

## Mobile-Based Marketing Innovation as an Effort to Increase Tourist Interaction and Engagement in the Tourism Industry

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### ABSTRACT

This research aims to evaluate the influence of mobile-based marketing strategies on tourists' interaction with digital platforms in the tourism industry through a Systematic Literature Review (SLR) approach. The research process involved selecting literature from various academic databases, such as Google Scholar, Scopus, and DOAJ, with the keywords "mobile marketing," "tourist interaction," and "tourism" in the period 2014-2024. The research findings show that mobile technology significantly strengthens travelers' engagement with digital marketing tools, eases information access, and enhances a more personalized travel experience. Despite challenges related to data privacy and technological disruption, these strategies provide a competitive advantage for tourism destinations. This research highlights gaps in mobile-based marketing strategies across different demographic segments and calls for further research on inclusive and sustainable strategies. This research also highlights the gaps in the application of mobile-based marketing in certain demographic segments, and the need for further research to formulate strategies that are inclusive and sustainable. Future research should focus on integrating digital and traditional marketing methods for more meaningful tourism interactions.

**Keywords:** mobile marketing; traveler interaction; tourism industry; digital engagement

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### INTRODUCTION

In recent decades, mobile technology has experienced rapid development and played a key role in various sectors, including tourism. Smartphones and mobile applications are now an integral part of everyday life, allowing travelers to access travel information, book tickets, and manage their travel plans more easily and efficiently (Yuwana, 2021). In addition, various mobile platforms also make it easier for travel providers to interact directly with consumers (O'Connor & Andrews, 2018). This not only improves operational efficiency, but also provides a more personalized and responsive travel experience (Drigas et al., 2020). With innovations constantly evolving, mobile technology has changed the way travelers plan and enjoy their trips

Digitalization has become a global trend that has significantly changed the face of the tourism industry. Technological innovations, including in the form of mobile applications and digital services, have made it easier for tourists and industry players to

operate (Buhalis et al., 2019). The development of digital technology has driven the widespread adoption of mobile tools as the primary means of transaction, promotion, and communication in tourism (Carreiro et al., 2020). The COVID-19 pandemic has also accelerated this process, with more travelers relying on technology to reduce in-person interactions and access information digitally (Ravishankar & Christopher, 2020). Digitalization not only improves service efficiency, but also expands global marketing reach, making mobile technology a critical component in the transformation of the tourism industry.

Along with the development of mobile technology, traveler preferences have also undergone significant changes. Modern travelers increasingly rely on mobile devices for all aspects of their trip, from finding information about destinations, booking accommodation, to sharing experiences on social media (Pencarelli, 2020). In this digital era, travelers not only want quick and easy access, but also a more personalized and interactive experience (Huy et al., 2021). They expect to interact directly with service providers through mobile platforms, and receive recommendations and offers tailored to their personal preferences (Gamage, 2021). These changing preferences encourage travel service providers to utilize mobile technology more creatively and innovatively, to meet the expectations of increasingly digitally connected travelers (Loureiro, 2018).

In this context, alternative theoretical frameworks such as the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) could be applied to further understand the acceptance and use of mobile-based marketing innovations in the tourism industry. These theories offer a broader perspective on how consumers adopt and interact with technology, complementing the more traditional models in tourism marketing (Baishya & Samalia, 2020). Mobile-based marketing innovations, such as personalization and gamification, significantly increase traveler engagement. The integration of game elements in mobile applications creates an immersive experience that encourages user loyalty and interaction. Gamification is effective in motivating user behavior, increasing brand engagement and loyalty. Individual motivations, such as curiosity and social recognition, play an important role in the adoption of gamification marketing in tourism (Paschmann et al., 2022; Guo et al., 2022; Kamboj et al., 2020). Personalization tailored to individual preferences also increases satisfaction and effectiveness of gamification (Jang & Kim, 2022). The integration of personalized content with gamification in the hospitality sector was shown to increase user engagement (Parapanos & Michopoulou, 2023). However, over-implementation can lead to boredom and decreased user interest.

The integration of social media and mobile applications significantly impacts the traveler experience by improving engagement, decision-making, and promoting sustainable tourism. These digital platforms are becoming essential tools for both travelers and the tourism industry, encouraging interactions that enrich the journey. In

Yogyakarta, for example, the use of mobile apps is proven to increase tourist visits, making the optimization of digital marketing strategies important (Armutcu et al., 2023). Social media plays a major role in traveler decisions, with digital content influencing destination choice and repeat visit intentions (Wang & Park, 2023; Fuaddah et al., 2022). In addition, technologies such as augmented reality on social media are increasingly engaging young travelers in sustainable tourism practices, combining education and action (Ana & Istudor, 2019; Seyfi et al., 2023). However, challenges such as the risk of misinformation and the importance of responsible digital engagement need to be addressed for sustainable tourism to develop effectively.

Mobile marketing provides important benefits to tourism service providers by increasing accessibility and direct interaction with tourists. Mobile applications support collaborative information sharing and location-based services, effective in promoting cultural tourism destinations (Sangadi & Handriana, 2023; Kim & Kim, 2017). These technologies create innovative experiences for consumers and strengthen the competitive advantage of tourism destinations (Dorcic et al., 2019; Iswanto, Handriana, et al., 2024; Rafa'al & Sangadji, 2023). Research on mobile technologies and applications in smart tourism includes consumer, technology, and provider perspectives (Iswanto et al., 2024; Jimenez, 2019). Travelers perceive mobile advertising as a source of information that influences their attitudes, behavioral control, and subjective norms. The value of advertising determines the intention to allow mobile marketing through these attitudes and subjective norms (Papadakis & Orfanakis, 2017). These findings help governments and tourism businesses design effective marketing communication strategies, improving the tourist experience and industry competitiveness.

Based on the research results, there are several gaps that need to be considered in mobile-based marketing innovations to improve tourist interaction and engagement. Although personalization and gamification are proven to be effective in increasing engagement, there is still a lack of understanding regarding balanced implementation to avoid user boredom and ensure their effectiveness on an ongoing basis. In addition, the use of technologies such as augmented reality in social media shows great potential, yet challenges related to the risk of misinformation and responsible digital engagement have yet to be fully addressed. This research aims to further explore mobile-based marketing innovations, specifically how a more integrated approach can more effectively increase traveler interaction and engagement. The main focus is on identifying strategies that can leverage personalization and gamification more optimally, as well as understanding the impact of new technologies in the context of tourism marketing.

## METHOD

This research aims to examine mobile-based marketing innovations as an effort to increase traveler interaction and engagement in the tourism industry. The main focus is to understand how mobile technology can create a more personalized experience for tourists, increase loyalty, and encourage their active participation in various digital platforms. A literature search was conducted through academic databases such as Scopus, Google Scholar, and DOAJ, using the keywords “mobile marketing innovation”, “traveler engagement”, “mobile technology in tourism”, and “digital marketing strategy”. The literature retrieved covered the time span of 2014-2024 to capture the latest innovations and trends in mobile technology-based marketing.

Inclusion criteria included research articles that addressed the application of mobile technology in improving traveler interaction and engagement, empirical studies, and publications relevant to mobile-based marketing strategies. Exclusion criteria included research that focused on other technologies not directly related to mobile marketing or articles that were not supported by empirical data. The selection process was conducted through evaluation of titles, abstracts, and full text. To enhance methodological rigor and transparency, a PRISMA flow diagram was included to clearly illustrate the process of study selection. To enhance methodological rigor and transparency, a critical appraisal checklist was applied to assess the quality of the studies, focusing on research design, sample size, data collection methods, and potential biases. The literature selected was diverse in terms of geographical focus and tourism sectors (e.g., hospitality, cultural, eco-tourism), ensuring generalizability. Additionally, potential publication bias was considered by reviewing studies from a broad range of sources, including those less likely to be published in high-impact journals, to avoid overrepresentation of positive findings. To minimize bias, the data extraction and analysis process was cross-validated by multiple researchers, resolving discrepancies through discussion to ensure consistency. Data extracted included methodology, key findings, and implications of mobile marketing on traveler engagement in the tourism industry. The research procedure can be seen in Figure 1.

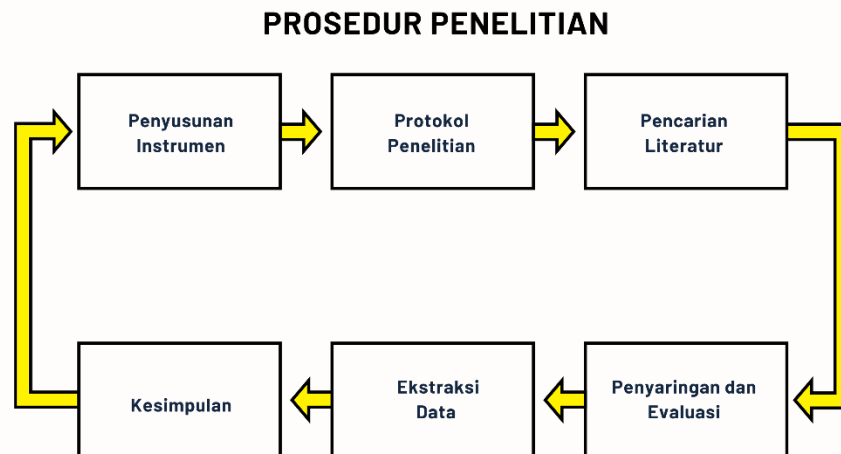


Figure 1. Research Procedure

Figure 1 presents the research procedure that begins with the formulation of a clear and specific research instrument related to the influence of local traditions on visitor engagement in tourist destinations. The next step is the preparation of a research protocol that includes setting inclusion and exclusion criteria and identifying relevant data sources. Then, a systematic literature search was conducted using predetermined keywords on relevant academic databases such as Scopus, DOAJ, and Google Scholar. Search results were filtered by title and abstract to eliminate irrelevant articles. Articles that passed the initial screening were further evaluated through full reading to ensure they met the inclusion criteria. Data from the selected articles were then extracted and analyzed to identify key findings, trends, and research gaps. The conclusions from this analysis will be used to develop policy recommendations and best practices in the development of culture-based tourism destinations.

## RESULTS AND DISCUSSION

Based on the results of the literature search, several relevant research findings have been identified to support the focus and objectives of this study. Important aspects found include: (1) mobile-based marketing strategies that enhance tourists' interaction with digital platforms, (2) personalized travel experiences with mobile technologies that influence tourists' trust and intentions, (3) the role of travel app quality in shaping perceived usability and user engagement, (4) the contribution of location-based services to support interactive cultural tourism, and (5) the integration of mobile technologies in smart tourism to enhance user experience and destination competitiveness.

Table 1. Focus and Insight into Research Outcomes according to Eligibility Criteria

No	Field or Focus	Author	Research Insights or Variables
1	Traveler Interaction with Digital Platforms	Mallick (2023), Bonacini & Giaccone (2022), Verhun et al. (2022)	Mobile-based marketing increases traveler engagement through digital communication and mobile advertising.
2	Personalized Travel Experience	Ali et al. (2023), Basaza (2016), Yu et al. (2014)	Mobile technology provides personalized travel recommendations, influencing traveler trust and intentions.
3	Travel App Quality and Usability	Camilleri et al. (2023), Parapanos & Michopoulou (2022)	App functionality, usability and information quality are important in improving perceived app usability.
4	Cultural Tourism with Location-Based Services	Kusworo Anindito et al. (2015), Çınar (2020)	Location-based apps support cultural tourism by providing interactive information and guiding visitors.
5	Smart Tourism	Dorčić et al. (2019), Not (2021)	Mobile technology supports smart tourism with the integration of various services for an optimal user experience.

Table 1 summarizes the research findings that categorize various aspects of mobile technology use in the tourism sector. The main focus includes mobile technology playing an important role in increasing travelers' interaction with digital platforms through effective mobile-based marketing. In addition, personalization of travel experiences supported by mobile technology is proven to increase tourists' trust and intentions. App qualities, such as functionality and usability, contribute to users' positive perceptions of travel apps. Location-based services also support cultural tourism by providing interactive information, while in the context of smart tourism, mobile technology helps create a more efficient and competitive experience for tourist destinations.

**Mobile-Based Marketing Strategies Can Increase Travelers' Interaction with Digital Platforms in the Tourism Sector**

Mobile-based marketing strategies increase travelers' interaction with digital platforms, strengthening communication and the travel experience (Mallick, 2023). Social media and digital tools enable personalized marketing, helping to attract and retain travelers (Bonacini & Giaccone, 2022). Effective digital marketing, such as influencer and content marketing, is proven to increase engagement and conversion (Matusse et al., 2023). Studies in Egypt show that customized digital platforms can increase visitor satisfaction and loyalty (Alnajim & Fakieh, 2023). However, the

challenges of data privacy and content authenticity remain to be addressed (Gvaramadze, 2022). Demographic factors, such as age and digital literacy, influence how travelers engage with mobile marketing. Younger, tech-savvy travelers are more responsive to personalized content, while older travelers may be more cautious, focusing on privacy concerns (Gao *et al.*, 2024).

Mobile technologies increase travelers' interactions with digital platforms, with perceived usefulness, information quality, and user satisfaction influencing travelers' intention to use digital marketing tools (Marchesani *et al.*, 2024). These technologies create innovative experiences and competitive advantages for tourist destinations (Archi *et al.*, 2023), and are important for improving tourism business performance in the new normal era (Sakas *et al.*, 2022). Mobile advertising is considered a source of information that influences tourist attitudes and behavior (Verhun *et al.*, 2022), while digital marketing strengthens local communities and opens up new business opportunities (Heliany, 2019). Younger travelers, who are more familiar with mobile apps, engage more with interactive content, while older generations may prefer simpler marketing strategies due to privacy concerns (Starčević & Konjikušić, 2018).

The results showed that mobile-based marketing strategies significantly increased tourists' interaction with digital platforms in the tourism sector. Personalized marketing through social media and digital tools is effective in attracting and retaining tourists, as well as increasing engagement and conversion. Factors such as perceived usefulness and information quality also influence travelers' intentions to use digital marketing tools, creating innovative experiences and providing a competitive advantage for tourist destinations. While challenges related to data privacy and content authenticity exist, the adoption of digital marketing continues to strengthen local communities and open up new business opportunities. As such, mobile-based marketing strategies are key to increasing traveler engagement and satisfaction in an ever-evolving digital ecosystem. Demographic factors such as income levels also influence marketing success. Higher-income travelers may engage more with premium, personalized content, while budget-conscious travelers may prefer offers that cater to their needs.

### **The Role of Mobile Technology in Creating More Personalized and Relevant Travel Experiences for Travelers**

Mobile technology plays an important role in enhancing personalized travel experiences by facilitating information access, increasing engagement, and building trust. In the planning stage, these technologies help travelers gather important information and increase anticipation (Yu *et al.*, 2014). Personalized recommendations, including those generated by AI tools, strongly influence travelers' trust and intentions (Basaza, 2016). During the visit, travel apps provide real-time information and ease of navigation, and enrich the experience with features such as photo opportunities and

local insights (Lowatcharin, 2016; Giraldo, 2016). Younger, more tech-savvy travelers are more likely to engage with personalized recommendations, while older travelers may prioritize privacy and simplicity in app interactions (Hili, 2024). After the trip, these technologies facilitate the sharing of experiences, creating a sense of community among travelers (Yelderman, 2016). However, the distractions posed by technology need to be managed so as not to detract from the immersive experience of travel.

Mobile technology is critical in creating personalized and relevant tourism experiences. By enabling information aggregation, broad connectivity, and real-time synchronization, these technologies facilitate customized experiences in hospitality (Lei et al., 2022). In addition, mobile technologies link traveler interactions with destinations, enabling customized product consumption and necessitating a paradigm shift in traveler experience analysis and destination competitiveness. Higher-income travelers may be more willing to engage with premium, personalized services, while budget-conscious travelers might prefer free, location-based options (Schlosser & Chenavaz, 2023). Mobile web applications with location-based services can support cultural tourism by providing collaborative information and guiding visitors to cultural sites (Çınar, 2020). However, the adoption of personalized mobile travel advice is affected by the personalization-privacy paradox, where privacy concerns mediate the relationship between personalization cues and adoption intentions (Kuo et al., 2019). Thus, mobile technology offers opportunities for meaningful tourism experiences, but also faces challenges related to privacy and user adoption.

The results show that mobile-based marketing strategies can significantly increase travelers' interaction with digital platforms in the tourism sector. Mobile technology not only facilitates access to information and increases engagement through personalized recommendations, but also helps tourists better plan their trips, increasing anticipation and trust in the choices they make. During a visit, mobile apps provide real-time information and ease of navigation, as well as a richer experience with interactive features. Higher-income travelers may be more willing to engage with premium, personalized services, while budget-conscious travelers might prefer free, location-based options. In addition, these technologies allow visitors to share experiences, building communities among travelers. However, challenges such as data privacy and technological interference must be managed to keep the travel experience immersive. Overall, mobile technology offers a great opportunity to create relevant and meaningful tourism experiences, enhancing travelers' interaction with digital platforms.

### **Mobile Technology Development Supports Innovation in the Development of More Interactive and User-Friendly Travel Apps**

The development of mobile technology significantly improves the interactivity and ease of use of travel apps, which is important for innovation in the tourism sector. Key



factors influencing user engagement include app functionality and usability; information quality, source credibility, and enhanced features contribute to users' positive perceptions of app usability (Prandi et al., 2019). The application of innovative technologies such as gamification can enhance user motivation and experience (Missaoui et al., 2019). Smart tourism initiatives, such as the Travel Assist project, demonstrate the potential of integrating various services in a single app to improve user experience (Not, 2021). Demographic factors like age and tech familiarity influence engagement; younger users engage more with interactive features, while older users may prefer simpler, intuitive designs (Vaportzis et al., 2017). However, challenges in ensuring accessibility and inclusivity for all users, especially in developing regions, remain to be addressed.

Mobile technology is revolutionizing the tourism industry by enhancing user experience and promoting sustainable tourism. Applications that utilize location-based services provide interactive cultural tourism information, as seen in Yogyakarta (Fudholi et al., 2021). These technologies also strengthen a destination's competitive advantage and are influenced by factors of perceived usefulness, ease of use, and appropriateness (Lalicic & Weismayer, 2018; Topsakal & Dinç, 2022). In the context of smart tourism, mobile technology includes consumer, technology, and provider aspects (Ettema, 2018). Higher-income travelers are more likely to adopt premium, location-based services, while budget-conscious travelers may prefer free, basic features (Czinkota et al., 2021). The increasing popularity of these technologies is changing consumer and provider behavior, and is expected to drive innovation and the development of smart tourism competencies (Serdar, 2019).

The results show that the development of mobile technology significantly supports innovation in travel apps, making them more interactive and user-friendly. Factors such as functionality, information quality, and source credibility play an important role in increasing user engagement. Innovations such as gamification can create more engaging experiences, while smart tourism initiatives, such as the Travel Assist project, show the potential of integrating various services to enrich the user experience. Location-based applications provide interactive cultural information that supports sustainable tourism and strengthens destination competitiveness. While accessibility and inclusivity challenges need to be overcome, mobile technology is expected to continue to drive the development of more innovative and user-friendly tourism applications. Different demographic groups, such as younger, tech-savvy individuals, may engage more with these technologies, while older travelers or those in areas with less technological infrastructure may face barriers to adoption.

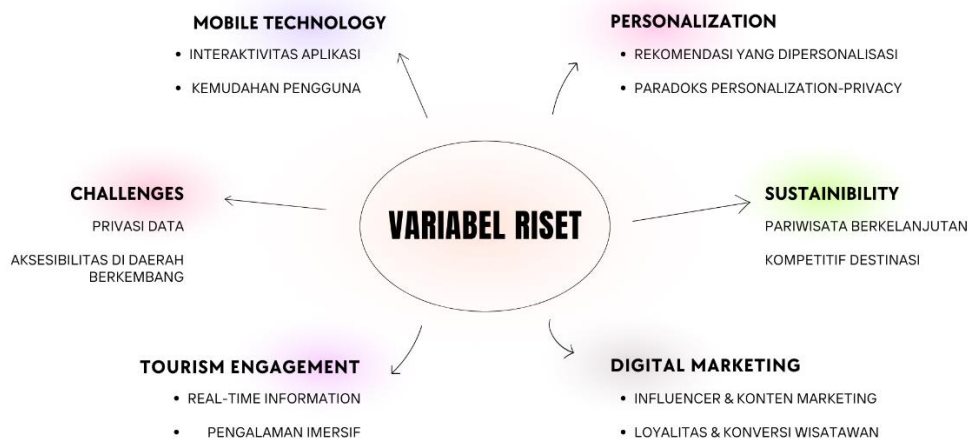


Figure 2: Development of Research Variables

Figure 2 illustrates the development of research variables that focus on the role of mobile technology in supporting the innovation of more interactive and user-friendly tourism applications. Mobile technology, with its interactivity and real-time information access features, increases traveler engagement during the planning, travel and post-travel processes. Key factors contributing to this engagement include app functionality and the quality of information provided. The use of innovative technologies such as gamification further enriches the traveler experience by motivating users to engage more deeply. In addition, travel apps powered by location-based services strengthen the appeal of cultural destinations by providing relevant collaborative information. However, the research also highlights the privacy and accessibility challenges, especially in developing regions, that affect the adoption of these technologies. Overall, mobile technologies not only enrich the traveler experience, but also create a competitive advantage for destinations, although inclusivity and privacy aspects must be kept in mind.

## CONCLUSION

The results of this study show that mobile-based marketing strategies significantly increase tourists' interaction with digital platforms in the tourism sector, through the application of technologies that facilitate access to information and a more personalized experience. One of the key limitations of this research is the exclusion of non-English studies from the literature review. This could potentially limit the generalizability of the findings, as certain cultural and regional perspectives on mobile marketing strategies may be underrepresented, particularly in non-English-speaking countries. Mobile technologies not only enrich travelers' engagement with digital marketing tools, but also support better trip planning, increasing anticipation and trust in travel options. However, challenges such as data privacy and technology disruption need to be

managed to keep the traveler experience immersive. The gaps in this research point to the need for further exploration of the impact of mobile-based marketing strategies across different demographic segments and ways to increase inclusivity in the use of these technologies. Future research should also focus on developing technological innovations that can strengthen sustainable tourism experiences and ways to integrate digital marketing with traditional strategies to create more meaningful interactions for travelers.

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