
ASSESSING THE DIGITAL READINESS OF TOURISM ACTORS IN DOMPU REGENCY FOR ARTIFICIAL INTELLIGENCE–BASED MARKETING TRANSFORMATION

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Abstract

Digital transformation driven by Artificial Intelligence (AI) has become a key factor in the development of global tourism. However, the digital readiness of tourism actors in developing regions such as Dompus Regency is still limited. This study aims to analyze the level of digital readiness of tourism actors, identify barriers, and explore opportunities for implementing AI technology in tourism marketing. A qualitative approach with an exploratory case study design is used in this research. Data were collected through in-depth interviews with 13 informants, including MSME actors, homestay owners, tour operators, local government officials, and MSME/digitalization facilitators. Observations and documentation were also carried out to strengthen the findings. Data analysis used a thematic method to identify emerging patterns, themes, and meanings. The findings indicate that the digital literacy of tourism actors is still low; the main obstacles lie in limited internet infrastructure and costs; government support is relatively limited; and understanding of AI is still minimal. However, there is enthusiasm and positive hope for the application of AI technology in the future, especially in aspects of automated promotion and digital reservations. The recommendations of this study emphasize the need for continuous training programs, improvement of internet infrastructure, and collaboration between the government, MSME actors, and digitalization facilitators.

Keywords: Digital Readiness, Tourism Actors, Artificial Intelligence, Marketing Transformation, Dompus Regency

INTRODUCTION

The development of digital technology has brought fundamental changes to the global tourism industry. Artificial Intelligence (AI) has now become one of the main drivers of this transformation, providing more personalized services, automated promotions, and big data-based analyses of tourist behavior (Davenport *et al.*, 2020; Law *et al.*, 2023). In a global context, the utilization of AI has helped tourist destinations enhance their competitiveness and create more memorable travel experiences.

In Indonesia, the Ministry of Tourism and Creative Economy is promoting the Tourism 4.0 Digitalization agenda as a strategy to strengthen technology-based tourism promotion. However, readiness at the regional level still varies. Dompu Regency, West Nusa Tenggara, with its natural tourism potential (Mount Tambora, Lakey Beach) and cultural tourism, actually has great opportunities to develop through digitalization. Nevertheless, data from the Central Bureau of Statistics (2023) shows that only 23.7% of tourism MSMEs actively use digital platforms as a promotional medium. This fact illustrates the gap between the significant tourism potential and the digital readiness of the business actors.

Previous studies have extensively demonstrated that digitalization is effective in expanding the reach of tourism destination promotion, strengthening the destination's image, and enhancing connectivity between tourism actors and tourists (Buhalis, 2019; Gretzel *et al.*, 2015). However, the majority of research has been conducted in developed countries with established technological infrastructure, while studies focusing on developing regions such as Dompu remain very limited (Kashem *et al.*, 2022). Therefore, there is an urgency to examine the extent of digital readiness among tourism actors in Dompu, particularly in the context of AI utilization. The research questions that are the focus of this study are: (1) What is the level of digital readiness among tourism actors in Dompu Regency? (2) What obstacles do tourism actors face in implementing digital technology? (3) What are the opportunities for utilizing AI in local tourism marketing?

Based on the problem formulation, this study aims to: (1) analyze the level of digital readiness of tourism actors, (2) identify the obstacles they face, and (3) explore the opportunities for applying AI in tourism marketing.

LITERATURE REVIEW

Tourism Digitalization

Digitalization has fundamentally changed the way tourist destinations are promoted, managed, and consumed by travelers. Information technology enables more efficient promotional processes, online booking access, and enhanced quality of tourist experiences (Buhalis & Law, 2008). Furthermore, the concept of smart tourism has developed by emphasizing the use of information technology, big data, and AI-based services as essential elements in optimizing the attractiveness of destinations (Gretzel *et al.*, 2015).

Technology Readiness Model

Various models have been used to measure technology adoption readiness. Parasuraman's (2000) Technology Readiness Index (TRI) assesses the extent to which

individuals or organizations are ready to embrace digital innovation. Meanwhile, the Technology Acceptance Model (TAM) (Davis, 1989) emphasizes perceived usefulness and ease of use, while the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003) integrates a number of psychological, social, and facilitating conditions variables. Although these models are frequently used, their application in the context of tourism SMEs in developing regions still faces limitations, particularly due to socio-cultural factors and infrastructure.

Artificial Intelligence in Tourism

Artificial intelligence (AI) has been widely used in the tourism industry, ranging from destination recommendation systems, chatbots for customer service, automated promotions, to sentiment analysis of tourist reviews (Huang et al., 2021; Ivanov & Webster, 2019). AI is believed to enhance tourist engagement through more personalized experiences. However, implementation challenges remain significant, especially for small and medium enterprises in developing areas that lack adequate technological readiness (Law et al., 2023).

Previous Research and Research Gaps

Previous research emphasizes that the adoption of digitalization in the tourism sector enhances the competitiveness of destinations. For example, Kashem et al. (2022) found that limited digital literacy and weak infrastructure are the main obstacles for tourism SMEs in developing countries. Rahman et al. (2021) showed a positive relationship between technology utilization and SME performance. Meanwhile, Stylos (2019) highlighted the importance of institutional support to accelerate the adoption of new technology.

However, specific studies on the digital readiness of tourism actors in developing regions of Indonesia, particularly in the context of AI application for marketing, are still rarely found. This is the research gap and at the same time the novelty of this study.

RESEARCH METHOD

Research Design

This study uses a qualitative approach with an exploratory case study design. This design was chosen to gain an in-depth understanding of the experiences, perceptions, and challenges faced by tourism actors in Dompu Regency in the process of adopting digital technology and artificial intelligence.

Location and Research Subjects

The research location is Dompu Regency, West Nusa Tenggara, which is known for its potential in natural and cultural tourism. The research subjects include various stakeholders, namely: MSME actors (culinary, handicrafts, and tourism services), homestay owners, tourism operators, officials/staff of the Tourism Office, as well as MSME/digitalization facilitators.

In total, 13 informants were interviewed. This number is considered adequate because the data obtained had reached the point of saturation, which is a condition where additional interviews no longer provide new relevant information (Guest et al., 2006).

Data Collection Techniques

Data was collected through several methods:

1. In-depth interviews, using semi-structured guidelines to explore the experiences, obstacles, and perceptions of tourism actors regarding digitalization and AI.
2. Observation, conducted on ongoing digital promotion activities, both through social media and other online platforms.
3. Documentation, including the review of regional policy documents, government program reports, and digital promotional content produced by tourism actors.

Data Analysis

Data analysis was conducted using thematic analysis techniques (Miles, Huberman, & Saldaña, 2014). The process includes: Data reduction through coding, grouping codes into themes, organizing thematic narratives, and concluding. To strengthen the credibility of the results, this study applies source triangulation as well as member checking with key informants.

RESULTS AND DISCUSSION

Based on the analysis of in-depth interviews with 13 informants consisting of MSME actors, homestay owners, tourism operators, officials from the Tourism Office, and MSME/digitalization facilitators, six main themes were identified that describe the digital readiness of tourism actors in Dompu Regency.

1. Low Digital Literacy

Most tourism actors still rely on traditional promotion methods.

“So far, promotion has mainly relied on word of mouth. Occasionally, I post on Facebook, but not regularly because I do not fully understand how to create engaging content.” (Informant 3, Culinary MSME).

This finding indicates limited digital skills, particularly in creating and managing promotional content in a professional manner.

2. Infrastructure and Cost Constraints

Limited internet access and high costs are perceived as serious constraints.

“Internet access in rural areas is often slow, and I do not know how to use online advertising. I would be willing to participate in training, but sometimes even the signal is unreliable.” (Informant 6, Homestay Owner).

These technical barriers directly affect the low utilization of digital platforms.

3. Limited Government Support

Although training programs have been conducted, their scope and continuity remain limited.

“We have conducted social media training for tourism actors, but the number of participants was limited and the program was held only once. Ideally, continuous mentoring should be provided.” (Informant 9, Tourism Office)

4. Need for Continuous Assistance

MSME facilitators emphasized the importance of long-term mentoring.

“Initially, participants were enthusiastic, but after the training many became inconsistent in posting content. They need ongoing assistance, not just a one-off training session.” (Informant 11, Digitalization Facilitator).

5. Limited Understanding of Artificial Intelligence

Most actors are still unfamiliar with AI and its applications.

“I have only recently heard about AI. They say it can create automated advertisements, but I personally do not know how to use it.” (Informant 7, Tourism Operator).

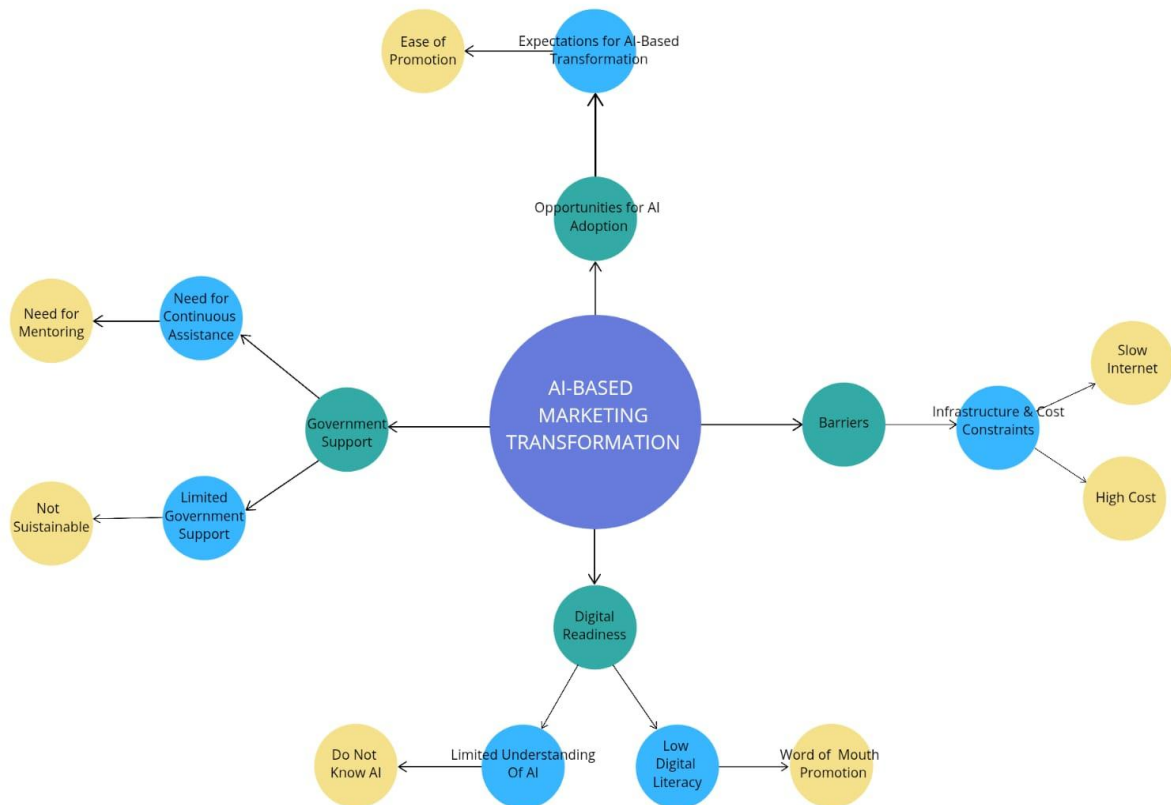
6. Expectations for AI-Based Transformation

Despite limited understanding, tourism actors expressed positive expectations toward AI adoption.

“If there were an application that could automatically promote our products, it would be very helpful. It would reduce our workload.” (Informant 2, Creative MSME)

Figure 1 presents a thematic map illustrating the relationships between codes, themes, and the four main categories that emerged from the interview data, namely digital readiness, barriers, government support, and opportunities for AI adoption.

Figure 1. Thematic Map of Digital Readiness among Tourism Actors in Dompu Regency



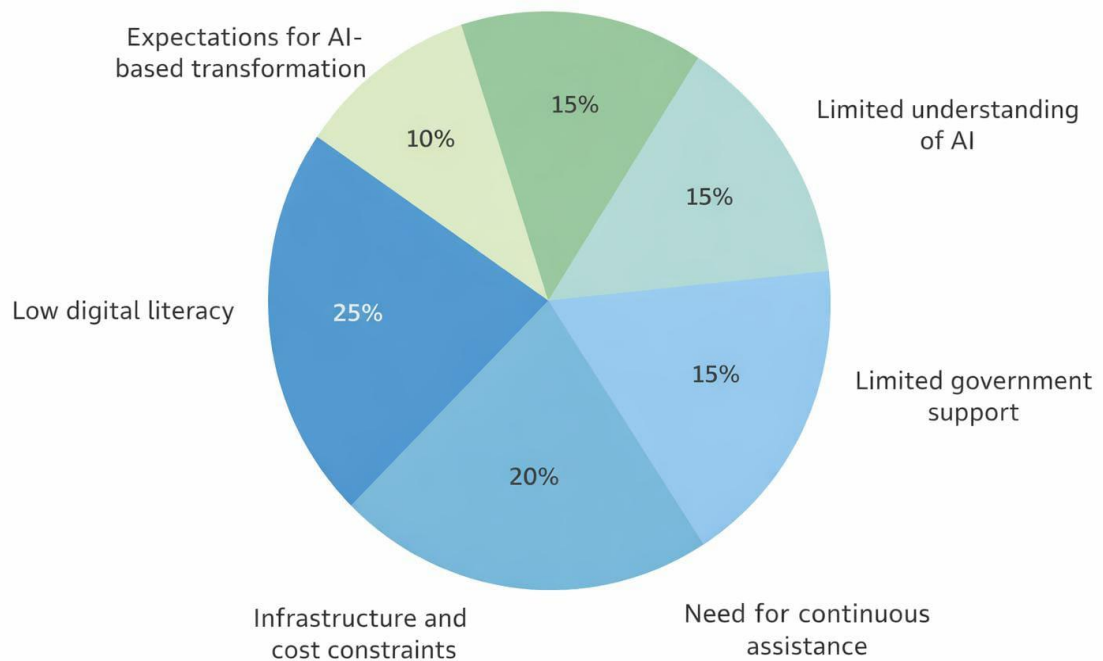
The relationships between codes, themes, and higher-order categories derived from the interview data are illustrated in the thematic map presented in Figure 1. The thematic map displays four main categories, namely Digital Readiness, Barriers, Government Support, and Opportunities for AI Adoption. These findings provide an initial overview of the digital readiness conditions of tourism actors in Dompu Regency, which are further discussed in the subsequent section.

Discussion

The findings of this study indicate that the digital readiness of tourism actors in Dompu Regency remains relatively low. This condition is reflected in six main themes identified from the interview data: low digital literacy, infrastructure and cost barriers, limited government support, the need for continuous assistance, limited understanding of artificial intelligence, and expectations for AI-based transformation (Figure 2).

Figure 2. Distribution of Dominant Themes Identified from Interview Data

Note: The figure illustrates the relative prominence of themes based on the frequency of references across informants and does not represent quantitative survey results.



1. Low Digital Literacy

Most tourism MSMEs continue to rely on conventional promotion methods such as word of mouth and basic use of social media platforms. This finding is consistent with Kashem et al. (2022), who highlighted low digital literacy among tourism MSMEs in developing countries. Limited skills in content creation, account management, and digital marketing strategies hinder the adoption of more advanced technologies, including AI-based applications.

2. Infrastructure and Cost Constraints

Internet connectivity issues and high access costs represent major challenges. These conditions reflect a persistent digital divide between urban areas and rural tourism destinations. Buhalis et al. (2019) emphasized that inadequate infrastructure significantly slows digital tourism transformation in non-urban regions. In the case of Dompu Regency, limited connectivity and high costs restrict tourism actors from optimizing digital marketing efforts, let alone adopting AI-driven solutions.

3. Limited Government Support

Although the local government has initiated social media training programs, these efforts remain limited in scale and continuity. This situation illustrates a policy gap between national digitalization agendas and local implementation. Stylos (2019) emphasized that consistent and systematic institutional support is crucial for accelerating technology adoption. Therefore, government interventions should extend beyond one-off training sessions and focus on developing sustainable digital support ecosystems.

4. Need for Continuous Assistance

The findings reveal that tourism actors often struggle to consistently apply digital strategies after training sessions. This supports the view that successful technology adoption requires long-term mentoring rather than short-term capacity-building programs. Continuous assistance facilitates deeper skill transfer and enables adaptive learning in response to the evolving needs of tourism MSMEs.

5. Limited Understanding of Artificial Intelligence

Most informants demonstrated only a superficial understanding of artificial intelligence, indicating a substantial knowledge gap. Previous studies have shown that AI can enhance personalization and promotional effectiveness in tourism marketing (Huang et al., 2021; Law et al., 2023). While limited understanding may hinder early adoption, it simultaneously highlights opportunities for targeted educational interventions tailored to local tourism contexts.

6. Expectations for AI-Based Transformation

Despite limited knowledge, tourism actors expressed strong enthusiasm toward AI adoption, particularly for automated promotion and digital reservation systems. This attitude aligns with the Unified Theory of Acceptance and Use of Technology (UTAUT), which posits that performance expectancy strongly influences technology adoption intentions (Venkatesh et al., 2003). Such positive expectations represent a valuable foundation for accelerating AI-based tourism marketing transformation in Dompu Regency.

CONCLUSION

This study finds that the digital readiness of tourism actors in Dompu Regency remains at a low level. This condition is reflected in limited digital literacy, infrastructure and cost barriers, as well as a low level of understanding of Artificial Intelligence (AI) technologies. Nevertheless, tourism actors demonstrate strong enthusiasm and optimism toward adopting AI, particularly in relation to automated promotion and online reservation systems.

Overall, this study highlights a paradox between limited capabilities and infrastructural constraints and the significant potential for AI adoption in Dompu's tourism sector. This situation creates opportunities for more progressive policy interventions and practical initiatives aimed at accelerating digital transformation.

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