



Digital Applications and the Use of Information Technology in Increasing The Attractiveness of Foreign Tourist Visits

Ni Kadek Dessy Hariyanti^{1*}, Lona Noviani², Elisa Khairani³, Yanuar Latief⁴, Fahrina Mustafa⁵

¹Department of International Business Management, Politeknik Negeri Bali, Indonesia

²Department of Retail Management, Universitas Banten Jaya, Indonesia

³Department of Management, Universitas Gajah Putih, Indonesia

⁴Department of Management, Sekolah Tinggi Ilmu Ekonomi Bisnis Indonesia, Indonesia

⁵Department of Management, Universitas Hasanuddin, Indonesia

*Corresponding author Email: dessyhariyanti@pnb.ac.id

The manuscript was received on 20 January 2024, revised on 4 March 2024, and accepted on 26 June 2024, date of publication 26 August 2024

Abstract

This study aims to analyze the role of the adoption of technology and digital devices in facilitating business processes in the tourism industry in terms of delivering interactive information to tourists, especially foreign tourists. This study uses a qualitative method. Data collection methods used in the study are literature reviews, field surveys, and observations. The results of the study show that many foreign tourists are active and regular in using information and communication technology with laptops, smartphones, and the Internet. The results of the study also concluded that applications such as digital maps are the most popular devices for planning travel. Although the demand for digital solutions is very high, there is a gap between the technology preferences of foreign tourists and the ability of industry players to adopt technology, the majority of tourism industry players still rely on conventional methods. Foreign tourists who are currently dominated by the digital generation show a fast understanding and adaptation of technology, this should be responded to quickly by tourism business actors in Indonesia in developing digital devices. The tourism sector needs to improve technology integration to improve the efficiency and relevance of information services. To meet the needs of foreign tourists and technology-savvy tourists, it is important to develop technological devices that can be used to provide information and are easily accessible.

Keywords: Tourism Industry, Technology, Foreign Tourist.

1. Introduction

In recent years, the evolution of technology has brought about major changes in various aspects of life, including tourism. The digital transformation has accelerated the change in the way we plan, book, and experience travel. With increasingly sophisticated technology, tourism has become more dynamic, efficient, and personalized. Technology has introduced travelers to new tools, such as mobile applications, online booking platforms, and virtual reality technology, which allow them to plan their trips more easily and get a glimpse of the destination before they arrive. This has created a new type of traveler who is more independent and technology-oriented. The tourism industry must quickly adapt to these changes [1]. They must be able to identify and understand the behavior of modern travelers who want convenience, flexibility, and personalized experiences. To meet these expectations, the tourism sector needs to develop new services and products that leverage advanced technologies, such as AI-based booking systems, virtual tours, and automated customer service. Furthermore, optimizing the use of technology in tourism is critical to improving operational efficiency and reducing costs. The tourism sector can enhance the traveler experience by incorporating technology into daily operations, making travel smoother and more enjoyable, and ensuring that the services provided are in line with the needs and desires of the modern traveler. This technological evolution is not just a trend but a necessity for those who want to remain competitive in the ever-evolving tourism industry [2].

Mobile technology has changed the way we interact with the world, especially in terms of communication and access to information. The Internet, which has become an integral part of everyday life, is now more accessible than ever, thanks to increasingly sophisticated mobile devices. People have become accustomed to using mobile phones to access the Internet for various purposes, including sending emails, instant messaging, interacting on social networks, and searching for information through search engines and online media. This change gives users greater control over their devices, allowing them to take advantage of the many functions that mobile technology



offers. In the context of tourism, this is especially evident [3]. Travelers can now choose the applications and tools that they consider essential during their journeys. These applications, from planning to executing a trip, play a key role in providing relevant information and assisting in decision-making. In addition, mobile technology allows tourism service providers to provide more precise and personalized information to travelers. Users can tailor and present information based on their interests by leveraging data from user activity, such as preferences and search behavior. This creates a more relevant and satisfying experience for travelers while opening up new opportunities for destinations to enhance visitor engagement. Destinations are also adapting to these needs by developing technologies that support mobile travelers. This includes the development of responsive websites, easy-to-use mobile applications, and digital guides designed specifically for mobile devices. These technologies not only help travelers access information easily but also enhance their overall travel experience. Previous studies have highlighted the importance of adapting technology in the tourism sector to meet the needs of mobile users. Destinations that can offer technology that is tailored to these needs will not only attract more travelers but also create stronger relationships with their visitors [4].

A new type of traveler, increasingly knowledgeable and experienced, is emerging in today's saturated tourism market. This modern traveler is not only looking for new destinations but also wants unique and authentic experiences. With simple access to information and a variety of tools to design their trips, travelers now have more control over the experiences they want. Therefore, destinations must be able to adapt to this change [5]. They need to understand that today's travelers are not just looking for places to visit but also experiences that meet their expectations of quality and uniqueness. To remain relevant and competitive, destinations must develop more targeted offerings that are not only visually appealing but also provide added value through immersive and authentic experiences. In the face of this more demanding traveler, destinations need to adapt their offerings to suit the way modern travelers consume. High-quality and authentic travel experiences are key to attracting and retaining the evolving interests of travelers. By understanding travelers' desire to discover something new and different, destinations can create experiences that not only meet but exceed expectations. This includes everything from accommodation, food, and local culture to activities that allow travelers to engage directly with the local community and environment. These experiences will leave travelers satisfied and motivated to return or recommend the destination to others [6].

Travel providers are confronting a new paradigm in the tourism industry, and face a major challenge in filtering the abundance of available information. Modern travelers, who rely on multiple sources of information to plan their trips, have high expectations about the quality of the information they receive [7]. They are looking for not only accurate information but also relevant and timely information, both before, during, and after their trip. Private companies and public sector agencies play a crucial role in delivering high-quality information to travelers. With the flood of information available online, travel providers must be able to filter and present the most important and useful data to their clients. This means ensuring that the information provided is easily accessible and meets the specific needs of travelers. Accurate and timely information is key to maintaining effective communication with visitors [8]. This not only helps travelers plan their trips better but also ensures that they have a positive and satisfying experience at the destination they visit. Furthermore, providing relevant information after the trip can increase customer loyalty, encouraging them to return or recommend the destination to others. The delivery of information to travelers significantly determines the success of the travel stage. With the challenge of sifting through such a vast amount of information, travel providers need to innovate in the way they communicate and ensure that the information they provide truly matches what travelers are looking for and have. This will be key to successfully meeting the expectations of the modern traveler and creating a memorable travel experience [9].

Future tourism destinations will largely determine their success by integrating information and communication technology into their structures, communications, and interactions with tourists. In an increasingly digital era, tourism destinations must strive to incorporate information and communication technology through innovative mechanisms that not only increase efficiency but also enrich the tourist experience [10]. This information and communication technology integration requires the restructuring of internal processes and the adoption of new strategies that allow destinations to be more responsive to tourist needs. Destinations can collect data from tourist interactions, analyze it, and manipulate it to create personalized content by leveraging technological infrastructure. This will not only improve tourist satisfaction but also help destinations achieve their long-term goals. However, a joint initiative between the government and the private sector is necessary to achieve this [11]. The government must act as a facilitator, encouraging investment and innovation by providing a supportive regulatory framework. This will provide opportunities for the private sector to develop new products that increase the competitiveness of destinations. Participatory management, involving all local actors, is also key in this innovation context. By involving local communities in the decision-making process, destinations can increase their sense of ownership and shared responsibility for tourism development [12]. In addition, reflecting on the use of technology at every stage of the process will ensure that the innovations adopted are truly relevant and beneficial to all parties involved. Thus, destinations that can adapt to technological innovations, incorporate digital infrastructure, and apply a participatory approach to their management will have a greater chance of success in the increasingly competitive global tourism market.

2. Research Method

This qualitative research involved a variety of data collection methods designed to gain an in-depth understanding of the subject under study. A bibliographic review was conducted to gather and scrutinize pertinent literature, which provided the necessary theoretical foundation and context for the research. This method helped identify the theoretical framework underlying the study and establish a background that supports further analysis. We used interviews as a key method to gain direct insight from individuals or groups with specific experiences or knowledge relevant to the research topic. The interview approach can be either semi-structured or unstructured, providing flexibility in gathering information and allowing the researcher to explore multiple viewpoints. This method was essential for understanding the subject's perspective in-depth and obtaining more detailed information. We surveyed Google Forms, in addition to interviews, to efficiently collect data from a wider range of respondents. We also implemented non-participant observation to gain real-world context about behavior and interactions at accommodation locations and tourism offices, without direct involvement.

3. Result And Discussions

The age range of those participating in this survey played a significant role in capturing a wide range of opinions on technology, providing a broader and more in-depth view of how different age groups view and use technology today. The survey identified both

differences and similarities in the understanding and integration of technology into everyday life by including participants from different generations. The generation that grew up under the influence of the internet, especially those known as digital natives, offers a unique and highly relevant perspective. From an early age, digital natives have interacted with digital devices and the Internet, making it an integral part of their lives. Their experience with technology is not only limited to its use but also to how it has shaped the way they think, interact, and make decisions. Digital natives, having spent most of their lives in a technology-rich environment, possess a profound understanding of technological advancements and their diverse applications in entertainment, education, and various facets of social and professional life. They tend to be more adaptive to new technological innovations and are quicker to adopt new tools and applications that emerge in the market. Moreover, the influence of this generation is not only limited to how they use technology today but also how they will shape the trend of technology usage in the future. Given their familiarity with technology, they possess the potential to spearhead its evolution, shaping its development, implementation, and integration into diverse facets of people's lives. Their views and habits will greatly influence the technology industry, including how technology companies design their products and services to meet this group's needs and preferences. Therefore, the results of this survey not only provide a picture of the current situation but also offer valuable insights into the future of technology. Understanding how digital natives and other generations view and use technology allows us to predict the direction of technology development and how it will affect society as a whole. Their views are critical to designing a sustainable and relevant technology strategy for the future, ensuring that technology developments not only follow current trends but are also ready to face the challenges and opportunities that will come.

Technological advances are currently heavily influencing the tourism sector, particularly with the presence of the Internet, which has become the main tool for information searching. The Internet plays a crucial role for both tourists and tourism service providers. For travelers, the internet offers simple and fast access to gather information about destinations, accommodations, and activities before they decide to travel. Using various digital platforms, they can search, compare, and choose the options that best suit their preferences without having to rely on limited traditional sources of information. On the other hand, for travel information providers, the internet is an invaluable tool to respond to travelers' questions and needs efficiently. Online platforms such as websites, apps, and social media allow them to reach a wider audience, provide the necessary information in real time, and even enable direct bookings. Their presence on these platforms not only facilitates interactions with travelers but also increases their visibility and competitiveness in a highly competitive global market. Because of the importance of access and convenience, the Internet is a primary search source for travelers. Today, travelers do not just search for information randomly but also assess the quality, quantity, and reliability of the information they find. Therefore, destinations and service providers must ensure that the information they present online is always accurate, up-to-date, and easily accessible. Success in delivering relevant and reliable information can be a determining factor in attracting tourists, building a destination's reputation, and maintaining competitiveness in this ever-evolving market.

In light of the shift in tourist information and preferences, it appears that comments from friends and acquaintances, often obtained through social networks, are the second-most preferred source of information. The survey did not explicitly mention this, but the available data indicates that social networks significantly influence tourist destination preferences. Many tourists and information providers now rely on recommendations from social networks as a trusted reference. Both parties, tourists and information providers, gather more than 80% of their information about tourist destinations from the Internet. It is intriguing to note that the main query topics searched by both actors are about locations and activities. Tourists seeking information, as well as informants providing it, show a similar focus on this aspect. These results indicate that, despite the many digital applications and products available, effective and integrated digitization of information is still a key factor in determining the main source of information. Both parties appear to hold the belief that more effective digitization of information would elevate these digital options to the forefront. In other words, although technology offers a variety of applications and platforms for obtaining tourist information, the quality and accessibility of personalized information through digitization remain the main preference. This highlights the importance of developing and managing effective digital platforms to efficiently meet the information needs of tourists and service providers. Integrated information digitization not only helps to improve the user experience, but also ensures that the information provided is accurate, relevant, and tailored to individual needs. As a result, developing digital tools and platforms that can easily and quickly offer personalized information is a critical step in addressing the growing information demands in the tourism sector.

The majority of respondents in this study reported using both web and mobile applications, with Google Maps being the most widely used. This finding is in line with the previously mentioned digitalization trend. It is very popular among users due to its superior ability to provide accurate information about locations and navigation. The application offers very useful features for travelers, allowing them to plan their trips more efficiently and access precise location guidance. Its superiority in providing real-time information and detailed routes makes it an invaluable tool in planning trips, especially when travelers are looking for specific information about the places they are going to visit. Features such as walking guides, place ratings, and user reviews add value to the travel experience, providing comprehensive and easily accessible guidance. Therefore, the use of applications reflects the needs and preferences of modern travelers, who rely on technology for navigation and travel planning. It also emphasizes the importance of integrating sophisticated digital tools into the tourism industry to meet the ever-growing demand for information. Furthermore, interviews with various members of the tourism sector revealed that the application is the most widely used digital tool to answer questions from travelers. Despite the differences in experience and knowledge among players in the tourism sector, the application has consistently proven to be a highly effective tool for providing information and assisting in travel planning. The application offers simple access and accuracy of information that travelers need, such as locations, routes, and reviews of places, making it a primary resource in the sector. The emphasis highlights the importance of technology integration in the tourism sector. Digital tools not only support travelers in planning their trips but also make it easier for service providers to provide relevant and up-to-date information. With the adoption and efficient use of digital tools such as these, the tourism sector can improve the overall travel experience, ensure responsive service, and remain competitive in an increasingly competitive market. This shows that well-integrated digital technology can improve operational efficiency and service quality in the tourism industry.

One of the biggest gaps identified in the interviews was the lack of use of technological tools by receptionists at various accommodations. Although the survey results showed that travelers today prefer digital applications to obtain information and plan their trips, many accommodation informants still rely on printed maps and other traditional methods. This indicates a gap between travelers' technology preferences and service providers' technology adoption. Receptionists' lack of use of technology affects the effectiveness and efficiency of the information services they provide to travelers. Printed maps, while useful, cannot offer the same flexibility and ease of access as digital applications. In this context, there is an urgent need to address this gap with technological solutions that better suit

travelers' needs and expectations. Therefore, the primary purpose of the technological tool proposed in this thesis is to bridge the gap between the technology preferences of travelers and the adoption of technology by receptionists. Accommodation informants specifically design the proposed tool to enhance their information-giving skills. Using this tool will make the process of providing relevant and up-to-date information easier and faster, allowing receptionists to respond to travelers' requests more efficiently. Implementing this technological tool will not only address the existing gap but will also improve the quality of the traveler experience by providing better access and more accurate information. In addition, these tools can help to update receptionist work methods, integrate technology into everyday services, and increase accommodation competitiveness in an increasingly digital tourism market. Wider adoption of technology in the accommodation sector will thus support the digital transformation of the tourism industry and ensure that the services provided align with the expectations and needs of modern travelers.

Given the clear trend towards information digitalization, travelers can now plan their trips more personally using mobile devices. These devices provide significant advantages due to their ability to present information tailored to individual needs and preferences, as well as their continued ease of access. The interest in the possibility of creating personalized travel experiences shows that travelers are increasingly relying on technology to obtain information and plan their activities. Digital applications and tools play a major role in providing up-to-date information, recommendations, and relevant navigation during their travels. However, to ensure that the information provided through these digital tools is comprehensive and accurate, an active role is required from the accommodation informant. Accommodation informants act as a link between travelers and information about the destination. They must be able to integrate and utilize existing technological tools to complement the information already available and used by travelers. Thus, the role of accommodation informants is crucial in supporting the digitalization of information. They need to have access and the ability to use the right technology to improve the quality and accuracy of the information provided to travelers. This will ensure that the traveler experience remains of high quality and meets their expectations, while also harnessing the full potential of the digital tools available. The active role of accommodation informants in integrating technology not only improves service efficiency but also strengthens a destination's relevance and attractiveness in an increasingly competitive market. Thus, investing in technology training and updating digital tools for accommodation informants is an important step in meeting the needs and expectations of the modern traveler.

Today, the rise of information and communication technologies is no stranger to the tourism sector, and this is evident in the large number of works related to this topic. Diverse destinations have developed various research and professional experiences in the hospitality sector, which have contributed to local knowledge and understanding of how technology can enhance tourism services and experiences. Despite the widespread adoption of information and communication technologies in the tourism sector, there are significant deficits in its use in many areas. These gaps often include a lack of technology integration in day-to-day operations, limitations in the use of digital tools, and the need for a better understanding of how technology can improve efficiency and customer experience. This has led to a strong interest in studying and addressing these gaps. There is an urgent need to propose guidelines and strategies for developing web applications that can help address these gaps. These guidelines will focus on developing more effective, user-oriented digital tools that can improve the way the tourism sector operates and interacts with tourists. Such applications will help provide relevant and up-to-date information, facilitate communication between service providers and tourists, and improve overall operational efficiency. This will support the digital transformation of the tourism sector and ensure that destinations can harness the full potential of technology to enhance tourist appeal and satisfaction.

Currently, the classic method of conveying information from tourist informants to tourists involves direct conversations supported by distribution materials such as maps and brochures. In this context, web applications frequently serve as valuable tools for tourists, aiding in their trip planning and destination exploration. We identified various aspects of this information communication process through a SWOT analysis. Strengths include the provision of distribution materials that provide easily accessible physical information, as well as the use of web applications that allow rapid and real-time access to information. However, weaknesses include the reliance on printed materials that are less efficient and not always up-to-date, as well as the use of web applications that may still be limited. Opportunities include increasing technology integration for communication efficiency and tourist satisfaction, as well as developing more sophisticated web applications. Threats include the risk of inaccurate information if applications are not updated regularly, challenges in training tourism informants, and potential mismatches between technology and tourist preferences. This analysis suggests the need for innovative approaches to information communication. We need more efficient technology development and implementation to bridge the gap between tourist needs and the ability of tourism informants to provide relevant and accurate information. This entails creating more sophisticated web applications and systems that can adapt to rapid changes in tourist information and preferences. As a result, better technology integration can improve the quality of information communication, facilitate access for tourists, and support operational efficiency in the tourism sector.

In general, the use of technological tools in the tourism sector, both for collecting pre-trip information and for answering tourists' questions, is still limited. In particular, tourist informants from accommodations demonstrated a relatively underdeveloped use of information and communication technologies. This survey provides insight into the profiles of tourists and tourist informants, revealing the extent to which these two actors utilize available technologies, how they tend to integrate these tools, and their preferences regarding their use. The survey findings indicate that the level of use of mobile devices, frequency of internet use, and applications are very high. These findings suggest that the development of technological tools should prioritize the use of applications. This application enables users to create and plan trips based on the searches they perform. However, to make optimal use of this feature, user registration is required, which can be a barrier to the delivery of information by informants to tourists. Therefore, the design of the proposed technological tool takes into account the active role of tourist informants. Thus, this tool will enable informants to create personalized travel plans, provide more relevant and up-to-date information to tourists, and increase the effectiveness of information delivery. This tool's development aims to overcome existing constraints, make better use of technology, and align information services with modern travelers' technological preferences.

4. Conclusion

This analysis reveals several key findings regarding the use of information and communication technologies in the tourism sector, as well as the important role that technology plays in improving tourist services and experiences. The survey and interviews identify several key conclusions. Tourists make intensive use of mobile devices, the internet, and applications to plan their trips and gather information. This confirms the strong demand for digital solutions that can provide relevant, accurate, and personalized information. However, there is a

gap in informants' adoption of technology in accommodations. Although tourists show a high preference for digital applications, informants from accommodations still rely on traditional methods such as printed maps. The gap between tourists' technological needs and service providers' adoption of technology highlights a need for improvement in service quality. It is important to note that digital natives, the generation that grew up with technology, show faster adaptation and a deeper understanding of technology. They influence future technology usage trends and are key drivers in the evolution of digital tools and applications. The integration of technology in the tourism sector is becoming increasingly important to meet tourists' needs and expectations. In addition, the tourism sector needs to increase the integration of technology into daily operations to improve the efficiency and relevance of information services. The use of applications and integrated digitization of information are important steps in supporting the sector's digital transformation. The survey findings also underscore the pressing need for the development of technology tools for accommodation informants. These tools should be able to provide personalized and easily accessible information, addressing the gap between travelers' technology preferences and current practices.

References

- [1] Arsawan, I. W. E., ssy De Hariyanti, N. K., Atmaja, I. M. A. D. S., Suhartanto, D., & Koval, V. (2022). Developing organizational agility in SMEs: An investigation of innovation's roles and strategic flexibility. *Journal of Open Innovation: Technology, Market, and Complexity*, 8(3), 149.
- [2] Arsawan, I. W. E., Koval, V., Suhartanto, D., Hariyanti, N. K. D., Polishchuk, N., & Bondar, V. (2024). Circular economy practices in SMEs: aligning model of green economic incentives and environmental commitment. *International Journal of Productivity and Performance Management*, 73(3), 775-793.
- [3] Gunawan, F. E., Andry, J. F., Tannady, H., & Sebastian, B. (2020). Evaluation and measurement of automobile service and maintenance company performance using cobit framework and balanced scorecard. *Evaluation*, 62(07).
- [4] Suarta, I. M., Suwintana, I. K., Sudhana, I. F. P., & Hariyanti, N. K. D. (2020, August). Employability skills for sustainable development and supporting industrial revolution 4.0: a study for polytechnic curriculum development. In *First International Conference on Applied Science and Technology (iCAST 2018)* (pp. 36-39). Atlantis Press.
- [5] Kurnianingsih, A., & Noviani, L. (2020, March). Effect of Ownership Structure, Company Size on Company Performance with Dividend Policy as a Mediating Variable in Companies in Mineral and Other Metal Sub-Sectors that are listed on the Indonesia Stock Exchange for the Period 2011–2015 (Case Study on Selected Companies that Register on the Indonesia Stock Exchange 2011–2015). In *1st International Multidisciplinary Conference on Education, Technology, and Engineering (IMCETE 2019)* (pp. 300-306). Atlantis Press.
- [6] Noviani, L., & Nabella, R. I. (2024). Optimizing Digital Marketing Through TikTok. *Jurnal Manajemen dan Retail*, 4(1), 13-19.
- [7] Latief, Y. (2005). *Pengaruh Kualitas Perangkat Lunak Sistem Informasi Sumber Daya Manusia dan Partisipasi User Terhadap Kepuasan User Sebagai Pengguna Sistem, (Studi pada Biro Administrasi Sumber Daya Manusia Universitas Trisakti)* (Doctoral dissertation, Tesis, Universitas Budi Luhur, Jakarta).
- [8] Purwanto, E., Sjarief, R., Dawan, A., & Tannady, H. (2020, November). The heritage tourism development as the sustainable development goal of the enclave settlement: A preliminary research. In *IOP Conference Series: Materials Science and Engineering* (Vol. 990, No. 1, p. 012010). IOP Publishing.
- [9] Kumar, G. S., Priyadarshini, R., Parmenas, N. H., Tannady, H., Rabbi, F., & Andiyana, A. (2022, November). Design of optimal service scheduling based task allocation for improving CRM in cloud computing. In *2022 Sixth International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud)(I-SMAC)* (pp. 438-445). IEEE.
- [10] Tannady, H., & Dewi, C. S. (2024). Exploring role of technology performance expectancy, application effort expectancy, perceived risk and perceived cost on digital behavioral intention of GoFood users. *Jurnal Informasi Dan Teknologi*, 80-85.
- [11] Andry, J. F., Tannady, H., & Gunawan, F. E. (2020). Purchase order information system using feature driven development methodology. *International Journal of Advanced Trends in Computer Science and Engineering*, 9(2), 1107-1112.
- [12] Tannady, H., Andry, J. F., Suyoto, Y. T., & Herlian, A. (2020). Business Architecture of Public Guest Service for University Using TOGAF ADM Framework. *Technology Reports of Kansai University*, 62(5), 2421-2428.