Journal of Management and Business Literacy (JMBL)
Vol. 1 No. 1 August 2026 || Page 145-185
E-ISSN: 3164-6336
DOI / Link : https://journal.penerbit3pilarliterasi.com/index.php/jmbl

Digitalizing Rural MSMEs in a Tourism Village: An Ecosystem-Based Strategy from Tondok Bakaru Village, Indonesia

Soleman[1], Petrus Peleng Roreng[2], Natalia Paranoan[3]

[1,2,3)] Master of Management Program, Universitas Kristen Indonesia Paulus, Makassar, Indonesia

Submitted: 30-07-2026 || Review 05-08-2026 || Revision 14-08-2026 || Accepted 16-08-2026

Abstrak

Transformasi digital semakin penting dalam memperkuat Usaha Mikro, Kecil, dan Menengah (UMKM) serta mendukung pengembangan ekonomi kreatif di destinasi wisata perdesaan. Penelitian ini memberikan bukti kualitatif mengenai bagaimana para pemangku kepentingan memandang dan mengalami digitalisasi dalam ekosistem pariwisata perdesaan yang sedang berkembang. Alih-alih menunjukkan dampak ekonomi yang dapat diukur, penelitian ini mengidentifikasi mekanisme, peluang, dan kondisi pendukung melalui mana digitalisasi dapat mendukung pengembangan UMKM dan pariwisata. Penelitian ini juga mengidentifikasi strategi berbasis ekosistem untuk memperkuat digitalisasi UMKM berdasarkan pengalaman pemangku kepentingan dan bukti kontekstual. Pendekatan studi kasus kualitatif digunakan dengan melibatkan 12 informan yang terdiri atas aparatur pemerintah desa, pelaku UMKM, pengelola pariwisata/BUMDes, masyarakat lokal, dan wisatawan. Data dikumpulkan melalui wawancara mendalam, observasi, dan dokumentasi, kemudian dianalisis menggunakan model interaktif Miles, Huberman, dan Saldaña. Hasil penelitian menunjukkan bahwa digitalisasi menciptakan peluang untuk memperluas visibilitas produk dan destinasi, meningkatkan keterlibatan pelanggan, mendorong inovasi produk, memperluas akses terhadap informasi pariwisata, serta memperkuat kolaborasi antarpemangku kepentingan. Sejumlah wisatawan juga melaporkan bahwa informasi digital memudahkan mereka dalam menemukan destinasi dan mengonsumsi produk lokal. Digitalisasi berkontribusi terhadap perluasan promosi produk dan destinasi, peningkatan akses pasar, dorongan terhadap inovasi produk, peningkatan pengalaman wisatawan, serta penguatan kolaborasi antarpemangku kepentingan. Penelitian ini memberikan kontribusi berupa perspektif ekosistem yang sensitif terhadap konteks mengenai digitalisasi UMKM perdesaan dengan menunjukkan bahwa transformasi digital tidak hanya bergantung pada adopsi teknologi, tetapi juga pada kapabilitas digital, infrastruktur, pemasaran digital yang strategis, kolaborasi multipemangku kepentingan, dan inovasi produk lokal.

.

Kata kunci: Digitalisasi UMKM; Ekonomi Kreatif; Desa Wisata; Transformasi Digital; Pengembangan Ekonomi Lokal.

Abstract

Digital transformation has become increasingly important for strengthening Micro, Small, and Medium Enterprises (MSMEs) and supporting creative economic development in rural tourism destinations. This study provides qualitative evidence of how stakeholders perceive and experience digitalization within an emerging rural tourism ecosystem. Rather than demonstrating measurable economic effects, the study identifies the mechanisms, opportunities, and enabling conditions through which digitalization may

[1]E-mail: sulemanmila7@gmail.com
[2]E-mail: petrusroreng1@gmail.com
[3]E-mail: natalia_paranoan@ukipaulus.ac.id

support MSME and tourism development. It further identifies ecosystem-based strategies for strengthening MSME digitalization based on stakeholder experiences and contextual evidence. A qualitative case study approach was employed involving 12 informants comprising village government officials, MSME actors, tourism/BUMDes managers, local communities, and tourists. Data were collected through in-depth interviews, observation, and documentation, and analyzed using the Miles, Huberman, and Saldaña interactive model. The findings suggest that digitalization creates opportunities for broader product and destination visibility, customer engagement, product innovation, access to tourism information, and stakeholder collaboration, while selected tourists reported that digital information facilitated destination discovery and local product consumption. Digitalization contributes to expanding product and destination promotion, increasing market access, encouraging product innovation, improving tourist experiences, and strengthening stakeholder collaboration. The study contributes a context-sensitive ecosystem perspective on rural MSME digitalization by showing that digital transformation depends not only on technology adoption but also on digital capabilities, infrastructure, strategic digital marketing, multi-stakeholder collaboration, and local product innovation.

Keywords: *MSME Digitalization; Creative Economy; Rural Tourism; Digital Transformation; Local Economic Development*

1. INTRODUCTION

Digitalization has become an increasingly important pathway for Micro, Small, and Medium Enterprises (MSMEs) to overcome limitations in market reach, customer access, and business resources. Digital platforms, social media, and digital payment systems can enable small businesses to connect with customers beyond their immediate geographical areas and create new opportunities for value creation (Purnomo et al., 2024; Wardhani et al., 2023). These opportunities are particularly relevant for MSMEs operating in rural tourism destinations, where the visibility of local businesses is closely connected to the attractiveness and accessibility of the destination itself. In such settings, digitalization can connect local products, tourism experiences, and potential visitors across geographical boundaries.

However, the presence of digital technology does not necessarily indicate meaningful digital transformation. Rural MSMEs may use smartphones, social media, messaging applications, or digital payment systems while still relying on relatively informal and tactical business practices. Previous evidence from Indonesian tourism MSMEs shows that limited digital skills, organizational constraints, resource limitations, and inadequate infrastructure can restrict the ability of small businesses to translate digital adoption into broader organizational and market capabilities (Lei et al., 2023). This creates an important empirical problem: the critical issue is not simply whether rural MSMEs have entered the digital space, but whether they possess the capabilities and supporting ecosystem required to convert digital technologies into sustainable business and tourism-related value.

This issue is particularly relevant in Tondok Bakaru Village, Mamasa Regency, West Sulawesi, Indonesia. The village possesses tourism and local economic potential, while its MSMEs have begun adopting basic digital technologies for promotion, customer communication, and payment. Nevertheless, the level of digitalization is uneven, and the integration of digital technologies into broader business processes remains limited. More importantly, rural MSME digitalization in this context is not an isolated firm-level phenomenon. It involves interactions among MSME actors, village government, BUMDes, tourism managers, local communities, and tourists. The empirical context therefore raises the question of how digitalization is currently

practiced, how it contributes to tourism-related local economic activities, and what conditions may strengthen its development.

Existing studies have generated important evidence on MSME digitalization, tourism technology adoption, digital marketing, and barriers to digital transformation. However, the evidence remains fragmented across these dimensions. Studies have examined digital transformation barriers among tourism MSMEs (Lei et al., 2023), the role of digital platforms in tourism-village MSME development (Ramelan et al., 2024; Somantri et al., 2024), and the relationship between digitalization, branding, and network collaboration in tourism enterprises (Wardhani et al., 2023). Broader research on Indonesian MSMEs has also documented the potential of digital transformation for market expansion and efficiency (Purnomo et al., 2024). Nevertheless, limited empirical attention has been given to how digital capability, infrastructure, digital marketing, local product innovation, tourist experience, and multi-stakeholder collaboration interact within a single rural tourism ecosystem, particularly in less-developed tourism destinations. This study addresses this gap by examining MSME digitalization in Tondok Bakaru Village through an ecosystem perspective grounded in qualitative stakeholder evidence.

Accordingly, this study addresses three research questions: (1) What is the current state of MSME digitalization in Tondok Bakaru Village? (2) How does MSME digitalization contribute to local economic and tourism-related activities in the village? and (3) What ecosystem-based strategies can strengthen MSME digitalization within the rural tourism context?

The novelty of this study lies in its contextualization of rural MSME digitalization as an ecosystem-embedded process rather than merely a matter of technology adoption. By integrating the perspectives of MSME actors, village government, tourism/BUMDes management, local communities, and tourists, the study provides a multi-stakeholder understanding of the conditions shaping digitalization in a rural tourism destination. The study further synthesizes the empirical findings into a set of ecosystem-based strategic priorities covering human resource capacity, digital infrastructure, strategic digital marketing, multi-stakeholder collaboration, and local-based product innovation.

The study contributes to the literature in three ways. First, it provides empirical evidence from a relatively underexamined rural tourism context in Indonesia, thereby extending the discussion of MSME digitalization beyond conventional urban or firm-centered settings. Second, it demonstrates how digital capabilities, complementary resources, and stakeholder relationships jointly shape the progression from basic digital adoption toward more integrated digitalization. Third, it provides context-sensitive strategic priorities that may assist local governments, tourism managers, and MSME support institutions in designing digitalization interventions. Importantly, these strategic priorities are presented as qualitative, context-specific insights rather than a universally validated model, and their applicability to other rural tourism destinations requires further comparative research..

Table 1. Empirical Phenomena Related to MSME Digitalization in Tondok Bakaru Village

Aspect	Empirical Phenomenon	Implication
Digital technology adoption	Most MSMEs have begun using smartphones and basic digital applications	Digitalization has started, but remains at an early stage

Aspect	Empirical Phenomenon	Implication
Digital marketing	WhatsApp, Facebook, and Instagram are the primary promotional channels	Market visibility has increased, but digital marketing is not yet strategically managed
Digital payment	Some MSMEs have adopted QRIS	Transaction convenience has improved, but adoption remains uneven
Digital literacy	Digital capabilities vary among MSME actors	Differences in competence limit the effectiveness of technology utilization
Digital infrastructure	Internet access remains one of the challenges identified by MSME actors	Infrastructure constraints may restrict continuous digital engagement
Product innovation	Digital exposure encourages improvements in product quality, packaging, and branding	Digitalization can stimulate creative product development
Stakeholder collaboration	Collaboration among village government, BUMDes, MSMEs, communities, and tourism actors remains important	Digital transformation requires an ecosystem rather than isolated business-level initiatives

***Source**: Primary research data, processed by the authors (2026).*

The qualitative case study design is appropriate for these questions because the study seeks to understand the phenomenon within its natural setting, explore the meanings and practices underlying digitalization, and formulate context-sensitive strategic recommendations rather than test causal relationships among predetermined variables.

2. LITERATURE REVIEW

The literature review of this study is structured around the conceptual relationship between MSME digitalization, digital transformation, creative economy development, rural tourism, dynamic capabilities, and resource-based competitiveness. Rather than treating digitalization as a purely technological phenomenon, this study views it as a multidimensional transformation process in which technology interacts with human capabilities, organizational resources, innovation, and inter-organizational collaboration. This perspective is consistent with the theoretical framework developed in this research, which integrates Resource-Based View (RBV), Digital Transformation Theory, and Dynamic Capability Theory.

2.1 MSME Digitalization

Digitalization has become an increasingly important strategic issue for Micro, Small, and Medium Enterprises (MSMEs). Digital technologies provide MSMEs with opportunities to overcome some of the structural limitations traditionally associated with small-scale businesses, particularly limited market reach, restricted customer access, and resource constraints. Through social media, digital payment systems, online marketplaces, and digital communication platforms, MSMEs can interact directly with consumers and reach markets beyond their immediate geographical boundaries.

However, digitalization should not be understood simply as the adoption of digital tools. Vial (2019) conceptualizes digital transformation as a process in which

digital technologies trigger changes in organizational structures, processes, and value creation. Similarly, Verhoef et al. (2021) distinguish between digitization, digitalization, and digital transformation, emphasizing that the latter involves broader organizational and strategic changes rather than merely replacing conventional processes with digital alternatives. These perspectives are particularly relevant to MSMEs because the adoption of a smartphone, social media account, or digital payment system does not necessarily indicate that a business has achieved meaningful digital transformation.

Recent empirical research confirms that MSME digitalization remains uneven. Lei et al. (2023), examining tourism MSMEs in Bali, found that digital transformation was progressing relatively slowly and was constrained by several barriers, including limited digital capabilities and organizational resources. Their findings reinforce the argument that technology availability alone does not guarantee effective transformation.

The same issue emerges in the present study. MSMEs in Tondok Bakaru have already adopted smartphones, social media, instant messaging applications, and, in some cases, QRIS. Nevertheless, digital technologies are predominantly used for basic communication, promotion, and transactions and have not yet been fully integrated into broader business management. This research therefore categorizes the current condition as a developing stage of digitalization.

This distinction is theoretically important. Digital presence represents only the entry point of transformation, whereas digital maturity requires the ability to combine technology with human capabilities, organizational processes, market intelligence, and strategic decision-making. In this sense, the central issue for rural MSMEs is not simply whether technology is adopted, but whether technology can be converted into organizational capability and economic value.

Digital adoption refers to the initial use of digital technologies in business activities, whereas digital transformation involves broader changes in organizational processes, capabilities, value creation, and business models. This distinction is particularly important for MSMEs because the adoption of accessible technologies such as social media or digital payment systems does not necessarily indicate the development of strategic digital capabilities.

2.2 Digital Transformation as the Primary Theoretical Lens

Digital Transformation Theory provides the first major theoretical foundation for understanding how digital technologies reshape business activities. Vial (2019) argues that digital transformation involves changes induced by digital technologies that alter value creation and organizational structures. Verhoef et al. (2021) further explain that digital transformation should be viewed as a multidisciplinary process involving technological, organizational, and strategic dimensions.

Digital Transformation Theory serves as the primary theoretical lens in this study because it provides the overarching explanation for how digital technologies reshape organizational processes, value creation, market interaction, and stakeholder relationships. Digital transformation extends beyond the adoption of individual technologies because it involves changes in how organizations create and capture value through digitally enabled processes and interactions (Vial, 2019; Verhoef et al., 2021). This perspective is particularly relevant to rural tourism MSMEs because digitalization can affect not only how individual businesses communicate with customers and conduct transactions, but also how local products, tourism experiences, destination information, and stakeholders are connected.

Within this study, Digital Transformation Theory is therefore used to explain the broader process through which Tondok Bakaru's MSMEs move from basic use of digital tools toward more integrated digitally enabled business and tourism activities. The theory provides the primary conceptual frame for interpreting changes in digital marketing, customer engagement, market access, product development, and stakeholder interaction. However, Digital Transformation Theory alone does not fully explain why MSMEs differ in their ability to respond to digital opportunities or how internal resources are converted into adaptive capabilities. These questions require complementary explanatory lenses.

In this study, the ecosystem perspective is used as an analytical lens rather than as a formally tested theoretical model. Rural MSME digitalization is understood as a process embedded within a network of interdependent actors, including MSMEs, village government, BUMDes, tourism managers, local communities, tourists, and supporting institutions. From this perspective, digitalization outcomes depend not only on firm-level technological adoption but also on the availability of complementary resources, institutional coordination, market connections, and local capabilities. The ecosystem perspective therefore provides a contextual basis for synthesizing strategic priorities from the empirical findings, while the RBV and Dynamic Capability Theory provide the theoretical explanations for the role of resources, capabilities, and organizational adaptation.

2.3 Complementary Explanatory Lenses: Resource-Based View and Dynamic Capabilities

2.3.1 Resource-Based View

The Resource-Based View (RBV) complements the primary digital transformation perspective by explaining the internal resource foundations that influence an MSME's ability to benefit from digitalization. Whereas Digital Transformation Theory focuses on the broader process of digitally enabled organizational and market change, RBV focuses on the resources that firms possess and their potential to generate sustained value (Barney, 1991). In the context of rural MSMEs, these resources may include digital knowledge and skills, human resources, local knowledge, organizational experience, relational resources, and distinctive local products.

RBV is therefore used in this study to explain differences in the capacity of MSMEs to utilize digital technologies meaningfully. Access to the same digital platforms does not imply equivalent digital outcomes because MSMEs differ in their human capabilities, knowledge, organizational resources, and locally embedded assets. This perspective helps explain why digital technology adoption in Tondok Bakaru remains uneven and why technology access alone is insufficient to produce broader digital transformation.

2.3.2 Dynamic Capability Theory

While RBV explains the strategic importance of resources, Dynamic Capability Theory helps explain how organizations use and renew those resources in changing environments. Teece (2018) emphasizes that dynamic capabilities concern an organization's ability to adapt, innovate, and reconfigure its resources and business models in response to changing environments. The framework is commonly articulated through three interrelated processes: sensing, seizing, and transforming/reconfiguring.

Dynamic Capability Theory provides a second complementary lens by explaining how MSMEs mobilize, adapt, and reconfigure their resources in response to changing

technological and market conditions. While RBV emphasizes the resources available to an organization, the dynamic capability perspective focuses on how organizations renew and deploy those resources over time. Teece (2018) conceptualizes dynamic capabilities in terms of the capacity to sense opportunities and threats, seize opportunities, and transform or reconfigure organizational resources and practices.

This perspective is relevant to the present study because rural MSMEs may possess digital tools or local resources without necessarily being able to convert them into sustained strategic capabilities. For example, the use of social media may represent initial digital adoption, while the ability to systematically develop digital content, respond to customer information, coordinate destination promotion, improve product packaging, and adapt marketing practices represents a more advanced capability. Dynamic Capability Theory therefore helps explain the movement from digital adoption toward more integrated and adaptive digitalization.

Extending this perspective to the rural tourism context, this study proposes that digital capability should not always be conceptualized exclusively as a firm-level dynamic capability. In a tourism village, the value generated through digitalization depends partly on the ability of multiple actors to coordinate complementary resources, information, promotional activities, and tourism services. MSMEs may possess the capability to create digital content or communicate with customers, but the broader value of these capabilities depends on destination visibility, infrastructure, institutional coordination, tourism management, community participation, and visitor interaction. Digital capability therefore acquires an ecosystem dimension when the realization of digital value is distributed across interdependent actors. In this sense, the study extends the dynamic capability perspective by suggesting that, in rural tourism settings, digital capabilities can become collectively enacted through interorganizational coordination rather than being confined to the boundaries of individual firms.

2.4 Integrated Theoretical Framework

The theoretical integration in this study goes beyond combining three complementary perspectives. The central theoretical argument is that the locus of digital capability in rural tourism may extend beyond the individual MSME to the broader tourism ecosystem. Digital Transformation Theory explains the process through which digital technologies reshape business and tourism-related activities. RBV explains the importance of heterogeneous resources, including digital knowledge, human capabilities, local knowledge, relational resources, and distinctive products. Dynamic Capability Theory explains how these resources are mobilized, adapted, and reconfigured in response to technological and market changes. However, the empirical context of Tondok Bakaru indicates that these capabilities do not operate solely within individual firms. Their value increasingly depends on coordination among MSMEs, village government, BUMDes, tourism managers, local communities, and tourists.

This study therefore offers a contextual extension of Dynamic Capability Theory: in rural tourism, digital capabilities may become ecosystem-enabled when digitally enabled value creation depends on the coordinated deployment of complementary resources and capabilities across organizational boundaries. The term "ecosystem capability" is used here as an analytical expression for this ecosystem-enabled dimension of digital capability, rather than as a new theory or independently validated construct (Fang et al., 2024). At the firm level, MSMEs develop capabilities to use social media, digital communication, digital payments, content creation, and product

presentation (Fang et al., 2024). At the ecosystem level, these capabilities become more valuable when they are connected with destination promotion, institutional coordination, infrastructure provision, community participation, and tourist engagement (Khurana et al., 2022)**.** Thus, digital transformation is not simply a process through which individual firms acquire and reconfigure digital resources; it is also a relational and collective process through which distributed capabilities are coordinated to create place-based value.

Accordingly, the theoretical framework proposed in this study shifts the analytical emphasis from digital adoption by individual MSMEs toward the interaction between firm-level capabilities and ecosystem-level enabling conditions. The theoretical contribution is therefore not the simple integration of Digital Transformation Theory, RBV, and Dynamic Capability Theory, but the contextual extension of dynamic capability thinking by identifying an ecosystem-level dimension of digital capability in rural tourism.

Table 2. Integrated Theoretical Roles in Explaining Rural MSME Digitalization

Theoretical perspective	Primary analytical question	What it explains in this study	Empirical dimensions
Digital Transformation Theory	How does digitalization change business and tourism-related activities?	The broader process of digitally enabled change in marketing, customer interaction, market access, product development, and stakeholder relationships	Digital adoption, digital marketing, customer interaction, market access, tourism-related digital activities
Resource-Based View	What resources enable MSMEs to benefit from digitalization?	The internal resource foundations underlying digitalization	Digital literacy, human resources, local knowledge, organizational resources, local products
Dynamic Capability Theory	How do MSMEs adapt and reconfigure resources in response to digital opportunities?	The development of adaptive and strategic capabilities beyond basic technology adoption	Sensing digital opportunities, strategic marketing, product innovation, adaptation, reconfiguration, collaboration

Source: Authors' synthesis based on Vial (2019), Verhoef et al. (2021), Barney (1991), and Teece (2018).

Table 2 demonstrates that the three perspectives are not used as interchangeable explanations. Each addresses a different analytical level of the phenomenon. Digital Transformation Theory operates at the process and outcome level, RBV at the resource level, and Dynamic Capability Theory at the capability and adaptation level. This layered structure prevents theoretical overlap and provides a coherent basis for interpreting the empirical findings.

2.5 Digitalization and Tourism-Based Creative Economy

The relationship between digitalization and the creative economy becomes particularly important in tourism villages because local products, cultural resources, creative activities, and tourism experiences are often interconnected. The creative

economy relies on the transformation of ideas, knowledge, culture, and creativity into economic value. Digital platforms can strengthen this process by enabling creative products to reach audiences beyond the physical boundaries of their place of origin.

In tourism contexts, digitalization also changes how tourists discover destinations and interact with local businesses. Information about destinations, attractions, accommodation, food, souvenirs, and other local products is increasingly encountered through digital channels. Consequently, the digital visibility of local MSMEs can contribute to destination visibility, while destination visibility can simultaneously create demand for local products.

Evidence from tourism villages in Indonesia supports this interconnected relationship. Somantri et al. (2024), for example, report the use of digital platforms to support MSME development in a tourism village in Tasikmalaya, particularly through digital marketing and online platforms. Similarly, Ramelan et al. (2024) describe digitalization initiatives in Kepyar Village, Wonogiri, that connect MSME potential with tourism village development through websites and digital marketing. These studies demonstrate that digitalization can become a practical mechanism for linking local enterprise development with tourism promotion.

Table 3. Comparative Evidence on MSME Digitalization in Tourism and Rural Contexts

Previous study	Context	Main focus	Method	Main findings	Remaining limitation
Wardhani et al. (2023)	Tourism-oriented SMEs	Digitalization, branding, and network collaboration	Qualitative	Digital transformation is connected with branding and collaborative networks	Does not specifically examine rural tourism-village digitalization as an integrated ecosystem
Lei et al. (2023)	Tourism MSMEs in Bali	Digital transformation barriers	Qualitative	Digital skills, organizational and cultural constraints, resources, and infrastructure limit digital transformation	Focuses primarily on barriers and does not integrate MSME digitalization with local innovation, tourist experience, and multi-stakeholder collaboration
Purnomo et al. (2024)	Indonesian MSMEs	Digital transformation, adoption, implementation, and business outcomes	Empirical study	Digital transformation is associated with market expansion and efficiency, but implementation	Provides a broader MSME perspective rather than a rural tourism ecosystem perspective

Previous study	Context	Main focus	Method	Main findings	Remaining limitation
				remains challenging	
Somantri et al. (2024)	Tourism village in Tasikmalaya	Digital platforms, digital marketing, and MSME development	Empirical case/contextual study	Digital platforms support MSME promotion and development within a tourism village	Does not comprehensively examine the interaction among digital capability, infrastructure, tourist experience, innovation, and multi-stakeholder collaboration
Ramelan et al. (2024)	Kepyar Village, Wonogiri	Websites, digital marketing, MSME potential, and tourism-village development	Case-based study	Digitalization can connect MSME potential with tourism-village promotion	Emphasis remains on digital promotion and tourism-village development rather than an integrated ecosystem-based digitalization strategy
(Efendi, 2025)	Tourism MSMEs and local economic development	Role of tourism MSMEs in local economic development	Systematic literature review	Tourism MSMEs contribute to local economic development and are increasingly connected with digitalization, entrepreneurial ecosystems, and social capital	Provides a literature-level synthesis rather than primary empirical evidence from a specific rural tourism ecosystem
Present study	**Tondok Bakaru Village, West Sulawesi**	**MSME digitalization, tourism-related local economic activities, digital capability, infrastructure, digital marketing, innovation, tourist experience, and**	**Qualitative case study**	**Digitalization is at a developing stage and requires complementary human capabilities, infrastructure, strategic marketing, stakeholder collaboration,**	**Provides context-specific strategic priorities; comparative and longitudinal validation across rural tourism destinations remains necessary**

Previous study	Context	Main focus	Method	Main findings	Remaining limitation
		stakeholder collaboration		**and local product innovation**	

Source: Compiled from previous research (2026)

The comparative evidence in **Table 2** indicates that existing research has generated important but relatively fragmented insights into MSME digitalization in tourism and rural contexts. (Wardhani et al., 2023), for example, connect digitalization with branding and network collaboration, while Lei et al. (2023) demonstrate that digital skills, organizational constraints, resources, and infrastructure can restrict digital transformation among tourism MSMEs. Purnomo et al. (2024) provide broader evidence on digital transformation among Indonesian MSMEs, particularly its relationship with market expansion and efficiency. Meanwhile, studies in tourism-village settings, such as Somantri et al. (2024) and Ramelan et al. (2024), demonstrate the practical role of digital platforms and digital marketing in connecting MSME activities with tourism-village development. These studies establish that digitalization can support MSME and tourism development, but they examine different dimensions of the phenomenon.

The remaining gap is therefore not the absence of research on MSME digitalization or tourism digitalization per se. Rather; the literature remains fragmented in terms of how these dimensions are examined together within a rural tourism ecosystem. In particular, limited empirical attention has been given to the interaction among MSME digital capability, digital infrastructure, strategic digital marketing, local product innovation, tourist experience, and multi-stakeholder collaboration within a single rural tourism context. This fragmentation makes it difficult to understand how technology adoption can be converted into broader ecosystem-level value in less-developed rural tourism destinations.

The present study addresses this gap through a qualitative case study of Tondok Bakaru Village in West Sulawesi, Indonesia. Rather than testing the causal effect of digitalization on tourism development, the study examines how digitalization is experienced and utilized by multiple stakeholders and how these experiences can inform context-sensitive strategic priorities. The study therefore extends previous research by integrating firm-level digital capabilities with destination-level resources, tourism interactions, local product innovation, and institutional collaboration within a rural tourism setting.

The Tondok Bakaru case further examines how digitalization is perceived to support several interconnected dimensions, including the promotion of local products and tourism destinations, market access and customer engagement, creative product development, access to tourism information, and stakeholder collaboration.

The relationship between digitalization and tourist experience is particularly noteworthy. Tourists in the study reported using digital information to discover tourism attractions and local products before visiting the village. This indicates that digital content can influence the tourist journey before physical arrival while also creating opportunities for continued engagement after the visit. Digitalization therefore creates a form of continuity between destination discovery, tourist experience, local consumption, and post-visit customer relationships.

2.6 Digital Marketing, Branding, and Local Product Innovation

Digital marketing represents one of the most visible dimensions of MSME digitalization. Social media platforms enable small businesses to present products visually, communicate directly with customers, distribute promotional content, and build brand identities at relatively low cost (Galib & Halik, 2026a). However, the effectiveness of digital marketing depends on whether businesses move beyond occasional posting toward a coherent strategy involving branding, content, customer interaction, and market positioning (Halik et al., 2026).

Wardhani et al. (2023) demonstrate the importance of connecting digitalization with branding and network collaboration in tourism-oriented small and medium enterprises. Their qualitative study specifically examines how tourism enterprises can navigate digital transformation while strengthening collaborative networks.

This perspective is consistent with the findings in Tondok Bakaru. Although WhatsApp, Facebook, and Instagram are already used as primary promotional channels, digital marketing remains relatively unplanned and inconsistent. The implication is that access to digital platforms has not automatically translated into strategic digital marketing capability (Galib & Halik, 2026b).

Digitalization also creates pressure for product innovation. Once local products are displayed in digital spaces, consumers can compare them with alternatives from other locations. Consequently, packaging, visual presentation, branding, differentiation, and perceived value become increasingly important. The research findings indicate that digital exposure encourages MSMEs to improve packaging, product appearance, and brand identity (Lambe & Halik, 2024).

Thus, digital marketing and product innovation should not be treated as separate dimensions. Digital marketing communicates value, while product innovation creates the value being communicated (Daud et al., 2026; Galib & Halik, 2026b). Their integration becomes particularly important for rural tourism MSMEs seeking to transform local resources into distinctive tourism-related products.

2.7 Multi-Stakeholder Collaboration and the Rural Tourism Ecosystem

A defining characteristic of tourism villages is the interdependence among stakeholders. Tourism development cannot be sustained by individual MSMEs alone because destination attractiveness, infrastructure, promotion, visitor services, community participation, and institutional support are collectively produced.

This makes multi-stakeholder collaboration an important component of rural tourism digitalization. Government institutions can provide policy and infrastructure, BUMDes can coordinate economic activities, MSMEs can develop and market products, communities can provide cultural and social resources, tourism managers can organize destination activities, and universities or other supporting institutions can contribute knowledge and capacity development.

The literature on tourism enterprises increasingly emphasizes the importance of network collaboration alongside digitalization. Wardhani et al. (2023), for example, explicitly connect digitalization, branding, and network collaboration in the development of tourism enterprises.

The Tondok Bakaru study provides empirical support for this ecosystem perspective. Digitalization was found to strengthen interaction among the village government, BUMDes, MSMEs, local communities, and tourists. The findings further suggest that the role of BUMDes can extend beyond conventional economic

management toward becoming a connecting institution between MSMEs and tourism activities.

Therefore, the digital transformation of rural MSMEs should be understood as an ecosystem-level process. The success of an individual MSME is partly dependent on the quality of the surrounding digital, institutional, social, and tourism environment.

2.8 Integrated Analytical Framework

Based on the preceding discussion, this study adopts Digital Transformation Theory as its primary theoretical lens and uses RBV and Dynamic Capability Theory as complementary explanatory perspectives. Digital Transformation Theory provides the overarching framework for understanding how digital technologies reshape MSME activities and tourism-related value creation. RBV explains the resource foundations that condition MSMEs' ability to benefit from digital technologies, while Dynamic Capability Theory explains how these resources can be mobilized, adapted, and reconfigured in response to changing digital and market conditions.

The framework therefore conceptualizes rural MSME digitalization as a layered process. Digital transformation represents the broader process of digitally enabled change; resources provide the foundation for engaging with digital technologies; and dynamic capabilities determine the extent to which MSMEs can adapt and reconfigure those resources. This process is embedded within a rural tourism ecosystem in which infrastructure, institutional support, stakeholder collaboration, and market relationships influence the conditions under which digitalization occurs.

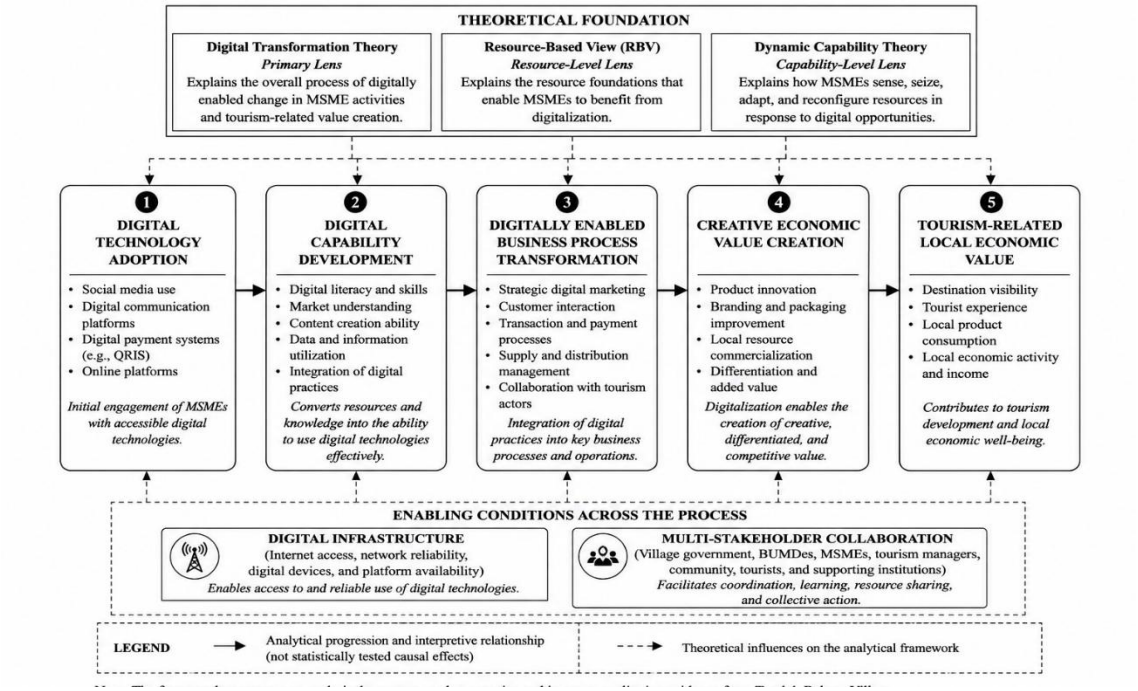


Figure 1. Integrated Analytical Framework

However, this process does not occur in isolation. Multi-stakeholder collaboration and digital infrastructure function as enabling conditions, while digital literacy and

human resource capacity determine the extent to which available technologies can be transformed into productive capabilities.

This conceptualization is strongly consistent with the model research, which identifies five strategic components: human resource capacity development, digital infrastructure strengthening, digital marketing optimization, multi-stakeholder collaboration, and local-based product innovation. The framework is not intended to represent a statistically tested causal model. Rather, it provides an analytical structure for organizing the qualitative evidence and interpreting how different dimensions of digitalization are connected within the rural tourism context of Tondok Bakaru.

2.9 Research Gap and Positioning of the Study

The existing literature provides substantial evidence that digital technologies can strengthen MSMEs, tourism enterprises, marketing activities, and destination promotion. Nevertheless, three gaps remain relevant.

First, much of the digitalization literature continues to focus on technology adoption or individual business outcomes, whereas the present study examines digitalization as an interconnected process involving technology, human capability, innovation, tourism experience, and institutional collaboration.

Second, studies of tourism MSMEs have identified important barriers to digital transformation, particularly digital skills, organizational constraints, and infrastructure limitations (Lei et al., 2023). However, fewer studies have examined how these constraints can be translated into an integrated strategy for a rural tourism ecosystem.

Third, empirical studies of tourism villages in Indonesia have demonstrated the practical value of digital marketing and platform development, but there remains a need for deeper qualitative understanding of how digitalization connects MSME development with creative economic development and destination development. Recent studies of tourism villages illustrate the importance of digital platforms and MSME empowerment, but primarily emphasize implementation or community assistance rather than developing an integrated conceptual strategy.

The present study addresses these gaps by integrating Digital Transformation Theory, RBV, and Dynamic Capability Theory to interpret MSME digitalization within a rural tourism ecosystem. The present study addresses these gaps by integrating Digital Transformation Theory, RBV, and Dynamic Capability Theory while moving the analytical focus from firm-level digital adoption toward ecosystem-level capability formation. The study argues that the ability of rural MSMEs to generate value from digitalization is partly conditioned by capabilities and resources located outside the individual firm. Infrastructure, destination-level promotion, institutional coordination, community participation, and tourist interaction constitute complementary conditions that shape whether firm-level digital capabilities can generate broader value.

The distinctive theoretical contribution is therefore a contextual extension of the dynamic capability perspective, whereby digital capability is interpreted as potentially becoming ecosystem-enabled in rural tourism. In this study, “ecosystem capability” refers to the collective and relational dimension of digital capability that emerges when value creation depends on the coordination of complementary resources and actions across organizational boundaries. The term is used as an interpretive concept rather than as a newly established or empirically validated theoretical construct. This extension is important because rural tourism value creation is inherently interdependent. An MSME's ability to promote a local product digitally, for example, has greater value when destination information is simultaneously visible, tourism actors coordinate

promotional activities, infrastructure supports digital access, and visitors participate in digital interactions. Digital capability is consequently not only a matter of what an individual MSME can do with digital technologies, but also of how multiple actors collectively mobilize and connect their complementary capabilities.

This theoretical positioning enables the study to contribute to the literature in two ways. First, it contextualizes Dynamic Capability Theory by demonstrating that the mobilization and reconfiguration of digital resources in rural tourism can cross organizational boundaries. Second, it extends the digital transformation perspective by conceptualizing rural tourism digitalization as an ecosystem-embedded capability formation process rather than merely an adoption process. The resulting framework explains why technology access alone may generate limited value when the surrounding ecosystem lacks coordination, institutional support, digital infrastructure, and complementary capabilities.

Accordingly, the contribution of this study extends beyond documenting whether MSMEs adopt digital technologies. Previous studies have primarily examined digitalization at the firm level, focusing on technology adoption, digital marketing, digital literacy, or individual business capabilities. The present study extends this perspective by demonstrating how firm-level digital capabilities are conditioned by complementary ecosystem factors, including digital infrastructure, institutional coordination, destination visibility, and stakeholder relationships, within an emerging rural tourism context. This positioning is important because digitalization in rural tourism does not operate solely within individual firms; its potential to generate tourism-based creative economic value depends partly on how firm capabilities are connected to destination-level resources, institutions, and other local actors.

Building on this perspective, the study develops an Ecosystem-Based MSME Digitalization Strengthening Strategy for Rural Tourism, structured around five interconnected dimensions: human resource development, digital infrastructure, strategic digital marketing, multi-stakeholder collaboration, and local-based product innovation. The novelty therefore lies not simply in proposing another digitalization strategy for MSMEs, but in framing MSME digitalization as an ecosystem-enabled process in which firm-level capabilities and place-based resources jointly shape the potential for tourism-based creative economic development.

The novelty of the study therefore does not reside in treating human resource development, infrastructure, digital marketing, stakeholder collaboration, or product innovation as entirely new intervention domains. Rather, its contribution lies in integrating these dimensions into an ecosystem-based strategy that recognizes the interdependence between MSME-level digital capabilities and destination-level enabling conditions in an emerging rural tourism context.

3. RESEARCH METHOD

3.1 Research Design

This study employed a qualitative research approach with a case study design (Yin, 2018). The qualitative approach was selected because the study seeks to understand, in depth, how MSME digitalization is practiced within its natural social, economic, and tourism context. Rather than testing causal relationships among predetermined variables, the study explores the actual condition of digitalization, its

contribution to tourism-based creative economic development, and the strategies required to strengthen digitalization at the village level.

A case study design was considered appropriate because the research focuses on a bounded and context-specific case, namely MSME digitalization in the development of the creative economy and rural tourism in Tondok Bakaru Village, Mamasa Regency. Case study research enables a phenomenon to be examined within its real-life setting while taking into account the social, economic, cultural, and institutional factors that shape the phenomenon (Yin, 2018). The approach also provides sufficient flexibility to capture the perspectives of different actors who experience and influence digitalization in different ways.

The study was guided by three research questions concerning: (1) the current condition of MSME digitalization, (2) the role of digitalization in supporting tourism-based creative economic development, and (3) strategies for strengthening MSME digitalization. Consequently, the research design was exploratory and interpretive rather than hypothesis-driven.

The researcher's position was that of the primary research instrument. Data were therefore interpreted by considering not only what informants explicitly stated but also the context in which digital practices occurred, the interactions among stakeholders, and the observable conditions of MSME and tourism activities. This is consistent with the qualitative research perspective of Creswell and Poth (2018), who emphasize the importance of exploring how individuals and groups construct meaning around a social phenomenon.

Researcher reflexivity was incorporated throughout the research process to minimize the potential influence of the researchers' assumptions on data interpretation. The researchers maintained awareness of their positionality during interviews, coding, and interpretation and used triangulation across stakeholder groups to assess the consistency of emerging themes. Coding was conducted iteratively, with initial interpretations repeatedly compared against interview accounts and revised when the data did not sufficiently support an emerging interpretation. The researchers also maintained reflexive documentation of analytical decisions, emerging assumptions, and changes in thematic interpretation throughout the analysis. Where appropriate, interpretations were clarified with informants during the research process to reduce the risk of misrepresenting their perspectives. These procedures were intended to strengthen the credibility and transparency of the qualitative interpretation rather than to eliminate researcher subjectivity entirely.

3.2 Research Location and Period

The research was conducted in Tondok Bakaru Village, Mamasa District, Mamasa Regency, West Sulawesi, Indonesia. The location was deliberately selected because it brings together three elements that are central to the study: rural tourism potential, local creative economic activities, and MSME development. These characteristics make Tondok Bakaru a relevant setting for examining how digitalization can connect local businesses with tourism development and broader creative economic activities.

The field context included MSME business locations, tourism areas, BUMDes activities, digital promotional activities, and digital facilities available to local businesses. Observation was therefore not restricted to individual business premises but extended to the wider tourism ecosystem in which MSMEs operate.

The study was conducted over six months, from September 2025 to February 2026. This period covered the major stages of the research, including research preparation, field data collection, data analysis, and the preparation of the research report.

3.3 Research Participants and Researcher Role

The study employed purposive sampling as the principal sampling strategy because the research required information-rich informants with direct knowledge or relevant experience concerning MSME digitalization, creative economic development, and rural tourism in Tondok Bakaru. Informants were selected according to predefined relevance criteria rather than demographic representativeness (Patton, 2015). The criteria differed across stakeholder categories because each group was expected to provide a distinct type of evidence for the research questions.

For MSME actors, eligible informants were required to be actively involved in operating an MSME in Tondok Bakaru and to have direct experience with at least one aspect of digital business activity, such as digital marketing, social media use, digital communication, online transactions, digital payment, or other technology-supported business activities. Where applicable, preference was given to MSME actors who had direct involvement in tourism-related products or services, because the study examines digitalization within a rural tourism context.

For village government representatives, the inclusion criterion was direct involvement or substantive knowledge of village development programs, MSME development, tourism development, or digitalization-related initiatives in Tondok Bakaru.

For the tourism/BUMDes manager, the criterion was direct responsibility or substantive involvement in tourism management, destination promotion, coordination with MSMEs, or village-level tourism development activities.

For local community members, eligible informants were residents with direct knowledge of or involvement in local tourism activities, community-based economic activities, MSME development, or changes associated with tourism and digitalization in the village.

For tourists or visitors, eligible informants were individuals who had visited Tondok Bakaru and had relevant experience using digital information to obtain information about the destination, attractions, accommodation, local products, services, or other tourism-related activities. This criterion was intended to ensure that visitor perspectives were based on actual tourism experience rather than general perceptions of digital tourism.

These criteria were applied to ensure that each stakeholder category contributed evidence directly relevant to its analytical role in the study. The criteria were not intended to create statistically representative subgroups. Rather, they were used to identify information-rich participants capable of addressing specific dimensions of the research questions.

Table 4. Composition of Research Informants

Informant category	Number	Relevance to the study
Village government	1	Village policies, institutional support, and development programs
MSME actors	3	Digital practices, opportunities, constraints, and business experiences
Tourism/BUMDes manager	1	Tourism management, digital promotion, and coordination with MSMEs

Informant category	Number	Relevance to the study
Local community	4	Community perceptions of creative economic and tourism development
Tourists/visitors	3	Digital tourism experience and perceptions of destination services
Total	**12**	

Source: *Primary research data (2026).*

The informant composition was designed to distinguish direct MSME-level evidence from broader ecosystem-level evidence. The three MSME actors constituted the primary source of direct evidence concerning business-level digital practices, including technology use, digital marketing, digital transactions, digital capability constraints, and product-related practices. The remaining informants were not treated as substitutes for MSME actors. Instead, they provided ecosystem-level evidence concerning the institutional, tourism, community, and visitor contexts within which MSME digitalization takes place.

This distinction is important for interpreting the findings. Evidence concerning specific MSME practices is attributed primarily to the three MSME informants and is cross-checked where possible against observations and documentary evidence. In contrast, claims concerning destination visibility, tourism experience, institutional support, community participation, and multi-stakeholder collaboration draw on the broader set of stakeholder perspectives. Accordingly, the study does not claim to provide a comprehensive representation of all MSMEs in Tondok Bakaru. Rather, it provides an in-depth case-based interpretation of selected MSME digital practices and the ecosystem conditions surrounding them.

Village officials could describe institutional support, MSME actors could explain their actual digital practices, tourism and BUMDes managers could describe destination-level coordination, community members could provide a local social perspective, and tourists could describe how digital information shaped their tourism experience.

3.3.1 Saturation Assessment

Data saturation was assessed iteratively throughout the data collection and analysis process rather than being determined solely by a predetermined number of interviews. After each interview, the researcher reviewed the interview transcript, identified initial codes and emerging themes, and compared them with findings from previous interviews. Particular attention was given to whether subsequent interviews generated new substantive codes, new dimensions of the emerging themes, or substantially different explanations of the phenomenon.

Saturation was considered to have been reached when successive interviews primarily confirmed themes that had already emerged and no substantively new themes relevant to the research questions were identified. The assessment was conducted by the researcher as the primary analyst and was informed by comparison across the different stakeholder perspectives included in the study.

Saturation was assessed across the dataset rather than claimed separately for each stakeholder category because several categories contained only one or a small number of informants. Instead, stakeholder diversity was used as a source of triangulation to examine whether key themes were supported, qualified, or challenged across perspectives. This approach was particularly relevant to the study because MSME

digitalization involves interconnected actors, including village government, MSMEs, tourism/BUMDes management, local communities, and tourists.

The final dataset consisted of 12 informants. After the final interviews, the researcher conducted an additional review of the coding structure and found that the final interviews predominantly confirmed previously identified themes concerning digital adoption, digital capability constraints, digital marketing, infrastructure, product innovation, tourist experience, and stakeholder collaboration. No substantially new thematic category relevant to the research questions emerged at this stage. Consequently, data collection was concluded after the twelfth informant.

Saturation was not treated as the sole criterion for qualitative adequacy. The sufficiency of the dataset was considered together with source diversity, methodological triangulation, and the stability of the emerging thematic structure. Importantly, saturation was considered alongside the broader assessment of qualitative adequacy. The final dataset was evaluated not only in terms of thematic repetition but also in relation to source diversity and methodological triangulation. Interview findings were compared across stakeholder categories and with observations and documentary evidence. This process helped determine whether emerging themes were sufficiently supported across different forms of evidence rather than relying solely on repetition within interviews.

3.3.2 Distinguishing MSME-Level and Ecosystem-Level Evidence

Because the study examines MSME digitalization within a rural tourism ecosystem, the analysis distinguished between MSME-level evidence and ecosystem-level evidence. MSME-level evidence was derived primarily from the three MSME actors, who provided direct accounts of digital technology use, digital marketing, transactions, operational practices, digital capability, and business constraints. Ecosystem-level evidence was derived from village government, tourism/BUMDes management, local community members, and tourists, whose perspectives concerned institutional support, tourism management, community participation, destination information, tourist experience, and local product consumption.

The distinction was maintained during thematic analysis to avoid treating indirect stakeholder perceptions as equivalent to direct evidence of MSME behavior. Where appropriate, MSME accounts were compared with observation and documentary evidence, while ecosystem-level interpretations were developed from convergent perspectives across stakeholder groups. This approach enabled the study to examine MSME digitalization as both a firm-level practice and an embedded ecosystem phenomenon while maintaining appropriate boundaries around the evidence.

3.4 Types and Sources of Data

The study used both primary and secondary data. Primary data constituted the main empirical basis of the research, while secondary data were used to provide contextual information, support interpretation, and facilitate triangulation.

Primary data were obtained directly from informants through in-depth interviews, field observations, and discussions. The information collected covered the current condition of MSME digitalization, the use of digital technologies for marketing, transactions, operations and communication, the contribution of digitalization to the creative economy and rural tourism, barriers to digital transformation, and strategies for strengthening MSME digitalization.

Secondary data included village government documents, village profiles, MSME records, BUMDes documents, relevant documents from government agencies, tourism development documents, statistical publications, regulations, and relevant academic literature. These sources were primarily used to contextualize and verify information obtained from the field.

The combination of primary and secondary data was particularly important because digitalization is not always fully visible through verbal accounts alone. Documentary evidence and field observations provided additional means of assessing whether reported digital practices corresponded with observable conditions.

3.5 Data Collection Techniques

Three complementary data collection techniques were employed: in-depth interviews, non-participant observation, and documentation. Their combination was intended to provide different forms of evidence and strengthen the credibility of the findings through triangulation.

3.5.1 In-Depth Interviews

In-depth interviews constituted the primary data collection technique. The interviews were semi-structured, meaning that the researcher used an interview guide while allowing participants sufficient freedom to elaborate on their experiences, perceptions, and opinions.

Face-to-face interviews were conducted with all 12 informants. The interview topics included the current state of digitalization, the use of digital technology in business activities, the contribution of digitalization to creative economic development, its relationship with rural tourism, barriers to digital transformation, and strategies for improving digital capabilities.

Interviews were conducted after obtaining participants' consent. With permission, interviews were recorded and subsequently transcribed verbatim to preserve the substance of participants' accounts and facilitate systematic coding and interpretation.

All interviews were conducted after participants had been informed about the study and had provided informed consent.

3.5.2 Non-Participant Observation

Non-participant observation was conducted to obtain direct evidence of the conditions surrounding MSME digitalization. The researcher observed activities without becoming directly involved in the activities being studied.

Observation covered MSME business locations, tourism areas, BUMDes activities, digital promotional practices, social media and digital platform use, QRIS utilization, digital promotional materials, and available internet facilities. Field notes were systematically recorded and subsequently incorporated into the analysis.

This technique was important for distinguishing between reported digital practices and observable digital practices. For example, claims concerning digital promotion or digital payment could be considered alongside evidence of actual platform use and promotional materials.

3.5.3 Documentation

Documentation was used to complement interview and observational evidence. Documents included village profiles, MSME records, BUMDes documents,

digitalization programs, tourism development documents, photographs of research activities, MSME activities, digital promotional materials, statistical data, government documents, and relevant regulations.

Documentation served two purposes. First, it provided contextual information concerning the village and its institutional environment. Second, it functioned as supporting evidence for triangulating information obtained through interviews and observations.

3.6 Data Analysis Technique

Data were analyzed using the Interactive Model of Qualitative Data Analysis developed by (Miles et al., 2021). This model was selected because it is compatible with qualitative case study research and allows data analysis to proceed concurrently with data collection rather than being postponed until fieldwork has been completed.

The analytical process consisted of four interconnected stages: data collection, data condensation, data display, and conclusion drawing and verification.

Because data analysis proceeded concurrently with data collection, emerging codes and themes were reviewed after successive interviews. This iterative process also informed the assessment of information sufficiency and saturation described in Section 3.3.1.

During the comparative analysis, the researchers also examined the interview accounts for divergent, contradictory, or negative evidence across stakeholder groups. While some differences in emphasis were identified according to informants' roles and experiences, no materially divergent account emerged that substantially contradicted the dominant themes concerning the benefits and constraints of MSME digitalization. The absence of a strong negative case was therefore treated as an empirical characteristic of the dataset rather than as evidence that digitalization was uniformly successful. This interpretation is consistent with the study's qualitative case design, in which the findings reflect the perspectives of a purposively selected set of information-rich stakeholders rather than the prevalence of particular experiences across the wider MSME population.

3.7 Data Trustworthiness

To strengthen the credibility of the qualitative findings, the study applied source triangulation, methodological triangulation, member checking, and persistent observation. These procedures were particularly important because the study relied on subjective accounts concerning digital practices, tourism experiences, and local development.

Source triangulation was achieved by comparing information from village government officials, MSME actors, tourism/BUMDes managers, community members, and tourists. Methodological triangulation was achieved by comparing interview evidence with observations and documentary materials. The use of multiple sources and techniques allowed the researcher to examine whether different forms of evidence converged on similar findings.

Member checking was used to clarify and confirm interpretations with relevant informants, while persistent observation enabled the researcher to examine the phenomenon with sufficient attention to contextual details. These procedures supported the credibility and dependability of the qualitative interpretation.

3.8 Research Ethics and Participant Protection

The study involved human participants and was conducted in accordance with the ethical principles applicable to qualitative research involving interviews and field observations. Before data collection, participants were informed about the purpose of the study, the voluntary nature of their participation, the intended use of the information, and their right to decline participation or withdraw from the interview. Informed consent was obtained from all participants before the interviews were conducted.

Participant privacy and confidentiality were protected throughout the research process. Personal names and other directly identifying information were not disclosed in the manuscript. Instead, interview evidence is reported using anonymous informant codes, such as I-01, I-02, and I-10. This coding approach was used to prevent individual participants from being directly identified while retaining sufficient information to distinguish the sources of qualitative evidence.

Interview data, field notes, and supporting documents were treated as confidential research materials and were used solely for academic research purposes. Quotations were selected and reported in a manner that minimizes the risk of identifying individual participants or exposing commercially sensitive information. The study therefore prioritised informed participation, privacy, confidentiality, and responsible use of participant-provided information throughout the research process.

4 RESULTS AND DISCUSSION

4.1 Overview of the Research Setting

The research was conducted in Tondok Bakaru Village, Mamasa District, Mamasa Regency, West Sulawesi, Indonesia. The village is characterized by a mountainous landscape, cool climate, scenic natural surroundings, and locally preserved cultural resources. These characteristics provide a strong foundation for rural tourism and community-based creative economic activities. The local economy is supported primarily by agriculture, livestock, trade, services, and MSMEs. In recent years, the village government and other stakeholders have increasingly promoted tourism development through improvements in tourism facilities, community empowerment, and the development of MSMEs based on local resources.

The economic activities of MSMEs in Tondok Bakaru are closely connected to the tourism context. Local businesses operate in several fields, including culinary products, retail and tourist necessities, handicrafts using local materials, accommodation, transportation, and other tourism-related services. This relationship is important because MSMEs are not merely supporting economic units but also contribute to the overall tourism experience offered by the village.

The tourism potential of Tondok Bakaru is reflected in four major dimensions: natural tourism, cultural tourism, local culinary products, and creative products based on local resources. Tourism management involves cooperation among the village government, BUMDes, MSMEs, and local communities, with the broader objective of generating economic benefits while maintaining sustainable destination development.

From the digital perspective, the village has entered an initial phase of digitalization. Several MSMEs use social media for promotion, instant messaging applications for customer communication, and QRIS for non-cash payments. Nevertheless, the level of digital adoption is uneven. Some businesses actively use digital platforms, whereas others continue to rely heavily on conventional marketing

because of differences in digital literacy, technological access, and operational capability. The initial field assessment therefore positioned MSME digitalization in Tondok Bakaru at a developing stage, rather than at an advanced level of digital transformation.

Differences in digital literacy, access to technology, previous experience with digital platforms, and perceived institutional support were evident among the MSME actors included in the study. These differences help explain the uneven level of digital engagement observed in the case.

This condition provides an important empirical setting for the study. Tondok Bakaru possesses substantial tourism and creative economic potential, but the capacity to translate this potential into wider market visibility and stronger economic value remains closely linked to the ability of local MSMEs and stakeholders to use digital technologies effectively.

4.2 Characteristics of Research Informants

Because this study employed a qualitative case study design, the participants are more appropriately referred to as informants rather than respondents. Twelve informants participated in the study after being selected according to the stakeholder-specific inclusion criteria described in Section 3.3. The composition was intentionally heterogeneous because the study examines MSME digitalization as an embedded rural tourism phenomenon rather than as an isolated firm-level process. Accordingly, the three MSME actors provided direct business-level evidence, while the other stakeholder groups contributed contextual evidence concerning institutional support, tourism management, community participation, and tourist experience.

Table 5. Characteristics of Research Informants

Informant Category	Informant Codes	Number	Percentage	Main Perspective Provided
Village Government	I-01	1	8.3%	Policies, institutional support, and village development
MSME Actors	I-02, I-03, I-04	3	25.0%	Digital practices, marketing, transactions, and business constraints
Tourism/BUMDes Management	I-05	1	8.3%	Tourism management and integration of MSMEs into destination promotion
Local Community	I-06, I-07, I-08, I-09	4	33.3%	Community participation and local economic changes
Tourists/Visitors	I-10, I-11, I-12	3	25.0%	Digital tourism information, tourism experience, and local product consumption
Total	**I-01 to I-12**	**12**	**100.0%**	

Source: *Primary research data, processed by the authors (2026).*

The largest group consisted of local community members, representing 33.3% of the informants. MSME actors and tourists each accounted for 25.0%, while village government and tourism/BUMDes management each represented 8.3%. This distribution was not intended to achieve statistical proportionality. Rather, it was designed to capture information-rich perspectives from actors occupying different

positions within the rural tourism ecosystem.

This diversity is particularly relevant to the study because the digitalization of rural MSMEs is not an isolated firm-level phenomenon. What an MSME experience as a technological opportunity may be experienced by a tourist as improved access to information, by the village government as a development instrument, or by the community as an opportunity for broader economic participation.

4.3 Thematic Analysis of the Findings

Thematic analysis of the interview, observation, and documentary data generated three analytical domains corresponding to the three research questions: the condition of MSME digitalization, the role of digitalization in tourism-based creative economic development, and strategies for strengthening digitalization.

Across these three domains, 15 interconnected themes emerged. The thematic structure is presented in **Table 4**.

Table 6. Thematic Analysis of MSME Digitalization in Tondok Bakaru Village

Analytical domain	Theme	Main empirical finding	Primary evidence source	Interpretation
RQ1	Digital technology adoption	Interviewed MSMEs use smartphones and basic digital applications	MSME interviews + observation	Digitalization has begun but remains basic
RQ1	Social media marketing	MSMEs use WhatsApp, Facebook, and Instagram	MSME interviews + digital materials	Social media is the main entry point
RQ1	Digital payment	QRIS is used for some transactions	MSME interviews + observation	Digital transactions remain partial
RQ1	Digital literacy	Digital capability varies among interviewed MSME actors	MSME interviews	Capability constrains utilization
RQ2	Tourist experience	Digital information supports destination discovery	Tourist interviews + observation	Digitalization extends the tourist journey
RQ2	Local product visibility	Digital content increases exposure to local products	MSME + tourist interviews + observation	Destination and product visibility are interconnected
RQ3	Stakeholder collaboration	Collaboration is important for integrated digitalization	Government + BUMDes + community + MSME interviews	Digitalization requires ecosystem coordination

Source: *Primary interview, observation, and documentary data, thematically analyzed by the authors (2026).*

4.4 Findings and Discussion

4.4.1 The Current Condition of MSME Digitalization

RQ 1: What is the current state of MSME digitalization in Tondok Bakaru Village?

The findings indicate that MSME digitalization has already begun but remains at a developing stage. The dominant forms of digital adoption involve smartphones, social

media, instant messaging, and QRIS. Digital technology is primarily used for communication, promotion, customer orders, and payment rather than for integrated business management.

Social media represents the most visible component of digitalization. WhatsApp, Facebook, and Instagram are used to introduce new products, communicate with customers, and receive orders. One MSME actor explained:

> "*If there is a new product, I usually immediately upload it to WhatsApp Status and Facebook so customers know about it.*" (I-02)

This statement illustrates that digitalization has become part of everyday business practice. However, the practice remains predominantly tactical rather than strategic. MSMEs have not yet consistently adopted content planning, paid digital advertising, systematic customer analytics, or digital market analysis.

Digital payment adoption provides another indication of an emerging digital transition. Some MSMEs already accept QRIS, and this is particularly relevant for tourists from outside the region. Nevertheless, cash transactions remain common, meaning that digital payment adoption is still partial.

The most important finding, however, concerns the capability gap. Informants did not primarily describe technology as unavailable. Instead, they emphasized limitations in knowing how to use digital tools effectively. One MSME actor stated:

> *"We can use smartphones, but we still do not really understand how to create attractive promotions on social media." (I-03)*

This distinction is theoretically significant. It suggests that the central challenge is not merely technological access but the conversion of technology into organizational capability. From the perspective of Digital Transformation Theory (Verhoef et al., 2021; Vial, 2019), the finding indicates that technology adoption alone does not constitute transformation because deeper changes in organizational processes and value creation remain necessary. From an RBV perspective (Barney, 1991; Wernerfelt, 1984), the capability gap suggests that digital knowledge and human resources represent important resource conditions for realizing the value of digital technologies. Dynamic Capability Theory (Teece, 2018) further explains why these resources need to be continuously mobilized, adapted, and reconfigured as digital opportunities and market conditions change. However, the finding also provides a contextual qualification to firm-level interpretations of digitalization. The challenge in Tondok Bakaru is not simply whether individual MSMEs possess digital resources, but whether those resources can be converted into capabilities within a rural tourism environment. This suggests that the explanatory value of firm-level resources is partly dependent on complementary conditions beyond the individual business, including infrastructure, access to knowledge, destination-level promotion, and institutional support. Thus, the case extends the resource-based interpretation of digitalization by showing that the usefulness of digital resources may be contingent on the surrounding tourism ecosystem.

It is also consistent with Digital Transformation Theory. Digital transformation requires changes in organizational processes and value creation, rather than simply introducing digital tools (Verhoef et al., 2021; Vial, 2019). In Tondok Bakaru, the evidence suggests that the first step has occurred, but the deeper transformation remains

incomplete.

The overall condition can therefore be summarized as follows:

Basic digital adoption → emerging digital capability → limited strategic integration → need for capacity strengthening.

MSME digitalization in Tondok Bakaru is developing, but it has not yet reached an integrated stage of digital transformation.

4.4.2 The Role of MSME Digitalization in Creative Economy and Rural Tourism Development

RQ2: How does MSME digitalization contribute to local economic and tourism-related activities in Tondok Bakaru Village?

The findings indicate that MSME digitalization contributes to creative economy and rural tourism development through five interconnected mechanisms: destination and product visibility, expanded market access and customer engagement, product innovation, digital tourism information, and multi-stakeholder collaboration. Rather than functioning solely as a promotional tool, digitalization connects local products with destination visibility and extends interactions between MSMEs and visitors beyond physical tourism encounters.

Digital platforms strengthen the visibility of both Tondok Bakaru and its local products. The village government noted that social media promotion makes the destination and MSME products more widely known, while the tourism manager observed that visitors commonly discover attractions and local products through Facebook, Instagram, and WhatsApp (I-01; I-05). This indicates a mutually reinforcing relationship between destination and product promotion. From an RBV perspective, digital platforms enable geographically bounded natural, cultural, and entrepreneurial resources to gain broader market visibility by connecting local assets with external markets.

Digitalization also extends market relationships beyond physical visitation. One MSME actor reported that customers contacted the business again after returning home, while another indicated that repeat orders were commonly facilitated through WhatsApp (I-02; I-04). Thus, digitalization can transform tourism encounters into continuing customer relationships, allowing local MSMEs to maintain market connections beyond the destination itself.

The findings further indicate that online exposure encourages product improvement. MSME and community informants emphasized the increasing importance of attractive product presentation, packaging, and differentiation when products are marketed digitally (I-03; I-07). This suggests an emerging market-induced innovation process in which digital visibility exposes local products to broader market expectations. Consistent with Dynamic Capability Theory, MSMEs can respond to these signals by adapting products, packaging, and branding to capture emerging market opportunities (Teece, 2018).

Digital information also contributes to destination discovery and access to tourism-related information. One tourist reported discovering Tondok Bakaru through social media before purchasing products previously encountered online, while another emphasized the convenience of digitally accessible information about locations, products, and facilities (I-10; I-12). These accounts suggest a potential link between digital visibility, visitor information seeking, and local product consumption. However, because the tourist perspective was represented by only three informants, these findings

should be interpreted as selected visitor experiences rather than evidence of a general improvement in tourist satisfaction or tourism outcomes.

Finally, digitalization facilitates coordination among village government, BUMDes, MSMEs, communities, and tourism managers. The BUMDes manager emphasized involving MSMEs in tourism promotion, while the village government highlighted the importance of collective digital efforts to promote the village and improve community welfare (I-05; I-01). This finding extends the interpretation beyond a purely firm-level perspective. In a rural tourism setting, the value of MSME digital capabilities depends partly on destination visibility, infrastructure, institutional coordination, and relationships among ecosystem actors. Digitalization therefore operates simultaneously at the firm and ecosystem levels: MSMEs contribute to destination visibility through their digital activities, while destination-level promotion and coordination create opportunities for local products. This reciprocal relationship suggests that digital capability in rural tourism is partly ecosystem-dependent rather than exclusively an internal firm capability.

4.5 Implementation Roadmap for Strengthening MSME Digitalization

RQ3: What ecosystem-based strategies can strengthen MSME digitalization within the rural tourism context?

The strategic roadmap presented in this section should be interpreted as a qualitative synthesis of empirically identified needs and stakeholder perceptions rather than as a set of empirically validated interventions. The findings identify several recurring needs among MSMEs and ecosystem stakeholders, including digital capability development, reliable infrastructure, more strategic digital marketing, stronger stakeholder coordination, and local-based product improvement. Based on these identified needs, the study proposes corresponding strategic interventions and organizes them into an implementation roadmap. These proposed interventions were not experimentally or longitudinally tested in the present study; therefore, the roadmap indicates potential directions for implementation rather than demonstrating that the proposed interventions will produce specific economic or tourism outcomes.

The five strategic dimensions identified from the thematic analysis are not treated as five independent interventions. Rather, they are organized into an implementation roadmap based on their functional dependencies. The roadmap begins with institutional and digital readiness, followed by capability development, product and market readiness, strategic digital marketing, and ecosystem integration and scaling. Multi-stakeholder collaboration operates as a cross-cutting mechanism throughout all stages. This sequencing does not imply a rigid linear process; rather, it provides a practical order of priority for implementation while allowing activities to overlap and reinforce one another.

The thematic analysis generated five strategic priorities: human resource development, digital infrastructure, strategic digital marketing, multi-stakeholder collaboration, and local-based product innovation.

4.5.1 Human Resource Capacity Development

The first empirically identified need concerns continuous digital capability development. Several informants highlighted the need for more regular training and mentoring, particularly in social media management, content creation, digital transactions, and customer engagement. Based on these perceived needs, the study

proposes continuous capacity-building and mentoring as a potential strategic intervention. The proposed intervention should not be interpreted as an empirically validated program, because its effectiveness was not tested in the present study.

The village government emphasized:

"The most important thing now is improving people's capabilities. If they understand digital technology well, it will be easier for them to develop their businesses." (I-01)

This was reinforced by an MSME actor:

"We hope there will be regular training on how to market products through social media and create more attractive promotions." (I-02)

The implication is that digital transformation requires continuous learning, rather than one-off technology training. Capacity building should cover content creation, digital branding, social media management, customer engagement, digital transactions, and basic digital analytics.

4.5.2 Digital Infrastructure Strengthening

The second empirically identified need concerns the availability and reliability of digital infrastructure. Informants described internet connectivity as an important enabling condition for digital promotion, communication, and tourism information access. In response to this perceived infrastructure need, the study proposes strengthening connectivity and related digital infrastructure as a strategic priority. However, the study does not empirically test whether specific infrastructure investments would improve MSME performance or tourism outcomes.

One MSME actor stated:

"If the internet network is good, it is easier for us to upload products and serve customers quickly." (I-04)

From the tourist perspective:

"Reliable internet makes it easier for tourists to find information and share their experiences through social media." (I-11)

Infrastructure therefore has a dual function. It supports business digitalization and simultaneously improves tourism service quality.

4.5.3 Strategic Digital Marketing

The findings indicate that Tondok Bakaru requires a transition from occasional social media posting toward integrated digital marketing and destination branding.

The tourism manager proposed:

"Promotion of the tourism village and MSME products should be carried out together so that tourists recognize both as one package." (I-05)

The third empirically identified need concerns the transition from basic digital promotion toward more coordinated and strategic digital marketing. Informants reported the use of social media and digital platforms, but the findings also indicate that these practices remain relatively informal and inconsistent. Based on this condition, the study proposes more structured digital marketing practices, including content planning, digital branding, and integration between MSME and destination promotion. These practices are proposed as potential interventions rather than empirically validated

mechanisms for increasing sales or market performance.

4.5.4 Multi-Stakeholder Collaboration

The fourth empirically identified need concerns stronger coordination among actors within the local tourism ecosystem. Informants emphasized the importance of coordination between village government, BUMDes, MSMEs, tourism actors, communities, and external partners. Based on these stakeholder perceptions, the study proposes a more coordinated collaborative mechanism as a cross-cutting strategic intervention. The proposed mechanism has not been independently tested for its effectiveness and should therefore be understood as a strategic recommendation derived from the qualitative evidence. The village government's statement is revealing:

> *"If all parties work together, the development of MSMEs and the tourism village will progress more rapidly."* (I-01)

This supports the ecosystem perspective developed throughout the study. Digital transformation becomes more sustainable when institutional resources, technological infrastructure, human capabilities, and market access are coordinated.

4.5.5 Local-Based Product Innovation

The fifth empirically identified need concerns product improvement and differentiation. Informants described the importance of packaging, branding, product presentation, and the incorporation of local identity into MSME products. Based on these perceived needs, the study proposes local-based product innovation as a potential strategic direction. The findings do not, however, establish that particular product innovation practices will increase sales, competitiveness, or tourist demand, as these outcomes were not quantitatively or experimentally evaluated. An MSME actor stated:

> *"When we see products from other regions through the internet, we also get ideas for improving packaging and creating more attractive products."* (I-03)

A tourist added:

> *"Local products would be more attractive if they had modern packaging while still showing the characteristics of the region."* (I-12)

This finding suggests that digitalization does not necessarily erode local identity. Properly managed, it can actually strengthen local distinctiveness by providing new information, market access, and creative inspiration.

4.5.6 Strategic Prioritization and Sequencing

The sequencing of the five strategic dimensions is based on their functional dependency rather than on an assumption that one intervention is universally more important than another. Digital and institutional readiness provides the foundation for subsequent activities, while human resource development enables MSME actors to use available technologies effectively. Product innovation is positioned before large-scale strategic marketing because stronger packaging, branding, differentiation, and local identity provide the content and value proposition to be communicated through digital channels. Strategic digital marketing can then connect improved products with

destination promotion and broader customer networks. Finally, ecosystem integration and scaling consolidate these activities through coordinated stakeholder action and continuous monitoring.

This sequence should not be interpreted as strictly linear. Basic infrastructure improvement and capacity development should proceed concurrently, while multi-stakeholder collaboration should operate across all phases. The roadmap therefore represents a priority structure rather than a rigid implementation schedule.

4.6 Integrated Discussion: Toward an Ecosystem-Based Approach to Rural MSME Digitalization

Figure 2 synthesizes the study's empirically derived theoretical logic by showing how rural MSME digitalization moves from resource availability and firm-level digital capability toward ecosystem-level coordination and place-based value creation. The framework distinguishes five analytical stages: inputs/resources, digital capabilities, transformation processes, ecosystem mechanisms, and outcomes. This structure highlights that digitalization does not generate value through technology adoption alone. Rather, firm-level capabilities must be translated into transformation activities and connected with complementary capabilities across the rural tourism ecosystem.

The framework therefore conceptualizes ecosystem-enabled digital capability as an interpretive mechanism through which distributed digital resources and actions may be coordinated to support place-based value creation.

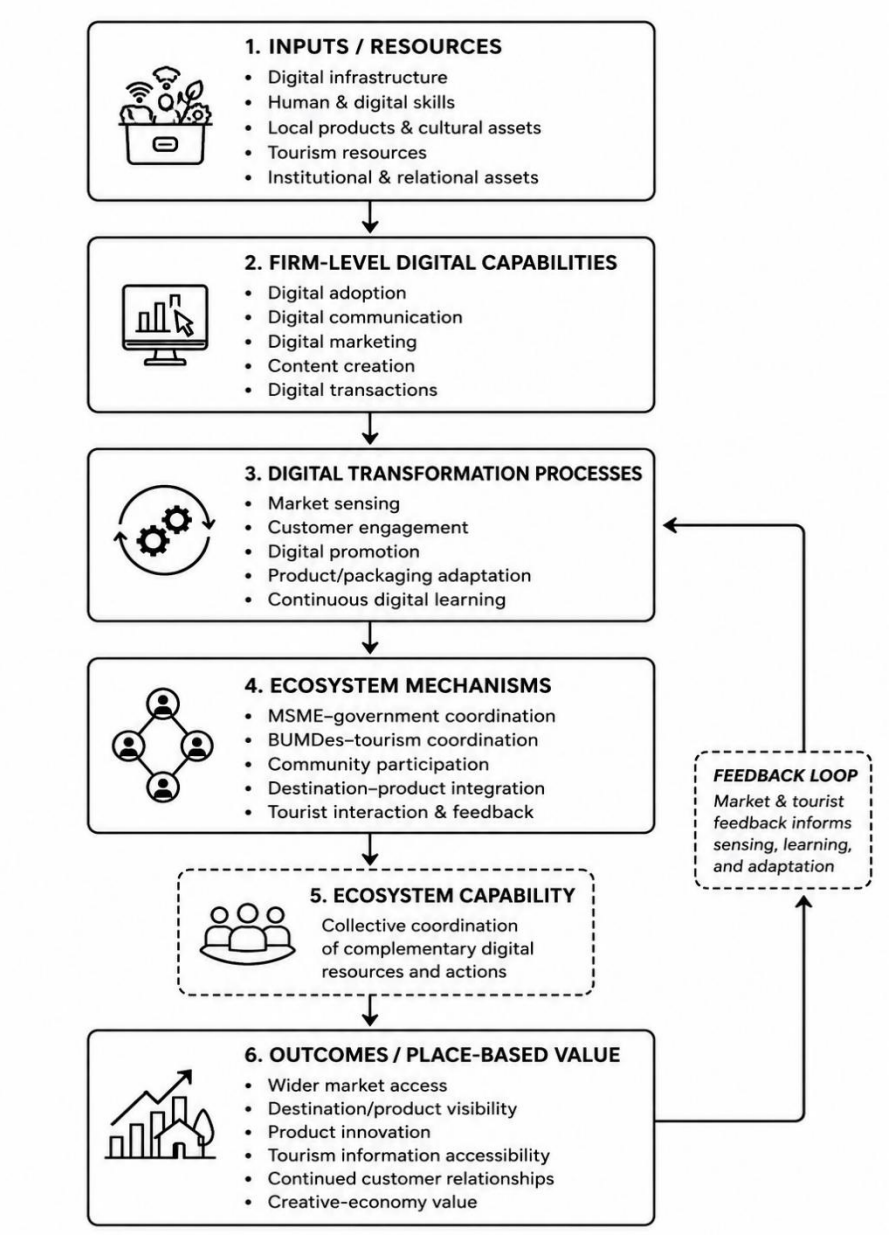


Figure 2. Ecosystem-Enabled Digital Capability and Value Creation Framework for Rural Tourism MSMEs

The framework consequently provides the conceptual basis for the study's theoretical contribution. It suggests that, in rural tourism, digital capability may extend beyond the organizational boundary and become an ecosystem capability when value creation requires the coordinated deployment of complementary resources and actions among MSMEs, government, BUMDes, communities, tourism managers, and tourists.

The distinctive feature of the framework is the transition from firm-level capability to ecosystem capability. At the firm level, MSMEs develop capabilities to adopt and use digital technologies for communication, marketing, transactions, and product presentation. However, the findings indicate that these capabilities have broader value when connected to destination promotion, institutional coordination, community participation, and tourist interaction. Ecosystem mechanisms therefore function as a

boundary-spanning layer that converts dispersed firm-level capabilities into coordinated destination-level action. The resulting value is not limited to individual business performance but extends to market connectivity, destination visibility, product innovation, tourism information, and local creative-economy development.

The empirical evidence indicates that sensing capabilities are emerging, as MSME actors increasingly recognize digital market information, promotional opportunities, and product-development ideas through online platforms. However, evidence of systematic seizing and reconfiguration remains more limited. MSMEs have recognized the value of social media, digital communication, and QRIS, but their ability to convert these tools into systematic digital business models remains uneven. This pattern is broadly comparable with findings from tourism MSMEs in Bali, where digital transformation has also been constrained by digital skills, organizational limitations, and structural barriers (Lei et al., 2023). However, the similarity should not obscure an important contextual difference. The Tondok Bakaru case concerns an emerging rural tourism ecosystem in which MSME digitalization, destination development, infrastructure provision, and stakeholder coordination are developing simultaneously.

This contextual condition changes how digital capability should be interpreted. In a more established tourism environment, digital transformation may primarily involve improving the efficiency, reach, or sophistication of existing tourism enterprises. In Tondok Bakaru, digitalization also performs a developmental and connective function: it links relatively geographically bounded MSMEs with destination visibility, tourist information, local product promotion, and village-level institutional coordination. The contribution of digitalization therefore lies not only in improving individual business practices but also in connecting previously dispersed resources and actors within the tourism ecosystem.

This distinction extends rather than contradicts previous firm-level research. The findings suggest that the value of digital capabilities is partly relational and ecosystem-dependent. Digital literacy, local knowledge, product-development skills, and social media capabilities may constitute valuable resources at the MSME level, but their practical value depends on complementary ecosystem resources such as connectivity, destination visibility, institutional coordination, and access to external knowledge. From an RBV perspective, this suggests that the value of firm-level digital resources is conditioned by complementary resources beyond the firm. From a Dynamic Capability perspective, sensing, seizing, and reconfiguration are also partly ecosystem-enabled because local actors require infrastructure, networks, and institutional support to act on opportunities they identify.

The findings therefore suggest an important strategic implication. Providing more technology alone is unlikely to produce the desired transformation. Rather than treating technology provision as a sufficient condition, the proposed roadmap emphasizes an integrated approach in which technology is accompanied by human capability, infrastructure, professional digital marketing, institutional collaboration, and product innovation.

Table 7. Implementation Roadmap for Strengthening MSME Digitalization in Tondok Bakaru

Phase	Priority	Key interventions	Main actors	Required resources	Suggested indicators
Phase 1: Digital and	Foundation	Improve internet	Village government,	Connectivity infrastructure,	Internet availability;

Phase	Priority	Key interventions	Main actors	Required resources	Suggested indicators
Institutional Readiness		connectivity; establish coordination mechanism; map MSME digital needs	BUMDes, local government, tourism manager	coordination meetings, baseline assessment	number of MSMEs assessed; coordination mechanism established
Phase 2: Digital Capability Development	Human capability	Continuous training and mentoring in social media, content creation, digital transactions, customer engagement, and basic analytics	Village government, BUMDes, universities, digital communities, MSME actors	Trainers, training materials, mentoring time, digital devices	Training participation; completion of mentoring; demonstrated digital skills; active use of digital tools
Phase 3: Product and Market Readiness	Local innovation	Improve packaging, branding, product presentation, differentiation, and local identity	MSMEs, community groups, tourism manager, creative practitioners	Product-development support, packaging materials, branding assistance	Number of products improved; packaging adoption; product differentiation initiatives
Phase 4: Strategic Digital Marketing	Market integration	Develop content planning, destination-integrated promotion, digital branding, customer engagement, and consistent social media management	MSMEs, BUMDes, tourism manager, village government	Content-production resources, digital marketing expertise, shared promotional channels	Content consistency; number of integrated campaigns; digital visibility; customer inquiries
Phase 5: Ecosystem Integration and Scaling	Consolidation	Integrate MSMEs, tourism promotion, local products, digital channels, and stakeholder programs; monitor and refine interventions	Village government, BUMDes, MSMEs, tourism actors, communities, external partners	Monitoring system, coordination resources, partnership support	Number of collaborative programs; MSME participation; continuity of digital programs; periodic review

Source: *Authors' synthesis based on the thematic findings of the study (2026). (2026).*

The implementation roadmap assigns different responsibilities according to the

complementary roles already identified within the local tourism ecosystem. Village government and BUMDes are positioned primarily as coordinators and facilitators, particularly for infrastructure, institutional coordination, and destination-level promotion. MSME actors remain the principal implementers of digital marketing, customer engagement, and product innovation. Tourism managers support the integration of MSME products with destination promotion, while universities, digital communities, and other external partners can provide training, mentoring, and technical assistance. This division of roles is intended to prevent digitalization from becoming an isolated firm-level initiative.

The five strategic dimensions should not be implemented as independent programs. Instead, their implementation should follow a staged but overlapping process. Foundational digital infrastructure and institutional coordination should be strengthened alongside basic digital capability development. Once minimum capability and connectivity are available, MSMEs can deepen product innovation and market readiness, followed by more systematic digital marketing and destination-integrated promotion. Multi-stakeholder collaboration should operate throughout the process rather than being treated as a final intervention.

4.7 Theoretical Contribution: From Firm-Level Digital Capability to Ecosystem-Enabled Dynamic Capability

The findings contribute to theory by challenging a predominantly firm-level understanding of digital capability in MSME digitalization. Importantly, the study does not propose a new dynamic capability theory or claim to establish a new, independently validated construct of ecosystem capability. Rather, the findings provide a contextual extension of the dynamic capability perspective by showing how digital capability may become ecosystem-enabled when value creation depends on interdependent actors and complementary resources. Existing resource-based and dynamic capability perspectives generally emphasize how individual organizations acquire, develop, deploy, and reconfigure resources to respond to environmental change (Barney, 1991; Teece, 2018; Wernerfelt, 1984). The Tondok Bakaru case suggests that this firm-level perspective is necessary but insufficient for understanding digitalization in rural tourism. MSMEs operate within a destination ecosystem in which digital value creation depends on complementary actions by other actors.

The study's novelty therefore lies in shifting the analytical focus from digitalization within individual MSMEs toward the conditions under which firm-level digital capabilities can generate value within an emerging rural tourism ecosystem.

The empirical evidence shows that MSMEs' use of social media, digital communication, and digital payment technologies represents an initial layer of firm-level digital capability. However, the broader contribution of these capabilities depends on their connection with destination promotion, village-level coordination, tourism management, community participation, infrastructure, and tourist engagement. This indicates that the effectiveness of digital capability is partly relational rather than exclusively internal to the firm. A digitally capable MSME may improve its own visibility, but destination-level value requires multiple actors to connect their digital activities and resources (Abdillah, 2023).

Based on this finding, the study develops an interpretive ecosystem capability perspective as a contextual extension of Dynamic Capability Theory (Teece, 2018). Here, "ecosystem capability" refers to the collective capacity of interdependent actors within a rural tourism destination to coordinate and combine complementary digital resources,

knowledge, activities, and relationships to create and capture place-based value. The term is used analytically to describe the ecosystem-enabled dimension of digital capability observed in the case, rather than to claim the development of a new or independently validated theoretical construct. This interpretive concept does not replace firm-level dynamic capability. Rather, it extends the application of the dynamic capability perspective by recognizing that sensing, seizing, and reconfiguring digital opportunities may involve multiple actors whose resources and actions are mutually dependent.

This distinction is theoretically important. At the firm level, digital capability concerns what an MSME can independently accomplish through digital technologies. At the ecosystem level, capability concerns what interconnected actors can accomplish through coordinated digital action. The former may generate firm-specific benefits, such as improved communication or product visibility, whereas the latter creates conditions for destination-level benefits, such as integrated promotion, stronger tourist information flows, complementary product offerings, and coordinated local value creation.

The contribution of the study therefore lies in identifying a boundary condition for firm-level digital capability: in rural tourism, digital capabilities may not translate into broader value unless complementary ecosystem actors and resources are coordinated. This finding extends the application of Dynamic Capability Theory (Teece, 2018) from an intra-organizational perspective toward an interorganizational and place-based context. It also strengthens the Digital Transformation perspective (Verhoef et al., 2021; Vial, 2019) by showing that transformation in rural tourism is shaped not only by technological adoption within firms but by the collective reconfiguration of capabilities across the destination ecosystem.

This convergence should not be interpreted as evidence of uniformly positive outcomes, but rather as an indication that the dominant concern across stakeholder groups was how to convert existing digital adoption into more effective and sustainable practices.

4.8 Principal Finding of the Study

The central finding of this research is that the challenge facing Tondok Bakaru is not the absence of digitalization, but the incomplete conversion of digital adoption into strategic capability and collective economic value.

This distinction is crucial. The evidence shows that MSMEs are already entering the digital space, but the transformation remains fragmented. The next stage should therefore not be defined by simply increasing the number of businesses using social media or QRIS. Instead, progress should be measured by whether MSMEs can use digital technologies to develop stronger capabilities, reach broader markets, innovate local products, improve tourist experiences, and participate in a coordinated village-level digital ecosystem.

Accordingly, the study positions MSME digitalization as a strategic bridge between local resources and wider economic opportunities. When supported by capable human resources, adequate infrastructure, integrated digital marketing, collaborative governance, and locally grounded innovation, digitalization creates conditions and opportunities for Tondok Bakaru to connect its tourism and creative economic potential with broader markets and local value-creation activities. This is the principal empirical contribution of the study.

The theoretical contribution follows from this empirical pattern. Rather than

treating digitalization as an exclusively firm-level process, the study shows how firm-level digital capabilities interact with ecosystem-level enabling conditions in a rural tourism context. This provides a contextual extension of RBV and Dynamic Capability Theory: valuable digital resources and adaptive capabilities do not operate independently of infrastructure, institutional coordination, destination visibility, and stakeholder relationships. The study therefore conceptualizes rural tourism digitalization as an ecosystem-enabled process in which firm capabilities and place-based resources are mutually dependent. The term "ecosystem capability" is used in this study as an interpretive label for this ecosystem-enabled dimension of digital capability, rather than as a claim that a new theoretical construct has been fully developed or empirically validated.

The findings should be interpreted within the evidentiary boundaries of the qualitative case study design. The study captures stakeholder experiences, perceptions, and observed practices rather than objectively measured changes in economic or tourism performance. Accordingly, references to market access, sales opportunities, tourist experience, competitiveness, and local value creation describe perceived or potential contributions of digitalization rather than statistically or financially verified effects. The study therefore identifies mechanisms and opportunities through which digitalization may contribute to rural tourism and MSME development, rather than estimating the magnitude of its economic impact.

4.9 Practical Implications for Key Stakeholders

The findings have practical implications for different actors within the rural tourism ecosystem. Because MSME digitalization in Tondok Bakaru is not solely a firm-level process, responsibility for strengthening digital capability should be distributed across stakeholders according to their complementary roles. The following implications translate the empirically identified needs into actor-specific priorities. These recommendations should be understood as context-sensitive actions derived from the case evidence, rather than as empirically validated interventions.

4.9.1 Village Government

For the village government, the primary implication is to act as the institutional enabler of digitalization rather than merely as a provider of technology. Priority actions include improving basic digital infrastructure, allocating or coordinating training resources, establishing a village-level mechanism for coordinating digital tourism and MSME promotion, and developing simple governance arrangements for shared digital initiatives. The village government can also establish periodic assessments of MSME digital needs and use these assessments to prioritize training, infrastructure support, and partnerships with external institutions. This role is consistent with the roadmap's emphasis on digital and institutional readiness as the foundation of subsequent capability development.

4.9.2 BUMDes

For BUMDes, the practical priority is to function as a coordination and integration hub between MSMEs and destination-level tourism activities. BUMDes can support integrated destination marketing by linking local products with tourism attractions, visitor information, and promotional channels. It can also facilitate MSME onboarding into shared digital promotional activities and, where feasible, provide shared digital

services such as content support, promotional channels, transaction facilitation, or basic digital marketing assistance. This role builds on the finding that BUMDes can connect MSME activities with tourism promotion and can therefore contribute to the development of ecosystem-level digital capability.

4.9.3 MSME Owners

For MSME owners, the main implication is to move from operational digital adoption toward systematic digital business practices. Rather than relying on occasional social media posting, MSMEs should develop basic content plans, maintain consistent digital branding, use digital payment options where appropriate, systematically record customer inquiries and repeat orders, and gradually develop basic customer and marketing analytics. Product presentation, packaging, differentiation, and local identity should also be strengthened so that digital promotion is supported by products capable of sustaining customer interest. These priorities correspond to the study's finding that digital adoption is already present, but strategic use, digital capability, and integration into broader business processes remain limited.

4.9.4 Tourism Managers

For tourism managers, the key implication is to integrate destination branding with local-product promotion rather than treating tourism promotion and MSME promotion as separate activities. Destination content should consistently present attractions, tourism facilities, visitor information, and relevant local products as interconnected elements of the visitor experience. Tourism managers can also coordinate promotional calendars with MSMEs so that product campaigns, destination events, and visitor information reinforce one another. This approach reflects the finding that destination visibility and product visibility can be mutually reinforcing within the rural tourism ecosystem.

4.9.5 Universities and External Institutions

For universities and other external institutions, the practical implication is to move beyond one-off digital training toward continuous capability development and evidence-based mentoring. Support should focus on practical skills such as content creation, social media management, digital transactions, customer engagement, product branding, and basic analytics. Universities can also assist in developing simple monitoring systems and evaluating whether implemented interventions improve digital capability, market reach, customer engagement, product innovation, or tourism-related outcomes. This role is particularly important because the present study identifies strategic priorities but does not independently validate their effectiveness.

5. CONCLUSION

5.1 Conclusion

This study demonstrates that the central challenge of MSME digitalization in Tondok Bakaru Village is not the absence of digital technology, but the limited capacity to transform basic digital adoption into sustained business capability and collective economic value. The key takeaways of the study are as follows:

(1) MSME digitalization in Tondok Bakaru has moved beyond the initial stage of technology access, particularly through social media, instant messaging, and QRIS, but its adoption remains largely operational and fragmented. The critical gap lies in digital

competence, strategic use of technology, and the ability to integrate digital tools into broader business processes.

(2) Digitalization functions as a strategic bridge between MSMEs and rural tourism development. Its contribution extends beyond product promotion to broader market access, product and packaging innovation, tourist experience, and continued interaction with customers after their physical visit. The most important insight is that digital promotion can simultaneously increase the visibility of both the destination and the local products embedded within it.

(3) Strengthening MSME digitalization requires an ecosystem approach rather than isolated technological interventions. Human resource development, digital infrastructure, strategic digital marketing, multi-stakeholder collaboration, and local-based product innovation need to operate as mutually reinforcing components. The study therefore positions digital capability, rather than technology adoption alone, as the critical foundation for converting Tondok Bakaru's tourism and creative economy potential into sustainable local value.

Theoretically, the study contributes by extending the conventional firm-level understanding of digital capability toward an ecosystem-enabled perspective. This perspective should be understood as a contextual extension of Dynamic Capability Theory rather than as a newly established theoretical construct. The findings suggest that, in rural tourism, digital capabilities become more consequential when MSMEs, government, BUMDes, communities, tourism managers, and tourists are able to coordinate complementary resources and actions. This implies that rural tourism digital transformation is not solely a process of developing firm-level capabilities, but also a process of building collective capability across an interconnected destination ecosystem.

Importantly, the proposed ecosystem strategy should be understood as a context-sensitive strategic proposition derived from qualitative stakeholder evidence, rather than as an empirically validated intervention model. Its effectiveness remains subject to future implementation and independent evaluation.

5.2 Research Limitations

This study has several limitations that should be considered when interpreting its findings. **First**, the research was conducted within a single rural tourism context, namely Tondok Bakaru Village, making the findings highly dependent on the village's specific socioeconomic, institutional, technological, and tourism characteristics. **Second**, the qualitative case study involved 12 purposively selected informants. **Third**, the study primarily captures the current stage of digitalization and does not longitudinally assess how digital capabilities and business outcomes evolve over time. **Fourth**, the study identifies strategic priorities based on stakeholder experiences and contextual evidence, but does not quantitatively evaluate the relative effectiveness or economic return of each proposed strategy.

A further limitation concerns the validation status of the proposed ecosystem strategy. The strategy was derived inductively from stakeholder perceptions, interview evidence, observation, and contextual analysis rather than from an implemented intervention followed by independent evaluation. Consequently, the proposed strategy should be interpreted as a context-sensitive strategic proposition rather than as a validated intervention model. The study does not establish whether implementing the proposed priorities would produce measurable improvements in digital capability, market access, product innovation, tourism performance, or local economic outcomes. Nor does it determine which strategic component would generate the greatest effect or

whether the proposed components would produce synergistic effects when implemented simultaneously. This distinction is important because the central strategic contribution of the study remains empirically untested beyond the qualitative evidence from the case.

Although the different stakeholder positions provided meaningful perspectives and enabled triangulation, the findings are not intended to represent statistically generalizable conditions across MSMEs or rural tourism destinations in Indonesia. The proposed strategy should therefore not be interpreted as a universally validated model. Its applicability and effectiveness in other rural tourism destinations require comparative, longitudinal, and intervention-based empirical validation.

A further limitation concerns the distribution of informants across stakeholder groups. Only three informants were direct MSME actors. Although these informants provided direct business-level evidence and their accounts were complemented by observation, documentation, and ecosystem-level perspectives, the study should not be interpreted as providing a comprehensive representation of the digital practices of all MSMEs in Tondok Bakaru. The MSME-level findings therefore reflect the experiences of selected information-rich actors within the case, while broader conclusions concerning tourism, community, institutional support, and stakeholder collaboration draw on the wider ecosystem evidence. Future research should include a larger and more diverse set of MSMEs to examine the heterogeneity of digitalization practices across business types, sectors, and levels of digital maturity. The relative convergence of stakeholder accounts is another interpretive consideration. Although the analysis actively examined divergent and contradictory accounts, no materially divergent account emerged that substantially challenged the dominant themes. This convergence strengthens the coherence of the case interpretation but should not be interpreted as evidence that all MSMEs or stakeholders experience digitalization in the same way. Further research involving a larger and more heterogeneous sample may reveal more substantial variation, including negative or unintended consequences of digitalization.

5.3 Suggestions for Future Research

Future research should extend the findings through comparative and longitudinal approaches. Comparative studies involving several rural tourism destinations could determine whether the digitalization patterns identified in Tondok Bakaru are context-specific or reflect broader characteristics of rural MSMEs in Indonesia. Longitudinal research would also be valuable for examining whether improvements in digital literacy, infrastructure, and digital marketing actually produce sustained changes in market reach, innovation, revenue, and tourist engagement. Future research should move beyond identifying strategic priorities toward testing their implementation and effectiveness. Intervention-based studies could pilot selected components of the proposed ecosystem strategy, such as digital marketing training, QRIS adoption, integrated destination branding, or MSME mentoring, and evaluate changes in digital capability, market reach, customer engagement, product innovation, and relevant tourism or economic outcomes. A quasi-experimental, longitudinal, or mixed-method design could further examine whether the proposed components generate measurable effects individually or through their interaction within the tourism ecosystem. Such research would provide empirical validation of the strategic model proposed in this study and help distinguish stakeholder-perceived priorities from interventions that demonstrate measurable effectiveness.

For tourism development, the findings suggest that digital information can facilitate destination discovery and provide visitors with easier access to information about tourism locations, facilities, and local products. Selected tourist accounts also indicate a connection between online product exposure and subsequent local product consumption. However, these findings should not be interpreted as evidence of a general improvement in tourist experience because the visitor perspective was represented by only three informants. Future research could involve a larger and more diverse group of visitors and employ quantitative measures of information accessibility, tourist satisfaction, destination engagement, and revisit intention to examine these relationships more systematically.

Ethics Statement: The study involved human participants and was conducted in accordance with applicable institutional and research-ethics principles. Informed consent was obtained from all participants prior to the interviews. Participant identities were protected through anonymous identification codes, and no directly identifying personal information is reported in the manuscript.

REFERENCES

Abdillah, M. D. (2023). Digital Transformation in Indonesian MSMEs : Adoption , Impact , and Future Directions. *Eastasouth Proceeding of Economics and Business (EPEB)*, *1*(1), 64–70. https://asj.eastasouth-institute.com/index.php/epeb

Barney, Jay. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, *17*(1), 99–120. https://doi.org/10.1177/014920639101700108

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed). SAGE Publications.

Daud, Y., Halik, J. B., & Sambara, K. (2026). Digital Marketing Effectiveness , Perceived Trust , and Yamaha Motorcycle Purchase Decisions. *Jurnal Manajemen Pemasaran*, *20*(April), 46–63. https://doi.org/10.9744/pemasaran.20.1.46-63

Efendi, I. R. (2025). The Role of Tourism Msmes in Local Economic Development: Systematical Literature Review. *Jurnal Kewirausahaan Dan Bisnis*, *30*(1). https://doi.org/10.20961/jkb.v30i1.104344

Fang, T. M., Ahmad, N. H., Halim, H. A., Iqbal, Q., & Ramayah, T. (2024). Pathway towards SME competitiveness: Digital capability and digital business model innovation. *Technology in Society*, *79*, 102728. https://doi.org/10.1016/j.techsoc.2024.102728

Galib, M., & Halik, J. B. (2026a). Beyond Adoption: Understanding the Consumer Impact of Digital Marketing in Emerging Economies Through a Systematic Review. *Journal of Marketing Management and Innovative Business Review*, *4*(1), 137–156. https://doi.org/10.63416/mrb.v4i1.492

Galib, M., & Halik, J. B. (2026b). The Innovation Performance in Digital Ecosystems: The Roles of Platform Openness, Strategic Collaboration, Knowledge Sharing, and Absorptive Capacity. *Journal of Economics, Entrepreneurship, Management Business and Accounting*, *4*(5), 354–383. https://doi.org/10.61255/jeemba.v4i5.826

Halik, J. B., Halik, M. Y., Basongan, S., & Mapau, J. (2026). Strategic Distribution , Digital Marketing , and Open Innovation : Toward Integrated Capability Development for SME Performance. *Asia Marketing Journal*, *27*(4), 355–371. https://doi.org/10.53728/2765-6500.1665

Khurana, I., Dutta, D. K., & Singh Ghura, A. (2022). SMEs and digital transformation

during a crisis: The emergence of resilience as a second-order dynamic capability in an entrepreneurial ecosystem. *Journal of Business Research*, *150*, 623–641. https://doi.org/10.1016/j.jbusres.2022.06.048

Lambe, K. H. P., & Halik, J. B. (2024). INOVASI PRODUK DAN PROSES SEBAGAI KUNCI KEUNGGULAN BERSAING UKM KULINER. *Paulus Journal of Accounting (PJA)*, *6*(1), 82–93. https://ojs.ukipaulus.ac.id/index.php/pja/article/view/805

Lei, J., Indiran, L., Haiyat, U., & Kohar, A. (2023). Barriers to Digital Transformation among MSME in Tourism Industry : Cases Studies from Bali. *International Journal of Academic Research in Business & Social Sciences*, *13*(3), 786–800. https://doi.org/10.6007/IJARBSS/v13-i3/16575

Miles, M. B., Huberman, A. M., & Saldana, J. (2021). *Qualitative Data Analysis: A Methods Sourcebook* (3rd ed.). SAGE Publications Inc.

Patton, M. . (2015). *Qualitative Evaluation and Research Methods*. SAGE Publications Inc.

Purnomo, S., Nurmalitasari, N., & Nurchim, N. (2024). Digital transformation of MSMEs in Indonesia: A systematic literature review . *Journal of Management and Digital Business*, *4*(2 SE-Articles), 301–312. https://doi.org/10.53088/jmdb.v4i2.1121

Ramelan, A., Putra, M. R. A., Pratama, M. I. B. ., Hidayat, M. N., Ekasuci, Z. F., & Nugroho, A. . (2024). Development of Tourism Villages Through Digitalization and Micro / Small / Medium Enterprises (MSMEs) Potential in Kepyar Village , Wonogiri. *REKA ELKOMIKA: Jurnal Pengabdian Kepada Masyarakat*, *5*(2), 170–177. https://doi.org/10.26760/rekaelkomika.v5i2.170-177

Somantri, M. D., Jamal, M. Y. S., & Aripin, R. S. (2024). Digitalisation of Micro, Small, and Medium Enterprises (MSMEs) in Tourism Villages. *Bubungan Tinggi: Jurnal Pengabdian Masyarakat*, *6*(4), 918–932. https://doi.org/10.20527/btjpm.v6i4.11512

Teece, D. J. (2018). Business models and dynamic capabilities. *Long Range Planning*, *51*(1), 40–49. https://doi.org/10.1016/j.lrp.2017.06.007

Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Qi Dong, J., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, *122*, 889–901. https://doi.org/10.1016/j.jbusres.2019.09.022

Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *Journal of Strategic Information Systems*, *28*(2), 118–144. https://doi.org/10.1016/j.jsis.2019.01.003

Wardhani, W. N. R., Purnomo, P., Pratiwi, R., & Nasution, S. (2023). Digitalization , Branding , and Network Collaboration Strategy among SMTEs : Preliminary Qualitative Analysis. *Journal of Digital Marketing and Halal Industry*, *5*(2), 167–184. https://doi.org/10.21580/jdmhi.2023.5.2.18905

Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, *5*(2), 171–180. https://doi.org/10.1002/smj.4250050207

Yin, R. . (2018). *Case study research and applications: Design and methods* (6th ed). SAGE Publications.