Jurnal DIALEKTIKA: Jurnal Ilmu Sosial,
Vol 23 No. 3 2025

ARTICLE

UTILIZATION OF TECHNOLOGY IN TOURISM DESTINATION PLANNING: A QUALITATIVE ANALYSIS AT DAGO DREAMPARK BANDUNG

Trixie Pavella Boli* **& Ila Rahma Cahayani**
Institut Teknologi Bandung, Indonesia
Email: trixiepavella103@gmail.com

Article History
Received: 21 November 2025
Accepted: 17 December 2025
Published: 31 December 2025

Abstract

Destination Planning and Management is now fundamentally intertwined with Digital Transformation in the Tourism Industry. Information and Communication Technology (ICT) has become a crucial strategic element in effective Tourism Planning, moving beyond a mere supporting role. This qualitative case study investigates how the nature-based destination, Dago Dreampark, integrates digital technology into its long-term planning and operational management processes. Data were collected through interviews with management, non-participant observation, and comprehensive digital media analysis (website, social media, and OTAs). The findings show that Dago Dreampark has successfully adapted the Smart Tourism concept, notably through an intensive digital marketing system. Digital technology plays a significant role in shaping the destination image and enhancing the tourist experience (smart experience). However, full strategic integration faces substantial challenges. Key issues identified include: persistent infrastructure limitations; inadequate human resources and market readiness for innovation, which was evidenced by the failed RFID wristband implementation; the need for sustained investment in technology development; and the necessity for tighter data integration to support spatial sustainability compliance. This study concludes that the strategic utilization of digital technology is an effective enabler for destination planning at Dago Dreampark, successfully elevating the tourist experience and establishing the site as a leading Smart Tourism destination in Bandung City.

Keyword: Dago Dreampark; Destination Planning; Digital Tourism; Smart Experience; Smart Tourism.

A. INTRODUCTION

The tourism industry is currently undergoing a transformation driven by rapid advances in Information and Communication Technology (ICT). In Indonesia, this shift has also impacted operational structures, tourism services, and tourist behavior (Nugroho & Damiasih, 2025). The current phenomenon, tourists are highly dependent on digital technology throughout the travel cycle, from searching for information and making reservations to sharing post-visit experiences. This requires tourism destinations to adopt technology not only in a marketing context but also to integrate it into their strategic planning and operational management processes (Iswanto et al., 2024). Traditional tourism destination planning is often static and linear (Werthner & Ricci, 2004). However, this digital era offers the need for adaptive and data-driven planning. Technology itself serves as a key driver in realizing the Smart Tourism concept, which emphasizes operational efficiency and enhanced visitor experience (Gretzel, Sigala, Xiang, & Koo, 2015).

Companies operating in the tourism sector are required to utilize digital platforms (websites and social media) to build positive perceptions among tourists and directly influence destination image and visitor interest (Neuhofer, Buhalis, & Ladkin, 2015).

Dago Dreampark, located in Bandung, is an interesting case study in this context. As a private recreational destination nestled in a natural area (pine forest), Dago Dreampark extensively utilizes digital media for promotions and utilizes an online ticketing system for access management. Dago Dreampark specifically targets tourists from Bandung and seasonal foreign tourists as its primary market, utilizing social media (TikTok, Instagram, and YouTube) to achieve online sales. This destination also utilizes Visual Reality (VR) technology in several attractions to enrich the visitor experience. It strategically plans attractions and photo spots with the potential for virality and generates engaging content for visitors. These efforts to utilize digital technology and innovative attractions have also influenced the number of visitors over time. This can be seen through the statistical data on the number of visitors to Dago Dreampark from its opening in 2016 to 2022, presented in the following graph:

Figure 1: Visitor Data at Dago Dreampark Bandung 2016-2022

Source: Dago Dreampark Sales and Marketing, 2022

Based on the diagram of visitor numbers for Dago Dreampark Bandung for the period 2016–2022, a fairly sharp fluctuation pattern is evident, reflecting both the external and internal dynamics of the tourist destination. Visitor numbers increased significantly in 2017 and peaked in 2018, which can be interpreted as a growth phase for the destination as the popularity and attractiveness of tourism products increased. However, since 2019, there has been a gradual decline, culminating in a drastic decline in 2020, which rationally correlates with the impact of the COVID-19 pandemic on the tourism sector. In 2021, visitor numbers remained low, indicating a suboptimal recovery process, before finally increasing again in 2022. This pattern indicates that interest in visiting Dago Dreampark is sensitive to external factors (such as the health crisis) and emphasizes the importance of strategic management and tourism product innovation to maintain long-term visitor sustainability.

However, the use of this technology raises issues that require further in-depth analysis. On the one hand, technology is used to maximize visitor volume and profitability through the creation of smart experiences and digital marketing. However, as a destination that relies heavily on the natural ecosystem of pine forests, planning must be based on the principles of sustainable development. If technology is used without considering capacity management and natural resource conservation, increasing visits could conflict with the principles of spatial sustainability. Furthermore, technology implementation challenges also include market readiness and infrastructure constraints.

Based on the above background, this study aims to determine how Dago Dreampark management strategically integrates digital technology into the tourism destination planning cycle. Furthermore, it examines the role of digital technology in shaping the destination image and enhancing the tourist experience (smart experience) at Dago Dreampark, and the key challenges faced by management in adopting and implementing technology to support destination planning that prioritizes sustainable principles.

B. LITERATURE REVIEW

The development of Information and Communication Technology has undoubtedly brought changes to various aspects of human life, including the tourism sector (Hanief et al., 2018). Through this utilization, technology is now not only a support but also a strategic step in the management and planning of tourism destinations, providing a convenient tourist experience (Nurhidayati et al., 2025).

This theoretical study discusses three main interrelated components: (1) the basic concept of Information and Communication Technology, (2) the concept of Tourism Destination Planning, and (3) the role of technology in tourism planning. These three aspects provide an understanding of how technological innovation can become a strategic planning strategy for tourism development in the digital era.

Information and Communication Technology Concept

This information and communication technology innovation is the result of the development of information and communication technology by utilizing all the potential and resources available at tourist destinations, which are communicated worldwide (Situmorang M, 2023). This information and communication technology innovation is a solution that offers a variety of tourist destination locations, thus creating attractive tourist destination opportunities, thereby increasing tourist visits (Situmorang, 2006). Information and communication technology is also defined as electronic devices that function to transmit information and data within a network, encompassing hardware aspects such as smartphones and sensor devices, as well as software, including websites, applications, social media, and artificial intelligence (Rachmawati T, 2020).

Tourism Destination Planning

Gunn & Var (2002) explain that tourism is the temporary movement of people to destinations outside their normal places of work and residence, the activities undertaken during their stay at those destinations, and the facilities created to cater to their needs.

"Tourism is the temporary movement of people to destinations outside their normal places of work and residence, the activities undertaken during their stay at those destinations, and the facilities created to cater to their needs."

Therefore, tourism encompasses all activities undertaken while at a destination, as well as the various facilities provided to meet tourist needs, such as accommodation, transportation, and other supporting services.

To ensure that all these processes run smoothly, destination development planning is necessary in tourism development (Ridwan & Aini, 2020). Tourism destination planning is the process of organizing and developing a tourist destination to provide the best possible experience for tourists, while maintaining a balance between economic, social, cultural, and environmental interests (Setiawan et al., 2023). The main objectives of tourism planning include increasing tourist satisfaction, integrating local community interests, and conserving resources (Gunn & Var, 2002). Planning must be comprehensive and multidimensional, as expressed by Inskeep (1988) who emphasized the importance of an integrated and sustainable development approach in tourism planning. The main components that must be included in a tourism development plan include tourist objects and attractions, including their activities, transportation networks connecting the origin and destination, and supporting facilities and infrastructure, both physical and institutional (Misni M, 2023).

Technology in Tourism Planning (Smart Tourism)

Smart tourism is the utilization of all available potential and resources to enhance the tourism experience (Endah & Budiawan, 2024). The concept of smart tourism emerged from the development of studies on the relationship between technology and tourism (Putra et al., 2020). Smart tourism, meanwhile, is a logical progression from traditional tourism to e-tourism, as the foundation for innovation and technological orientation in industry and consumers is laid early on with the widespread adoption of ICT in tourism activities (Werthner & Ricci, 2004 in Putra et al., 2020).

> "A smart tourism destination is defined as: an innovative tourist destination, built on an infrastructure of state-of-the-art technology guaranteeing the sustainable development of tourist areas, accessible to everyone, which facilitates the visitor's interaction with and integration into their surroundings, increases the quality of the experience at the destination, and improves residents' quality of life." (Gretzel, Sigala, Xiang, & Koo, 2015).

Within the Smart Tourism framework, companies operating in the tourism sector are required to utilize digital platforms such as websites and social media to create positive perceptions that can influence destination image and tourist interest. Therefore, Destination Image and Smart Experience are two key strategic outcomes that must be achieved through technology integration in tourism destination planning. Destination Image is a central concept in tourism marketing as it acts as a strategic asset influencing tourist travel decisions. Bramwell and Rawding (1996) introduced the distinction between destination image based on its formation source: Projected Image and Perceived Image. Projected image is the image that tourism marketing organizations attempt to create and promote through various media channels. Conversely, Perceived Image is the image formed in the minds of tourists or potential tourists, including impressions, cognitions, and feelings (Wang, 2023).

The ultimate goal of the Smart Tourism concept is Smart Experience, defined as a technology-based experience driven by a smart destination ecosystem (Safitri L, 2023). The goal is to ensure that technology is implemented to enhance the tourist experience (Serra & Neuhofer, 2018). Gretzel et al. (2015) emphasize that smart experiences can be achieved through a deep awareness of the tourist's context, a high level of personalization, real-time monitoring, and the appropriate use of smart technology. There are four main dimensions (Serra & Neuhofer, 2018):

- Data-driven, where data serves as the foundation for predicting tourist needs, analyzing sentiment, and providing intelligence for destination management.
- Built-in real-time, where experiences must be dynamic and can be constructed in real time, allowing for rapid service adjustments.

- Context awareness, where services provided must be able to recognize and respond to the tourist's specific context (such as location, time, weather, or personal preferences).
- Co-creation, which involves the active participation of tourists in value creation through interactions, feedback, and various other experiences.

C. RESEARCH METHODOLOGY

This research employed a qualitative approach with a case study strategy. This case study approach is not intended to draw conclusions and generalize about phenomena within a population, but rather is applied solely to the phenomenon or event being studied. This approach aims to gain a deeper understanding of the strategic planning process adopted by management, interactions between stakeholders, and visitor experiences regarding the use of technology at the destination. Furthermore, it examines how management's planning process is influenced by factors such as perceptions, internal policies, and challenges in technology implementation.

Data were collected through in-depth semi-structured interviews with management, non-participant observation conducted to observe the actual implementation of the technology system and the condition of supporting infrastructure that utilizes technology, and a documentary study, namely an analysis of Dago Dreampark's digital platforms, including social media (Instagram, TikTok, and YouTube), the official website, and online travel agent (OTA) reviews.

D. RESULT AND DISCUSSION

Dago Dreampark Overview

Dago Dreampark is a modern tourist destination in Bandung, combining the natural elements of a pine forest with entertainment attractions and trendy (instagrammable) photo spots. This destination is located in the Lembang highlands, specifically at Jl. Dago Giri Km 2.2, Mekarwangi, Pagerwangi, Lembang District, West Bandung Regency, West Java 40135. Its cool climate and natural scenery are among the added values optimized by the management to attract visitors from various backgrounds. Dago Dreampark is also easily accessible from downtown Bandung, approximately 10 km towards Lembang. Dago Dreampark began operating in 2016 and was temporarily closed during the COVID-19 pandemic, only to reopen in 2022.

The Dago Dreampark concept incorporates a philosophy that combines Javanese-Sundanese architecture with Balinese elements. The tourism products offered are quite diverse, including Instagram-worthy photo spots (Love Seat, Aladdin Carpet, Sky Bike, and others), adventure rides or extreme games (ATV, Paintball, Flying Fox, and Monster Offroad), family-friendly rides, and indoor areas (Pine Forest, fishing, and animal interactions). This destination also provides other supporting facilities such as a spacious parking area, restrooms, a prayer room, a restaurant or cafe, Wi-Fi, and a food court with an attractive concept.

Utilization of Technology at Dago Dreampark

Dago Dreampark itself has become a destination that has adopted the Smart Tourism concept, one of which is through its intensive digital marketing system. The destination has a wide presence on various social media platforms. This effort is part of a strategic plan to build a positive and attractive image for potential tourists. Dago Dreampark itself is claimed to have been successful online, making it one of the destinations with high sales on the TikTok platform in the Lembang area. Furthermore, Dago Dreampark partners with online travel agents (OTAs) such as Traveloka, Trip.com, tiket.com, and Klook, as well as TikTok Go, demonstrating adaptive efforts in utilizing digital marketing. Furthermore, this online ticketing system serves to increase booking efficiency and reduce queues for regular tickets at the venue.

Figure 1. Dago Dreampark Website
Source: Processed by Researchers, 2025

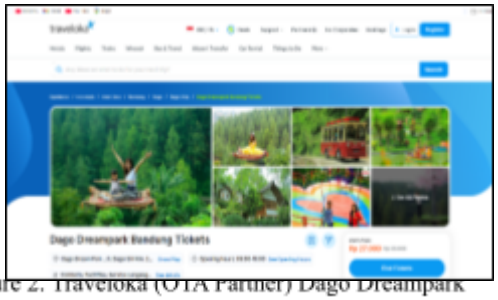

Figure 2. Traveloka (OTA Partner) Dago Dreampark
Source: Processed by Researchers, 2025

Figure 3. Dago Dreampark Instagram
Source: Processed by Researchers, 2025

Figure 4. TikTok Go Dago Dreampark
Source: Processed by Researchers, 2025

Figure 5. QR Code Information
Source: Processed by Researchers, 2025

Technology is also utilized in several of its attractions, including Virtual Reality (VR) on the "Aladdin Carpet" attraction and high-tech visual attractions (4D, 6D, and 8D), demonstrating efforts to enhance the visitor experience. Furthermore, Dago Dreampark has launched a new innovation in technology utilization through the provision of RFID (Radio-Frequency IDentification) bracelets. These RFID bracelets contain a data-enabled antenna chip and are used as a payment method within the Dago Dreampark area, with a top-up mechanism. Dago Dreampark also utilizes QR codes for ticket purchases, restaurant and cafe payments, and the information center. The use of QR codes as an information center is intended to provide easy access to information about the Dago Dreampark area and its attractions for visitors. Visitors simply need to scan the barcode on the information board and be directed to a Google Drive page containing everything from a map of the Dago Dreampark area to explanations of all the attractions. Digital Technology Integration in Strategic Planning

Based on findings and interviews with management, Dago Dreampark's technology adoption remains hybrid. The success of digital marketing and virality on TikTok demonstrate that front-end planning (promotion and destination image building) is heavily influenced by digital data. OTA collaborations have had a positive impact and are a strategic move, based on targeting the digitally active core market outside Bandung. However, sales are still dominated by regular systems, at 70%. This indicates that Smart Management (data and operational management) remains heavily reliant on conventional systems. Furthermore, online visitor data may not be sufficiently representative or real-time to serve as a primary input for strategic planning. Furthermore, technology planning at tourism destinations depends not only on the quality of the system but also on the readiness of the user ecosystem.

The Role of Technology in Destination Image Building and Smart Experience Enhancement

Technology plays a significant role in destination image building and smart experience creation at Dago Dreampark. This destination clearly positions itself by prioritizing a strong visual experience, particularly through various selfie spots. The physical planning is heavily influenced by social media trends, where viral content analysis is reused to design spaces that will encourage tourists to produce User-Generated Content (UGC). This content then becomes an effective free promotional tool and strengthens Dago Dreampark's image as an Instagrammable and modern destination.

However, the use of advanced technology, such as VR rides, has proven unstable, especially after the pandemic, due to their vendor dependence and high cost. The closure of several of these rides demonstrates that relying on expensive technology can carry financial and operational risks for the destination. Therefore, the current form of smart experiences chosen is more impactful but low-cost, such as providing creative photo spots that have the potential to quickly and easily go viral. More in-depth technology implementation is currently hampered by budget constraints and the excessive risk to management.

Challenges in Technology Utilization and Its Support for Sustainability

The use of technology at Dago Dreampark certainly faces challenges throughout its implementation. Several challenges and obstacles have emerged during the implementation of smart tourism at Dago Dreampark. The main challenges are infrastructure development, human resources, and finances. These challenges are perceived as hampering the destination's transition to a fully-fledged smart tourism destination. Financially, the investment required to develop technology is very high. Because Dago Dreampark is a privately-developed destination, there is no government assistance. This places the entire burden of investment and financial risk solely on destination management. Furthermore, the destination area, located on 13 hectares, has been successful in managing visitor density. However, congestion issues have occurred, leading to conflicts between management and the surrounding community due to limited parking space. This demonstrates the suboptimal and spatial nature of smart management. Daily visitor data obtained from the ticketing system should be a crucial input in spatial planning that can address such issues, rather than simply providing monetary compensation to affected communities.

Another challenge in utilizing technology in Dago Dreampark management is the failure to implement RFID wristbands. This failure was caused by low market readiness, a non-technical challenge for destination planning. This obstacle forced management to revert to conventional systems, which contributed to the dominance of regular ticket sales and limited the destination's ability to collect comprehensive data for smart management. In an ideal smart management concept, all transaction data, both offline and online, needs to be recorded and analyzed in real time to assist in controlling visitor capacity in accordance with the environmental carrying capacity, particularly the pine forest, as stipulated in the Environmental Impact Assessment (EIA). Dago Dreampark's compliance with the EIA document and its private land ownership status demonstrates a legal commitment to sustainable development. However, planning effectiveness will only be truly achieved if digital technology is integrated into core management processes, so that it serves not only as a promotional tool but also supports capacity control, environmental protection, and efficient destination operations.

E. CONCLUSION

This research demonstrates that digital technology, as utilized at Dago Dreampark, contributes to destination planning and management. Technology integration is implemented across several aspects, including the ticketing system, digital marketing, and technology-based attraction innovations such as Virtual Reality and the use of RFID wristbands as a transaction tool. Platform utilization also serves as a foundation for creating a destination image and a smart tourist experience, providing convenience for tourists and driving visitor growth. However, the technology's implementation has not been fully integrated into decision-making and operational management processes. Currently, technology use is still predominantly focused on promotion and tourist interaction rather than data management and data-based evaluation. This situation indicates that technology implementation is still in a transitional stage.

Furthermore, this research identifies several key challenges in implementing digital technology in nature-based destinations like Dago Dreampark: (1) limited technological infrastructure in the pine forest area, (2) human resource readiness to operate digital systems, and (3) the high financial risk of technology investment, as this destination is managed by the private sector without government funding.

Dago Dreampark has demonstrated that digital technology can enhance the image of a destination and enhance the tourist experience. However, to achieve sustainable smart tourism implementation, a data-driven management strategy and more comprehensive technology integration in the destination planning process are still needed. Therefore, strategic steps are needed to overcome existing obstacles and maximize the potential of technology, including: (1) Developing a more stringent data-based Smart Management, where all transaction data, both online and offline, is recorded and analyzed in real time to support spatial planning, capacity management, and visitor control in accordance with environmental carrying capacity (AMDAL); (2) Making gradual and sustainable investments in infrastructure improvements and procurement with basic technology; and (3) Conducting human resource training and development aimed at preparing staff and target markets for digital systems. These steps are expected to ensure that technology not only increases profitability but also supports legal and operational commitments to the principles of sustainable tourism development.

REFERENCE

Berjalan.co.id. (2024, August 28). *Digital Tourism: Meningkatkan Pengalaman dan Manajemen Destinasi Pariwisata*. berjalan.co.id. Retrieved October 28, 2025, from https://berijalan.co.id/

Endah, K., & Budiawan, A. (2024). Analisis Pengelolaan Wisata Berbasis Smart Tourism Di Desa Banjaranyar Kecamatan Banjaranyar Kabupaten Ciamis. *Moderat: Jurnal Ilmiah Ilmu Pemerintahan*, *10*(3), 478-486.

Gunn, C. A., & Var, T. (2002). *Tourism Planning: Basics, Concepts, Cases* (4th Ed.). Routledge.

Gretzel, U., Sigala, M., Xiang, Z., & Koo, C. (2015). Smart Tourism: Foundations And Developments. *Electronic Markets*, *25*(3), 179–188. Https://Doi.Org/10.1007/S12525-015-0196-8

Hanief, S., Pramana, D., Kom, S., & Kom, M. (2018). *Pengembangan Bisnis Pariwisata Dengan Media Sistem Informasi*. Penerbit Andi.

Iswanto, D., Amol, F., Sangadji, S. S., & Halawa, F. (2024). Pengaruh Penggunaan Teknologi Dalam Pemasaran Pariwisata Selama Masa Pandemi Covid-19 Di Indonesia. *Journal Of Management Small And Medium Enterprises*, *17*, 83-91. 10.35508/Jom.V17i1.11843

Misni, M. (2023). *Tata Kelola Wisata Binanga Karaeng di Lembang Kabupaten Pinrang* (Doctoral dissertation, IAIN Parepare).

Nugroho, A. Y., & Damiasih. (2025). *Perkembangan Teknologi Dalam Sektor Pariwisata Di Indonesia* (Vol. 1). Cv Bravo Press Indonesia. 978-634-7298-23-2

Nurhidayati, S. E., Muliani, L., Judijanto, L., Apriyanto, A., Haryanti, T., Darmayasa, D., ... & Raksapati, A. (2025). *Pesona Pariwisata Indonesia: Potensi, Pengembangan, dan Inovasi Membangun Destinasi Pariwisata Indonesia*. PT. Sonpedia Publishing Indonesia.

Neuhofer, B., Buhalis, D., & Ladkin, A. (2015). Smart technologies for personalized experiences: A case study in the hospitality domain. *Electronic Markets*, *25*(3), 243–254. https://doi.org/10.1007/s12525-015-0182-1

Putra, R. R., Khadijah, U. L. S., & Rakhman, C. U. (2020). *Pemanfaatan teknologi informasi dan komunikasi dalam penerapan konsep smart tourism di Kabupaten Pangandaran*. JUMPA: Jurnal Master Pariwisata, 7(1), 257–270.

Rachmadi, T., & Kom, S. (2020). *Pengantar Teknologi Informasi* (Vol. 1). Tiga Ebook.

Ridwan, M., & Aini, W. (2020). *Perencanaan pengembangan daerah tujuan pariwisata*. Deepublish.

Safitri, L. R. (2023). *Pengaruh Smart Tourism Technologies, Memorable Tourism Experience, dan Tourist Satisfactions terhadap Loyalitas Wisatawan (Studi pada Wisatawan Pengguna Aplikasi Tiket. Com)* (Doctoral dissertation, Universitas Islam Indonesia).

Serra, F. F., & Neuhofer, B. (2018). Smart tourism experiences: conceptualisation, key dimensions and research agenda. Journal of Regional Research, 129-150.

Setiawan, Z., Yendri, O., Kusuma, B. A., Ishak, R. P., Boari, Y., Paddiyatu, N., & Kartika, T. (2023). *Buku Ajar Perencanaan Dan Pengembangan Pariwisata*. PT. Sonpedia Publishing Indonesia.

Situmorang, M. T. N. (2019). *Inovasi teknologi informasi dan komunikasi dalam sustainable tourism*. Prosiding Seminar Nasional Pariwisata dan Kewirausahaan (SNPK), Universitas Sahid Jakarta, Jakarta.

Situmorang, M. T. N. (2023, May). Inovasi Teknologi Informasi Dan Komunikasi Dalam Sustainable Tourism. In *Seminar Nasional Pariwisata Dan Kewirausahaan (SNPK)* (Vol. 2, pp. 90-94).

Wang, Z., Udomwong, P., Fu, J., & Onpium, P. (2023). Destination image: A review from 2012 to 2023. *Cogent Social Sciences*, *9*(1). https://doi.org/10.1080/23311886.2023.2240569

Werthner, H., & Ricci, F. (2004). E-commerce and tourism. *Communications of the ACM*, *47*(12), 101–105. https://doi.org/10.1145/1035134.1035141