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## The Effect Of Village Service Information Systems On Community Satisfaction In Gidosebua Village, Gunungsitoli Idanoi District, Gunungsitoli City, North Sumatra Province

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### Abstract

*This study aims to analyze the effect of the Village Service Information System on community satisfaction in Gidosebua Village, Gunungsitoli Idanoi District, Gunungsitoli City. The development of information technology encourages village governments to improve the quality of administrative services through the implementation of information systems that are more effective, efficient, transparent, and accountable. This research employed a quantitative approach using a survey method. Data were collected through questionnaires distributed to residents who had received administrative services at the Gidosebua Village Office. The independent variable in this study was the Village Service Information System, while the dependent variable was community satisfaction. Data analysis was conducted using validity tests, reliability tests, simple linear regression analysis, t-tests, correlation coefficient analysis, and coefficient of determination. The results of this study are expected to provide an overview of the influence of information system implementation on improving the quality of public services and serve as an evaluation reference for the village government in enhancing technology-based administrative services.*

**Keywords:** *Village Service Information System, Public Services, Community Satisfaction, Village Government.*

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## INTRODUCTION

The development of information and communication technology has brought significant changes to government administration, including efforts to improve the quality of public services. The use of information technology in government aims to create more effective, efficient, transparent, and accountable services through the implementation of digital systems. One form of this transformation is the implementation of *e-Government* or Electronic-Based Government Systems (SPBE), which encourages government institutions to provide fast, accessible, and high-quality services to the public.

Public service is one of the main functions of government in fulfilling the administrative needs of the community. Village governments, as the level of government that interacts directly with the community, have a strategic role in providing administrative services, such as processing certificates, population documents, business permits, and recording important events. The quality of services provided by village governments is one of the indicators of successful governance because the better the services received by the community, the higher the level of public satisfaction with government performance.

One of the innovations aimed at improving village services is the implementation of a Village Service Information System. This system enables administrative data to be managed more quickly, accurately, and systematically, thereby reducing recording errors, accelerating service processes, and improving information transparency. However, the implementation of village information systems still faces various challenges, including limited human resource capabilities, inadequate technological infrastructure, internet connectivity problems, and differences in the level of digital literacy among community members.

Gidosebua Village, Gunungsitoli Idanoi District, Gunungsitoli City, is one of the villages that has implemented a Village Service Information System as an effort to improve the quality of community administrative services. The implementation of this system is expected to accelerate service processes and improve data accuracy. However, several challenges remain in its implementation, such as service delays caused by internet connectivity problems and differences in operators' ability to use the system. These conditions indicate that the existence of an information

system does not automatically guarantee increased community satisfaction, as its success is also influenced by ease of use, information quality, service speed, and system reliability.

Community satisfaction is an important indicator for assessing the success of information system implementation in public services. Therefore, it is necessary to examine the extent to which the Village Service Information System affects community satisfaction. This study aims to analyze the effect of the Village Service Information System on community satisfaction in Gidosebua Village, Gunungsitoli Idanoi District, Gunungsitoli City. This study is expected to contribute to the development of Information Systems and Public Administration studies and serve as an evaluation reference for the village government in improving the quality of information technology-based public services.

Based on the foregoing, the research problem is whether the Village Service Information System has a significant effect on community satisfaction in Gidosebua Village, Gunungsitoli Idanoi District, Gunungsitoli City. The hypothesis of this study is that there is a significant effect of the Village Service Information System on community satisfaction.

## RESEARCH METHODS

This study employed a quantitative approach using a survey method and an associative research design to analyze the effect of the Village Service Information System (X) on Community Satisfaction (Y). The research was conducted in Gidosebua Village, Gunungsitoli Idanoi District, Gunungsitoli City, North Sumatra Province. The study population consisted of community members who had previously received village administrative services, with samples selected using the Accidental Sampling technique.

The research data consisted of primary data obtained through questionnaires and secondary data collected from village documents and supporting literature. The research instrument used a five-point Likert scale. The Village Service Information System variable was measured using indicators of ease of use, service speed, data accuracy, security, accessibility, information quality, system reliability, efficiency, responsiveness, and information completeness. The Community Satisfaction variable was measured using indicators of speed, accuracy, ease of procedures, staff friendliness, convenience, information quality, facilities, security, service outcomes, and overall satisfaction.

The data were analyzed using SPSS through validity testing, reliability testing, simple linear regression analysis, t-test, correlation coefficient analysis, and coefficient of determination analysis. The analysis was conducted to determine the effect of the Village Service Information System on the level of community satisfaction. The research was carried out through several stages, including problem identification, data collection, data processing, result analysis, and conclusion formulation, while adhering to research ethics throughout the process.

## RESULTS AND DISCUSSION

### Research Instrument Testing Results

#### Validity Test

The validity test was conducted to determine whether the questionnaire items were capable of measuring the variables under investigation. The critical value of the r-table for  $N = 295$  was 0.114. The results showed that all questionnaire items for the Village Service Information System variable (X) and Community Satisfaction variable (Y) had r-count values greater than the r-table value. Therefore, all questionnaire items were declared valid.

#### Reliability Test

The reliability test was conducted using Cronbach's Alpha, with an instrument considered reliable when the Cronbach's Alpha value is greater than 0.60. The results showed that the Village Service Information System variable (X) obtained a Cronbach's Alpha value of 0.892, while the

Community Satisfaction variable (Y) obtained a value of 0.876. Both variables had Cronbach's Alpha values greater than 0.60. Therefore, all research instruments were declared reliable and suitable for use as data collection instruments.

Furthermore, descriptive analysis was conducted to describe respondents' perceptions of each research variable. The Village Service Information System variable (X) was analyzed based on the average score of respondents' answers for each indicator, allowing the level of community assessment of the implementation of the information system in Gidosebua Village to be determined.

**Table 1. Average Scores of Variable X**

| No.     | Indicator                        | Average Score | Category    |
|---------|----------------------------------|---------------|-------------|
| 1       | Ease of system use               | 3.78          | Good        |
| 2       | Speed of administrative services | 3.65          | Good        |
| 3       | Data accuracy                    | 3.92          | Very Good   |
| 4       | Information completeness         | 3.54          | Good        |
| 5       | Ease of access to services       | 3.41          | Good        |
| 6       | Data security                    | 3.86          | Very Good   |
| 7       | System reliability               | 3.22          | Fairly Good |
| 8       | Service efficiency               | 3.71          | Good        |
| 9       | Service responsiveness           | 3.59          | Good        |
| 10      | Information quality              | 3.68          | Good        |
| Average |                                  | 3.64          | Good        |

**Analysis of the Community Satisfaction Variable (Y)**

The following presents the average scores of respondents' perceptions of the indicators of the Community Satisfaction variable (Y).

**Table 2. Average Scores of Variable Y**

| No.             | Indicator                                     | Average Score | Category    |
|-----------------|-----------------------------------------------|---------------|-------------|
| 1               | Satisfaction with service speed               | 3.58          | Good        |
| 2               | Satisfaction with service accuracy            | 3.87          | Very Good   |
| 3               | Satisfaction with village officials' attitude | 3.94          | Very Good   |
| 4               | Satisfaction with ease of procedures          | 3.46          | Good        |
| 5               | Satisfaction with service convenience         | 3.39          | Good        |
| 6               | Satisfaction with information quality         | 3.62          | Good        |
| 7               | Satisfaction with service facilities          | 3.25          | Fairly Good |
| 8               | Satisfaction with transparency                | 3.70          | Good        |
| 9               | Satisfaction with service outcomes            | 3.81          | Very Good   |
| 10              | Overall satisfaction                          | 3.67          | Good        |
| Overall Average |                                               | 3.63          | Good        |

**Classical Assumption Test Results**

Before conducting simple linear regression analysis, classical assumption tests were performed to ensure that the data met the requirements for parametric analysis. The normality test showed a Kolmogorov-Smirnov significance value of  $0.072 > 0.05$ , indicating that the data were normally distributed. The linearity test obtained a Deviation from Linearity significance value of  $0.218 > 0.05$ , indicating that the relationship between the Village Service Information System and Community Satisfaction variables was linear. In addition, the heteroscedasticity test showed that all indicators had significance values  $> 0.05$ , indicating that there was no heteroscedasticity problem in the research model. Therefore, the data met the classical assumptions and could proceed to regression analysis.

**Simple Linear Regression Analysis**

Simple linear regression analysis was conducted to determine the extent to which the Village Service Information System variable (X) affects Community Satisfaction (Y). The analysis was performed using SPSS 26.

Table 3. Results of Simple Linear Regression Analysis

| Variable                               | Regression Coefficient | t-count | Sig.  | Description        |
|----------------------------------------|------------------------|---------|-------|--------------------|
| Constant                               | 0.724                  | 2.918   | 0.004 | –                  |
| Village Service Information System (X) | 0.798                  | 19.452  | 0.000 | Significant effect |

The resulting regression equation is:

$Y = 0.724 + 0.798X$

The equation can be interpreted as follows:

- Constant of 0.724: If the Village Service Information System variable has a value of 0, the predicted Community Satisfaction value is 0.724.
- X coefficient of 0.798: Every one-unit increase in the quality of the Village Service Information System is associated with an increase of 0.798 units in Community Satisfaction.

Hypothesis Testing (t-Test)

The hypothesis testing results showed that the t-count value of 19.452 was greater than the t-table value of 1.968, with a significance value of  $0.000 < 0.05$ . Therefore,  $H_0$  was rejected and  $H_1$  was accepted, indicating that the Village Service Information System had a significant effect on Community Satisfaction in Gidosebua Village.

Furthermore, the correlation coefficient analysis showed an R value of 0.756, indicating a strong and positive relationship between the Village Service Information System and Community Satisfaction. The coefficient of determination ( $R^2$ ) was 0.571, indicating that 57.1% of the variation in Community Satisfaction could be explained by the Village Service Information System, while the remaining 42.9% was influenced by other factors outside the variables examined in this study.

Discussion of Research Findings

Based on the data analysis, the implementation of the Village Service Information System in Gidosebua Village was categorized as good, although weaknesses remained in the system reliability indicator. This finding is consistent with the initial observations indicating that internet connectivity problems and limited equipment frequently hindered the service process. In addition, the level of Community Satisfaction was also categorized as good, although supporting facilities were considered less adequate.

The hypothesis testing results demonstrated that the Village Service Information System had a positive and significant effect on Community Satisfaction. This finding is consistent with public service theory, which states that the use of information technology can improve the speed, accuracy, and transparency of services, thereby increasing service recipients' satisfaction. This finding is also supported by previous studies conducted by Sari (2022) and Marbun (2024), which found that village service information systems play an important role in improving the quality of administrative services at the village level.

Although the information system had a strong effect on Community Satisfaction, the coefficient of determination indicates that other factors also contribute to satisfaction, including staff friendliness, service procedures, and the availability of physical facilities and infrastructure. In addition, the limited ability of some village officials to operate the system is another factor that needs attention so that the benefits of the information system can be experienced optimally by all members of the community.

## CONCLUSION

Based on the results of the data analysis and discussion, it can be concluded that the implementation of the Village Service Information System in Gidosebua Village has been carried out well, although there are still challenges related to system reliability, such as network disruptions and limited supporting equipment. The level of community satisfaction with administrative services was also categorized as good, with the attitude of village officials and data accuracy being the most highly appreciated aspects. The results showed that the Village Service Information System had a positive and significant effect on community satisfaction, with a contribution of 57.1%, while the remaining 42.9% was influenced by other factors outside the scope of this study.

The Gidosebua Village Government is recommended to improve the quality of supporting infrastructure, provide adequate equipment, and conduct training for village officials so that the system can operate more optimally. The community is expected to actively utilize digital village services and provide feedback to support service improvements. Future research could include other variables, such as human resource quality, facilities and infrastructure, and community participation, to obtain a more comprehensive understanding of the factors influencing community satisfaction. This study is limited by the use of only one independent variable and questionnaire-based data collection, which may be subject to respondent subjectivity.

## REFERENCES

- Alter, S. (2019). *Information Systems: Foundations of Information Systems in an Organization*. New York: Pearson Education.
- Amin, M., & Suryadi. (2023). Penerapan Sistem Informasi Pelayanan Desa Berbasis Web untuk Meningkatkan Efisiensi Administrasi. *Jurnal Sistem Informasi dan Teknologi Informasi*, 9(1), 45–56.
- Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319–340.
- Dinas Komunikasi dan Informatika Kota Gunungsitoli. (2025). *Laporan Tahunan Penerapan SPBE di Wilayah Kota Gunungsitoli*. Gunungsitoli: Pemerintah Kota Gunungsitoli.
- Effendi, A., & Prasetyo, B. (2022). Pengaruh Kualitas Sistem Informasi terhadap Kepuasan Pengguna Layanan Publik di Tingkat Desa. *Jurnal Ilmu Administrasi Negara*, 18(2), 112–125.
- Kotler, P., & Keller, K. L. (2021). *Manajemen Pemasaran* (Edisi 17). Jakarta: Erlangga.
- Marbun, S., & Sitorus, T. (2024). Dampak Digitalisasi Pelayanan Desa terhadap Kepuasan Masyarakat di Wilayah Sumatera Utara. *Jurnal Pemerintahan Desa dan Pembangunan Daerah*, 5(1), 23–37.
- Miles, M. B., Huberman, A. M., & Saldana, J. (2020). *Qualitative Data Analysis: A Methods Sourcebook*. California: SAGE Publications.
- Nasution, H., & Harahap, A. (2023). Analisis Hambatan Penerapan Sistem Informasi Pelayanan Desa di Daerah Dataran Tinggi. *Jurnal Teknologi Informasi dan Komunikasi*, 11(2), 89–102.
- Pemerintah Desa Gidosebua. (2025). *Data Profil Desa dan Administrasi Kependudukan Tahun 2025*. Gunungsitoli: Kantor Desa Gidosebua.
- Peraturan Presiden Republik Indonesia Nomor 95 Tahun 2018 tentang Sistem Pemerintahan Berbasis Elektronik. Lembaran Negara Republik Indonesia Tahun 2018 Nomor 182.
- Riduwan. (2021). *Metode dan Teknik Menyusun Proposal Penelitian*. Bandung: Alfabeta.
- Sari, D. P., Wibowo, A., & Utomo, J. (2022). Hubungan Antara Kemudahan Penggunaan Sistem Informasi dengan Kepuasan Masyarakat Desa Karanganyar. *Jurnal Penelitian dan Pengembangan Pelayanan Publik*, 7(1), 67–78.

- Sembiring, R., & Ginting, N. (2025). Peran Infrastruktur Teknologi Informasi dalam Keandalan Layanan Administrasi Desa. *Jurnal Ilmu Komputer dan Aplikasi*, 12(1), 14–25.
- Sinambela, L. P. (2016). *Reformasi Pelayanan Publik: Teori, Kebijakan, dan Implementasi*. Jakarta: Bumi Aksara.
- Sugiyono. (2022). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta.
- Sutabri, T. (2020). *Sistem Informasi Manajemen*. Yogyakarta: Andi Offset.
- Tjiptono, F. (2019). *Pelayanan Prima dan Kepuasan Pelanggan*. Yogyakarta: Andi Offset.
- Undang-Undang Republik Indonesia Nomor 25 Tahun 2009 tentang Pelayanan Publik. Lembaran Negara Republik Indonesia Tahun 2009 Nomor 112.
- Undang-Undang Republik Indonesia Nomor 6 Tahun 2014 tentang Desa. Lembaran Negara Republik Indonesia Tahun 2014 Nomor 7.