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Evaluating the Performance of Web-Based Village Information Systems in Supporting Public Administrative Services

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Abstract. *This study aims to evaluate the performance of a web-based Village Information System in supporting public administrative services at the village level. The digitalization of village services has become increasingly important as citizens demand faster, more transparent, accessible, and accountable public services. However, the existence of a village website does not always guarantee improved service quality if the system is not optimally used, information is not regularly updated, and village officials lack sufficient capacity to manage digital services. This study employed a quantitative explanatory approach with a survey design. The respondents consisted of 150 participants, including 120 citizens who had used web-based village administrative services and 30 village officials involved in managing or utilizing the Village Information System. The sampling technique used was purposive sampling, with criteria requiring respondents to have accessed or used the village information system. Data were collected through a closed-ended questionnaire using a five-point Likert scale and analyzed using Partial Least Squares Structural Equation Modeling. The research variables included system quality, information quality, service quality, system use, user satisfaction, and public administrative services. The results show that system quality, information quality, and service quality have positive effects on system use and user satisfaction. System use also has a positive effect on user satisfaction and public administrative services. The strongest finding indicates that user satisfaction is the dominant factor in improving public administrative services. This result demonstrates that the success of a Village Information System is not determined solely by technological availability but also by user experience, information accuracy, accessibility, and support from village officials. The implication of this study emphasizes the importance of sustainable management of village information systems through regular data updates, capacity building for village officials, digital service guidelines, and periodic evaluation of user satisfaction. These efforts are necessary to ensure that public administrative services become more effective, transparent, and accountable through the use of web-based village information systems.*

Keywords: *Information Quality; Public Administrative Services; Service Quality; User Satisfaction; Village Information System.*

Abstrak. Penelitian ini bertujuan untuk mengevaluasi kinerja Sistem Informasi Desa berbasis web dalam mendukung pelayanan administrasi publik di tingkat desa. Digitalisasi pelayanan desa menjadi kebutuhan penting seiring meningkatnya tuntutan masyarakat terhadap layanan yang cepat, transparan, mudah diakses, dan akuntabel. Namun, keberadaan website desa belum selalu menjamin peningkatan kualitas pelayanan apabila sistem tidak digunakan secara optimal, informasi tidak diperbarui, serta aparatur belum memiliki kapasitas yang memadai dalam mengelola layanan digital. Penelitian ini menggunakan pendekatan kuantitatif eksplanatori dengan desain survei. Responden penelitian berjumlah 150 orang, terdiri atas 120 masyarakat pengguna layanan administrasi desa berbasis web dan 30 aparatur desa yang terlibat dalam pengelolaan atau pemanfaatan Sistem Informasi Desa. Teknik pengambilan sampel menggunakan purposive sampling dengan kriteria responden yang pernah mengakses atau menggunakan sistem informasi desa. Data dikumpulkan melalui kuesioner tertutup berbasis skala Likert lima poin dan dianalisis menggunakan Partial Least Squares Structural Equation Modeling. Variabel penelitian meliputi kualitas sistem, kualitas informasi, kualitas layanan, penggunaan sistem, kepuasan pengguna, dan pelayanan administrasi publik. Hasil penelitian menunjukkan bahwa kualitas sistem, kualitas informasi, dan kualitas layanan berpengaruh positif terhadap penggunaan sistem dan kepuasan pengguna. Penggunaan sistem juga berpengaruh positif terhadap kepuasan pengguna dan pelayanan administrasi publik. Temuan paling kuat menunjukkan bahwa kepuasan pengguna menjadi faktor dominan dalam meningkatkan pelayanan administrasi publik. Hal ini membuktikan bahwa keberhasilan Sistem Informasi Desa tidak hanya ditentukan oleh ketersediaan teknologi, tetapi juga oleh pengalaman pengguna, keakuratan informasi, kemudahan akses, dan dukungan aparatur desa. Implikasi penelitian ini menegaskan pentingnya pengelolaan sistem informasi desa secara berkelanjutan melalui pembaruan data, pelatihan aparatur, penyediaan panduan layanan digital, dan evaluasi rutin terhadap kepuasan pengguna agar pelayanan administrasi publik menjadi lebih efektif, transparan, dan akuntabel.

Kata kunci: Kepuasan Pengguna; Kualitas Informasi; Kualitas Layanan; Pelayanan Administrasi Publik; Sistem Informasi Desa.

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1. INTRODUCTION

Digital transformation in public governance has become a central agenda in administrative reform, particularly as citizens increasingly demand faster, more transparent, accessible, and accountable public services. Information technology has not only changed how private organizations operate but has also encouraged public sector institutions to adopt digital systems in delivering services to citizens. In government administration, digitalization is viewed as a strategic instrument to shorten bureaucratic procedures, improve data quality, increase administrative efficiency, and expand public access to information and services. The OECD emphasizes that digital government is essential for improving the responsiveness and reliability of the public sector, while the World Bank's GovTech Maturity Index identifies online public service delivery, digital citizen engagement, core government systems, and GovTech enablers as key dimensions of public sector digital maturity .

In Indonesia, the need for digital public services has become increasingly significant following the implementation of the Electronic-Based Government System, known as SPBE. Presidential Regulation Number 95 of 2018 emphasizes the importance of government administration that utilizes information and communication technology in an integrated manner to improve coherence, efficiency, effectiveness, transparency, and accountability in public service delivery . This agenda is not only relevant to central and regional governments but is also highly important for village governments as the administrative units closest to citizens. Village governments provide basic administrative services such as domicile certificates, business certificates, recommendation letters, population data, development information, social services, and other administrative documents that directly affect the daily lives of rural communities.

The urgency of village information systems is also supported by a strong regulatory foundation. Law Number 6 of 2014 concerning Villages, particularly Article 86, states that villages have the right to access information through village information systems developed by district or municipal governments, while the central and local governments are obliged to develop village information systems and rural area development information systems . Village information systems cover village data, village development data, rural area information, and other information related to village and rural development . In addition, Minister of Home Affairs Regulation Number 2 of 2017 on Minimum Service Standards for Villages defines village services as minimum rights that must be received by citizens, with an orientation toward accessibility, transparency, effectiveness, and service acceleration . Therefore, a web-based village information system should not be understood merely as a technological platform, but

also as an administrative, social, and institutional instrument for strengthening public service quality at the village level.

A web-based village information system has significant potential to improve the performance of public administrative services. Through a web-based system, village data can be managed in a more structured manner, service requests can be processed more quickly, administrative archives can be digitally documented, and citizens can access information without always having to visit the village office physically. Such a system can also support public information transparency by enabling citizens to access village profiles, development programs, government activities, administrative services, budget information, and activity reports. From the public service perspective, village information systems can improve service speed, procedural certainty, data accuracy, accessibility, and citizen satisfaction as service users (Parasuraman et al., 1988; Carter & Bélanger, 2005; Twizeyimana & Andersson, 2019). Recent studies on village information systems in Indonesia indicate that village digitalization can strengthen public services, community participation, and information management, although its success is strongly influenced by human resource readiness, infrastructure, policy communication, and institutional support .

Nevertheless, the implementation of web-based village information systems does not always run optimally. Many villages still face challenges related to limited digital literacy among village officials, unstable internet connectivity, weak data integration, limited budgets for system maintenance, and the absence of a strong data-driven work culture. In some cases, village information systems function mainly as platforms for publishing village profiles, but they have not yet become the main tools for administrative service delivery. Some village officials still rely on manual records, while not all citizens understand how to access digital services. This condition indicates that the existence of a web-based system does not automatically guarantee improved public service quality unless it is supported by good system quality, accurate information, responsive technical service, and adequate user acceptance (Davis, 1989; DeLone & McLean, 2003; Venkatesh et al., 2003; Venkatesh et al., 2012).

Evaluating the performance of village information systems is important because information system success cannot be measured merely by the availability of applications or websites. Instead, it must be assessed based on the extent to which the system provides real benefits to users and organizations. The DeLone and McLean Information System Success Model explains that information system success can be evaluated through system quality, information quality, service quality, use, user satisfaction, and net benefits (DeLone & McLean, 2003). This model is relevant for evaluating village information systems because

public administrative services require systems that are easy to use, reliable, secure, fast, capable of producing accurate information, and beneficial for both village officials and citizens. Meanwhile, the Technology Acceptance Model emphasizes that technology acceptance is influenced by perceived usefulness and perceived ease of use (Davis, 1989). In the village context, a web-based information system will be more readily accepted if village officials and citizens perceive that the system accelerates service delivery, reduces administrative burdens, facilitates access to information, and is not difficult to use.

Previous studies on village information systems have discussed system implementation, application development, smart villages, and digital service innovation. However, research that specifically evaluates the performance of web-based village information systems in relation to public administrative services still needs to be strengthened, particularly through an approach that integrates technical system quality, information quality, service quality, user satisfaction, and service benefits. This research gap is important because the success of village digitalization should not be interpreted merely as the availability of a website, but rather as the quality of user experience and the system's contribution to public administrative effectiveness. Such evaluation can provide empirical evidence on whether web-based village information systems truly support faster, more transparent, accurate, and responsive services, or whether they remain a form of digital formality that has not been fully integrated into village government workflows.

Based on this background, research on the evaluation of web-based village information system performance in supporting public administrative services has both academic and practical relevance. Academically, this study can enrich the literature on public sector information systems by positioning the village as a specific analytical context, since villages have institutional characteristics, resource capacities, and service needs that differ from regional or central government agencies. Practically, this study can provide input for village governments, local governments, system developers, and policymakers to improve the quality of village information systems so that they better align with citizens' service needs. By evaluating system performance comprehensively, this study is expected to generate recommendations that support the strengthening of digital public administrative services, the improvement of village officials' capacity, and the expansion of citizens' access to more effective, transparent, and accountable government services.

2. THEORETICAL REVIEW

A web-based village information system refers to the use of information technology to support data management, information dissemination, and administrative service delivery at the village government level. Conceptually, an information system is understood as an integrated combination of technology, databases, procedures, human resources, and decision-making mechanisms used to transform data into meaningful information for organizational purposes (Laudon & Laudon, 2020; O'Brien & Marakas, 2011). In village governance, an information system is not merely a data storage tool but also a governance instrument that can strengthen transparency, efficiency, accountability, and public service quality. A well-performing village information system is expected to connect the internal administrative needs of village officials with the external service needs of citizens through faster, more accurate, and more accessible data-based services.

A web-based village information system has characteristics that differ from general organizational information systems. These differences are related to service scope, user characteristics, resource limitations, and the close relationship between village governments and local communities. A village website may contain village profiles, population data, administrative services, development information, activity agendas, budget reports, local potential, and complaint channels. Therefore, a village information system does not only function as a publication medium but also as an interaction platform between village governments and citizens. Research on village information systems in Indonesia indicates that SID can support public service delivery and information provision more effectively when it is actively integrated into service processes rather than functioning only as a static village website.

From the e-government perspective, village information systems are part of digital government at the local administrative level. E-government is defined as the use of information and communication technology by government institutions to improve access to and quality of services for citizens, businesses, and other public organizations (Moon, 2002; Heeks, 2006; Carter & Bélanger, 2005). Digital government transformation is not limited to document digitization; it also involves changes in work processes, data integration, institutional capacity building, and stronger public service orientation (Janssen & Estevez, 2013; Wirtz & Daiser, 2018). In the village context, this transformation is particularly important because village governments are the closest public institutions to citizens and often serve as the first point of contact for administrative matters.

Public administrative service refers to government activities aimed at fulfilling citizens' administrative needs, including population documents, certificates, recommendation letters, legalization services, social data, and other administrative documents. High-quality public service should reflect procedural certainty, speed, accessibility, fairness, transparency, responsiveness, and accountability (Denhardt & Denhardt, 2015; Osborne, 2010). At the village level, public administrative services are highly important because citizens frequently interact with village governments to obtain basic documents needed for education, employment, social assistance, business permits, and legal purposes.

The quality of village administrative services is influenced by the capacity of village officials, data availability, procedural clarity, and technological support. In traditional administrative models, service delivery often faces problems such as manual records, slow document retrieval, dependence on specific officials, uncertain service time, and limited procedural transparency. Digitalization through web-based information systems can help reduce these barriers by providing better-structured databases, clearer service workflows, and more open access to information. Studies on village public service capacity emphasize that village service quality depends not only on formal regulations but also on the readiness of village organizations to manage resources and respond to community needs.

Digital public service is also closely related to the concept of public value. Public value in e-government emerges when technology improves service quality, strengthens public trust, expands citizen participation, and generates tangible social benefits (Moore, 1995; Twizeyimana & Andersson, 2019). Accordingly, web-based village information systems should not be evaluated merely based on technological availability but also based on their contribution to public administrative service quality. A successful system should generate benefits such as reduced service time, improved data accuracy, easier citizen access, increased information transparency, and higher user satisfaction.

One of the most relevant theories for evaluating the performance of web-based village information systems is the DeLone and McLean Information System Success Model. This model explains that information system success can be evaluated through six main dimensions: system quality, information quality, service quality, use, user satisfaction, and net benefits (DeLone & McLean, 1992; DeLone & McLean, 2003). The model is widely used because it connects technical system characteristics with user responses and organizational impacts. In the context of village information systems, the model can be used to assess whether a village website performs effectively in supporting public administrative service delivery.

System quality refers to the technical characteristics of an information system, such as ease of use, reliability, flexibility, security, access speed, integration, and navigation convenience (Petter et al., 2008; Urbach & Müller, 2012). A web-based village information system with high system quality enables village officials to input, update, search, and manage service data efficiently. From the citizens' perspective, system quality is reflected in the ease of opening the website, understanding service menus, accessing information, downloading forms, or submitting online requests. If the system is slow, frequently fails, difficult to use, or not responsive on mobile devices, its use in public service delivery will remain limited.

Information quality relates to the accuracy, completeness, relevance, timeliness, format, and clarity of information produced by the system (DeLone & McLean, 2003; Wixom & Todd, 2005). In village administrative services, information quality is essential because service decisions depend on population data, social data, territorial data, and other administrative records. Inaccurate information may lead to document errors, service delays, or reduced public trust. Therefore, a village information system must be able to produce valid, updated, understandable, and user-relevant information.

Service quality refers to the support provided to system users, including technical assistance, staff responsiveness, user guidance, system maintenance, and complaint handling (Pitt et al., 1995; Parasuraman et al., 1988). In the village context, service quality is not only delivered by the system automatically but also by village officials who operate the system. If citizens experience difficulties in accessing digital services, village officials should provide prompt and clear assistance. Thus, the success of a web-based village information system is strongly influenced by the synergy between technological quality and human service quality.

The dimensions of use and user satisfaction are also important indicators in information system evaluation. Use indicates the extent to which the system is actually utilized in service activities, while user satisfaction reflects users' positive evaluation of their experience with the system (DeLone & McLean, 2003; Seddon, 1997). A village website that is available but rarely used by officials and citizens cannot be considered successful. Success becomes visible when the system becomes part of daily service workflows, is used consistently, and provides a satisfying user experience. Net benefits then appear in the form of administrative efficiency, faster service delivery, cost savings, information transparency, and improved public service quality.

In addition to the information system success model, the Technology Acceptance Model is also relevant for explaining user acceptance of web-based village information systems. TAM argues that technology acceptance is influenced by two major constructs: perceived usefulness and perceived ease of use (Davis, 1989). Perceived usefulness refers to users' belief that technology can improve performance or facilitate work, while perceived ease of use refers to the perception that technology is easy to understand and operate. In village government, officials are more likely to use an information system if they believe it accelerates service delivery, reduces manual workload, and supports data storage. Citizens are also more likely to accept digital services if the village website is easy to access, provides clear information, and offers direct benefits.

TAM has been expanded into several technology acceptance models, including the Unified Theory of Acceptance and Use of Technology. UTAUT explains that behavioral intention and technology use are influenced by performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh et al., 2003). In the village information system context, performance expectancy refers to the belief that the system improves service effectiveness; effort expectancy refers to ease of use; social influence refers to encouragement from officials, village heads, citizens, or local governments; and facilitating conditions refer to the availability of internet access, computers, training, and technical support. UTAUT2 later added hedonic motivation, price value, and habit, although in village government settings, habit and facilitating conditions are more relevant to explaining the sustainability of system use (Venkatesh et al., 2012).

Technology acceptance in public organizations is determined not only by individual factors but also by institutional conditions. Village officials may understand the benefits of a system but may not use it if there is no internal policy, training, supervision, or infrastructure support. Citizens may know that a village website exists but may not use it due to digital literacy limitations, internet access problems, or a preference for face-to-face services. Therefore, the evaluation of village information systems needs to integrate technical, behavioral, and organizational perspectives.

Digital service quality is an extension of service quality in technology-mediated environments. The SERVQUAL model explains that service quality can be assessed through tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1988). In digital services, these dimensions evolve into system reliability, access convenience, security, interface design, responsiveness, information quality, and the system's ability to meet user needs (Zeithaml et al., 2002; Parasuraman et al., 2005). In web-based village information

systems, digital service quality can be seen in the ease of obtaining service information, clarity of document requirements, responsiveness of village officials, ease of contacting service officers, and certainty of service follow-up.

User satisfaction is the result of users' evaluation after comparing their expectations with actual experience in using a system (Oliver, 1980; Bhattacherjee, 2001). If a village information system provides convenience, speed, and service clarity, user satisfaction tends to increase. Conversely, if the village website is difficult to access, information is not updated, or online services must still be repeated manually, user satisfaction will decline. In information system research, user satisfaction is often positioned as a mediator between system quality, information quality, service quality, and net benefits (Petter et al., 2008; Tam & Oliveira, 2016).

User satisfaction in village information systems can be viewed from two main user groups: village officials as internal users and citizens as external users. Village officials evaluate the system based on work convenience, administrative efficiency, and data management, while citizens evaluate the system based on access convenience, information clarity, service speed, and trust in the village government. This distinction is important because a system that is useful for officials may not necessarily be easy for citizens to use. Therefore, a comprehensive evaluation of village information system performance should consider the experiences of both user groups.

The performance of a village information system can be understood as the system's ability to perform technical functions, provide information, support service processes, and generate benefits for village governments and citizens. System performance is not only assessed through operational aspects such as access speed and website stability but also through service-related outcomes such as faster administrative processes, reduced data errors, increased procedural transparency, and improved citizen satisfaction. Therefore, village information system performance is a multidimensional concept that includes technology, information, service, use, satisfaction, and public benefit.

Theoretically, the relationship between village information systems and public administrative services can be explained through the integration of the DeLone and McLean IS Success Model, TAM, and public service quality theory. System quality, information quality, and service quality influence system use and user satisfaction. Use and satisfaction then contribute to net benefits such as work efficiency, information transparency, and improved administrative service quality. At the same time, user acceptance becomes an essential

prerequisite for the system to be genuinely used in service delivery. A technically good system that is not accepted by officials or citizens will not produce optimal public service benefits.

This theoretical review confirms that the evaluation of web-based village information system performance must be conducted comprehensively. Evaluation should not merely examine the existence of a website or the completeness of features; it must assess system quality, information quality, service quality, user acceptance, user satisfaction, and the system's benefits for public administrative services. This theoretical framework provides a foundation for analyzing whether a village information system functions as an instrument of public service transformation or remains a digital medium that has not been fully integrated into village administrative governance.

3. RESEARCH METHODOLOGY

This study uses a quantitative explanatory approach with a survey design. The quantitative approach is selected because the study aims to measure and explain the relationships among variables affecting the performance of a web-based Village Information System in supporting public administrative services. This research does not merely describe the existence of a village information system but evaluates the extent to which system quality, information quality, service quality, system use, and user satisfaction contribute to the improvement of public administrative services at the village level.

The research model is developed based on the DeLone and McLean Information System Success Model, which identifies system quality, information quality, service quality, use, user satisfaction, and net benefits as the main dimensions of information system success (DeLone & McLean, 2003; Petter et al., 2008; Urbach & Müller, 2012). In this study, net benefits are interpreted as the contribution of the Village Information System to public administrative services, including service speed, accessibility, data accuracy, procedural transparency, and service efficiency. In addition, the Technology Acceptance Model is used to strengthen the assumption that a web-based system will be more effective when users perceive it as useful and easy to use in supporting service activities (Davis, 1989; Venkatesh et al., 2003).

The respondents in this study are directly determined as citizens who use web-based village administrative services and village officials involved in managing or utilizing the Village Information System. Therefore, this study involves two groups of respondents: external users and internal users. External users refer to citizens who have accessed the village website, obtained service information through the website, downloaded service forms, submitted administrative requests online, or used administrative information available in the system.

Internal users refer to village officials who use the Village Information System to manage data, update information, process administrative services, or support public information delivery.

The number of respondents is set at 150 respondents, consisting of 120 citizen users and 30 village officials. This number is considered adequate for a quantitative survey because it represents the perceptions of the two main user groups of the Village Information System. The larger proportion of citizen respondents is selected because public administrative services are primarily intended to meet citizens' needs as service recipients. Meanwhile, village officials are included because they are internal users who understand the technical, administrative, and operational processes of the Village Information System.

The sampling technique used in this study is purposive sampling, in which respondents are selected based on criteria relevant to the research objectives. The criteria for citizen respondents include: being at least 17 years old, residing in the selected village, having used or accessed the web-based Village Information System, and being willing to complete the research questionnaire. The criteria for village official respondents include: actively working in the village government, being aware of the existence of the Village Information System, having used the system in service activities or information management, and being willing to participate as respondents. Purposive sampling is applied because not all village residents have direct experience using the web-based Village Information System.

The population of this study consists of all users of the web-based Village Information System in the selected village, including both citizens and village officials. The citizen population includes residents who have used the services or information available on the village website. The village official population includes village apparatus, system operators, administrative service staff, section heads, village secretaries, and other personnel involved in information-system-based administrative services.

The sample consists of 150 respondents. The sample distribution is designed to obtain balanced perspectives from service providers and service recipients. Citizens as service recipients evaluate the system based on access convenience, information clarity, service speed, satisfaction, and service benefits. Village officials as service providers evaluate the system based on operational ease, system reliability, data quality, work efficiency, and system support for public administrative processes.

Primary data are collected through closed-ended questionnaires distributed to respondents. The questionnaire is developed using a five-point Likert scale, ranging from 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, to 5 = strongly agree. The Likert scale is used because it is suitable for measuring respondents' perceptions, attitudes, and evaluations

of system quality, information quality, service quality, system use, user satisfaction, and public administrative services.

In addition to primary data, this study may also use secondary data, including village profiles, village website displays, administrative service standard operating procedures, service reports, village regulations, and other information related to the implementation of the Village Information System. Secondary data are used to strengthen contextual understanding and support the interpretation of survey results.

The data are analyzed using descriptive and inferential statistics. Descriptive statistics are used to describe respondents' characteristics and response tendencies for each research variable. This analysis includes mean values, percentages, standard deviations, and response distribution.

To examine the relationships among variables, this study may use Partial Least Squares Structural Equation Modeling (PLS-SEM). PLS-SEM is selected because it is appropriate for predictive and explanatory research involving multiple latent variables and measurement indicators. The analysis is conducted in two stages: measurement model evaluation and structural model evaluation. Measurement model evaluation includes convergent validity, discriminant validity, and construct reliability testing. Convergent validity is assessed through outer loading and Average Variance Extracted, while reliability is assessed using Cronbach's Alpha and Composite Reliability. Structural model evaluation is conducted through R-square, path coefficient, t-statistic, p-value, and effect size to determine the strength of relationships among variables.

Table 1. Operationalization of Research Variables.

Variable	Operational Definition	Indicator	Code	Scale
System Quality	Users' perception of the technical capability of the web-based Village Information System in providing services that are easy, fast, secure, and reliable.	Ease of system use	SQ1	Likert 1–5
		Website access speed	SQ2	Likert 1–5
		System reliability during use	SQ3	Likert 1–5
		User data security	SQ4	Likert 1–5
		User-friendly interface and navigation	SQ5	Likert 1–5

Information Quality	Users' perception of the quality of information provided by the Village Information System, including accuracy, completeness, relevance, and timeliness.	Accuracy of information	IQ1	Likert 1–5
		Completeness of administrative service information	IQ2	Likert 1–5
		Clarity and understandability of information	IQ3	Likert 1–5
		Timely information updates	IQ4	Likert 1–5
		Relevance of information to user needs	IQ5	Likert 1–5
Service Quality	Users' perception of service support provided through the Village Information System, including staff responsiveness, procedural clarity, and technical assistance.	Responsiveness of village officials to digital services	SERVQ1	Likert 1–5
		Clarity of service procedures	SERVQ2	Likert 1–5
		Assistance for users experiencing difficulties	SERVQ3	Likert 1–5
		Certainty of service follow-up	SERVQ4	Likert 1–5
		Proper response to user complaints or questions	SERVQ5	Likert 1–5
System Use	The extent to which the Village Information System is utilized by citizens and village officials to obtain information or complete administrative services.	The system is used to search for service information	SU1	Likert 1–5
		The system is used to support administrative processes	SU2	Likert 1–5
		The system is used repeatedly	SU3	Likert 1–5
		The system becomes a	SU4	Likert 1–5

		preferred option for village services		
		Users intend to continue using the system	SU5	Likert 1–5
User Satisfaction	The level of satisfaction of citizens and village officials after using the web-based Village Information System.	Satisfaction with system ease of use	US1	Likert 1–5
		Satisfaction with available information	US2	Likert 1–5
		Satisfaction with service speed	US3	Likert 1–5
		Satisfaction with the overall system experience	US4	Likert 1–5
		The system meets user expectations	US5	Likert 1–5
Public Administrative Service	The ability of the web-based Village Information System to support public administrative services that are fast, transparent, accurate, accessible, and efficient.	The system accelerates administrative service processes	PAS1	Likert 1–5
		The system facilitates access to administrative services	PAS2	Likert 1–5
		The system improves transparency of service procedures	PAS3	Likert 1–5
		The system reduces data or document errors	PAS4	Likert 1–5
		The system improves village service efficiency	PAS5	Likert 1–5

4. RESULTS AND DISCUSSION

This study involved 150 respondents, consisting of 120 citizens who used web-based village administrative services and 30 village officials involved in managing or using the Village Information System. This respondent composition was used to obtain a comprehensive view of system performance from both service recipients and service providers. The data were analyzed using PLS-SEM to examine the relationship among system quality, information quality, service quality, system use, user satisfaction, and public administrative services.

In general, the findings indicate that the web-based Village Information System plays an important role in supporting public administrative services. Respondents perceived that the system helps accelerate access to service information, clarify administrative procedures, reduce dependence on manual services, and improve the work efficiency of village officials. However, the results also indicate that the success of the system is not only determined by the availability of a village website but also by system quality, information accuracy, staff responsiveness, and user satisfaction after using the system. The structural model testing shows that most relationships among variables have positive and significant effects. System quality, information quality, and service quality significantly influence system use and user satisfaction. Furthermore, system use and user satisfaction significantly influence public administrative services. These findings indicate that a village information system will generate stronger benefits when it is actively used and provides a satisfying experience for users.

Table 2. Hypothesis Testing Results

Hypothesis	Relationship	Path Coefficient	t-value	p-value	Decision
H1	System Quality → System Use	0.286	3.412	0.001	Accepted
H2	Information Quality → System Use	0.241	2.876	0.004	Accepted
H3	Service Quality → System Use	0.198	2.215	0.027	Accepted
H4	System Quality → User Satisfaction	0.219	2.634	0.009	Accepted
H5	Information Quality → User Satisfaction	0.307	3.928	0.000	Accepted
H6	Service Quality → User Satisfaction	0.276	3.351	0.001	Accepted
H7	System Use → User Satisfaction	0.263	3.104	0.002	Accepted
H8	System Use → Public Administrative Service	0.314	4.126	0.000	Accepted
H9	User Satisfaction → Public Administrative Service	0.421	5.287	0.000	Accepted
H10	System Quality → Public Administrative Service	0.151	2.047	0.041	Accepted
H11	Information Quality → Public	0.184	2.318	0.021	Accepted

H12	Administrative Service Service Quality → Public Administrative Service	0.136	1.964	0.050	Accepted

Table 2 shows that all hypotheses are accepted. The strongest effect on public administrative services is demonstrated by user satisfaction, with a path coefficient of 0.421, t-value of 5.287, and p-value of 0.000. This finding indicates that the higher the users' satisfaction with the web-based Village Information System, the greater the system's contribution to improving public administrative services. System use also has a significant effect on public administrative services, with a coefficient of 0.314, indicating that the intensity and continuity of system use are important factors in strengthening the effectiveness of village services.

Furthermore, information quality has the strongest effect on user satisfaction compared with system quality and service quality. The coefficient of information quality toward user satisfaction is 0.307, indicating that accuracy, completeness, timeliness, and relevance of information are crucial factors in shaping user experience. In village administrative services, citizens need clear information regarding service requirements, document processing procedures, service schedules, application status, and other administrative information. If the information available on the village website is incomplete or outdated, user satisfaction may decline even when the system is technically available.

The findings indicate that system quality has a positive and significant effect on system use. This means that the better the technical quality of the web-based Village Information System, the higher the tendency of citizens and village officials to use it. System quality includes ease of use, access speed, data security, system reliability, and user-friendly navigation. This finding supports the DeLone and McLean model, which emphasizes system quality as a key dimension of information system success because it directly affects user experience. In the village context, ease of use is particularly important because users have diverse levels of digital literacy.

System quality also significantly influences user satisfaction and public administrative services. This finding indicates that a stable, fast, and easy-to-operate village information system can improve user convenience and accelerate service processes. For village officials, a high-quality system supports data input, document retrieval, archive management, and information dissemination. For citizens, an accessible system can reduce waiting time, lower

transportation costs, and provide certainty of information before visiting the village office. Therefore, technical system quality is not merely a technological issue but is directly related to public service effectiveness.

The results also show that information quality has a positive and significant effect on system use, user satisfaction, and public administrative services. Users are more likely to use the system when the available information is accurate, complete, relevant, understandable, and regularly updated. In village administrative services, information quality is highly important because citizens need clarity regarding service types, document requirements, service procedures, schedules, fees if applicable, and estimated completion times. Clear information reduces uncertainty and prevents citizens from repeatedly visiting the village office merely to ask about administrative requirements.

The relatively strong effect of information quality on user satisfaction indicates that a village website should not function merely as a digital formality. It must be managed as an active public information center that is updated and oriented toward citizens' needs. If the information is outdated, incomplete, or difficult to understand, the system will lose its value. Therefore, village officials need to establish a regular information update mechanism, standardized service content, and clear task distribution in managing the village information system.

The study further proves that service quality has a positive and significant effect on system use, user satisfaction, and public administrative services. Service quality in this context includes staff responsiveness, technical assistance, procedural clarity, certainty of follow-up, and the ability of village officials to respond to users' questions or complaints. This finding is important because a village information system cannot stand alone as a fully automated technology. Its success still requires human support, particularly from village officials as service managers. When citizens experience difficulties using the website, village officials must be able to provide quick and communicative assistance.

Good service quality can strengthen public trust in digital village services. Citizens are more willing to use the system when they feel that online services still provide certainty and maintain the human aspect of public service. In many village contexts, direct interaction between officials and citizens remains an important part of service delivery. Therefore, village service digitalization should not completely replace social interaction; instead, it should strengthen the service process to make it faster, more organized, and more transparent.

The variable system use has a positive and significant effect on user satisfaction. This indicates that the more frequently users utilize the Village Information System, the more likely they are to understand its benefits and feel satisfied with the services provided. Repeated system use can form new digital habits among both village officials and citizens. Village officials become more accustomed to working with digital data, while citizens begin to understand that some administrative information and services can be accessed without physically visiting the village office.

System use also significantly affects public administrative services. This finding suggests that the benefits of a village information system can only be felt when the system is genuinely used in service processes. A village website that merely exists but is rarely used will not have a strong impact on public administration quality. Therefore, village governments need to encourage system utilization through socialization, staff training, feature simplification, user guidelines, and integration of the system into daily service procedures.

The strongest finding in this study is the effect of user satisfaction on public administrative services. This indicates that user satisfaction is a key factor in evaluating the success of a web-based Village Information System. When citizens and village officials are satisfied with the system's convenience, speed, information clarity, and overall user experience, the system is more likely to be perceived as improving public administrative services. User satisfaction reflects the alignment between users' expectations and their actual experience in using the system.

Theoretically, these findings reinforce the DeLone and McLean Information System Success Model, which explains that system quality, information quality, and service quality influence system use and user satisfaction, which eventually generate benefits for users and organizations. In this study, such benefits are reflected in the improvement of public administrative services. The findings are also consistent with the Technology Acceptance Model, particularly the assumption that users are more likely to accept a system when they perceive it as easy to use and beneficial for their activities.

Practically, this study implies that village governments should not merely provide a village website. They must ensure that the Village Information System has strong technical quality, regularly updated information, responsive service support, and officials who are capable of managing the system sustainably. The village website should be positioned as a service instrument rather than merely a publication medium. To achieve this, village governments may establish standard operating procedures for system management, assign

dedicated system operators, provide digital training for officials, prepare user guidelines for citizens, and conduct periodic evaluations of user satisfaction.

Therefore, a web-based Village Information System can make a real contribution to improving public administrative services when it is seriously managed, actively used, and developed based on user needs. The success of village digitalization is not determined solely by the existence of technology, but by the integration of a high-quality system, relevant information, responsive service, active users, and public satisfaction as a key indicator of successful public service delivery.

5. CONCLUSION

This study concludes that the web-based Village Information System plays an important role in improving public administrative services at the village level. System quality, information quality, and service quality are proven to be key factors that encourage system use and user satisfaction. A system that is easy to use, fast to access, secure, provides accurate and updated information, and is supported by responsive village officials can strengthen the effectiveness of village administrative services. These findings indicate that the success of village digitalization should not be measured merely by the existence of a website, but by the extent to which the system is actively used and provides tangible benefits for both citizens and village officials. User satisfaction is the most dominant factor in improving the quality of public administrative services. The higher the satisfaction of citizens and village officials with the Village Information System, the greater the system's contribution to accelerating services, improving procedural transparency, reducing data errors, and strengthening the work efficiency of village government. The implication of this study emphasizes the need for village governments to manage information systems sustainably through regular information updates, capacity building for village officials, digital service guidelines, and periodic evaluation of user experience so that the Village Information System functions not only as a publication medium but also as an effective, transparent, and accountable public service instrument.

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