



Strengthening the Capacity of Soetan Island Tourism Actors through Digitalization of Android Application-Based Tourism Services

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ABSTRACT

This community service activity aims to support the development of digital-based tourism on Soetan Island, Pesisir Selatan Regency, by integrating tourism operators into an Android application. The application is designed as a transaction platform for booking tour packages offered by local operators, covering key destinations in the Mandeh Island area, particularly Soetan Island. Tourists can easily select and book various available tour packages, thereby expanding access and enhancing the region's tourism appeal. To support the implementation of this technology, a series of outreach and awareness-raising activities were conducted in stages with tourism operators. These activities aimed to provide a deeper understanding of the importance of digital information technology in managing and promoting tourism businesses. The methods used included a participatory approach through training, focus group discussions (FGDs), and direct technical assistance in using the application. The results of this activity were the development of an Android-based Soetan Island tourism application accessible to tourists, as well as increased understanding and readiness of local business operators to utilize digital technology as a strategic tool in tourism business development. This activity is expected to be the first step towards an inclusive and sustainable digital tourism ecosystem in the coastal areas of West Sumatra model.

Keywords: marine tourism, digitalization, soetan island

INTRODUCTION

Post-Covid 19 pandemic, there has been a shift in the trend of people's interest in traveling (Kusumaningrum & Wachyuni, 2020). People tend to choose domestic tourist areas with open nature, environmentally friendly, safe, healthy, and far from the crowds and carry local wisdom (Fan et al., 2023). Promoting natural and outdoor attractions can be the first step to help the recovery of the entire tourism industry and critical assets in promoting sustainable tourism (Ijatuyi et al., 2025). Natural and outdoor attractions are more likely to be located in rural areas with relatively low density and less developed economies, and this change in preference has the potential to help narrow the economic gap between cities and villages, and alleviate problems (eg, ownership, traffic congestion) caused by over-tourism in big cities. Meanwhile, the development of the tourism sector is one of the priority programs of the West Sumatra Provincial Government. Considering that

West Sumatra has diverse natural and cultural tourism potential.

Seeing the growing tourism trend and in accordance with the direction of the West Sumatra Province tourism development policy, one of the most potential tourist destinations to be developed is the island of Soetan in the North Mandeh Region. Located in the Mandeh marine tourism area, Pesisir Selatan Regency, Soetan Island is one of West Sumatra's leading destinations with extraordinary natural potential. The beautiful sea panorama, rich ecosystem, and attractive local culture make this island a magnet for both domestic and international tourists. Nature-based outdoor recreation areas are a rational choice to reduce stress and risk during the COVID-19 pandemic (Hamidi & Zandiatashbar, 2021; Xiao et al., 2023). As the digital era continues to develop, people have the willingness and comfort to purchase tourism products online (Amaro & Duarte, 2016). However, amid the rapid development of the global tourism industry, which increasingly relies on digital technology, tourism management on Soetan Island still faces significant challenges in terms of information access, reservation systems, and technology-based promotions. Most tourism operators on Soetan Island still rely on conventional methods to offer tourism services, which limits market reach and operational efficiency. On the other hand, modern tourists tend to prefer easy access to information, comparing tour packages, and conducting transactions digitally. This imbalance creates an urgent need for inclusive and adaptive digital transformation for local businesses. One factor that can be optimized to increase tourist visits is the use of digital platforms to reach a larger target market (Rangaswamy et al., 2020).

Other obstacles to the development of tourism destinations include the packaging of tourist attractions, limited product diversification, poor quality of tourism services, ineffective promotion and communication, conventional business operating systems, and limited human resources (He et al., 2023). Therefore, under these conditions, the potential for developing tourism on Soetan Island cannot be maximized. Soetan Island Management has not established integrated cooperation between tourism business actors (cottages, ships, food entrepreneurs, hotels). This condition has an impact on the limited market reach of the Soetan Island tourism destination. Therefore, in addition to developing technology, strengthening human resources is also needed to be more responsive to opportunities and challenges in today's digital era.

Through this community service activity, tourism operators were integrated into an Android application specifically designed to facilitate tour package bookings on Soetan Island. This application not only serves as a transaction medium but also serves as a digital showcase that introduces the richness of local tourism to the world. To ensure successful implementation, this activity was complemented by gradual outreach, training, and technical assistance for tourism operators, enabling them to understand and optimize the use of information technology in business management.

Island sustainability in tourism often falls into the “eco-island trap”—using the image of sustainability for tourism purposes without actually supporting sustainability (Kelman, 2021). More meaningful solutions must actively engage island communities and challenge the assumptions underlying the sustainability narrative. This activity was chosen as a form of community service because it directly addresses the needs of local communities in improving the competitiveness and sustainability of their tourism businesses. With a participatory approach and based on real solutions, this activity is expected to foster the formation of an empowering, inclusive, and sustainable digital tourism ecosystem in the coastal areas of West Sumatra.

METHOD

Community This activity was implemented using a participatory and collaborative approach, involving local tourism stakeholders as key stakeholders in the digital transformation process. The methodology used consisted of three main stages:

1. Initial Socialization

The purpose of this outreach is to build a basic understanding and a shared perception of the importance of digitalization in tourism management. The output of this activity is the formation of collective awareness about the urgency of digital transformation and the identification of tourism stakeholders' needs and readiness. The steps taken include:

- a. Disseminating information about the objectives and benefits of Android-based tourism applications.
- b. Explaining digital tourism trends and market opportunities accessible through technology.
- c. Open discussions on the challenges faced by local tourism stakeholders in business management.

2. Focus Group Discussion (FGD)

The purpose of the FGD is to gather direct input from tourism stakeholders to refine application features and implementation strategies. The output of the FGD is to gather recommendations for application features that align with local needs. Furthermore, the FGD will increase participation and a sense of ownership in the technology solutions being developed. The FGD steps are as follows:

- a. Grouping participants by business type (transportation, culinary, accommodation, tour guides).
- b. Focused discussions on the specific needs of each group in the context of digitalization.
- a. Gathering ideas and aspirations for the development of relevant and user-friendly application features.

3. Technical Assistance for Application Use

The goal of the mentoring program is to provide hands-on training and ensure tourism operators are able to operate the application independently. The expected output of the mentoring activity is to improve the digital skills of tourism operators and actively and sustainably integrate tour package data into the application system. The mentoring steps are:

- a. Training on using the Android application, from logging in and entering tour package data to booking transactions.
- b. Simulation of bookings by tourists to test the service flow.
- c. Individual mentoring for business operators experiencing technical difficulties.

Each activity stage is accompanied by monitoring and evaluation to assess the effectiveness of the method, the level of participant understanding, and the readiness for full application implementation. This method is designed to not only produce the final application but also build the capacity of local communities to navigate the digital era sustainably. If you would like me to help you develop an activity schedule or success indicators, simply provide guidance.

This activity involves a total of 35 stakeholders consisting of various elements of the tourism industry and supporters of the local tourism ecosystem. They are categorized as follows:

Tabel 1. Stakeholder of tourist destination: Soetan Island

No	Stakeholder Category	Number	Role
1	Local tourism operators	17	Provide tourism services, homestays, boats, culinary delights, tour guides
2	Tourism awareness groups	6	Promote tourist destinations
3	Island tourism managers	6	Coordinate tourism operations, manage facilities, and provide tourist services
4	Village government	6	Social and customary management, support for local institutions

To ensure the accuracy and relevance of stakeholder data, the stakeholder data validation method involves several stages, as follows:

- Initial coordination with the village government.
- Identifying active and administratively registered tourism operators.
- Obtaining recommendations for business operators operating on Soetan Island.
- Field observations and direct interviews
- The community service team conducted in-person visits to business locations.
- Brief interviews were conducted to verify the type of business, service capacity, and involvement in tourism activities.
- Registration of participants for socialization and focus group discussions (FGDs)
- Stakeholders attending the socialization and focus group discussions (FGDs) completed attendance forms and business profiles.
- This data was used as the basis for mapping digitalization needs and readiness.

RESULTS AND DISCUSSION

The main result of this activity is the creation of an android-based application or platform for tourism management, such as a ticket booking application, visitor data management, and financial management. Visitors can book tickets online through a digital application, making it easier to book and reduce queues. Visitors can get information about island tourism through digital applications, such as information about tourist attractions, activities, and facilities.

The Technology Acceptance Model (TAM), developed by Davis et al. (1986), explains how users accept and use technology, with two main variables: perceived usefulness (the extent to which someone believes using technology will improve their performance) and perceived ease of use (the extent to which someone believes using the technology is effortless). This activity successfully increased local tourism business owners' understanding of the benefits of digital technology, particularly Android applications for booking tour packages. This indicates that they are beginning to believe this technology is useful for increasing the accessibility of tourism services to tourists, expanding market reach (not only local tourists but also national/international tourists), and increasing transaction and promotion efficiency. In other words, business owners are beginning to see that using applications will improve their tourism business performance, in line with the concept of perceived usefulness in the TAM.

Through training, FGDs, and technical assistance, this activity also helped business owners feel more comfortable and confident in using applications. This indicates that they are beginning to experience the ease of use of technology, as there is direct assistance when using the applications, the applications are designed to suit local needs (user-friendly), and

the digitalization process is carried out gradually and participatory. This strengthens the aspect of perceived ease of use because the easier technology is to use, the more likely it is to be accepted.

By improving the quality of human resources for Soetan Island managers, managers in general can promote island tourism through social media and online platforms, so as to increase visitor awareness and interest. Island tourism managers can also develop more attractive and competitive tour packages using digital technology. Island tourism managers can analyze visitor data to improve service quality and tourism development. Island tourism managers can interact with visitors through social media and online platforms, so as to increase visitor satisfaction. Island tourism managers can increase the number of visitors by using digital technology for promotion and marketing. Island tourism managers can increase revenue by using digital technology for tourism management and ticket sales. Island tourism managers can develop other businesses, such as merchandise sales and other services, using digital technology. Thus, digital transformation has brought many benefits to island tourism managers, including improving abilities and skills, service quality, competitiveness, and income. The results of the innovations that have been developed are as follows:

1. Soetan Island tourism Android Base application.

Visitors can enjoy the beauty of Soetan Island tourism and its marine tourism through the innovative application "Wisata Pulau Soetan." Explore amazing destinations by finding complete information about destinations, tourist attractions, accommodation, culinary, and other activities in the integrated North Mandeh Island Area. The application is easy to use with a simple User Interface design that is not so difficult to understand, making this application friendly to use with a variety of complete menu choices (El Archi & Benbba, 2023). This application also provides a chat feature with service providers and application developers, making it easy for users to report problems so that they can be handled immediately. The application is available on the Play Store with the following application download link: <https://play.google.com/store/apps/details?id=dev.bumnag.wisata>.



Figure 1. Soetan Island tourism application

2. Intellectual Property Rights (IPR)

The IPR for a computer program in the form of an Android-based Soetan Island Tourism application has now been approved with registration number EC00202377410, dated September 6, 2023. IPR provides official recognition that the Soetan Island Tourism application is a unique and original intellectual work, so that it can prevent unauthorized use or plagiarism, increase the credibility of the application and its developers, and thus increase user trust. Thus, the achievement of IPR for the Android-based Soetan Island Tourism application is an important step in application development and can bring many benefits to developers and users.

3. Print and Electronic Media Publications.

This community service activity has been covered by the Padang Ekspres Print Media on December 16, 2022, which is the largest local newspaper in West Sumatra. The community service activities that have been carried out have received attention from the largest local newspaper media in West Sumatra. This coverage is an acknowledgment of the importance of community service activities and the positive impacts that have been generated (Alsalamy & Al-Zaman, 2021). Media coverage can increase public awareness of the importance of community service activities and the positive impacts that can be generated and increase support from the community and other parties for similar community service activities in the future.



Figure 2. Mass media publication "Padang Ekspres"

CONCLUSION

This community service activity provides a significant scientific contribution to the adoption of digital technology by local tourism businesses, particularly through the TAM approach. By integrating training, FGD, and technical assistance, this activity not only increases perceived usefulness—the belief that digital technology can improve tourism business performance—but also strengthens perceived ease of use through a participatory approach and application design tailored to local needs.

The novelty of this activity lies in the development of an Android application that functions not only as a ticket booking platform but also as an integrated visitor and financial data management tool. This community-based and gradual digitalization approach increases business confidence and comfort in using technology. The application of TAM in the context of small island tourism remains rarely explored in academic literature.

Policy implications include local governments and tourism stakeholders need to encourage the digitalization of the tourism sector through technical support and regulations that support the development of local applications. Incentive policies are needed for tourism businesses that adopt digital technology to increase competitiveness and service efficiency. The development of tourism human resources based on digital literacy must be part of a sustainable tourism development strategy.

To strengthen the findings and broaden the impact, further research could be directed at measuring the economic impact of app use on business revenues and tourist visits. This digitalization model could be replicated on other islands with different social and geographic characteristics to test the generalizability and adaptability of the approach. Furthermore, for a more realistic view of the impact, a longitudinal study could be conducted on changes in the digital behavior of businesses and tourists over time.

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