DIGITAL TRANSFORMATION FOR SUSTAINABLE VILLAGE TOURISM

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Abstract

Background - *The importance of transforming village tourism towards sustainable digital or smart tourism villages, in the Indonesian context there are still few studies on the topic of digital tourism villages that try to explore approaches to developing tourism villages with their impact and sustainability based on the internet of thought. So that this sustainability is able to make tourist villages good in terms of tourist attraction as well as positive economic, environmental and social impacts for village communities, so that its management can be effective and efficient. The development of digital tourism villages is a development model that provides maximum opportunities for villages and especially tourism to be managed on a knowledge basis.*
Aim - *The aim of this research is to develop sustainable digital-based village tourism.*
Design /Methodology /Approach - *This study employs a qualitative research methodology in which informants are interviewed in-depth to gather data.*
Findings - *The research results show that digital-based village tourism development can increase the competitiveness and welfare of villages without sacrificing the environment. Digitalization makes promotions, online reservations and tourism management easier with data-based technology and artificial intelligence. Smart tourism supports sustainability through waste management, renewable energy and environmentally friendly transportation. Economic opportunities grow with digital literacy for people to develop MSMEs and sell products online. Challenges such as infrastructure and internet access must be overcome through collaboration.*
Research Implications - *Further research can provide further insight into how digital technology can be utilized optimally to create tourist villages that are more innovative, sustainable and highly competitive.*
Research Limitations - *This research only explores data from tourism managers, tourism village assistants and information systems academics so it does not involve other stakeholders such as government, visitors and media, as well as the private sector as pillars of the pentahelix*

Keywords: *Smart, Village, Sustainability, Tourism Digitalization*

Abstrak

Latar Belakang- Pentingnya transformasi wisata desa menuju desa wisata digital atau pintar yang berkelanjutan, dalam konteks Indonesia masih sedikit studi pada topik desa wisata digital yang mencoba mengeksplorasi pendekatan pengembangan desa wisata dengan dampak dan keberlanjutannya berbasis internet of think. Sehingga keberlanjutan ini mampu menjadikan desa wisata baik dari segi daya tarik wisatanya juga dari dampak positif secara ekonomi, lingkungan dan dampak sosial bagi masyarakat desa, sehingga pengelolaannya menjadi efektif dan efisien. Pengembangan desa wisata digital merupakan model pembangunan yang memberikan peluang yang sebesar-besarnya kepada desa dan khususnya wisata untuk dikelola dengan basis pengetahuan.

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Tujuan - Tujuan dari penelitian ini adalah mengembangkan pariwisata desa yang berkelanjutan berbasis digital.

Desain /metodologi/pendekatan - Penelitian ini menggunakan metodologi penelitian kualitatif di mana informan diwawancarai secara mendalam untuk mengumpulkan data.

Temuan - Hasil penelitian menunjukkan Pengembangan wisata desa berbasis digital dapat meningkatkan daya saing dan kesejahteraan desa tanpa mengorbankan lingkungan. Digitalisasi mempermudah promosi, reservasi online, dan pengelolaan wisata dengan teknologi berbasis data dan kecerdasan buatan. Wisata cerdas mendukung keberlanjutan melalui pengelolaan limbah internet of think, energi terbarukan, dan transportasi ramah lingkungan. Peluang ekonomi tumbuh dengan literasi digital bagi masyarakat untuk mengembangkan UMKM dan menjual produk online. Tantangan seperti infrastruktur dan akses internet harus diatasi melalui kolaborasi.

Implikasi Penelitian - Pada penelitian selanjutnya dapat memberikan wawasan lebih lanjut tentang bagaimana teknologi digital dapat dimanfaatkan secara optimal untuk menciptakan desa wisata yang lebih inovatif, berkelanjutan, dan berdaya saing tinggi.

Batasan Penelitian - Penelitian ini hanya menggali data dari pengelola wisata, pendamping desa wisata dan akademisi sistem informasi sehingga belum melibatkan stakeholder yang seperti pemerintah, pengunjung dan media, serta pihak swasta sebagai pilar pentahelix.

Kata Kunci: Pintar, Desa, Keberlanjutan, Digitalization Wisata

INTRODUCTION

Tourism as a key figure in send out profit, work creation, commerce and foundation advancement, tourism has experienced ceaseless development and expansion, and has gotten to be one of the biggest and speediest developing financial segments within the world. Indonesia contains a promising goal item portfolio.

The potential for consumption of destination products is also supported by a shift in the consumption side of today's society, which spends more money on leisure, experiences, entertainment and tourism. This shift is marked by society switching to consuming experiences, a person's prestigious status is no longer a matter of having luxury goods, but what experiences and adventures they have had. Indicators of this change can also be seen

from the high expenditure component which experienced positive growth. Household consumption grew 4.91% and was the source of the highest growth at 2.55%, driven by an increase in the hotel and restaurant sector. Meanwhile, Gross Fixed Capital Formation (PMTB) grew by 5.15% (https://ekon.go.id/publikasi).

Until now, there are tourist destinations in the district Gresik has experienced rapid development, based on data from the Gresik Regency Tourism Office, there are 42 tourist destinations, however it has not yet been determined which ones include village tourism managed by individuals and companies as well as tourist destinations managed by the Regional Government. In developing village tourism, villages themselves consider economic development

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and village income, but do not consider sustainability much.

The issue of sustainability is important, village tourism must also be able to be adaptive in the industrial era 4.0, so that it can be competitive and provide greater benefits to customers and stakeholders. Therefore, village tourism must be developed into sustainable digital village tourism. Digital village tourism can adopt the concepts of digital villages and digital cities which are applied to village tourism. Apart from that, research is related to the development of village tourism or *digital smart village tourism*. Not much has been done, but the research that has often been done is research related to digital cities, at least in the last 5 years there are around 40,700 keywords as research, as well as research on the implementation of digital in digital villages or villages (*smart village*) in searches on the Google Scholar search engine in the last 5 years as many as 21,600 search keywords with *smart village*. So there are still opportunities to develop digital tourism villages through smart village tourism by adopting the concept of smart *city.* Likewise, research articles in Scopus from 2022 to 2024, with the keywords digitalization, rural tourism and Indonesia are still very minimal, there are only 6 documents with these keywords.

The concept of a smart city or digital city is utilization of information *communication technology* (ICT) to meet market demands (city residents), and that community involvement in this process is necessary for a smart city. So a digital city will be a city that not only has ICT technology in certain areas, but also has implemented this technology in a way that has a positive impact on local communities. Another terminology in digital cities: intelligent *city, the digital city, and the ubiquitous city*. Previous researchers who have researched smart cities such as (Aguirre, et al (2022), Mora (2023), Lata et al, (2022), smart cities and their governance Badran (2021), Guenduez and Mergel (2022), smart villages such as Sutriadi, (2018), Ella and Andari, (2018), Syaodih (2018) and sustainable village tourism such as research (Marzo-Navarro et al, (2015), Idziak et al, (2015), Pickel-Chevalier et al, (2021), Villanueva-álvaro et al (2017). These studies have resulted in research that shows the importance of implementing ICT in several aspects whether in cities, tourism or in making villages digital, this will also be the case with this implementation in management sustainability. Thus, this research offers novelty through the application of digitalization in the context of village tourism which has not been widely developed in Indonesia.

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Sutriadi (2018) states that smart villages are are an imaginative maintainable arranging approach at the town level that prioritizes knowledge-based improvement through persistent learning of human assets as an indispensably portion of town asset improvement, particularly in empowering the advancement of country regions as portion of the territorial framework within the setting of the national advancement arranging framework. Thus, if we refer to these two concepts, the concept of smart village tourism is an innovative approach to sustainable planning at the level management village tourism which prioritizes knowledge-based development through continuous learning of human resources as an integral part of the development of village tourism resources, especially in encouraging the development of rural areas as part of the regional system in the context of the national development planning system. Therefore, the implementation of ICT is the key to the digital village tourism development model.

Looking at the smart/digital town marvel within the tourism setting is exceptionally imperative, particularly with respect to its impact on the travel encounter and traveler decision-making forms. Separated from financial benefits, the town tourism industry moreover impacts the goal town community and the social environment and residents' discernments of tourism impact eagerness for town objectives for the tourism commerce. Hence, partners in provincial tourism consider shrewd tourism to be an vital implies of moving forward the quality of life for guests and inhabitants. Smart/digital traveler towns can contribute their assets to actualize and keep up a advanced tourism framework that capacities to illuminate the issue of intemperate tourism, protect residents, and offer a much better living environment, within the setting of a advanced visitor town which is an inventive visitor goal that ensures feasible advancement that encourages and increments guest interaction with encounters in goals associated to ICT and eventually makes strides the quality of life of its inhabitants.

At the implementation level, villages also still manage their tourism effectively conventional and has not been touched and connected to technological resources (digitization). For this reason, research into sustainable digital village tourism development models is very important. The specific aim of this research is to improve and develop sustainable digital village tourism.

LITERATURE REVIEW

Digital Transformation

Gutierrez & Fernandes, (2023) Recognizing a few investigate usage related to

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digitalization that are as of now creating cluster/group to be specific the computerized promoting bunch containing areas of consider with respect to benefit involvement (39.7%), advanced environments (24.4%), maintainable social tourism (23.1%) and selection and utilize of innovation by little and medium ventures (12.8%). Besides, the advanced economy cluster incorporates thinks about of the advanced economy as a implies of beginning a commerce (44.4%), developing shapes of utilization (25.9%) and the dissemination of innovation utilize in tourism (29.6%). The instruction and neighborliness cluster shows advanced proficiency in tourism scenarios (65.5%) and moral and viable measurements obligation social 46.7 (34.5%). From study Digitalization is an important part of developing tourism and the economy.

Sari et al, 2019) digital transformation is a process in which digital technology is widely used in various aspects of modern society. More than just having basic digital skills, digital transformation includes the application of new technologies and procedures in organizations or businesses to improve efficiency, productivity, and innovation. Further explained by Jingen Liang and Elliot, (2021) digitalization is an important factor for the tourism industry because it has revolutionized initiatives,

products, experiences, business ecosystems, and tourism destinations, as well as changing the way they interact.

Klimova et al. (2020), there are several advantages in the widespread adoption of digital services and platforms in tourism and hospitality, including being able to develop tourism businesses with a technologically intelligent combination. The importance of this digital transformation is also reinforced by research by Okafor et al., 2022), in his research, now is the right time to renew tourism and adopt technology and innovation. The combination of digital and tourism, in the midst of market transformation, is needed because it can maintain and increase the value of tourism.

In the context of business, especially tourism, digital transformation means a process that involves the widespread use of digital technology in more modern village tourism. This process is not just about having basic digital skills, but more about implementing new technologies and procedures that can change the way village tourism managers operate. In this context, digital transformation includes the integration of technologies such as artificial intelligence, data analytics, and automation into daily work processes. The goal is to improve operational efficiency, employee productivity, and create new innovations that can add value to customers. In

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addition, digital transformation also helps organizations to be more responsive to market changes and consumer needs. Thus, this process is very important for the sustainability and growth of businesses in today's digital era, where adaptation to technology is the key to competing, developing and being sustainable.

Village Tourism

Aref and Gill (2009) quoting from the WTO define rural tourism as a tourism product "that provides visitors with personalized contact, a taste of the services of the physical environment and village people and also enables visitors to be involved in activity village communities, are directly involved in the traditions and lifestyle of rural communities. as far as possible, it is possible to participate in the activities, traditions and lifestyle of local communities. Nair et al (2015) summarize several dimensions of village tourism which include location characteristics, purpose of visit, attractions/activities, scale of operations and sustainability.

Rural tourism appears to have the potential to boost the country's economy. However, as stated by Chin, Thian, and Lo (2017), the community believes that the economic, socio-cultural, and environmental impacts significantly contribute to the growth of rural tourism, especially now with the support of village funds.

The locals think that the creation of competitive advantages in rural tourism is greatly aided by the economic, sociocultural, and environmental effects. Additionally, the development of competitive advantages in rural tourism locations is significantly influenced by community knowledge and support for tourism. Indeed, rural tourism has been acknowledged as a significant instrument for raising living conditions and promoting local welfare (Aliman et al, 2016).

Thus, village tourism is very important as a solution to improve community welfare without sacrificing natural beauty and cultural heritage for future generations.

Sustainable Village Tourism

Ten success characteristics for developing sustainable tourism villages through rural tourism entrepreneurship were identified by Utami & Lestari in 2023. These elements include resource management, cooperation, collaboration, innovation, creativity, economic growth, business unit development, revenue management, environmental awareness, and visitor management. The three dimensions of sustainability—economic, social, and environmental—are then used to aggregate these ten criteria.

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Farhan and Anwar (2016), important issues in developing sustainable tourism can be described and interpreted as follows:

1. Stakeholder sustainability through increasing corporate stakeholder responsibility
2. Sustainability of forms of tourism appropriate
3. Sustainability of social and cultural resources
4. Sustainability of the natural environment
5. Sustainability requires correct planning in planning tourist destinations
6. Sustainability through increasing carrying capacities and indicators of sustainable tourism development
7. Sustainability by avoiding and reducing conflict
8. Sustained community involvement,
9. Sustainability is about future direction

Previous research related to sustainable village tourism has been widely developed, for example Zhou, Chan, and Song, (2017); Farhan and Anwar, (2016); Vitasurya, (2016) looks at it from the perspective of community social capital, based on village potential or village excellence, village attractiveness (Sharpley, (2007); Lun, Pechlaner and Volgger, (2016); Pato and Kastenholz, (2017)).

Thus, the concept of sustainable village tourism is a tourism concept that prioritizes a balance between environmental preservation, economic sustainability and the social welfare of village communities. The main goal of sustainable village tourism is to ensure that tourism activities not only provide short-term benefits but can also continue without damaging the natural ecosystem or local culture in the village.

RESEARCH METHOD

The approach in this research uses a qualitative approach; A qualitative approach was used considering 1) This research was conducted based on facts that occurred, and 2) This research did not aim to test a hypothesis. This qualitative approach uses observation and communicative interaction, especially in-depth interviews. Findings in research with qualitative approaches is unique and conclusions can be transferred to certain characteristics that have the same or almost the same characteristics.

Data collection procedure, The steps taken to collect the required data are as follows: 1) preliminary survey 2) field study, in this stage relevant data is collected related to the researcher's problem. Data collection was carried out using interview

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techniques to obtain information through direct face-to-face questions and answers between the interviewer and the informant. The informants for this study were tourism village managers, tourism village assistants, and information system experts. The selection of tourism manager informants can provide an overview of current conditions and digitalization needs, village assistant informants as incubators who understand the needs of digitalization conditions, while the selection of information system experts can provide digitalization that can be developed in village tourism. All results of the collection and collection process are then compiled in the form of a detailed report. Next, the report is summarized and the main and important things are selected to obtain a theme or pattern. In this research, the data will be analyzed by means of data reduction, data display and conclusion drawing verification which are carried out simultaneously (Miles and Huberman, 1992). After the process is complete, at the end, the data validation process will be carried out using the member check model.

RESULTS AND DISCUSSION

Results

The results of the interview and after reduction are carried out, the display and presentation stages are carried out with the results as follows The results of the interview reduction show that subject 1 stated "If it is associated with technology information is very helpful for tourism managers, one of which is by using social media so all information is faster accepted by the community even though they are far away" social media which is often used for information media such as IG tourism, Tik Tok, WA, FB,. Meanwhile, for operations, innovate payment methods using edition machines and QRIS. For this reason, we need to continue to innovate, including increasing capacity for special managers to continue to update technological developments. For example, visitors can buy tickets online. There are season tickets for all rides. Subject 1 to convey that in managing tourism, apart from being digitally based, it also pays attention to sustainability aspects among them The first is by village care for the environment, namely by utilizing local wisdom (e.g. palm trees). Making it into tourism, especially lontar sewu tourism, secondly, equitable economic growth, namely, it is hoped that with tourism in the village, economic growth will further develop with the presence of SMEs around it and throughout the village area it will be affected by economic growth and the third is partnerships for village development by opening partnerships with anyone,

especially academics, thereby expanding knowledge and improving human resources for employees and manager tour

The reduced results from the interview with subject 2 convey that the current management of village tourism, if linked to digitalization/information technology, helps in making it easier for tourism to introduce tourism products to wider targets, as well as there are good prospects for applying ICT/digital to village tourism in promoting wider tourism, improving services, making it easier to manage finances. In implementing smart or digital-based village tourism, it is necessary to prepare the equipment and also have capable human resources, such as Infrastructure digital, digital platforms and also community support implemented in ticket payments via QRIS, electronic media-based tourist information, both social media and web-based. Subject 2 also said that if the application of ICT is linked to SDGs (environmental, economic, socio-cultural), what can be done is preserving the environment: including unique local resources. in each-in each village, improving the economy with increasing community income and maintaining existing community culture including social capital.

Reduction results from interviews with subject 3 who is an expert in the field of information systems. According to subject 3, several aspects and applications of digitalization in tourism villages are several applications that can be carried out in village tourism, namely:

1. Promotion and marketing that can use social media, websites and SEO, Reservation management through online booking applications. This application can involve academics.
2. Interactive tourism using mobile applications, interactive maps or augmented reality (AR) and virtual reality (VR) for prospective tourists who want to come to tourist villages. This application can involve academics.
3. Improving infrastructure by improving infrastructure for connectivity, online payments. This application can involve the government and the private sector.
4. Management of resources and data with data analysis to determine tourist behavior patterns and provide preferences to consumers, education and training in the use of digital technology and e-commerce. This can involve local communities and academics
5. Development of local communities and economies by making BUMDES the leading sector. This application

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can involve the private sector and local communities.

Subject 3 also said that village tourism also needs to prepare itself to become a digital-based tourism entity by emphasizing, technology infrastructure, information and management systems, data management and analytics, digital promotion and marketing, training and human resource development, visitor experience, regulations and policies and collaboration and partnerships: building networks with local tourism actors, village governments and communities to support and promote digital tourism initiatives. Meanwhile, in the context of sustainability linked to the environmental SDGs, it can be through managing natural resources (for example using IoT technology (*Internet of Things*) to monitor the quality of air, water and land, as well as measure the impact of tourism on the environment), the second is the Economic SDGs by developing the local economy, for example using e-commerce, creating new jobs, and the third is the socio-cultural SDGs through cultural preservation, for example by digitizing photo content, videos about culture, cultural agendas, for example the promotion of cultural events, typical festivals in village tourism.

Discussion

The application of digitalization in managing village tourism, especially in Gresik Regency, is expected to increase the efficiency, attractiveness and sustainability of village tourism. By utilizing digital technology, tourist villages can reach more tourists, improve the visitor experience, and optimize resource management and local community income. That the application of digitalization can be done in several ways, for example:

1. Digitalization in promotion and marketing
    a. Social Media & Website: Tourist villages can use Instagram, Facebook, TikTok, and YouTube to promote their tourist attractions with photos, videos, and tourist testimonials.
    b. Online booking platform: partnerships with applications such as Traveloka, Tiket.com, or Google Travel make it easier for tourists to make reservations.
    c. Digital Maps & Virtual Tours: Google Maps and VR (Virtual Reality) technology can be used to provide a virtual tour experience for prospective tourists before they visit.
2. Digitalization in tourism management and services

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a. Digital ticketing and payment systems: the use of QR codes, e-wallets (OVO, GoPay, Dana), and other digital payment applications reduce the use of cash and increase financial transparency.

b. Tourism management application: villages can use an application-based tourism management system to organize visit schedules, manage tourist capacity, and monitor daily operations.

c. Smart tourism infrastructure: providing free Wi-Fi in tourist areas and using the internet of things (IoT) such as environmental sensors to maintain the ecosystem.

3. Community empowerment through digitalization

a. Digital literacy training: village residents need to receive education about how to use digital technology to support their businesses, such as marketing local products through e-commerce (Shopee, Tokopedia, or the MSME marketplace).

b. Digital content development: local residents can become content creators by sharing cultural stories, typical culinary delights or village traditions through blogs, vlogs or podcasts.

c. Digitalization of MSMEs & souvenirs: typical village products can be sold online via e-commerce and social media to reach more buyers.

4. Sustainability and smart tourism in village tourism

a. Use of data & ai for tourist analytics: analytics technology can help villages understand tourist preferences and design more attractive tourism programs.

b. Eco-Friendly applications: technologies such as digital waste monitoring, IoT-based use of renewable energy, and digital systems for managing sustainable transportation can be implemented.

c. Educating tourists with technology: visitors can be given access to educational applications that explain the history, culture and local wisdom of tourist villages through augmented reality (AR) or application-based audio guides.

The results of this study are in line with research (Ballina, 2022; Ella & Andari, 2018; Mumtaz & Karmilah, 2022; Sutriadi, 2018; Syaodih, 2018) which states that digitalization of village tourism can be realized in the form of digital marketing applications, websites, social

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media, web forums, online advertising, and mobile applications.

Apart from village tourism preparing and implementing digitization, it must also be able to support sustainability issues because it is very relevant to the Sustainable Development Goals (SDGs), which can contribute to improving village economic welfare, preserving the environment, and strengthening local culture. By utilizing digital technology, tourist villages can develop sustainably and contribute to achieving global sustainable development goals, The results of this study are in accordance with research (Miller & Torres-delgado, 2023; Vitasurya, 2016).

This contribution, if focused, can be focused into 6 SDGs viz

1. SDGs 1: No Poverty, The Role of Digitalization:
    a. Encouraging the village economy through digital platforms such as e-commerce and social media for marketing local products.
    b. Digital payments and online reservations enable villages to obtain income more transparently and efficiently.
    c. Digital-based crowd funding and investment platforms can help develop tourist village infrastructure.

2. SDGs 8: Decent Work and Economic Growth, Role of Digitalization:
    a. Opening new digital-based job opportunities, such as social media manager, virtual tour guide, or tourist village content creator.
    b. Digitalization of reservation and marketing systems increases the competitiveness of tourist villages in the global market.
    c. Local communities can participate in digital training programs to improve creative economy skills.

3. SDGs 9: Industry, Innovation and Infrastructure, Role of Digitalization:
    a. Development of smart tourism with Internet of Things (IoT) based infrastructure, such as environmental sensors and electronic ticket systems.
    b. Providing free internet and Wi-Fi access in tourist areas improves the tourist experience.
    c. Implementation of big data and analysis of tourist behavior for more effective tourism planning.

4. SDGs 12: Responsible Consumption and Production, The Role of Digitalization:
    a. Use of digital platforms to educate tourists about ecotourism and responsible tourism practices.

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b. Application and QR Code to reduce paper use in tourism promotions and entrance tickets.

c. Application of technology in waste management and reducing plastic waste in tourist villages.

5. SDGs 13: Addressing Climate Change, the Role of Digitalization:

a. Monitoring the environmental impact of village tourism using sensor technology and data analysis.

b. Digitalization to encourage low carbon tourism, such as the use of electric vehicles or bicycles.

c. Digital campaign to increase tourist awareness of nature conservation and climate change mitigation.

6. SDG 17: Partnerships to Achieve the Goals, Role of Digitalization:

a. Collaboration with national and global digital platforms to introduce village tourism to a wider market.

b. Partnership with technology startups, universities and NGOs in developing digital innovation based on tourist villages.

c. Use of blockchain technology for transparency of tourism village development funds.

CONCLUSION

Sustainable development of digital-based village tourism is an important strategy that can increase the competitiveness and welfare of tourist villages. With digital technology, villages can optimize tourism potential without sacrificing environmental and social balance. Digitalization allows wider promotion through social media, websites and tourism marketplaces, making it easier for tourists to get information and make online reservations. Apart from promotions, digitalization increases the efficiency of tourism management through online reservation systems, digital payments and tourism management applications. Data-based technology and AI help villages analyze tourism trends for appropriate development strategies. Digitalization also supports environmentally friendly smart tourism concepts, such as IoT-based waste management, renewable energy and sustainable transportation systems.

The application of digital technology opens up economic opportunities for village communities. Digital literacy training allows residents to develop MSMEs, sell local products online, and create digital content that is attractive to tourists. This increases community income and the economic independence of tourist villages. However, there are challenges such as uneven digital infrastructure, limited internet access, and lack of digital literacy. Therefore, collaboration is needed between

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government, the private sector and local communities to ensure the benefits of technology are spread evenly. With the right strategy, digital-based village tourism can increase attractiveness, maintain environmental sustainability, and empower local communities. Digitalization is not only modernization, but also a strategic step towards an independent, innovative and highly competitive tourist village.

Important implications in this study are; managerial implications of this study, tourism managers and facilitators can apply digitalization to tourism that is ollaborated with sustainability. Theoretical implications, future research can use these findings, specially measuring the impact of the application of digitalization and its influence on the sustainability of village tourism.

RESEARCH IMPLICATIONS

Managerial Implications; this study emphasizes the importance of pentahelix collaboration between the government, private sector, academics, and local communities in developing digital-based village tourism. The government must support infrastructure and regulations, while the private sector can provide digital literacy training. The involvement of local communities is important to meet their needs, so that the benefits of digitalization can be felt evenly. So that future research can involve the 5 pillars in the pentahelix that are not accommodated in this study. Theoretical Implications, theoretically, this study enriches the concept of smart tourism and sustainability. Digitalization functions as a strategy to create an environmentally friendly tourism ecosystem. The challenges faced open up opportunities for further research on innovative solutions in the application of technology in tourist villages.

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