

Evaluation of the Effectiveness of the Regional Government Information System (SIPD) in Indonesia

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ABSTRACT

The acceleration of digital transformation in the public sector has positioned information systems as a critical instrument for improving government performance. One of Indonesia's strategic initiatives in this area is the implementation of the Regional Government Information System (Sistem Informasi Pemerintahan Daerah/SIPD), which integrates planning, budgeting, administration, and reporting processes across local governments. This study aims to evaluate the effectiveness of SIPD implementation in Indonesia by examining system performance, user acceptance, and institutional readiness. Using a qualitative descriptive approach, data were collected through literature review, policy documents, and relevant empirical studies published between 2022–2025. The findings indicate that SIPD contributes positively to data integration and transparency; however, challenges remain in terms of system latency, centralized architecture constraints, and uneven human resource capacity across regions. These issues affect the optimal utilization of SIPD at the local government level. The study concludes that while SIPD has strengthened the foundation of digital governance in Indonesia, continuous system refinement and capacity building are required to enhance its effectiveness and sustainability.

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1. INTRODUCTION

Digital transformation in the public sector has become a key foundation in realizing effective, efficient, and accountable governance. In Indonesia, one of the strategic steps in the e-government agenda is the implementation of the Regional Government Information System (SIPD). This platform is designed to integrate all stages of regional financial management, from planning, budgeting, implementation, to reporting, into a single integrated digital system that operates in real-time (Ministry of Home Affairs, 2020). Through SIPD, local governments are expected to be able to

accelerate administrative processes, improve reporting accuracy, and strengthen public transparency and accountability (Destania & Indrayani, 2024; Septiani & Isnawaty, 2024).

Regulatory-wise, the use of SIPD has a strong legal basis through the Minister of Home Affairs Regulation (Permendagri) No. 70 of 2019 concerning the Local Government Information System and Permendagri No. 77 of 2020 concerning Technical Guidelines for Local Financial Management. Both regulations emphasize the government's commitment to building an integrated and data-based local financial management ecosystem. However, implementation in the field shows that the transition process from manual systems and local applications to this national platform has not been without obstacles.

Various studies reveal that SIPD still faces technical problems such as decreased system performance during peak operating hours (server overload), network disruptions, and synchronization bugs between modules that interfere with data accuracy (Setiawan et al., 2023; Putri, 2025). The lack of digital infrastructure readiness, especially in areas with limited network capacity, exacerbates these conditions and has a direct impact on the smooth running of regional financial administration processes. Thus, although SIPD promises systemic integration in terms of design, its effectiveness at the operational level still depends on infrastructure readiness and technical support in each region.

In addition to technical barriers, the readiness of human resources also has a significant impact on the success of this system. The uneven level of digital literacy among civil servants (ASN) and the lack of ongoing technical training programs have resulted in many system features not being utilized optimally (Destania & Indrayani, 2024). This has implications for user satisfaction levels, which remain in the moderate category (Ramadhan, 2025). In other words, the success of digital innovation in public bureaucracy does not only depend on the quality of software, but also on institutional synergy, infrastructure readiness, and the effectiveness of policy communication that supports organizational behavior change (Prayana, 2024; 2025).

As stated by Teken & Romarina (2024), an organization's ability to adapt its structure and work processes to digital innovation is a determining factor in the successful implementation of public information systems. This view is in line with Prayana's (2024) research, which emphasizes that the implementation of technology-based policies must be supported by effective governance, public participation, and inter-agency coordination. Furthermore, Prayana (2025) highlights the importance of policy communication in the process of governance transformation. According to him, the success of digital innovation depends on the extent to which the government is able to effectively communicate system changes to implementers in the field and the public. This perspective is relevant to the implementation of SIPD, which requires an adaptive policy communication approach adaptive policy communication approach so that users understand the objectives, benefits, and working mechanisms of the new system.

This study seeks to re-examine the implementation of SIPD through a literature analysis that focuses on the dimensions of system quality, user satisfaction, and net benefits within the framework of DeLone & McLean's IS Success Model. Through this approach, it is hoped that this study can contribute academically to the development of government information system studies and serve as a basis for recommendations for policymakers in their efforts to realize effective, efficient, and public service-oriented governance.

2. THEORETICAL FRAMEWORK

DeLone and McLean Information Systems Success Model

Information Systems Success Model (DeLone & McLean IS Success Model)

The Information Systems Success Model was first developed by DeLone and McLean (1992) and updated in 2003. This model explains that the success of an information system can be measured through six main aspects, namely system quality, information quality, service quality, system use, user satisfaction, and net benefits. These six aspects are interrelated and form a whole to assess the extent to which information systems provide added value to their users (DeLone & McLean, 2003).

In the latest version of the model, service quality has been added because many modern information systems are based on digital services. This model also emphasizes that user satisfaction and system use act as a link between system quality and the net benefits received by organizations or individuals. This means that information systems are not only assessed from a technological perspective, but also from the tangible benefits they generate, such as increased efficiency, ease of access to information, and user satisfaction (DeLone & McLean, 2003).

3. METHOD

This study uses a literature review method to analyze the implementation and effectiveness of the Regional Government Information System (SIPD) in Indonesia by examining two main aspects, namely system performance and user satisfaction. This method was chosen because it allows researchers to collect, examine, and synthesize various previous research results in a structured manner so as to provide a comprehensive picture of how SIPD is implemented and evaluated in the context of local government.

The data collection process was carried out systematically in three stages. The first stage was source identification, in which researchers searched for various literature related with the effectiveness of SIPD implementation. These sources included scientific publications, national academic journals, research articles, and government documents relevant to the implementation of regional information systems. The search was conducted using academic databases such as Google Scholar and ResearchGate to ensure that the selected literature had the appropriate credibility and coverage.

The second stage was the selection of literature sources, in which each article was filtered based on its relevance to the research topic, clarity of methodology, and focus on system quality dimensions and user satisfaction. Studies using the DeLone & McLean IS Success Model framework were prioritized because they are relevant in assessing the success of public information systems. Several studies, such as those conducted by Hukmi & Rahayu (2023) and Marcallino & Arni (2023), emphasize that system quality and net benefits are important indicators in assessing the effectiveness of SIPD.

The final stage was data analysis, which was conducted using a content analysis approach. Each piece of literature was analyzed to find correlations between technical factors, such as system speed and application reliability, and user satisfaction perceptions. The findings were then categorized thematically based on the main dimensions of the DeLone & McLean model, namely system quality, user satisfaction, and net benefits (Syamsuar et al., 2024).

4. RESULTS AND DISCUSSION

The effectiveness of the implementation of the Regional Government Information System (SIPD) can be understood through the three main dimensions of DeLone & McLean's IS Success Model (2003), namely system quality, user satisfaction, and net benefits. These three dimensions form a unity that determines the extent to which SIPD has succeeded in improving administrative efficiency, organizational performance, and public accountability in the local government environment. Based on the results of a literature review, SIPD has made a positive contribution to the digitization of financial management, but its implementation has not been fully optimal in all regions.

4.1 System Quality

System quality is a fundamental dimension in DeLone & McLean's (2003) information system success model. This dimension emphasizes aspects of reliability, usability, data integration, and system speed in processing information. In the context of SIPD implementation, system quality is the main foundation that determines the effectiveness of implementation and user perceptions of the technology used.

Research by Setiawan, Amali, and Polin (2023) at BAPPEDA Gorontalo Province shows that SIPD has a high level of functionality and relatively good reliability, but weak in performance efficiency. This is due to limited server capacity, which causes the system to often experience server overload when accessed simultaneously during peak working hours. This phenomenon was also

observed by Putri (2025) in a study at the Ponorogo District Health Office, where decreased system access speed at certain times caused delays in the input and financial reporting processes.

The inability of the server infrastructure to accommodate data traffic loads during peak operating hours resulted in a significant delay in system response time, which ultimately hampered the administrative work rhythm of the apparatus. This situation proves that even though SIPD is designed as a national-scale digital platform that uses a centralized system architecture, technical capacity at the regional level is not yet uniform. In the terminology of DeLone & McLean (2003), unstable system quality directly reduces the value of reliability and the perception of system success.

A comparison between developed and underdeveloped regions shows a sharp contrast. In West Java Province, research by Septiani and Isnawaty (2024) shows that SIPD performance is relatively stable thanks to good network infrastructure support and a solid technical coordination system between work units. In this region, the use of SIPD is even considered to accelerate report preparation and minimize input errors. Similarly, in Denpasar City, a study by Teken and Romarina (2024) noted that the system runs smoothly due to the support of an internal information technology team and clear reporting SOPs.

Conversely, in areas with limited infrastructure such as Kaimana Regency (Zosadak, 2025) and areas in West Papua, the main obstacle is not user competence, but rather network quality and central server stability. Often, the process of synchronizing data between modules fails to be done in real-time due to connectivity issues. As a result, employees have to wait for hours to ensure that the data is stored, which directly reduces work efficiency and productivity. This difference shows that digital infrastructure is the main determining variable in the success of the system, not merely its technological design.

In line with these findings, Destania and Indrayani (2024) also emphasize that system bugs and slow synchronization reduce user trust in the system. When the system is unreliable, civil servants tend to revert to manual methods as a backup alternative. This phenomenon illustrates the paradox of digitization: instead of speeding up processes, the system has the potential to slow them down if the infrastructure is inadequate. This functionality gap reinforces DeLone & McLean's (2003) view that system quality is not only about feature availability, but also about access reliability and performance stability. An inefficient information system will reduce usage intensity and decrease the net benefits gained by the organization.

4.2 User Satisfaction

User satisfaction is a dimension that reflects the extent to which the system meets the expectations and needs of users in carrying out their tasks. In the context of SIPD, the main users are civil servants (ASN) at the local government level. The level of ASN satisfaction with SIPD is generally in the moderate category, as evidenced by Ramadhan (2025) through the System Usability Scale (SUS) approach, which produced a "Fair" score. This finding indicates that although SIPD assists with administrative work, the system is not yet fully user-friendly for all ASN.

Limited digital literacy is one of the causes of low user satisfaction. Destania and Indrayani (2024) show that differences in digital capabilities between work units cause imbalances in the utilization of SIPD features. Many employees only use basic functions such as budget input or realization reports, while analytical and data visualization features are not utilized to their full potential. This imbalance creates a dependence on operators or local IT personnel, which in turn slows down the work process.

According to most studies, technical training organized by the government is still ceremonial and short-term. Civil servants generally only attend training once at the beginning of implementation, without any follow-up or continuous learning system. This prevents users' skills from developing in line with system updates. In line with this, Asmawati (2025) emphasizes that ease of navigation and system speed have a direct correlation with user satisfaction. In other words, digital literacy and user technical experience are two major factors that shape perceptions of satisfaction.

On the other hand, the phenomenon of conventional bureaucracy also influences acceptance of the new system. In a bureaucratic work culture that still relies on manual procedures and strict hierarchies, the shift to a digital system is often seen as adding to the administrative burden. Civil

servants who are accustomed to physical documents and manual approval processes often feel pressured by the demands of using a real-time electronic system. As a result, even though SIPD structurally simplifies the process, psychologically many users feel burdened by the drastic change in their work patterns.

Digital transformation should not only be interpreted as a replacement of work tools, but also a change in the bureaucratic paradigm. In the context of DeLone & McLean's (2003) theory, user satisfaction acts as a bridge between system quality and net benefits. If users do not feel comfortable or do not trust the system, the intensity of use will decrease, and the benefits to the organization will not be maximized.

4.3 Net Benefits

Net benefits in the DeLone & McLean (2003) framework assess the extent to which information systems provide added value to organizations and stakeholders. In the context of SIPD, these benefits can be seen from two sides: internal administrative efficiency and external public transparency.

Research by Septiani and Isnawaty (2024) in West Java shows that SIPD has succeeded in increasing the speed of report preparation and reducing budget input errors. This system also allows for a more integrated cross-unit data validation process. With the digitization of reporting, auditing and document tracking activities have become easier, thereby increasing administrative efficiency. These findings are reinforced by Teken and Romarina (2024) in Denpasar, who show that SIPD facilitates inter-organizational coordination and accelerates the regional budgeting process.

However, the reality on the ground shows that administrative efficiency has not been fully accompanied by increased public participation. Kumalasari and Fanida (2024) highlight that although SIPD provides access to regional financial data, most people do not yet understand how to use it for public oversight. The transparency of available data does not automatically result in accountability due to low public fiscal literacy and a lack of channels for citizen participation in the budget evaluation process.

This situation raises a critical question: does SIPD truly increase public accountability, or does it merely shift manual complexity to digital complexity? Damayanti (2025) argues that in many cases, SIPD still functions as an internal administrative reporting system rather than a participatory platform connecting the government and the public. In other words, the system has reorganized the way bureaucracy works without changing the essence of public communication.

From the perspective of DeLone & McLean's theory, this shows that net benefits depend not only on system use, but also on the strategic value generated from the processed data. If the system only functions as a documentation tool without producing real policy value, then its net benefits are limited to administrative efficiency alone.

5. CONCLUSION

Based on the results of a literature analysis using the DeLone & McLean IS Success Model framework, this study concludes that the effectiveness of the Local Government Information System (SIPD) in Indonesia is currently in a stage of functional transition. Although the SIPD has succeeded in digitally integrating the local financial management cycle and promoting administrative transparency, its success has not been evenly distributed across all regions.

The main findings show that system quality is a dominant obstacle, particularly in relation to server latency and data synchronization failures, which are highly dependent on the readiness of local digital infrastructure. This has a direct impact on user satisfaction, with civil servants who have limited digital literacy feeling burdened by the complexity of navigating the system. As a result, the net benefits felt by the new organization are limited to internal reporting efficiency and have not yet fully touched on the strategic aspect of public participation.

Theoretically, this study reinforces the relevance of the DeLone & McLean model in the context of the public sector in developing countries, where the success of a technology is not only determined by the technical quality of the software, but is also crucially influenced by external variables such as regional infrastructure and the readiness of the bureaucratic work culture.

As a policy recommendation, the central government needs to strengthen national server infrastructure capacity and provide ongoing technical assistance to civil servants in the regions. In addition, future system evaluations should focus on improving user experience so that the system is not merely viewed as an administrative burden, but rather as an intuitive work tool for realizing transparent, data-driven governance.

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