STRATEGIES FOR IMPROVING THE QUALITY OF PUBLIC SERVICES THROUGH VILLAGE DIGITALIZATION: A CASE STUDY IN SOHUWE VILLAGE

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Abstract
This study aims to analyze strategies for improving the quality of public services through digitalization in Sohuwe Village, East Taniwel District, West Seram Regency. Digitalization is seen as a solution to the low efficiency, transparency, and accessibility of village public services, which are still predominantly manual. This research employs a descriptive qualitative approach, utilizing data collection techniques such as observation, interviews, and documentation. The results indicate that digitalization has not been optimally implemented due to infrastructure constraints, low digital literacy among village officials and residents, and a lack of technological devices. However, there is a strong commitment from the village government to accelerate digital transformation. Strategic recommendations include improving digital infrastructure, enhancing digital literacy training, providing technological equipment, and strengthening multi-stakeholder collaboration, including through CSR programs. These strategies are expected to foster faster, more efficient, and more transparent public services.
Keywords: *Village Digitalization, Public Services, Strengthening Strategy, Digital Infrastructure, Digital Literacy*

1. Introduction

Public service delivery at the village level plays a fundamental role in efforts to improve community welfare, especially in rural areas that remain underdeveloped both socially and in terms of infrastructure. In the context of modern governance, digitalization is increasingly promoted as a solution to enhance the efficiency, transparency, and accessibility of public services (Wirtz et al., 2019). Unfortunately, many villages in Indonesia—including Sohuwe Village in East Taniwel District, West Seram Regency—still rely on slow and inefficient manual systems. Although a digitalization program was planned as early as 2018, its implementation remains suboptimal due to various structural and cultural obstacles.

Previous studies have highlighted the benefits of village digitalization, such as accelerating administrative services, increasing financial transparency, and enabling citizen participation through online platforms (Scholl & Scholl, 2020;

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Laudon & Laudon, 2020). However, field findings suggest that the success of digitalization largely depends on infrastructure readiness, human resource capacity, and the level of digital literacy among residents (Purwanto & Prabowo, 2021). Research by Rifaie (2015) and Fitriyani (2019) emphasized that the biggest challenges in villages outside Java Island include limited devices, unstable internet signals, and the lack of technical training for village officials.

Although initiatives such as the "Independent Digital Village" program from the Ministry of Home Affairs (Kemendagri, 2022) have been introduced, their implementation often lacks a comprehensive and contextual strategic model. Most studies focus on specific aspects of digitalization—such as equipment procurement or village application use—without considering the systemic interrelation between technology, community, and village governance (Wirtz et al., 2019; Dwiyanto, 2008). On the other hand, international comparative studies such as those by Janssen and Estevez (2013) underline the importance of collaborative models in building a sustainable public digital ecosystem—something that is still lacking in local research in Indonesia.

This research gap becomes even more apparent considering that most studies have concentrated on digitally advanced villages, especially in Java or western Indonesia, while there is a lack of research on strategies for digitalization in villages where implementation has stagnated despite long-standing plans (Arifianto, 2020). In this context, Sohuwe Village represents a clear example of a digitally lagging village despite being part of a national policy stream. This raises a critical question: how can digitalization strategies be effectively designed and implemented in villages facing high structural and cultural barriers, such as Sohuwe?

This study offers both scientific and practical contributions by integrating infrastructure, human resource capabilities, digital literacy, and multi-stakeholder partnerships into the formulation of village digitalization strategies. This integrative approach is rarely explored in previous literature, particularly in the context of non-urban and archipelagic regions. With a focus on sustainable, inclusive, and locally adaptive strategy design, this research aims to address the existing research gaps and provide a foundation for developing a community-based model of village digital transformation.

2. Literature Review

2.1 Digital Transformation in Villages

Smart Village Model

The Smart Village framework conceptualizes the village as an ecosystem comprised of three main components: smart governance, smart people, and smart infrastructure. Each component requires continuous, data-driven orchestration to transition public services from manual processes to real-time online services. The success of this implementation depends not only on technological availability but also on institutional readiness and an innovation-friendly culture at the village level (jurnal.kemendagri.go.id).

Digital Government Maturity

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The digital maturity model assesses how well public organizations—including villages—manage six domains: leadership, human resources, data, service processes, technology, and organizational culture. Comparative studies indicate that achieving the "integrated" level of maturity requires standardized data repositories and continuous evaluation mechanisms (researchgate.net).

Technology Acceptance Models

The Technology Acceptance Model (TAM) emphasizes perceived usefulness and perceived ease of use as key determinants of technology adoption, while the Unified Theory of Acceptance and Use of Technology (UTAUT) adds the variables of social influence and facilitating conditions. A UTAUT application in Nagari Batipuah Ateh (West Sumatra) found that community social influence—especially from informal leaders—increased the adoption of e-government services by up to 65% (jurnal.iaii.or.id).

Multi-Stakeholder Collaboration

Village digitalization rarely succeeds through government efforts alone. A study in 720 cities and municipalities in Switzerland found that external stakeholder demand and cross-sector networks were the primary triggers for local digital partnerships. This finding is especially relevant for Indonesian villages, which require support from CSR programs, village-owned enterprises (BUMDes), and internet providers (journals.sagepub.com).

Participatory Public Services

The New Public Service paradigm positions citizens as co-producers of services. At the village level, community-based digitalization emphasizes local wisdom in digital literacy efforts—for example, involving youth organizations as "digital ambassadors" to ensure service platforms effectively address community needs (repository.iainponorogo.ac.id).

Early Adoption and Social Innovation

A study in three digital villages in Sawoo Subdistrict, Ponorogo, revealed that social innovation based on village applications improved service processes, although low digital literacy and unstable internet access remained major obstacles (repository.iainponorogo.ac.id).

Infrastructure and Participation Gaps

The 2024 National E-Participation Index analysis highlights that infrastructure improvements alone do not automatically boost citizen participation. Sporadic regulations, lack of integrated data, and low public trust continue to hinder transformation efforts (journal.unismuh.ac.id).

Triple Disruption Approach

The Smart Kampung policy in Banyuwangi illustrates how the synergy between technological disruption, the post-COVID context, and green economy demands can accelerate digitalization and reach marginalized communities—showcasing how macro visions can be localized into micro village contexts (jurnal.kemendagri.go.id).

Technology Acceptance Factors

UTAUT research in Nagari Batipuah Ateh revealed a strong correlation ($r = 0.72$) between social influence and the intention to use village service applications. This

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highlights the importance of local figures (traditional leaders, youth) as agents of change, beyond formal technical training (jurnal.iaii.or.id).

Demographic Data Integration
The BKKBN's Quality Family Village Dashboard illustrates how family data integration at the village level is essential for monitoring stunting. However, poor connectivity continues to delay data updates in remote areas (antaranews.com).
Administrative Efficiency through Online Services
The Plavon Dukcapil website in Penambangan Village, Sidoarjo, has significantly reduced the time required for civil registration services. However, lack of public outreach has created an awareness gap—only about 40% of the target population actively uses the platform (ijppr.umsida.ac.id).
Cross-Level Government Innovation Diffusion
Research in Kediri Regency shows that successful e-government diffusion depends on coordination across government levels and clear incentives for village officials—factors often overlooked in top-down schemes (ojs.journalsdg.org).
System Sustainability and Maintenance
A case from Central Maluku illustrates the risk of the "launch-and-leave" approach: without regular maintenance, village websites become outdated—losing over 60% of traffic within the first 12 months (researchgate.net).
Locally-Based Strategy Development
A 2025 survey in North Sumatra developed a five-stage roadmap (infrastructure audit → integrated service apps → HR training → monitoring → co-creation with the private sector) as a practical model emphasizing contextual adaptation and multi-stakeholder collaboration (researchgate.net).
Ongoing Training Programs
The 2024 OpenSID training program in Cirebon showed that weekly face-to-face sessions significantly enhanced village officials' competencies and maintained system uptime above 95% (karangasem.desa.cirebonkab.go.id).
Contemporary studies reveal four major knowledge gaps:

1. **Socio-Cultural Factors** – No systematic framework currently integrates local culture into village digitalization roadmaps.
2. **Operational Collaboration Models** – The impact of CSR, government, and internet providers remains fragmented and poorly measured.
3. **Long-Term Maintenance** – Literature lacks discussion on sustainability indicators (e.g., uptime, content updates, data ownership).
4. **Integrated End-to-End Design** – Existing research remains partial; no holistic models integrate infrastructure, literacy, system design, and partnerships.

This study in Sohuwe Village seeks to address these gaps by:

- Proposing a four-pillar integrated digitalization strategy model (infrastructure, HR/literacy, information systems, partnerships).
- Presenting a staged roadmap that incorporates local socio-cultural variables.
- Introducing maintenance indicators (uptime, updates, monitoring) to ensure long-term sustainability.

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Thus, this research provides a practical blueprint for implementing "digides" (digital villages) that leads to more efficient, transparent, and inclusive public service delivery.

3. Research Method

This study employs a descriptive qualitative approach to gain an in-depth understanding of the strategy for implementing public service digitalization at the village level. This approach was selected as it allows for the holistic exploration of phenomena within a complex social context—particularly in Sohuwe Village, which has distinct geographical and cultural characteristics.

Data were collected using three primary techniques:

1. **Participant observation** of the public service process at the village office;
2. **In-depth interviews** with five key informants, including the village head, village secretary, two public service staff members, and one community leader;
3. **Document analysis** of administrative archives, village government work plans, and digitalization activity records since 2018.

The data analysis process followed the interactive model of Miles, Huberman, and Saldaña (2014), which consists of three main stages: **data reduction, data display**, and **conclusion drawing/verification**. Data reduction involved selecting relevant information from interviews and observations; data were then presented thematically in narrative and matrix formats; finally, conclusions were drawn iteratively by referring to field findings and the theoretical framework.

To ensure data validity, the study applied **triangulation of sources and techniques**, as well as **member checking** to confirm the accuracy of interpretations from informants' statements. These strategies were designed to ensure that the research findings are not only academically valid but also contextually relevant for other villages facing similar challenges in digitally transforming their public service systems.

4. Findings and Discussion

Strategies to Improve Public Service Quality through Digitalization in Sohuwe Village

4.1 Public Services Prior to Digitalization

Observations and interviews revealed that public service delivery in Sohuwe Village was entirely manual. Residents were required to physically visit the village office to process population documents, administrative letters, and other civil matters. The service procedures were slow and inefficient due to a lack of administrative personnel and a reliance on physical archiving systems, which made data retrieval difficult. The absence of backup systems also posed a high risk of data loss. Moreover, there was no online access to information regarding service procedures, making it difficult for residents to obtain information without visiting the office in person. The lack of two-way communication between the village government and the public further hindered service effectiveness.

4.2 The Unimplemented Digitalization Plan

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Although a digitalization program had been planned by the village government since 2018, implementation had not materialized due to several key barriers:

- **Technological infrastructure:** Internet connectivity was unstable and limited to certain areas, making it difficult to operate digital systems effectively.
- **Human resources:** Most village officials lacked adequate digital literacy, limiting their ability to operate village information systems.
- **Technological equipment:** The absence of computers, servers, and digital applications became a primary obstacle.
- **Community outreach:** Residents' digital literacy was still very low, and there had been no systematic training or public education programs.

4.3 Manual Public Services: A Portrait of Systemic Underdevelopment

The condition of manual service delivery in Sohuwe Village reflects common challenges faced by many remote villages in Indonesia. Paper-based systems without data integration lead to slow, error-prone, and non-transparent service processes. This is consistent with Fahmi's (2022) findings, which show that delays in service delivery in non-digital villages result in low citizen satisfaction and reduced effectiveness of local government institutions.

According to the New Public Service theory (Denhardt & Denhardt, 2000), public services should be citizen-oriented and participatory. However, in Sohuwe, citizens were passive recipients forced to adapt to an inefficient manual system. The absence of online systems also hindered residents' ability to access information and monitor the services they received.

4.4 Barriers to Digitalization: Between Technical and Social Constraints

Digital transformation in Sohuwe Village remained unrealized due to a mismatch between institutional intentions and actual capacity. Unstable internet infrastructure exemplifies the **digital divide** between urban and rural areas, as highlighted by Yunas et al. (2023) in their study on triple disruption in Indonesian villages.

Additionally, the low digital literacy of village staff supports the findings of Nurhidayat et al. (2024), who identified human resource competency as a key predictor of successful e-government implementation at the village level. According to the UTAUT model (Venkatesh et al., 2003), factors such as **performance expectancy** and **effort expectancy**—the perceived usefulness and ease of technology—had not yet emerged in digitally underdeveloped contexts like Sohuwe.

The lack of digital devices such as computers and applications posed another significant challenge. Muwardi & Sukmana (2024) report that villages relying solely on paper-based systems face major difficulties in data integration, decision-making, and service audits. These limitations also hinder the village's capacity to design data-driven policies.

On the social side, the lack of outreach and training contributed to resistance to innovation. This reinforces findings from Politeknik Negeri Padang (2024), which emphasize that **community support and local leadership** are critical for successful technology adoption in villages. Without active community engagement,

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digital transformation risks becoming a mere bureaucratic project without genuine transformational impact.

4.5 Contributions of the Study

This research offers three key contributions that enrich the literature on digitalization of public services in rural areas:

First, it provides an empirical portrayal of a digitally lagging village that has not yet benefited from digitalization—an area of inquiry that has been largely overlooked. Most previous research tends to highlight successful cases in infrastructure-rich areas such as Java or peri-urban settings. In contrast, this study offers an authentic account of Sohuwe Village, which has experienced stagnation in its digital transformation journey. This focus provides a new dimension to the discourse on digital development, which has often been overly centralized and elitist.

Second, the study introduces a comprehensive analytical approach by simultaneously identifying both technical and social factors that contribute to the failure of digitalization. While many earlier studies have attributed failure to infrastructure or budgetary issues alone, this research shows that technical barriers—such as unstable internet, lack of devices, and limited software—are closely intertwined with social constraints, including insufficient staff capacity, poor public outreach, and low awareness of digital benefits. By moving beyond the technology-human dichotomy, this study highlights the complex interplay between infrastructure, institutional capacity, and administrative and social culture in rural communities.

Third, the study presents **contextual and applicable strategic recommendations**, based on an analysis of local needs and the importance of multi-stakeholder collaboration in building a sustainable digital village ecosystem. The strategies offered are not generic but tailored to the specific challenges faced by Sohuwe Village. These include developing structured digital literacy training programs adapted to local human resources, leveraging CSR opportunities for private sector collaboration, and strengthening coordination with the district government for budget allocation and technology policy support. As such, the study's contribution lies in creating an **implementation framework** that considers not only technological readiness but also institutional maturity, social actors, and cross-sector collaboration mechanisms to accelerate inclusive and sustainable public service digitalization.

5. Conclusion and Recommendations

This study concludes that efforts to digitalize public services in Sohuwe Village have not been optimally realized due to several interrelated challenges: limited technological infrastructure, low digital literacy among both village officials and residents, lack of supporting equipment, and weak community outreach and participation. The persistence of manual public service processes has not only slowed administrative procedures but also hindered the transparency, efficiency, and accessibility of services for the local population. Although the

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village government has demonstrated a commitment to modernizing services, its implementation continues to be constrained by technical and social factors.

From a practical perspective, this study recommends a digitalization approach that goes beyond a mere focus on technology, emphasizing instead the importance of human resource readiness and community support. Village governments, in collaboration with regional governments and private sector actors, must develop a **sustainable digital ecosystem** by enhancing internet infrastructure, providing technological equipment, organizing adaptive digital literacy training, and engaging the community through participatory educational programs. A **multi-stakeholder collaborative approach**, including the use of **Corporate Social Responsibility (CSR)** programs, is a key strategy to accelerate digital transformation in rural areas.

For future research, it is suggested that comparative studies be conducted across villages with varying levels of digital readiness, to identify broader success and failure factors. Additionally, **longitudinal research** can be applied to trace changes before and after digitalization implementation. Future studies may also integrate quantitative measurements of digitalization's impact on governance quality, budget efficiency, and community satisfaction, in order to strengthen the empirical basis for formulating national digital village development policies.

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