads to an increase in tourists' inclinations to visit those destinations.

Bogicevic et al., (2019) examined the impact of virtual reality (VR) on the pre-purchase experiences within the hospitality sector. The results indicate that virtual hotel tours can improve perceptions of quality, perceived value, and booking intentions, in comparison to conventional static hotel photographs.

In their study, Deng et al., (2021) investigated the influence of the sense of presence in virtual reality (VR) experiences on individuals' inclinations to visit tourist places. The results suggest that a greater feeling of immersion in virtual reality (VR) encounters is associated with more favorable opinions towards the location and a greater likelihood of visiting there.

In their study, Yung et al., (2021) examined how several aspects of virtual reality, such as the quality of images and the level of interactivity, influence the development of virtual travel experiences and the likelihood of visiting such destinations in real life. The results indicate that improved image quality and interactivity in virtual reality (VR) experiences result in increased levels of engagement, which subsequently enhances the desire to physically visit the area.

These findings indicate that incorporating virtual reality (VR) technology in the tourism industry can be an influential strategy for increasing travelers' desire to come and creating favorable experiences prior to their actual trips. Virtual reality (VR) can shape travelers' views, attitudes, and intentions towards tourism destinations by offering captivating and interactive digital representations of these places.

The research aims to investigate the impact of VR technology on the appeal of tourist locations and its influence on tourists' inclination to visit. Additionally, it seeks to identify the problems encountered in integrating VR technology in the tourism industry and propose strategies to overcome them.

2. RESEARCH METHOD

This study utilizes a qualitative methodology to comprehend the influence of virtual reality (VR) on the tourism industry. The data were gathered via interviews, focus groups, and content analysis of online reviews and blogs. The data was analyzed using thematic analysis to discover significant themes and get valuable insights.

The study use qualitative methodologies to examine the impact of Virtual Reality (VR) technology on the tourism sector. The decision to employ a qualitative method was based on the desire to thoroughly investigate person experiences, perceptions, and opinions related to

the utilization of virtual reality in the tourism industry. This approach allows researchers to acquire a comprehensive and detailed comprehension of the influence of virtual reality (VR) on visitor behavior and preferences.

Methods for Gathering Data:

1. **Interviews:** Researchers conducted comprehensive interviews with travelers, tourism professionals, and VR experts to obtain valuable insights into their experiences and perspectives regarding the utilization of VR in the tourism industry. The interviews offered occasions to pose intricate follow-up inquiries, enabling a more profound comprehension of the subject matter.
2. **Focus Groups:** Tourists participated in focus group talks to investigate their shared perspectives, attitudes, and preferences about the utilization of virtual reality (VR) in the tourism industry. The group interactions facilitated the emergence of novel ideas and viewpoints through dynamic exchanges among members.
3. **Content Analysis:** Scholars gathered and examined internet evaluations and blog posts pertaining to virtual reality (VR) encounters in the tourism industry. The secondary data sources offered significant perspectives on tourists' viewpoints and encounters on a wider scope, enhancing the data collected from interviews and focus groups.

Data analysis:

The researchers conducted a systematic analysis of interview transcripts, focus group notes, and web content in order to identify reoccurring major themes and sub-themes. Subsequently, these themes were scrutinized and elucidated to reveal significant insights on the effect of virtual reality (VR) on tourism. This includes its impact on tourists' experiences, decision-making process, and overall level of contentment. This investigation seeks to address inquiries pertaining to the utilization of virtual reality technology to augment the appeal of tourist places and impact tourists' inclination to visit, the obstacles encountered in adopting VR technology in the tourism industry, and strategies to surmount them.

3. RESULTS AND DISCUSSIONS

The integration of virtual reality (VR) technology in the tourism sector has significant potential to augment the allure of tourist locations and shape travelers' inclination to visit. Virtual reality enables tourists to have an immersive and interactive experience of places prior to their physical visit. By immersing themselves in captivating virtual reality (VR) encounters, tourists have the opportunity to investigate tourist attractions, behold breathtaking scenery, and experience the ambiance of the location without leaving the comfort of their own residences.

This can enhance travelers' curiosity and propensity to personally visit the sites. VR technology enriches the trip experience by offering a multi-faceted and engrossing world. Tourists have the ability to experience destinations virtually, which can help them develop accurate expectations and increase their enthusiasm in actually visiting the location. Studies have demonstrated that virtual reality (VR) can greatly improve the pre-visit experience, increasing the likelihood of tourists selecting areas they have virtually explored.

Virtual reality can be employed to market obscure or under-visited areas. By producing captivating virtual reality (VR) material, these venues can captivate tourists' interest and motivate them to venture into unfamiliar locations. Moreover, virtual reality can offer a more extensive pre-visit encounter, assisting travelers in better planning their journeys and heightening their expectations of the areas they will explore. Virtual reality (VR) is an influential marketing tool for promoting tourism destinations. It enables venues to present their attractions in a captivating and interactive way. Virtual reality (VR) marketing efforts have the ability to establish powerful emotional bonds with prospective tourists, so impacting their travel choices (Clark & Nyaupane, 2023; Maftuna, 2023). VR tours of cultural places, natural landscapes, and urban attractions can be employed to allure tourists by providing them with a preview of what they can anticipate.

Nevertheless, the integration of virtual reality technology in the tourism industry has several obstacles. Initially, the creation of top-notch VR content necessitates substantial investment in equipment, personnel, and technological proficiency. Tourist sites should establish partnerships with seasoned virtual reality developers to produce captivating and authentic virtual experiences.

Furthermore, certain tourist spots may lack the necessary technology infrastructure to effectively deploy virtual reality. To ensure a seamless virtual reality (VR) experience for tourists, it is necessary to improve internet connectivity, increase the availability of VR devices, and enhance other supporting amenities.

Furthermore, an additional obstacle lies in the integration of virtual reality with tangible tourism encounters. Tourist locations must develop effective methods to integrate virtual reality (VR) experiences with actual attractions and activities at the destination, in order to provide tourists with a comprehensive and unforgettable experience.

In order to surmount these obstacles, it is imperative that there is a strong and cooperative partnership among various entities involved in tourism, such as the government, the tourism sector, technology innovators, and local communities. The government can offer assistance through the implementation of favorable regulations, incentives, and investment in technology

infrastructure. The tourism business must enhance its proficiency in exploiting virtual reality (VR) technology and create captivating and pertinent content that aligns with travelers' interests. Engaging in collaboration with technology developers can facilitate the development of cutting-edge and efficient virtual reality solutions. Engaging local communities is crucial to guarantee that the integration of virtual reality is in harmony with local cultural and environmental principles. By employing a methodical and cooperative strategy, the obstacles associated with the integration of virtual reality technology in the tourism industry can be successfully resolved. This will generate novel prospects for enhancing the allure of tourist sites, attracting a larger number of travelers, and generating more inventive and unforgettable travel experiences in this era of digitalization (Park & Santos, 2017; Robinson & Schänzel, 2019).

Integrating virtual reality (VR) into the marketing plans of tourist marketers and destination managers can offer them a competitive edge. Virtual reality (VR) technology can be utilized to develop virtual tours, interactive maps, and immersive promotional videos that effectively captivate and entice guests. Moreover, virtual reality (VR) can be utilized in educational contexts to simulate real-life scenarios for the purpose of training tourism and hospitality students, offering them a secure and regulated environment to gain hands-on experience. The practical ramifications of this discovery are substantial. Tourism stakeholders may utilize virtual reality (VR) technology to develop captivating and immersive experiences that entice travelers and enhance their desire to visit areas (Calvagna et al., 2021; Li et al., 2024). This can be accomplished by creating virtual reality (VR) material that highlights the distinctive features and experiences of a region, as well as by using VR into tourism marketing campaigns.

The research also has significant social ramifications. Utilizing virtual reality (VR) technology in the tourist industry has the potential to democratize travel experiences, hence increasing accessibility for persons who may have had economic or physical limitations in the past. Furthermore, virtual reality (VR) can contribute to the conservation of cultural heritage by offering a medium for digitally safeguarding cultural assets and historical landmarks.

4. CONCLUSION

The integration of virtual reality (VR) technology in the tourism sector has substantial promise for augmenting the allure of tourist locations and shaping travelers' inclination to visit. Virtual reality (VR) offers tourists the opportunity to engage in immersive and interactive experiences, enabling them to virtually explore destinations prior to their physical visit.

Additionally, VR serves as a potent marketing tool to effectively promote tourist destinations. Nevertheless, the use of VR technology encounters certain obstacles, including the requirement for substantial financial resources, sufficient technological infrastructure, and seamless integration with real-world tourism encounters. In order to address these obstacles and fully exploit the capabilities of virtual reality (VR) in boosting the appeal of tourist locations, a strategic and cooperative approach is necessary among many players in the tourism sector, such as the government, the tourism industry, technology innovators, and local communities.

REFERENCES

- Baik, A. (2021). The use of interactive virtual bim to boost virtual tourism in heritage sites, historic jeddah. *ISPRS International Journal of Geo-Information*, 10(9). <https://doi.org/10.3390/ijgi10090577>
- Bhatt, P., Panchal, K., Patel, H., & Rote, U. (2020). Tourism application using augmented reality. ... in Science & Technology https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3568709
- Bogicevic, V., Seo, S., Kandampully, J. A., Liu, S. Q., & Rudd, N. A. (2019). Virtual reality presence as a preamble of tourism experience: The role of mental imagery. *Tourism Management*, 74, 55–64. <https://doi.org/10.1016/j.tourman.2019.02.009>
- Calvagna, S., Grasso, F., & Santagati, C. (2021). VR and the Perception of the Space: A Sensorial Labyrinth Inspired by Giambattista Piranesi's Carceri D'Invenzione. *Springer Tracts in Civil Engineering*, 65–87. https://doi.org/10.1007/978-3-030-49278-6_5
- Clark, C., & Nyaupane, G. P. (2023). Understanding Millennials' nature-based tourism experience through their perceptions of technology use and travel constraints. *Journal of Ecotourism*, 22(3), 339–353. <https://doi.org/10.1080/14724049.2021.2023555>
- De Canio, F., Martinelli, E., Peruzzini, M., & Cavallaro, S. (2022). Experiencing a Food Production Site Using Wearable Devices: The Indirect Impact of Immersion and Presence in VR Tours. In *Sustainability (Switzerland)* (Vol. 14, Issue 5). mdpi.com. <https://doi.org/10.3390/su14053064>
- Deng, Z., Benckendorff, P., & Wang, J. (2021). Travel live streaming: an affordance perspective. In *Information Technology and Tourism* (Vol. 23, Issue 2, pp. 189–207). Springer. <https://doi.org/10.1007/s40558-021-00199-1>
- Diestro Mandros, J., Garcia Mercado, R., & Bayona-Oré, S. (2021). Virtual Reality and Tourism: Visiting Machu Picchu. *Advances in Intelligent Systems and Computing*, 1297, 269–279. https://doi.org/10.1007/978-3-030-63329-5_18
- Du, J. Z., Xv, J., & Jin, C. (2021). Regional Virtual Tourism Flow and Its Influencing Factors Based on Baidu Index: A Case Study in Yangtze River Delta. *Resources and Environment in the Yangtze Basin*, 30(2), 290–301. <https://doi.org/10.11870/cjlyzyyhj202102004>

- Geropanta, V., Karagianni, A., & Parthenios, P. (2018). ICT for user-experience transformations in Sustainable-Smart Tourism Projects. In researchgate.net (Vol. 2, pp. 593–602). https://www.researchgate.net/profile/Panagiotis-Parthenios/publication/367695767_ICT_for_user-experience_transformations_in_Sustainable_-_Smart_Tourism_Projects_-_VR_AR_and_MR_in_Rome's_historical_center/links/646bb4c12d0a4c58bef23415/ICT-for-user-experience-transformations-in-Sustainable-Smart-Tourism-Projects-VR-AR-and-MR-in-Rome's-historical-center.pdf
- Hassan, T., & Saleh, M. I. (2023). Tourism metaverse from the attribution theory lens: a metaverse behavioral map and future directions. *Tourism Review*. <https://doi.org/10.1108/TR-07-2023-0516>
- Jaziri, D., Hassine, A. Ben, & Bouzaabia, R. (2023a). The Role of AR/VR in Improving Customer Experience: A Comprehensive View of Experience and Technology-Based Theories for Tourism Metamorphosis. *Brand Co-Creation Tourism Research: Contemporary Issues and Challenges*, 177–197. <https://doi.org/10.1201/9781003336228-10>
- Jaziri, D., Hassine, A. Ben, & Bouzaabia, R. (2023b). The Role of AR/VR in Improving Customer Experience: A Comprehensive View of Experience and Technology-Based Theories for Tourism Metamorphosis. In *Brand Co-Creation Tourism Research: Contemporary Issues and Challenges* (pp. 177–197). <https://doi.org/10.1201/9781003336228-10>
- Ke, Y. (2023). Study on Application of VR Technology in Teaching Tourism Management Courses. *Proceedings - 2023 12th International Conference of Information and Communication Technology, ICTech 2023*, 646–649. <https://doi.org/10.1109/ICTech58362.2023.00123>
- Kuching, S. (2023). A Framework for Museum Transformation Using AR-VR Technologies to Support Tourism. In *International Journal of Research and Innovation in Applied Science (Ijrias): Vol. VIII (Issue I January 2023, pp. 69–74)*. researchgate.net. https://www.researchgate.net/profile/Rehman-Khan-3/publication/372785626_A_Framework_for_Museum_Transformation_Using_AR-VR_Technologies_to_Support_Tourism/links/64c8766ab7d5e40f33193d21/A-Framework-for-Museum-Transformation-Using-AR-VR-Technologies-to-Support-Tourism.pdf
- Li, N., Li, L., Chen, X., & Wong, I. K. A. (2024). Digital destination storytelling: Narrative persuasion effects induced by story satisfaction in a VR context. *Journal of Hospitality and Tourism Management*, 58, 184–196. <https://doi.org/10.1016/j.jhtm.2023.12.007>
- Maftuna, N. (2023). The role and importance of marketing sphere in tourism industry. *Best Journal of Innovation in Science, Research and ...* <http://www.bjisrd.com/index.php/bjisrd/article/view/1264>
- Park, S., & Santos, C. A. (2017). Exploring the Tourist Experience: A Sequential Approach. *Journal of Travel Research*, 56(1), 16–27. <https://doi.org/10.1177/0047287515624017>

- Ramnarayan, Singh, R., Gehlot, A., Joshi, K., Ibrahim, A. O., Abulfaraj, A. W., Binzagr, F., & Bharany, S. (2023). Imperative Role of Digital Twin in the Management of Hospitality Services. *International Journal of Advanced Computer Science and Applications*, 14(9), 529–537. <https://doi.org/10.14569/IJACSA.2023.0140956>
- Robinson, V. M., & Schänzel, H. A. (2019). A tourism inflex: Generation Z travel experiences. *Journal of Tourism Futures*, 5(2), 127–141. <https://doi.org/10.1108/JTF-01-2019-0014>
- Srinivasan, S., Herkar, A. S., Jayamani, J., Indora, A., & ... (2024). Tourism Innovation And The Role Of Technology In Enhancing Visitor Experiences. ... : Theory and Practice. <http://kuey.net/index.php/kuey/article/view/1702>
- Tussyadiah, I. P., Jung, T. H., & tom Dieck, M. C. (2018). Embodiment of Wearable Augmented Reality Technology in Tourism Experiences. *Journal of Travel Research*, 57(5), 597–611. <https://doi.org/10.1177/0047287517709090>
- Vichitvejpaisal, P., Porwongsawang, N., & Ingpochai, P. (2019). Relive History: VR time travel at the world heritage site. In *Proceedings - VRCAI 2019: 17th ACM SIGGRAPH International Conference on Virtual-Reality Continuum and its Applications in Industry*. <https://doi.org/10.1145/3359997.3365733>
- Willems, K., Brengman, M., & Van Kerrebroeck, H. (2019). The impact of representation media on customer engagement in tourism marketing among millennials. *European Journal of Marketing*, 53(9), 1988–2017. <https://doi.org/10.1108/EJM-10-2017-0793>
- Yip, Y. C., Yip, K. H., & Tsui, W. K. (2023). Young Adults' Perspectives on the Implications of an Augmented Reality Mobile Game for Communities' Public Health: A Qualitative Study. In *International Journal of Public Health* (Vol. 68). [ssph-journal.org. https://doi.org/10.3389/ijph.2023.1605630](https://doi.org/10.3389/ijph.2023.1605630)
- Yung, R., Khoo-Lattimore, C., & Potter, L. E. (2021). VR the world: Experimenting with emotion and presence for tourism marketing. *Journal of Hospitality and Tourism Management*, 46, 160–171. <https://doi.org/10.1016/j.jhtm.2020.11.009>
- Zimeng, G., Wei, Y., Qiuxia, C., & Xiaoting, H. (2023). The contribution and interactive relationship of tourism industry development and technological innovation to the informatization level: Based on the context of low-carbon development. In *Frontiers in Environmental Science* (Vol. 11). [frontiersin.org. https://doi.org/10.3389/fenvs.2023.999675](https://doi.org/10.3389/fenvs.2023.999675)