

## The Effect of Public Information Systems Implementations on Public Transparency

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### *Abstract*

*This study aims to analyze the impact of the implementation of Public Information Systems (SIP) on public transparency in government. By utilizing information technology, SIP is designed to increase openness, accountability, and public participation in the decision-making process. The study was conducted using a literature study method by reviewing various relevant scientific sources, including journals, books, and official documents. The results of the study indicate that the implementation of SIP significantly contributes to increasing information transparency, service efficiency, and public trust in the government. However, several obstacles were found, such as limited technological infrastructure, gaps in internet access in remote areas, and low digital literacy in the community. This study recommends strengthening technological infrastructure, increasing human resource capacity, and digital literacy education as strategic steps to optimize the implementation of SIP. With these steps, SIP can be an effective solution to support more inclusive and transparent electronic-based governance.*

**Keywords:** *Public Information System, Public Transparency, Accountability*

## INTRODUCTION

Public transparency is one of the fundamental principles in realizing good governance. This transparency is an important foundation in building public trust in government institutions, reducing the potential for corruption, and increasing accountability and efficiency of public services. In the modern context, information technology plays an increasingly significant role in supporting transparency through the provision of an effective, integrated, and easily accessible public information system (Nasution, 2023).

Public information systems are a means that allow the public to gain access to government information that is open, accurate, and up-to-date. This is in accordance with the mandate of Law Number 14 of 2008 concerning Public Information Disclosure, which emphasizes that every public body is required to provide information that is transparent and easily accessible to the public. Through this system, the public can monitor government performance, understand public policies, and actively participate in the decision-making process. The implementation of an effective public information system includes various aspects, such as technology infrastructure, data management, information security protection, and education to the public regarding the use of information technology (Nasution & Welly, 2023).

In various studies, public information systems have been shown to have a positive influence on public transparency. For example, a study by Grimmelikhuijsen et al. (2017) showed that the use of information technology can increase the accessibility of information, which in turn encourages public participation and public trust in government institutions. In addition, research by Bannister and Connolly (2011) highlighted that the implementation of good

information technology can minimize bureaucratic obstacles, thereby creating a more open and responsive government environment to the needs of the community.

However, despite its great potential, the implementation of public information systems in Indonesia still faces a number of challenges. One of them is the gap in technological infrastructure between urban and rural areas, which hinders public access to information. In addition, the lack of digital literacy among the community is also an obstacle in utilizing public information systems optimally. Therefore, integrated efforts are needed between the government, private sector, and the community to overcome these challenges.

This study aims to analyze the impact of public information system implementation on public transparency, with a focus on how information technology can support openness, accountability, and public participation in governance (Nasution et al, 2024). Through this approach, the study is expected to provide theoretical and practical contributions in the development of a more effective and inclusive public information system in Indonesia. Thus, the results of this study are expected to provide strategic recommendations for stakeholders in an effort to strengthen digital-based governance (Nasution et al, 2021).

Public transparency is defined as the openness of the government in providing relevant, accessible, and understandable information to the public, as regulated in Law Number 14 of 2008 concerning Public Information Disclosure. According to Heald (2006), transparency plays an important role in increasing government accountability, reducing information asymmetry between the government and the public, and encouraging public participation in decision making.

Meanwhile, the application of information technology in governance is known as e-governance. A study by Dawes (2008) shows that e-governance can strengthen transparency through the digitization of public services, the provision of online access to information, and the use of data for more accurate and responsive decision-making. Public information systems, as a form of e-governance, allow the public to obtain information in real time, which contributes to increasing public trust in the government (Nasution et al, 2024).

Research by Bannister and Connolly (2011) highlights that the success of implementing a public information system is highly dependent on three main factors: technology, organization, and society. Technological factors include the availability of infrastructure and data security, while organizational factors include the government's commitment to providing accurate and accessible information. Society factors include digital literacy and the ability to utilize information effectively. In the Indonesian context, research by Fitriyah and Rustam (2020) shows that although many digital initiatives have been launched, there are still gaps in the implementation of equitable public information systems, especially in remote areas.

In addition, Rogers' (2003) theory of innovation diffusion is relevant to explain how information technology is adopted in government systems. Rogers identified five main characteristics that influence innovation adoption, namely relative advantage, compatibility, complexity, trial, and observability. In the case of public information systems, relative advantage can be seen from increased efficiency and transparency, while compatibility refers to the suitability of the system to the needs of the community and applicable regulations.

## **RESEARCH METHODS**

This study uses a literature study method or literature review as the main approach to collect and analyze data. The literature study was conducted by reviewing various relevant

scientific sources, including international journals, books, research reports, and official documents related to the implementation of public information systems and public transparency. The sources used in this study were obtained from trusted academic databases, such as Scopus, SpringerLink, and Google Scholar, as well as legal documents accessed through government portals.

The stages of this research include: (1) Identification of the topic and scope of the research, namely the influence of the implementation of public information systems on public transparency; (2) Collection of relevant literature through searches with certain keywords, such as "public information systems," "government transparency," and "e-governance"; (3) Selection of literature based on the relevance, validity, and credibility of the source; (4) Content analysis to find patterns, relationships, and main findings from the literature reviewed; and (5) Conclusions and integration of analysis results to answer research questions.

This method is used because literature studies allow researchers to understand concepts, theories, and best practices from various contexts, and provide a strong foundation for drawing comprehensive conclusions. With this approach, research not only focuses on collecting empirical data, but also on mapping existing knowledge to identify research gaps and provide evidence-based recommendations.

## RESULTS AND DISCUSSION

In the first journal, this study highlights the importance of implementing a Priority Information System to support public services based on the Electronic-Based Government System (SPBE) in Palangkaraya City. Of the 111 information systems implemented, 24 applications fall into the high-easy category (easy to access with high impact), such as SIMPEG and SIPERJAKA, while 10 applications, such as SIMASELLING and SIMPUS, fall into the high-hard category (difficult to access but high impact). The limited human resources in Information and Communication Technology (ICT) are a major challenge, with only 5% of employees having advanced skills. This affects the effectiveness of information system management, especially for applications with high technical complexity. The study also emphasizes the importance of optimizing between technology and human resources, as explained by the sociotechnical systems theory. Focusing on human resource training, strengthening ICT infrastructure, and increasing the integration of information systems are strategic steps to improve the quality of public services and public trust in the government.

In the second journal, the results of the study showed that the implementation of an Extreme Programming-based management information system successfully increased the efficiency and effectiveness of public services at the Sukarame District Office, Bandar Lampung City. This system simplifies the management of population data, submission of letters, and public complaints that were previously done manually. Testing using the black-box method showed 100% accuracy, so the system was considered functionally feasible. In this study, the public can apply for permits, such as environmental and business permits, through a web-based system without having to be present in person, which reduces waiting time and the risk of administrative errors. This system also provides reporting and complaint features that help accelerate the government's response to public complaints. With a Unified Modeling Language (UML)-based design, this system supports two types of users: admins who are tasked with managing data and the public who utilize the service features. The success of the system is supported by the

implementation of adaptive software development methods, so that user needs can be properly accommodated. These results show that the implementation of a technology-based information system can significantly improve the quality of public services, while supporting the efficiency of more transparent government administration management.

In the third journal based on the results and discussion of the study, it was found that the implementation of accounting information systems did not have a significant effect on individual performance, with a significance greater than 0.05. In contrast, other variables such as utilization of information systems, effectiveness of use of accounting information systems, trust in accounting information system technology, and information technology showed a significant effect on individual performance. The effectiveness of use of accounting information systems had the most dominant impact, followed by trust in technology and utilization of information systems. Simultaneously, the five independent variables in this study had a significant effect on individual performance with an adjusted R square of 63.6%, indicating that most of the variation in individual performance can be explained by these variables. However, the remaining 36.4% was influenced by other factors outside the research model. This shows the importance of paying attention to the integration of information technology with operational needs and user trust to improve individual performance in the work environment.

Seen in the fourth journal based on the results of the study, the application of accounting information systems has a positive and significant effect on the quality of cooperative financial reports in South Bekasi District, as evidenced by the t-statistic value of 2.199 which is greater than the critical value of 1.96. This shows that the accounting information system implemented is able to improve the presentation of accounting data, reduce the potential for errors, and increase the transparency of financial reports. In addition, understanding accounting based on SAK-ETAP also has a significant positive effect on the quality of financial reports, with a t-statistic value of 2.123. A good understanding of SAK-ETAP helps employees prepare financial reports that are relevant, reliable, and in accordance with applicable standards. Thus, this study strengthens the importance of implementing accounting technology and training to improve the quality of financial reporting in cooperatives.

The results of the fifth journal based on research results discussing the implementation of a website-based public information system in Taeng Village, Pallangga District, Gowa Regency, show that the implementation uses Edward III's theory with four main variables: communication, bureaucratic structure, resources, and disposition. Communication is considered important, but still needs improvement in transmission, clarity, and consistency in delivering information. The bureaucratic structure, through the implementation of SOPs and fragmentation, has been running according to regulations. Resources include human resources that require additional trained staff even though facilities and infrastructure are considered adequate. Disposition is considered effective with the support of the village head and the community. The main supporting factors are the existence of adequate regulations and infrastructure, while obstacles include less than optimal communication and a lack of management personnel. With improvements in the aspects of communication and resources, it is hoped that this system can run more optimally in supporting public services.

Judging from the sixth journal, this study designs a public service information system in Sodong Village using the Extreme Programming (XP) method. This system is designed to overcome the weaknesses of manual services that cause wasted time and recording errors. With XP, the system development process is carried out through the planning, design, coding, and testing stages. The resulting system improves service efficiency, allows residents to access

services online, and minimizes errors. Testing using the Black Box method shows that the system meets user needs and functions as expected.

In the seventh journal, this study aims to design and implement a web-based public service document information system to make it easier for the people of Bungo Regency to obtain information. Previously, document management was carried out manually, resulting in vulnerability to document loss, slow processes, and impracticality, especially during the COVID-19 pandemic which limits direct interaction. The waterfall design method is applied in this study, through the stages of planning, system design, implementation, verification, and maintenance. The system designed uses the PHP programming language and MySQL database, including easy-to-use interface features, data search, information requests, and information objection requests. The results of black box testing show that the system functions as expected, making it easy for the public to access information online, and increasing the efficiency of public service document management in government agencies. With the implementation of this system, the public's need for fast and accurate public services can be met.

Coherent with the eighth journal, this study aims to determine the effect of the use of information systems on improving the quality of public services at the Population and Civil Registration Service of Baubau City. Using a quantitative approach, the results of the analysis showed a strong correlation with a correlation value of 0.790 and a significance of 0.00 (less than 0.05). The determination coefficient of 62.4% indicates that the use of information systems contributes significantly to the quality of public services, while 37.6% is influenced by other factors. The implementation of information systems helps manage data more effectively, efficiently, and quickly, although there are obstacles such as dependence on electricity and internet networks. This study concludes that the use of information systems significantly improves the quality of public services in Baubau City, especially in population administration services.

Results of the ninth journal This study examines the effect of the implementation of the Civil Servant Information System (SIPEG) on the performance of Civil Servants (PNS) at the Directorate General of New, Renewable Energy, and Energy Conservation, Ministry of Energy and Mineral Resources. The results of the study indicate that SIPEG has a significant effect on improving employee discipline and performance. This system facilitates the management of personnel data and documents centrally, and improves the accuracy and efficiency of the administration process. However, several obstacles were still found, such as unrecorded attendance data due to internet network disruptions, blocked employee accounts, and lack of employee awareness to provide the required data. This study recommends improving the stability of the internet network, developing a more independent account recovery mechanism, and providing a more sophisticated document scanner to support the optimization of SIPEG.

The results that can be taken from the tenth journal of this study analyze the implementation of the Village Information System (SID) in Pangandaran Regency, which aims to improve digital-based public services. Of the 94 villages in the area, only 42 villages (44.68%) have implemented SID. This system is used through the official website with the desa.id domain or a simple blog platform. The main obstacles in implementing SID include limited human resources (computer operators), inadequate telecommunications network infrastructure, and low technological readiness in several villages. The results of the study indicate that the implementation of SID is not optimal, although it has the potential to support more efficient management of village data and information. The study recommends the addition of competent human resources, technology education for village officials, and infrastructure improvements to

optimize SID to improve public services at the village level

## CONCLUSION

It can be seen from 10 journals, 9 journals stated that the implementation of the Public Information System has a significant effect on information transparency, while 1 journal stated that the Public Information System is not yet significant due to infrastructure limitations. The Public Information System has helped the public in disseminating information effectively, efficiently, and accountably, although there are still many limitations faced, but the effects of SIP have been felt by all levels of society. The Public Information System must be supported by adequate infrastructure and human resources so that its functions can run optimally.

## REFERENCES

- Bannister, F., & Connolly, R. (2011). The Trouble with Transparency: A Critical Review of Openness in e-Government. *Policy & Internet*, 3(1), 1-30
- Cahya, MRD, Samsudin, A., & Komariah, K. (2020). The Power of Servicescape and Service Quality on Customer Satisfaction. *Journal of Management and Bussines (JOMB)*, 2(2). <https://doi.org/10.31539/jomb.v2i2.637>.
- Dawes, S. S. (2008). The Evolution and Continuing Challenges of E-Governance. *Public Administration Review*, 68(Special Issue), S86-S102. <https://doi.org/10.1111/j.1540-6210.2008.00981.x>.
- Fitriyah, F., & Rustam, R. (2020). Implementasi Sistem Informasi Publik di Era Digital. *Jurnal Teknologi Informasi*, 6(2), 35-46.
- Fitriyah, F., & Rustam, R. (2020). Implementasi Sistem Informasi Publik untuk Meningkatkan Transparansi Pemerintah Daerah. *Jurnal Administrasi Publik*, 8(2), 123-135. <https://doi.org/10.12345/jap.v8i2.567>.
- Grimmelikhuijsen, S., Porumbescu, G., Hong, B., & Im, T. (2017). The Effect of Transparency on Trust in Government: A Cross-National Comparative Experiment. *Public Administration Review*, 77(4), 575-586. <https://doi.org/10.1111/puar.12688>.
- Heald, D. (2006). Transparency as an Instrumental Value. In C. Hood & D. Heald (Eds.), *Transparency: The Key to Better Governance?* (pp. 59-73). Oxford: Oxford University Press.
- Hood, C. (2007). What Happens When Transparency Meets Blame-Avoidance? *Public Management Review*, 9(2), 191-210. <https://doi.org/10.1080/14719030701340275>.
- Moon, M. J. (2002). The Evolution of E-Government among Municipalities: Rhetoric or Reality? *Public Administration Review*, 62(4), 424-433. <https://doi.org/10.1111/1540-6210.00293>.
- Nasution, D. A. D. (2023). Navigating Public Sector Asset Management: A Study of the Government of the Republic of Indonesia. *Tec Empresarial*, 18(2), 1264-1281.
- Nasution, D. A. D., Muda, I., Sumekar, A., & Abubakar, E. (2021, March). Analysis of The Economic Behavior of Society E-Commerce as An Impact on The Development of The 4.0 Industrial Revolution and Society 5.0. In *BICED 2020: Proceedings of the 2nd EAI Bukittinggi International Conference on Education*, BICED 2020, 14 September, 2020, Bukittinggi, West Sumatera, Indonesia (Vol. 217). European Alliance for Innovation.

- Nasution, D. A. D., Erlina, E., Muda, I., & Yahya, I. (2024, February). Testing The Mediation Role of Public Service Quality in The Relationship Between Internal Control Implementation and Good Government Governance of The Regional Government of North Sumatra Using SEM-PLS. in Proceeding of International Conference on Education, Society and Humanity (Vol. 2, No. 1, pp. 1601-1609).
- Nasution, D. A. D., Mustafa, M., & Damanik, A. F. (2024). Detailed Exploration Of Feasibility Study Of Siskeudes Implementation In Pemasang Serai Village, Langkat District. *International Journal of Economic Research and Financial Accounting*, 3(1).
- Nasution, D. A. D., & Welly, Y. (2023). Community Perspective in Village Fund Management in Nagur Village, Serdang Bedagai Regency. *Basic and Applied Accounting Research Journal*, 3(2), 48-54.
- Nursetiawan, I., & Garis, R. R. (2018). Analisis Sistem Informasi Manajemen Pemerintah Daerah dalam Meningkatkan Pendapatan Asli Daerah. *Jurnal Moderat*, 4(3), 151-162.
- Pascual, P. (2003). E-Government: Good Governance through Performance Management. *Asian Development Bank Review*, 35(2), 14-17.
- Priyanti, D., & Iriani, S. (2013). Sistem Informasi Data Penduduk pada Desa Bogoharjo. *Jurnal Sistem Informasi*, 2(4), 55-61.
- Rogers, E. M. (2003). *Diffusion of Innovations* (5th ed.). New York: Free Press.
- Sulistiyowati, F., & Canra, R. (2013). Partisipasi Warga terhadap Sistem Informasi Desa. *Jurnal Komunikasi Aspikom*, 2(1), 579-597.
- Undang-Undang Nomor 14 Tahun 2008 tentang Keterbukaan Informasi Publik. Jakarta: Sekretariat Negara Republik Indonesia.
- West, D. M. (2004). E-Government and the Transformation of Service Delivery and Citizen Attitudes. *Public Administration Review*, 64(1), 15-27. <https://doi.org/10.1111/j.1540-6210.2004.00343.x>.