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Digital Leadership as a Catalyst for Community-Based Smart Tourism Development: Advancing Sustainable Tourism Destinations

Hamdan Hamdan[1], M. Rizky Mahaputra[2], M. Ridho Mahaputra[3]
[1]Universitas Mercu Buana, Jakarta, Indonesia, hamdan@mercubuana.ac.id
[2]Universitas Winaya Mukti, Bandung, Indonesia, rizkymahaputra55@gmail.com
[3]Universitas Bina Nusantara, Jakarta, Indonesia, ridhomahaputra26@gmail.com

Corresponding Author: hamdan@mercubuana.ac.id[1]

Abstract: This study examines the role of digital leadership as a catalyst for community-based smart tourism development toward sustainable tourism destinations. A quantitative approach with a causal research design was employed, involving 42 tourism village managers in West Lombok Regency, Indonesia. Data were collected through a structured questionnaire and analyzed using PLS. The findings reveal that digital leadership positively influences sustainable community-based smart tourism development. Specifically, technology awareness, digital ethics, digital change management, digital knowledge sharing, and digital risk awareness strengthen managers' capabilities to identify challenges, develop innovative solutions, promote new ideas, and implement innovation. These capabilities enhance the adaptive capacity and competitiveness of tourism villages while supporting long-term sustainability. This study contributes to the growing smart tourism literature by demonstrating that digital leadership is a strategic organizational capability for fostering innovation-driven, community-based, and sustainable tourism destination development.

Keywords: Digital Leadership, Tourism Villages, Sustainable, Community-Based Tourism.

INTRODUCTION

Tourism sector development is a crucial strategy for regions with natural, social, and cultural tourism potential in realizing sustainable tourism development (Hapzi & Untari, 2024; Pazhuhan & Shiri, 2020). However, the increasingly competitive dynamics of the tourism industry require each destination to maintain its unique competitive advantage to remain competitive at the national and global levels (Hamdan et al., 2025; Nematpour et al., 2024). Furthermore, tourism development does not always generate equitable socio-economic benefits for local communities. Various studies have shown that tourism development also has the potential to strengthen the dominance of certain economic groups, increase inequality in regional control, and encourage the influx of foreign investment that may not optimally impact local community welfare (Manrai et al., 2020). These conditions demonstrate that the success of tourism development is determined not only by economic growth but also by the ability to manage development in an inclusive and sustainable manner.

The development of information and communication technology (ICT) has become a strategic factor in increasing the competitiveness of tourist destinations, particularly tourist villages that uphold the principle of passion. The increasing dependence of society on digital technology drives the need for digital transformation in tourism governance (Hamdan, Rahmat, et al., 2025; Trinchini & Spyriadis, 2019). In this context, understanding the relationship between digital transformation and social structure becomes increasingly important because both influence the effectiveness of tourism destination management (Chaudhuri et al., 2024). Pesonen, (2020) explains that interactions within the social system of destination management organizations (DMOs) form the foundation for the development of digital leadership (Hamdan et al., 2023), which in turn plays a role in the development of community-based tourism villages (Haider et al., 2022). Thus, digital transformation is not only related to the application of technology, but also to leadership capacity in managing organizational change.

Digital leadership is increasingly viewed as a strategic capability that enables tourism organizations to adapt to dynamic environmental changes. Leaders are required to possess digital competencies to enhance their organization's ability to utilize technology as a source of competitive advantage (Chatterjee et al., 2023). Furthermore, strategic leadership plays a crucial role in the decision-making process when organizations face uncertainty due to digital transformation, thereby ensuring the sustainability of the tourism sector's value chain (Silva et al., 2023). In fact, during periods of crisis, digital transformation becomes a top priority for tourism organizations to maintain business continuity (Schönherr et al., 2023). More broadly, governments and local communities also play a crucial role as leadership actors in driving the implementation of digital transformation towards sustainable tourism (Haider et al., 2022).

However, studies on digital leadership in the context of tourism destination management organizations are still relatively limited. Pesonen (2020) suggests that the concept of digital leadership in DMOs has not been discussed in depth, particularly regarding its role in supporting sustainable tourism development. In fact, various studies have shown that digital leadership is a crucial strategy in promoting the development of sustainable community-based tourism (Haider et al., 2022). Furthermore, leadership competency has been shown to enhance the competitiveness of tourism businesses, although its effectiveness is significantly influenced by environmental turbulence and the organization's ability to manage its resources (Cong & Thu, 2020). Therefore, studies are needed to explain how digital leadership contributes to the development of community-based tourism amidst the acceleration of digital transformation.

The phenomenon of digital leadership has emerged as a strategic issue in advancing sustainable community-based tourism. However, empirical evidence on how digital leadership contributes to sustainable community-based tourism development remains limited. Therefore, this study analyzes the role of digital leadership in supporting sustainable community-based tourism development. This study enriches the literature on tourism destination governance while providing practical implications for destination managers, local communities, and governments navigating digital transformation. Although digital leadership has been recognized as a crucial factor in promoting sustainable tourism development (Haider et al., 2022; Silva et al., 2023), previous studies have reported inconsistent findings. Some studies indicate that digital leadership enhances organizational competitiveness and the ability to manage digital transformation (Chatterjee et al., 2023), whereas others (Cong & Thu, 2021; Pesonen, 2020) suggest that its effectiveness depends on organizational resource capacity and environmental conditions. These inconsistencies underscore the need to further examine the influence of digital leadership on sustainable community-based tourism development.

METHODS

This study uses a quantitative approach with a causal design to analyze the influence of digital leadership on the development of sustainable tourism villages (Sekaran & Bougie, 2017). Data analysis was conducted using PLS, where the study population was the tourism

village community in West Lombok Regency, with a sample of 42 respondents determined through a simple random sampling technique that still provided good significance (Hair et al., 2022). The digital leadership variable was measured using five indicators adapted from (Haider et al., 2022; Silva et al., 2023), while the sustainable tourism village development variable was measured using five indicators adapted from (Ngo & Creutz, 2022).

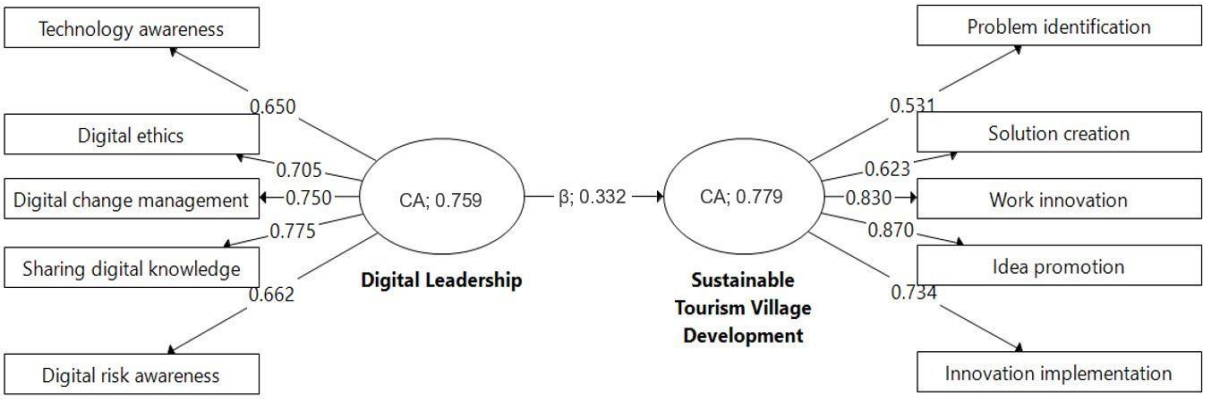
RESULTS AND DISCUSSION

Respondent Characteristics

Based on the survey results collected from 42 respondents who responded to the focus of this research, this study describes several respondent profiles. First, 38 respondents were male and 4 respondents were female. Second, educational attainment was 2 respondents with a master's degree, 24 with a bachelor's degree, 4 with a diploma or four with a diploma, and 12 with a high school or equivalent degree. Third, tenure of 2 years was 2 respondents, 4 with 3 years, 5 with 4 years, 19 with 5 years, and 12 with more than 6 years. These data indicate that the respondents' ability to respond to the various research instruments was considered adequate, given their high educational attainment.

PLS Analysis Results

Next, the measurement model and structural model were analyzed using PLS. The measurement model was validated using a validity assessment above 0.50, and reliability was assessed using Cronbach's Alpha (CA) above 0.60 (Hair et al., 2022) (See Figure 1). Figure 1 also displays the results of the structural model test, where the path coefficient level is used to assess the degree of interconnectedness between the variables and the hypothetical model. The results of the measurement model and structural model are shown in the following figure.



Source: Research Results

Figure 1. Measurement and Structural Model Results

Based on Figure 1, the results of the measurement model evaluation indicate that all indicators in the Digital Leadership and Sustainable Tourism Village Development variables meet the required validity criteria. Furthermore, the reliability test using Cronbach's Alpha values indicates that each construct has a good level of reliability and internal consistency. Therefore, the measurement model is declared valid and reliable, making it suitable for proceeding to the structural model evaluation stage.

Furthermore, the results of the structural model evaluation in Figure 1 indicate that Digital Leadership has a positive effect on Sustainable Tourism Village Development, with a path coefficient of ($\beta = 0.332$). This result indicates that the better the implementation of digital leadership, the higher the level of sustainable tourism village development that can be achieved. These results support the empirical model developed in this study, so the following discussion

focuses on conceptual and theoretical interpretations of the relationship between Digital Leadership and Sustainable Tourism Village Development.

Discussion

The results of the hypothesis testing indicate that digital leadership influences the development of sustainable tourism villages in West Lombok Regency. These results indicate that the more effective the implementation of digital leadership by tourism village managers, the greater the ability of organizations and communities to develop tourism potential sustainably. In the context of tourism villages in West Lombok Regency, digital leadership is a crucial factor in strengthening destination governance through the use of technology, improving coordination between stakeholders, and making decisions that are more adaptive to the dynamics of tourist needs and technological developments. Therefore, leaders who are able to integrate digital technology into the management process of tourism villages will be more effective in fostering the development of innovative, responsive to change, and sustainable tourism villages. These results align with research (Haider et al., 2022; Silva et al., 2023), which states that digital leadership is a strategic factor in increasing innovation capacity, organizational adaptability, and the success of sustainable development through the optimal use of digital technology.

Conceptually, this relationship can be explained through the dimensions of digital leadership: technology awareness, digital ethics, digital change management, digital knowledge sharing, and digital risk awareness. In the management of tourist villages in West Lombok Regency, technological awareness enables managers to utilize various digital platforms to support destination promotion, tourism services, and information management. Digital ethics plays a role in ensuring that technology is used transparently and responsibly, and builds trust between tourists and local communities. Furthermore, digital change management serves as a foundation for managers in guiding organizational transformation processes to adapt to evolving tourism environments. Meanwhile, sharing digital knowledge encourages collaboration and learning among managers, tourism awareness groups, MSMEs, and the community. Furthermore, digital risk awareness helps managers anticipate potential risks, such as information security, data protection, and technology misuse, enabling the digital transformation process to proceed effectively and sustainably.

The impact of digital leadership is ultimately reflected in the increased development of Sustainable Tourism Villages, built through the ability to identify problems, create solutions, generate work innovations, promote ideas, and implement innovations. In tourist villages in West Lombok Regency, leaders with digital competence are able to guide communities and managers to more quickly identify various challenges in destination management and then develop innovative solutions that align with local characteristics and potential. Furthermore, digital leadership strengthens a culture of innovation through the implementation of more effective work methods, providing space for the emergence of new ideas, and supporting the implementation of innovation in product development, services, and tourism village promotion. This encourages more adaptive, collaborative, and competitive tourism village management. Therefore, digital leadership not only enhances individual capacity to utilize technology but also builds an innovation ecosystem capable of strengthening the competitiveness, sustainability, and resilience of tourism villages in West Lombok Regency in the face of environmental, social, economic, and technological changes.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study concludes that digital leadership has a positive and significant impact on the development of sustainable tourism villages in West Lombok Regency. These results indicate that the better the implementation of digital leadership, as reflected in technological awareness, digital ethics, digital change management, digital knowledge sharing, and digital risk awareness, the greater the ability of tourism village managers to identify problems, create solutions, generate work innovations, promote ideas, and implement innovations to support sustainable tourism village development. Therefore, digital leadership is a strategic factor capable of strengthening innovation capacity and improving the sustainability of tourism village management in the face of dynamic technological developments and the demands of sustainable tourism development.

Limitations

This study has several limitations that must be considered when interpreting the results. First, the relatively limited sample size of 42 respondents limited the generalizability of the results. Second, the scope of the study only covered tourism villages in West Lombok Regency, so the regional characteristics, institutional conditions, and varying levels of digital technology utilization in other regions could not be comprehensively represented. Therefore, the results of this study reflect the empirical conditions within the research area and cannot be generalized to all tourism villages in Indonesia.

Recommendations

Further research is recommended to expand the scope of the study area by involving tourism villages at the district, provincial, and inter-provincial levels and using a larger sample size to produce findings with stronger generalizability. Furthermore, future research can develop the conceptual model by incorporating other variables, such as digital capability, innovation culture, multi-stakeholder collaboration, tourism village governance, or government support as mediating or moderating variables, to gain a more comprehensive understanding of the factors influencing sustainable tourism village development. The use of a longitudinal or mixed methods approach is also recommended to provide a more in-depth picture of the dynamics of digital leadership implementation and its impact on the sustainability of tourism village development over time.

Author Contributions

All authors made significant contributions to this study. These contributions included research conceptualization, development of the theoretical framework, data collection, data analysis, interpretation of results, manuscript preparation, scholarly revision, and final approval of the manuscript for publication. All authors confirm that they have read and approved the final version of the article.

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