Journal of Indonesian Scholars for Social Research
2026, Vol. 6, No. 2, 136-141

E-ISSN: 2807-1468

BUMDes Digital Transformation For Sustainable Village Financial Strengthening

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Abstract
This study aims to examine and formulate a Village-Owned Enterprise (BUMDes) Digital Transformation model for Sustainable Village Financial Strengthening, against the backdrop of still weak financial governance, transparency, and managerial capacity of BUMDes in many villages. Since the enactment of Law Number 6 of 2014 concerning Villages, BUMDes has been positioned as a driving force of the village economy to increase Village Original Income (PADes), create jobs, and optimize local potential. However, the minimal use of digital technology has resulted in BUMDes' contribution to village welfare being less than optimal. The research method used was a qualitative approach with the research location in Pulau Banda Neira District, Central Maluku Regency. Data collection techniques included interviews, observation, and documentation, with data analysis using the Miles and Huberman interactive model. The results of this study indicate that the digital transformation of BUMDes in Merdeka Village shows potential for sustainable village financial strengthening through improved financial governance, institutional strengthening, the formation of a digital organizational culture, and the development of technology-based socio-economic relations. The use of digital technology has the potential to improve operational efficiency, transparency and accountability in management, expand business marketing, increase community participation, and strengthen the contribution of Village-Owned Enterprises (BUMDes) to Village Original Income (PADes). However, the implementation of digital transformation still faces various obstacles, such as limited internet infrastructure, uneven digital competency among managers, and suboptimal utilization of integrated digital systems. Therefore, strengthening human resource capacity, developing digital infrastructure, improving governance, and expanding strategic partnerships are necessary to ensure that BUMDes digital transformation can support village economic independence and achieve sustainable village financial empowerment.
Keywords: Transformation; Digital; BUMDes; Strengthening; Village Finance

1. Introduction

Villages have a strategic role in national development as the basis of the people's economy and guardians of socio-ecological sustainability (Kania et al., 2021), (Hilmawan et al., 2023). Since the enactment of Law Number 6 of 2014 concerning Villages, the government has encouraged the strengthening of village independence through fiscal and institutional policy instruments, one of which is through Village-Owned Enterprises (BUMDes). BUMDes are positioned as the driving force of the village economy, expected to increase Village Original Income (PADes), expand employment opportunities, and optimize local potential in a sustainable manner. However, in practice, many BUMDes face structural problems, particularly weak financial governance, low transparency, limited managerial capacity, and minimal use of digital technology. These problems have implications for the suboptimal contribution of BUMDes to the welfare of village communities and local economic development, so an innovative approach is needed to overcome the challenges of governance and operations (Wahyuningtyas, 2021), (Hilmawan et al., 2023), (Maulana et al., 2025)
One significant effort to overcome these challenges is to optimize the development of BUMDes to be independent and creative in improving the welfare of village communities (Iskandar et al., 2021),(Wulandari et al., 2025),(Anam et al., 2024). This independence can be realized if the management of BUMDes is based on the aspirations of the village community, not on orders from the government or certain groups (Karyana, 2023). Thus, BUMDes functions as a pillar of national independence and an institution that adapts community economic activities according to village characteristics to improve welfare (Salsabilla & Rodiyah, 2025). The importance of BUMDes in

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E-ISSN: 2807-1468

realizing village economic independence is in line with the mandate of Law Number 6 of 2014, which gives greater authority to villages to support community life, while reducing the national development gap (Pradani, 2020).

Digital transformation has become one of the strategic agendas of national development as stipulated in the National Medium-Term Development Plan (RPJMN) and the National Research Focus, particularly in the digital transformation and innovation-based economic clusters. In the village context, digitalization is not only understood as the technical use of information technology, but as a systemic change process that encompasses institutional aspects, governance, organizational culture, and socio-economic relations. Unfortunately, most Village-Owned Enterprises (BUMDes) are still at a very basic stage of digitalization, limited to the use of social media for marketing, without the support of an integrated and sustainable digital financial system (Setyorini et al., 2025), (Tu et al., 2025), (Maulana et al., 2025), (Ibnu Abbas et al., 2024)

These conditions have resulted in weak financial accountability of village-owned enterprises (BUMDes), low trust among village communities, and limited capacity of BUMDes to access financing, establish partnerships, and develop businesses based on local potential. In island regions such as Maluku Province, these challenges are further complicated by limited digital infrastructure, disparities in human resource capacity, and the characteristics of village economies that rely heavily on the primary and traditional sectors. Therefore, a research approach is needed that not only highlights technological aspects but also integrates institutional, social, and financial sustainability dimensions of villages (Saputra & Havlicek, 2025), (Kristiyanti et al., 2024), (Salsabilla & Rodiyah, 2025), (Putu et al., 2024), (Pawitan et al., 2025)

This study proposes a Village-Owned Enterprise Digital Transformation approach for Sustainable Village Financial Strengthening, focusing on developing a contextual, inclusive, and adaptive digital transformation model tailored to village characteristics (Pramawati et al., 2025), (Putu et al., 2024), (Kadarwati et al., 2024), (Wijayanti et al., 2025). The novelty of this study lies in three main aspects. First, this study goes beyond measuring the level of digital technology adoption, but examines digital transformation as a process of changing Village-Owned Enterprise financial governance, encompassing integrated planning, recording, reporting, monitoring, and public accountability. Second, this study directly links Village-Owned Enterprise digital transformation to the concept of sustainable village finance, encompassing fiscal, social, and institutional sustainability, rather than solely increasing business profits. Third, this study produces a policy model and implementation recommendations relevant to island villages, which have received little attention in the literature and practice of digital-based village development.

From a national policy perspective, this research aligns with the National Research Focus and supports the achievement of UNPATTI's five SDGs targets. It aligns with Pattimura University's Core Scientific Pattern (PIP), which emphasizes the development of island regions and the sustainable use of local resources. This also aligns with Pattimura University's Strategic Plan, which places applied and impactful research as a key pillar of scientific development and community service.

Furthermore, this research supports the LPPM UNPATTI's Research and Community Service Master Plan (RIPP), specifically focusing on development governance, institutional innovation, and empowerment of coastal and island communities. The research results are expected to produce not only scientific publications but also policy recommendations and implementation models for the digital transformation of Village-Owned Enterprises (BUMDes) that can be replicated and integrated into community service programs and local government policies.

Therefore, the research "Digital Transformation of BUMDes for Sustainable Village Financial Strengthening" has high academic and practical urgency. This research is expected to bridge the gap between village digitalization policies and the reality of BUMDes financial management in the field, while strengthening the role of Pattimura University as a center of excellence for research on sustainable island village development.

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E-ISSN: 2807-1468

2. Method

This study employs a qualitative research approach. This approach was chosen because the researcher aimed to gain an in-depth understanding of the digital transformation of Village-Owned Enterprises (BUMDes) for sustainable village financial strengthening. The research was conducted in Merdeka Village, Pulau Banda Neira District, Central Maluku Regency, Maluku Province. In this descriptive research, the data sources consist of words and actions, supplemented by additional data such as documents. The words and actions of the individuals observed or interviewed serve as the primary data sources. These primary data were recorded through written notes, audio/video recordings, and photographs.

In line with the qualitative approach, the research informants consist of officials involved in the Digital Transformation of the Village-Owned Enterprise (BUMDes) for Sustainable Village Financial Strengthening in Merdeka Village, namely: the Director of BUMDes Adika, the Treasurer/Financial Manager of BUMDes Adika, and the Head of Merdeka Village.

This study employs the interactive analysis model developed by Miles & Huberman (2007), beginning with a review of all available data from various sources, such as interview results, observations recorded in field notes, documents, and so forth. Once the data have been read, studied, and examined, the subsequent steps involve data reduction, data presentation, and drawing conclusions. The study begins with the design of the research concept, which is detailed in this proposal. Subsequently, the research will be conducted in several stages, including instrument development, data collection, data analysis, the preparation of research outputs, and reporting.

3. Results and Discussion

3.1. Dimension of Digital Financial Governance

Digital transformation regarding financial governance at the Desa Merdeka Village-Owned Enterprise (BUMDes) has been implemented across all stages of financial management, including planning, recording, reporting, oversight, and public accountability. However, implementation remains in the initial stage (basic digitalization), relying primarily on computers or laptops and specifically Microsoft Excel for data processing and storage. This digitalization has yielded benefits such as faster, more organized, and easily traceable administrative processes, while also supporting efficiency and transparency in financial management.

Regarding planning and recording, the BUMDes utilizes Excel to draft budgets and work programs, as well as to record transactions based on supporting documentation. Financial reports are prepared digitally and generated periodically; however, their dissemination still largely relies on printed documents rather than an integrated digital platform. Similarly, while digital documents facilitate financial oversight, making verification and auditing easier for the BUMDes Director, Treasurer, Supervisory Board, and Village Government, a system enabling real-time monitoring is not yet available.

In terms of public accountability, the BUMDes utilizes village meetings, information boards, and WhatsApp groups to share information about activities and financial summaries with the community. Nevertheless, there is currently no website, information portal, or dedicated application that allows the public to access financial information independently and in real time. Overall, the digital financial governance of the Desa Merdeka BUMDes shows a positive trajectory of transformation; however, further development is required, specifically regarding integrated financial information systems, human resource capacity building, and the strengthening of digital infrastructure, to achieve governance that is more transparent, accountable, efficient, and sustainable.

3.2. Dimension of Digital Institutional

The digital institutional setup of the Desa Merdeka BUMDes (Village-Owned Enterprise) indicates that the digital transformation process has begun to garner support from the village government, even though there is not yet a specific policy governing BUMDes digitalization. The village government encourages the use of technology in administration, financial management, and marketing through directives issued during village deliberations and capacity-building activities. However, the absence of a specific Village Regulation (*Perdes*) means that the implementation of digital transformation relies

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largely on mutual agreements and directives. This situation suggests that while policy support exists, it needs to be reinforced through formal regulations to clarify the direction, role, and sustainability of BUMDes digitalization.

Regarding organizational structure, the Desa Merdeka BUMDes lacks a dedicated unit or personnel to handle information technology and digital systems. Digital activities are currently managed by the secretary and treasurer alongside their other duties, while specific technical issues still require external assistance. Due to limited human resources, management personnel must perform multiple functions simultaneously and learn through self-study or available training sessions. Consequently, while technology is being utilized in organizational activities, this has not yet been fully matched by structural changes capable of specifically supporting digital transformation needs.

In terms of operational standards and partnerships, the BUMDes is also in the early stages. It lacks written Standard Operating Procedures (SOPs) specifically governing digital technology use, though it has established internal practices and agreements, such as requirements to record transactions digitally, maintain transaction records, and review reports before submission. Meanwhile, digital partnerships have been established through the use of internet services, WhatsApp Business, social media, and mobile banking to facilitate communication, promotion, and transactions; however, these have not yet extended to collaborations with national marketplaces or fintech companies. This indicates that digitalization has begun to integrate into institutional activities but lacks full structure and integration.

Overall, the digital institutional framework of the Desa Merdeka BUMDes demonstrates commitment and positive initial steps, yet it requires further strengthening to ensure that digital transformation proceeds in a more focused and sustainable manner. Four key aspects : digital policy, organizational structure, digital SOPs, and digital partnerships, have begun to develop but have not yet reached a level of robust institutionalization. Therefore, the necessary strategic steps involve formulating specific regulations regarding BUMDes digitalization, developing an information technology management structure or function, establishing written digital SOPs, and expanding partnerships with digital financial institutions, technology providers, and e-commerce platforms.

3.3. Dimensions of Digital Organizational Culture

The digital organizational culture of the Desa Merdeka Village-Owned Enterprise (BUMDes) is beginning to develop positively. Management personnel have become quite accustomed to using laptops, Microsoft Office, WhatsApp, and social media to support administration, financial record-keeping, communication, and business promotion. However, digital proficiency among the staff is not yet uniform and remains limited to basic applications; mastery of financial software or more complex digital systems still requires improvement through ongoing training and mentoring.

Regarding their attitude toward change, BUMDes management demonstrates openness and a willingness to adapt to digital technology. While some staff members initially lacked confidence or were unfamiliar with using computers, this did not evolve into resistance against change. Organizational communication and coordination are frequently conducted via WhatsApp, whether for conveying information, sharing documents, or coordinating activities. Nevertheless, the use of a wider range of digital platforms, such as email, Zoom, or other collaboration tools, remains limited, primarily due to human resource capabilities and internet connectivity conditions.

In terms of service innovation, the BUMDes has begun utilizing Facebook, Instagram, and WhatsApp Business to promote its business, accept orders, and communicate with customers, while payments are increasingly handled via bank transfers and mobile banking. These steps demonstrate management's effort to align services with technological advancements and community needs, even though dedicated apps, e-commerce platforms, or integrated digital systems are not yet in place. Overall, the digital organizational culture at the Desa Merdeka BUMDes is moving in a positive direction but remains in a developmental stage; therefore, strengthening digital literacy, fostering a culture of learning, improving infrastructure quality, and driving service innovation are crucial for supporting digital transformation and the sustainable strengthening of village finances.

3.4. Dimension of Digital Socio-Economic Relational

The digital socio-economic relations of the Desa Merdeka Village-Owned Enterprise (BUMDes) are beginning to evolve through the use of technology in its interactions with the community and various

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E-ISSN: 2807-1468

stakeholders. Residents have started to provide feedback, suggestions, complaints, and proposals via WhatsApp and Facebook, meaning communication is no longer solely dependent on face-to-face meetings or village deliberations. However, digital community participation remains uneven, as only a portion of residents actively use these media to voice their aspirations.

Regarding transparency and marketing, the BUMDes has utilized WhatsApp, Facebook, and Instagram to share information on activities and business progress, as well as to promote products and services, including village tourism and fishery products. The use of social media has effectively broadened promotional reach and made it easier for the community and customers to access information at minimal cost. Nevertheless, transparency is still limited to specific information and report summaries due to the absence of an integrated website or public information system, while marketing has not yet expanded to include online marketplaces or e-commerce platforms.

In terms of financing, the Desa Merdeka BUMDes has not yet utilized fintech or digital financing platforms as sources of business capital. Capitalization still relies on village government equity participation, government grants, and banking services, with digital technology currently used only for the administrative process of submitting grant applications online. Overall, the BUMDes's digital socio-economic relations show positive progress but remain in the early stages; strengthening is required through increased community participation, the development of public information systems, expanded digital marketing, and improved digital financial literacy to fortify the BUMDes's socio-economic network and support the village's financial sustainability.

4. Conclusion

The digital transformation of the Merdeka Village-Owned Enterprise (BUMDes) has progressed well, despite still being in the development stage. This is evidenced by the use of digital technology in financial management, institutional strengthening, the cultivation of a technology-adaptive organizational culture, and the development of digital-based socio-economic relationships. The use of computers, Microsoft Excel, WhatsApp, Facebook, Instagram, and WhatsApp Business has helped improve administrative efficiency, management transparency, organizational coordination, business promotion, and communication with the community and village government. However, the implementation of digital transformation is not yet fully optimal due to various challenges, including limited internet infrastructure, the absence of an integrated BUMDes information system, a lack of specific regulations regarding digitalization, and the limited digital competence of some managers. Therefore, digital transformation must be further strengthened through human resource capacity building, technological infrastructure development, the refinement of digital governance, and the expansion of partnerships to support more professional, innovative, and sustainable BUMDes management.

Acknowledgments

We extend our gratitude to the Rector of Pattimura University, Ambon, and the Head of the Institute for Research and Community Service (LPPM) at Pattimura University, Ambon, for the grant funding provided under the UNPATTI Flagship Basic Research scheme, specifically the Faculty Flagship Research (PUF) category for the year 2026.

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E-ISSN: 2807-1468

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