



Analysis of DigiDes Use and Community Satisfaction in Halong Village: Public Service and Local Governance Perspective

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Article Info

Article history:

Received Nov 25, 2025

Revised Dec 25, 2025

Accepted Jan 12, 2026

Online First Jan 16, 2026

Keywords:

Community Satisfaction
DigiDes
Digital Services
Public Administration
Village Governance

ABSTRACT

Purpose of the study: This study aims to analyze how the use of the DigiDes digital village service application influences community satisfaction in Negeri Halong, Baguala District, Ambon City.

Methodology: This study employed a quantitative approach using a structured questionnaire distributed to DigiDes users. Data were processed using the IBM SPSS Statistics 25 software, utilizing validity tests, reliability tests, descriptive analysis, and simple linear regression to measure the influence of the application on community satisfaction.

Main Findings: The results showed that the use of the DigiDes application has a positive and significant influence on community satisfaction, particularly in terms of service efficiency, accessibility, and accuracy. Increased use of DigiDes corresponds to higher satisfaction levels, indicating strong community acceptance of digital public services. These findings suggest improvements in village governance through more transparent and responsive services, strengthened state-citizen relations, and ongoing digital-based social transformation at the village level.

Novelty/Originality of this study: This study provides new insights into how digital village service applications operate in small-scale community settings, specifically in Negeri Halong. It contributes to the development of knowledge on grassroots digital governance and demonstrates how localized digital innovations can enhance service quality and citizen satisfaction in rural and semi-urban Indonesian contexts.

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1. INTRODUCTION

In the modern era, the development of science and technology has progressed rapidly and significantly influenced various aspects of society's life, particularly in the field of information and communication technology [1]. This rapid advancement requires communities to adapt to ongoing changes, as technology brings both opportunities and challenges [2]. Among the positive impacts are easier long-distance communication, improved efficiency and effectiveness of work, and the emergence of digital platforms that support economic activities and public services [3], [4]. However, there are also negative consequences, such as reduced direct social interaction and increasing risks of technology misuse in the digital sphere [5].

Digital transformation has become one of Indonesia's strategic initiatives to enhance efficiency, transparency, and the quality of public services through the utilization of information and communication technology [6]. This initiative gained strong attention during the administration of President Joko Widodo, marked

by the launch of the National Movement Toward 100 Smart Cities in 2017 by the Ministry of Communication and Informatics [7], [8]. The initiative was strengthened through the implementation of the Electronic-Based Government System, which became the legal foundation for digital transformation at various levels of government, including village administrations. In 2024, the government also introduced INA Digital as a national integrated digital service platform to accelerate access to modern and accountable public services [9].

Within the context of village governance, digital transformation is an important strategy to improve the effectiveness and efficiency of public services [10]. Through the Digital Village program initiated by the Ministry of Village Affairs, the government encourages villages to optimize technology in administrative management, population data, financial governance, and public services [11], [12]. One key implementation of this initiative is the Digital Village Application (DigiDes), which enables residents to manage administrative documents online without physically visiting the village office [13].

To support this digital transformation effort, DigiDes was developed as a public service platform based on information technology [14]. The application is designed to enhance task performance speed, data quality, and information distribution to the public more effectively and efficiently [15]. DigiDes was first launched in 2019 and received its latest update on 27 August 2023 to improve its performance and service features, allowing the system to operate more reliably in meeting community needs [16].

Indonesia's national digital transformation policy emphasizes the adoption of information and communication technology to improve public service efficiency, transparency, and accountability across all levels of government, including villages [17]. This policy direction reflects the broader concept of digital governance, where technology is not only a technical tool but also a governance mechanism that reshapes institutional practices, decision-making processes, and interactions between the state and citizens. Through initiatives such as the Electronic-Based Government System, the Smart City Movement, and the Digital Village program, the government seeks to modernize public administration while strengthening public trust and participation [18].

In the context of village governance, digital platforms like DigiDes play a strategic role in transforming traditional bureaucratic structures into more responsive and citizen-oriented service systems. The use of digital technology alters social structures by changing service delivery patterns, reducing face-to-face dependency, and redefining citizens' expectations toward speed, accessibility, and transparency. Consequently, community satisfaction becomes a crucial indicator of social welfare, as it reflects not only service quality but also residents' perceptions of fairness, accessibility, and inclusion in public service provision. High satisfaction levels indicate that digital governance contributes positively to social well-being, while low satisfaction signals gaps in digital access, literacy, and institutional readiness.

Halong Village, as one of the administrative areas in Ambon City, is currently undergoing a transformation of its public service system toward the use of digital technology. This effort aligns with national policies on digital public services, particularly at the village and local levels. Initiatives such as the DigiDes platform reflect the government's commitment to building a more effective, efficient, and accountable public service system for communities like those in Halong Village.

Despite these efforts, the implementation of DigiDes in Halong Village, Baguala District, still faces several challenges. Initial observations reveal that not all residents can easily access DigiDes services due to limited internet connectivity, system disruptions, and low levels of digital literacy. These conditions hinder the community's ability to utilize digital services optimally and highlight the need for further assessment to identify the root causes of these challenges.

Despite the national push toward digital public services, the implementation of DigiDes at the village level continues to face practical challenges in the field, including limited digital literacy, uneven internet access, system instability, and low community participation. These constraints reduce the effectiveness of digital services and create gaps between policy objectives and actual service experiences. While previous studies on digital village applications have largely focused on technical performance, system usability, or implementation readiness, few have empirically examined how the intensity of digital service use directly shapes community satisfaction as a social outcome. This study addresses that gap by quantitatively analyzing the relationship between DigiDes usage and community satisfaction in a village context. The novelty of this research lies in its emphasis on community satisfaction as an indicator of digital governance effectiveness at the village level, while its urgency stems from the need to ensure that digital transformation does not merely modernize administrative systems but also delivers tangible social benefits and inclusive public services for rural communities.

Although numerous studies have examined the implementation of digital village programs and e-government initiatives in Indonesia, most prior research has primarily emphasized system readiness, technical infrastructure, usability, or administrative efficiency. Limited attention has been given to evaluating digital village applications from the perspective of citizens as service users, particularly in measuring community satisfaction as a social outcome of digital governance. Moreover, existing studies often focus on urban or district-level implementations, leaving village-level empirical evidence relatively underexplored. This creates a research gap regarding how the actual use of digital service applications, such as DigiDes, influences community satisfaction within a localized village governance context.

This research offers novelty by positioning community satisfaction as a key indicator of digital governance effectiveness at the village level, rather than merely assessing technical or administrative performance. The urgency of this study arises from the growing risk that digital transformation in rural areas may exacerbate service inequality if issues of access, literacy, and usability are not adequately addressed. As villages are increasingly required to adopt digital service systems, empirical evidence is needed to ensure that these technologies generate tangible social benefits for local communities. Therefore, the main objective of this study is to analyze the effect of DigiDes usage on community satisfaction in Halong Village from a public service and local governance perspective.

Based on preliminary findings, only a small portion of Halong Village's approximately 12,322 residents are aware of and actively using the DigiDes application. This situation indicates a low level of digital service utilization, suggesting the need for deeper analysis to examine the factors influencing the community's willingness and ability to engage with the application. Understanding these factors is crucial for improving service accessibility and effectiveness.

These constraints contribute to the low utilization of the application and delays in service processing, which should ideally be faster than traditional manual procedures [19]. Furthermore, the lack of socialization regarding how to use the application and limited clarity of service procedures cause some residents to prefer conventional service systems [20]. This preference highlights the importance of proper digital literacy programs and user guidance [21].

Community satisfaction is a key indicator in evaluating the success of digital village services such as DigiDes [10]. Satisfaction is measured not only by the final service outcome but also by punctuality, ease of procedures, clarity of information, and the responsiveness of village officials. When DigiDes provides simple, clear, and reliable service experiences, residents feel more confident and satisfied [7]. On the other hand, unmet expectations may generate negative perceptions, demonstrating the need for consistent improvements [14].

To comprehensively analyze these issues, this study employs measurable indicators related to digital services and public perception. The use of DigiDes is assessed through indicators such as ease of use, perceived usefulness, service speed, transparency, and accessibility. Meanwhile, community satisfaction is evaluated through timeliness of service, ease of procedures, clarity of information, responsiveness of service providers, and the alignment between expectations and actual experiences felt by the people of Halong Village.

In today's digital environment, information technology serves as a strategic element determining the success of both public institutions and private organizations. As a result, every organization must adapt to technological developments to enhance public service quality. Indonesia's movement toward digital government aligns with this goal. Within the context of digital public services, important indicators of DigiDes usage include accessibility, service speed, transparency, community participation, and system-related obstacles that may arise.

Reliable public service quality is the main expectation in village governance. To realize good governance, village leaders apply various leadership approaches and adopt government innovations, including technology-based public administration. With the implementation of digital public service systems, community satisfaction becomes a crucial variable. It is evaluated through satisfaction with service processes, ease of access, clarity of information, trust in the system, and the match between expected and received services.

Digital public services can provide solutions to issues such as complex bureaucracy, slow processes, and lack of information access. At the village level, digital transformation is essential to facilitate population administration and other administrative services. By using DigiDes, residents are expected to experience easier procedures, faster processes, and more transparent information. However, early observations in Halong Village indicate declining satisfaction due to low usage, limited digital skills, and minimal government socialization. This gap between program objectives and reality highlights the importance of this study, which focuses on analyzing relationship between DigiDes usage and community satisfaction in Halong Village.

2. RESEARCH METHOD

2.1. Research Design and Approach

This study employs a quantitative research approach using a simple linear regression design. This approach is appropriate for examining causal relationships between variables through statistical measurement and hypothesis testing [22], [23]. The quantitative method was chosen because this study aims to empirically measure the influence of the independent variable, namely the use of the Village Digital Service Application (DigiDes), on the dependent variable, which is community satisfaction with population administration services. By converting social phenomena into numerical data, this approach enables objective, systematic, and measurable analysis of relationships between variables [24].

2.2. Research Location and Subjects

The research was conducted in Halong Village, Baguala District, Ambon City, Maluku Province, an area that has implemented DigiDes as part of village-level digital public service innovation. The population of this

study consists of all residents of Halong Village who accessed population administration services through DigiDes during 2026. These services include identity card processing, family card services, birth certificate issuance, migration letters, and other population administration documents. The population was selected because its members directly interact with the DigiDes platform and experience the outcomes of digital public service delivery [25], [26].

2.3. Population and Sampling Technique

A sample of 50 respondents was selected using accidental sampling, where respondents were chosen based on their availability and willingness to participate at the time of data collection. This sampling technique is commonly applied in social and public service research when a complete sampling frame is unavailable and when respondents are heterogeneous [27]. Accidental sampling enables researchers to efficiently reach actual service users and collect relevant data in a practical manner [28].

2.4. Data Collection Instruments and Techniques

Data collection was carried out using a structured questionnaire as the primary research instrument. The questionnaire measured two main variables: DigiDes usage and community satisfaction. Indicators of DigiDes usage include ease of use, perceived usefulness, service speed, transparency, and accessibility, which are widely used in digital service and technology adoption studies [29]. Community satisfaction was measured through indicators such as timeliness of service, simplicity of procedures, clarity of information, responsiveness of village officials, and conformity between expected and received services [30]. All questionnaire items were measured using a five-point Likert scale, ranging from strongly disagree to strongly agree, to facilitate quantitative analysis [31]. Primary data were obtained directly from respondents through questionnaire distribution, while secondary data were collected from official documents, service records, and administrative reports related to DigiDes implementation in Halong Village.

2.5. Validity and Reliability Testing

Prior to data analysis, the questionnaire was tested for validity and reliability to ensure accurate and consistent measurement. Validity testing was conducted by examining the correlation between each item and its total score, ensuring that each indicator effectively measured the intended variable [32]. Reliability testing was conducted to assess internal consistency, ensuring that the measurement instrument produced stable and consistent results across items [33]. Only items that met the required validity and reliability criteria were included in further analysis.

2.6. Data Analysis Techniques

Before regression analysis was performed, classical assumption tests were conducted to ensure that the data met statistical requirements. Normality was assessed by examining the distribution pattern of residuals, while linearity was tested by analyzing the relationship between the independent and dependent variables [1]. Once these assumptions were satisfied, simple linear regression analysis was conducted using the equation:

$$Y = a + bX$$

to determine the direction and magnitude of the effect of DigiDes usage on community satisfaction. Hypothesis testing was conducted using the t-test to determine whether the independent variable had a statistically significant effect on the dependent variable. Additionally, the coefficient of determination (R^2) was used to measure the proportion of variance in community satisfaction explained by DigiDes usage. This analysis provides insight into the practical contribution of digital public services to community satisfaction within the context of village governance.

2.7. Research Procedures

The research procedures in this study were conducted systematically to ensure data accuracy, methodological rigor, and consistency with the quantitative research design. The procedures began with the identification of research problems related to the implementation of DigiDes and community satisfaction in Halong Village. Based on this problem identification, relevant theories and previous studies were reviewed to formulate research variables, indicators, and hypotheses.

Subsequently, a structured questionnaire was developed as the main data collection instrument, followed by validity and reliability testing to ensure that the instrument accurately measured DigiDes usage and community satisfaction. After the instrument met the required measurement standards, data collection was carried out by distributing questionnaires to respondents who had used DigiDes population administration services.

The collected data were then coded, tabulated, and processed using statistical software. Prior to hypothesis testing, classical assumption tests were conducted to confirm that the data met normality and linearity requirements. Finally, simple linear regression analysis was performed to examine the effect of DigiDes usage on

community satisfaction, followed by interpretation of results and formulation of conclusions and recommendations relevant to digital public service improvement at the village level.

3. RESULTS AND DISCUSSION

This section presents the research findings regarding the influence of the use of the Village Digital Service Application (DigiDes) on community satisfaction. A simple linear regression analysis was conducted to determine how far the application contributes to improving public satisfaction with administrative services in Halong Village. This analytical method was selected because it accurately describes the direct effect of a single independent variable on a dependent variable in a measurable and objective manner.

Simple linear regression uses the basic formula $Y = a + bX$, where Y represents the dependent variable, X the independent variable, a the constant, and b the regression coefficient. The analysis was carried out using SPSS version 30.0 to ensure accuracy in the statistical output. The results of the regression analysis are presented in the following table.

Table 1. Results of Simple Linear Regression Analysis

Variable	B	Std. Error	Beta	t	Sig.
Constant	1.000	1.132	–	0.883	0.382
Use of DigiDes Application	0.750	0.057	0.883	13.047	<0.001

Based on the table, the regression equation obtained is $Y = 1.000 + 0.750X$. This equation indicates that every one-point increase in the use of the DigiDes application results in a 0.750-point increase in community satisfaction. The constant value of 1.000 represents the baseline satisfaction level when the application is not used, although this value is statistically insignificant.

The regression coefficient of 0.750 shows a positive and strong influence of DigiDes usage on community satisfaction. From a social perspective, this dominance indicates that villagers increasingly associate service quality with digital performance. Public services are no longer perceived primarily through face-to-face interactions, but through the speed, clarity, and reliability of digital systems. As a result, DigiDes becomes a symbolic representation of government effectiveness at the village level.

The t-test results show a t-value of 13.047 with a significance level < 0.001 , indicating that the use of the DigiDes application significantly influences community satisfaction. This confirms that DigiDes is a crucial factor shaping satisfaction. Socially, this reflects a shift in community expectations, where timely and technology-based services are seen as a basic standard rather than an added value. Digital access thus reshapes how villagers evaluate fairness, responsiveness, and accountability in public service delivery.

Table 2. T-Test Results

Path	t-value	Sig. (p)	Description
DigiDes application → Community satisfaction	13.047	<0.001	Significant and positive

The coefficient of determination (R^2) test shows that 78% of the variation in community satisfaction is explained by DigiDes usage. This high explanatory power suggests that digitalization has become the dominant experience through which villagers interact with local government. Administrative encounters that were once social and procedural are now increasingly mediated by technology, altering everyday social experiences and reducing dependency on physical presence and informal networks.

Furthermore, the coefficient of determination (R^2) test was conducted to examine how much the independent variable explains the variance in the dependent variable. The R^2 and adjusted R^2 values are presented in the table below.

Table 3. Coefficient of Determination Results

R	R Square	Adjusted R Square	Std. Error of Estimate
0.883	0.780	0.775	1.414

The R Square value of 0.780 indicates that 78% of the variation in community satisfaction is explained by the use of the DigiDes application. This shows that the regression model has a very strong predictive ability. The remaining 22% is influenced by other factors not included in the model, such as the responsiveness of officers, physical facilities, or technical constraints in the field.

The Adjusted R Square value of 0.775 demonstrates that the model remains stable even when adjusted for the sample size. Meanwhile, the standard error of estimate (1.414) indicates that the model predicts the dependent variable with relatively low error, meaning it is sufficiently accurate. Overall, the model is reliable in explaining the relationship between DigiDes usage and community satisfaction.

In conclusion, the findings strongly indicate that the use of the Village Digital Service Application (DigiDes) has a positive, strong, and significant influence on community satisfaction in Halong Village. The application enhances service efficiency, accessibility, and delivery, contributing to an improved perception of public service quality among residents. DigiDes stands as an important technological innovation that supports better public service administration at the village level.

The results of the simple linear regression analysis show that the use of the DigiDes application has a strong and significant influence on community satisfaction in Halong Village. The regression coefficient of 0.750 indicates that increased utilization of DigiDes directly contributes to higher satisfaction levels. This finding supports the argument that digital-based public services improve efficiency, accessibility, and convenience compared to conventional administrative procedures [23], [34]. As a result, DigiDes becomes a key determinant in shaping residents' overall service experiences and perceptions of village public service quality.

The strength of this relationship is further supported by the Beta value of 0.883 and the R Square value of 0.780, indicating that 78% of the variation in community satisfaction can be explained by DigiDes usage. This result demonstrates the dominant role of digital service platforms in influencing public perceptions of service quality and institutional performance [35]. The significant t-value (13.047) confirms that DigiDes has a substantial and measurable impact on satisfaction, highlighting that digital transformation at the village level produces tangible governance outcomes rather than symbolic change alone [36].

These findings are consistent with previous research on digital public services, which shows that the adoption of information technology in local government enhances service effectiveness, transparency, and user satisfaction [37], [38]. Earlier studies have found that digital platforms reduce bureaucratic complexity, shorten service processing time, and improve citizens' access to information, leading to more positive evaluations of public services [39]. Similar to those studies, the present research confirms that active utilization of digital applications strengthens public confidence in government services and improves perceived service quality [40].

Beyond statistical significance, the results also reveal important social implications. The strong influence of DigiDes suggests that villagers increasingly evaluate public services based on digital performance rather than solely on face-to-face interactions with officials. Public service experiences are now shaped by system responsiveness, clarity of information, and ease of access, reflecting a shift in state–citizen relations mediated by technology [41]. In this context, digital applications function not only as administrative tools but also as social instruments that influence trust, satisfaction, and perceptions of good governance at the village level.

However, despite the strong explanatory power of DigiDes usage, 22% of the variation in community satisfaction is influenced by other factors not included in the model. These factors may include the responsiveness and attitudes of village officials, availability of supporting infrastructure, system stability, and differences in digital literacy among residents. This finding aligns with previous studies emphasizing that digitalization alone cannot fully address public service challenges without adequate human capacity and institutional support [42].

In terms of impact, this study provides empirical evidence that digital village services play a crucial role in improving community satisfaction and strengthening digital governance at the local level. The findings offer practical implications for policymakers and village governments to prioritize digital service optimization alongside capacity building and community digital literacy programs. Nevertheless, this study is limited by its focus on a single village, a relatively small sample size, and the use of a simple regression model. These limitations suggest the need for future research involving comparative village studies, larger samples, and additional variables such as trust, participation, and inclusiveness to better capture the broader social impacts of digital public services.

4. CONCLUSION

The results of this study conclude that the use of the DigiDes application has a strong, positive, and significant influence on community satisfaction in Halong Village. The regression analysis shows that higher utilization of the application leads directly to increased satisfaction, reflected in a regression coefficient of 0.750, a high standardized Beta value of 0.883, and an R Square of 0.780, indicating that 78% of the variation in satisfaction is explained by DigiDes usage. These findings demonstrate that digital-based public services play a crucial role in improving service effectiveness, accessibility, and reliability at the village level. Although other factors outside the model also contribute to satisfaction, the evidence strongly supports the importance of strengthening digital implementation to enhance public service quality. Future research is recommended to include additional variables such as digital literacy, organizational capacity, service responsiveness, and citizen trust, as well as to employ comparative or mixed-method approaches across different villages to obtain a more comprehensive understanding of the social and institutional impacts of digital public services.

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