

Digitalization-Based Governance GAP in SIPD Applications

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Abstract

Digital transformation through the implementation of the Regional Government Information System (SIPD) is expected to be able to support accountable, effective, transparent, and integrated governance. However, its implementation at the sub-district government level shows that there is a gap between the planned system design and the empirical conditions that occur in the field. This study aims to describe governance problems in the process of planning, budgeting, and financial administration, identify the underlying factors that cause implementation constraints, and analyze the emergence of alternative practices (workarounds) in the implementation of government. This research uses a qualitative method, with a case study approach. The researcher conducted an in-depth exploration of the apparatus's experience as a system user to understand technical obstacles, competency limitations, and procedural rigidity. This research site is in XYZ District in East Kalimantan Province. The results of the study show that the implementation of SIPD at the sub-district level still faces various gaps, especially related to infrastructure limitations, system technical problems, and low digital competence of apparatus. SIPD's rigid workflow and not fully in accordance with the operational needs of the sub-district also creates additional workload and slows down the planning and budgeting process. This condition encourages the apparatus to carry out various workaround practices, such as manual recording and the use of instant messaging media for coordination, so that work can still be completed. The gap between system demands and field realities is the main factor affecting the effectiveness of SIPD implementation in XYZ sub-district in East Kalimantan Province.

Keywords: SIPD; e-Governance; Design–Reality Gap; Workaround; District Government.

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INTRODUCTION

Accounting in a fundamental perspective functions as an information system that plays a vital role in the dynamics of the modern economic environment. This discipline provides a methodical and structured framework for accurately measuring, processing, and communicating financial information (Warren et al., 2020). The existence of information generated by the accounting system is an essential foundation needed in the rational decision-making process. This information is not only crucial for internal management for operational strategy, but also for external parties of the organization who are interested in the performance of the entity (Weygandt et al., 2023). In the context of the public sector, the urgency of presenting accountable accounting information can be analyzed in depth through the perspective of Agency Theory or Agency Theory. This relationship is reflected in the constitutional structure where the community acts as the owner of sovereignty or the principal who delegates the authority to manage state resources to the government as an agent through a legitimate electoral mechanism (Lane, 2017).

An inherent problem in the agency relationship is the emergence of the phenomenon of information asymmetry. This condition occurs when the government as an agent has much more complete and detailed access and information about the organization's operational performance compared to the community as the principal (Eisenhardt, 2019). In this situation, government accounting and financial reporting plays a strategic role as the main control mechanism to reduce the information gap that occurs. In line with the need for transparency, the New Public Management or NPM paradigm emerged by advocating for the adoption of successful management techniques in the private sector into the government bureaucracy. This approach places a strong emphasis on achieving tangible outcomes rather than just procedural compliance (Hood & Dixon, 2015). The application of NPM principles requires the availability of a reliable performance measurement system as an absolute prerequisite for realizing good governance (Dwiyanto, 2021).

Entering the era of the industrial revolution 4.0, the rapid advancement of information and communication technology serves as the main catalyst in the transformation of governance through the concept of electronic government or e-government (Indrajit, 2016). The implementation of e-government is not only about digitizing administration, but aims to increase the effectiveness of interaction and the quality of public service delivery to citizens, business people, and strengthen coordination between government agencies (Heeks, 2017). The Government of Indonesia realizes a national commitment to integrated governance through the Electronic-Based Government System (SPBE) policy, as mandated in Presidential Regulation Number 95 of 2018 (Republic of Indonesia, 2018). As a concrete manifestation of this policy, the Ministry of Home Affairs developed the Regional Government Information System or SIPD as a general application that must be used by all local governments (Ministry of Home Affairs, 2019).

The development of SIPD is specifically designed to unify all development planning, financial management, and other local government data into one centralized national database. This step was taken to overcome the problem of data fragmentation that has occurred due to the use of different systems in each region (Bau et al., 2025). Theoretically, the implementation of SIPD is expected to have a significant positive impact on the efficiency of regional financial management as well as improve the quality of the presentation of Regional Government Financial Statements or LKPD (Fitriani, 2024). This hope is supported by several previous studies that show the success of the implementation of SIPD in encouraging improvement in regional financial performance and strengthening public budget transparency (Dewi et al., 2023; Tumija & Ramadhan, 2023).

Empirical facts on the ground show a different reality, where the implementation of SIPD still faces significant and complex challenges. One of the dominant obstacles that is often found is the limited capacity of human resources or human resources of the apparatus in operating this new and integrated system (Azhari et al., 2025). In addition to the HR aspect, technical barriers are also crucial issues, such as disruptions to servers or central servers as well as unstable internet connectivity in various regions, which are often complained about by users in the regions (Subarno & Akbarini, 2023). Another problem that also

hinders is the aspect of coordination between work units and supporting regulations that are considered inadequate, thus disrupting the smooth cycle of regional budget preparation (Afifah et al., 2023). Departing from this phenomenon, this research is here to fill the existing literature gap by focusing on the study at the sub-district government level. This unit is positioned as a street-level bureaucracy that has different characteristics, challenges, and operational dynamics compared to the Regional Apparatus Organization or technical OPD at the district level which was the object of many previous studies.

Literature Review

Agency Theory and Governance

Agency Theory provides an in-depth conceptual framework for understanding the complex contractual relationship between principals and agents in public organizational structures. In the context of the government sector, the government is positioned as an agent who carries a moral and constitutional obligation to act solely in the interests of the wider community who act as principals. In order to ensure the alignment of these goals, the implementation of the Regional Government Information System (SIPD) application is seen as a strategic control mechanism designed by the principal, in this case represented by the central government to ensure that agents at the regional level carry out their functions in accordance with applicable provisions and regulations (Lane, 2017). This system has the fundamental goal of reducing the information asymmetry that often occurs between the central and regional governments through the application of strict standardization throughout the planning and budgeting process. However, the implementation of this control system often faces obstacles in the field. Various challenges that arise in the use of SIPD, such as resistance to the adaptation of new technologies, can be further analyzed as a manifestation of conflicts of interest or the existence of limited capacity of agents in meeting the performance demands set by the principal (Eisenhardt, 2019).

In a broader perspective, the concept of governance encompasses the entire process and mechanism of dynamic interaction between state institutions, the private sector, and civil society elements in the management of public resources (Osborne, 2016). To realize an ideal governance order, the principles of good governance must be applied consistently in every line of the bureaucracy. These principles include aspects of active participation, fair law enforcement, process transparency, responsiveness to citizens' needs, effectiveness of program implementation, and performance accountability (United Nations, 2018). Among these principles, accountability occupies a central position because it requires every decision-maker to be fully accountable to the public for every action and policy they take (Bovens et al., 2017). The quality of this governance does not stand alone, but is influenced by the interaction of various complex external and internal factors, including political conditions, legal frameworks, economic stability, socio-cultural aspects, technological advances, as well as the quality of leadership and competence of available human resources (Grindle, 2017).

E-Government dan E-Governance

The strategic use of information and communication technology by government institutions has encouraged fundamental changes in public sector governance through the concept of electronic government or e-government. This concept is defined as the use of information technology by government agencies that have the ability to transform the pattern of relationships with citizens, business people, and other government agencies in order to improve the efficiency, transparency, and quality of public services (World Bank, 2016). The evolution of the use of this technology then developed into a more comprehensive idea, namely electronic governance or e-governance. This concept goes beyond just digitizing administrative services by integrating the use of information technology to support the active involvement of citizens in the democratic process and strengthen participatory public decision-making mechanisms (Dawes, 2018).

The realization of these digital initiatives relies heavily on a complex set of determinant factors. The successful implementation of the digital governance system is significantly influenced by a strong leadership vision, the level of institutional readiness to change, the availability of reliable technological infrastructure, the competence of human resources, and the existence of an adaptive legal framework (Gil-Garcia, 2017). Digital transformation in the public sector demands a fundamental change in organizational culture, namely a shift from a rigid traditional bureaucracy to a more agile, responsive, and data-oriented work culture in every aspect of its operations (Mergel et al., 2019).

Local Government Information System (SIPD)

The Regional Government Information System (SIPD) has a strong and binding legal foundation through the stipulation of the Minister of Home Affairs Regulation Number 70 of 2019, which defines it as an integrated network system that includes the management of development planning data, regional finance, and other government information. The development of this system is strategically designed to address the problem of data fragmentation in the regions, with the main objective of creating a national database that is accurate, up-to-date, integrated, and fully accountable to support the effectiveness of government decision-making.

At the technical operational level, the SIPD architecture applies a linear, sequential, and locked system workflow mechanism. This rigorous system design is intended to maintain the integrity and consistency of data across the board, ensuring that each budgeted program is in full alignment with pre-established development planning documents (Karundeng et al., 2021).

Although the system offers comprehensive data integration, its successful implementation on the ground is highly dependent on various supporting elements in the local government ecosystem. Determinant factors that affect the effectiveness of SIPD implementation include the readiness of human resource (HR) competencies, the availability of reliable technology infrastructure, strong organizational support from leaders, and a conducive policy environment (Ryas, 2023). Furthermore, the acceptance of this system by the apparatus as end users can be evaluated through the information system success framework, where aspects of system quality, the quality of information produced, and the quality of supporting services are proven to have a significant influence on the level of user satisfaction in carrying out government administrative tasks (DeLone & McLean, 2016).

The Design-Reality Gap

The analysis of the success and failure of digitalization projects in the public sector can be explained in depth through the framework of the Design-Reality Gap concept. This concept explains that the failure of technology implementation is often not caused by technical factors alone, but due to a significant mismatch between the design of the system that is ideally designed and the reality of the operational conditions where the system is implemented (Heeks, 2017). This phenomenon is clearly seen in the architecture of the Regional Government Information System or SIPD which has centralistic characteristics and applies uniform standards for all regions. The general design approach tends to ignore the complexity and diversity of local conditions, both in terms of infrastructure, human resources, and specific business processes in each region (Dwivedi et al., 2012). The mismatch between the implementation of a one-size-fits-all scheme and the specific needs of local governments creates operational barriers for system users. This situation then triggers the emergence of alternative practices or workarounds, which are informal mechanisms carried out by users to overcome the rigidity of the system so that government tasks can still be completed (Alter, 2014). The existence of this gap ultimately has a negative impact on the effectiveness of achieving the main goals of digital-based governance.

METHOD

The research applies a qualitative approach to understand the phenomenon of governance problems in depth from the perspective of the apparatus (Creswell & Poth, 2018). The case study design is used to examine the application of SIPD in the sub-district government unit intensively (Yin, 2018). The selection of this design is based on the consideration that the application of technology cannot be separated from the organizational environment (Stake, 2015). The location of the research is located in the government unit of XYZ District, East Kalimantan Province. This location was chosen because of its position as an administrative center with high public service dynamics. \ Primary data was obtained through direct interaction with informants in the form of in-depth interviews and participatory observation (Patton, 2015). Secondary data includes planning documents, budgeting, standard operating procedures, and evaluation reports (Sugiyono, 2019). Informants were determined using purposive sampling techniques consisting of key informants (Sub-district Head, Sub-district Secretary, Head of Planning Subdivision) and supporting informants (SIPD operators). Data collection used semi-structured interview techniques, participatory observation, and documentation (Moleong, 2017). Data analysis refers to the Miles, Huberman, and Saldana (2018) model including data condensation, data presentation, and conclusion drawing and verification. Triangulation of sources and techniques is carried out to ensure the validity of the data (Denzin & Lincoln, 2018).

RESULTS AND DISCUSSION

Manifestation of Governance Problems

Data Distortion of the Planning Stage The development planning stage in the implementation of SIPD faces fundamental obstacles related to the rigidity of the nomenclature of standardized programs and activities. The budget classification structure applied in this system is top-down and uniform nationally, so it often eliminates adequate adaptation space to accommodate specific characteristics and conditions at the local level (Karundeng et al., 2021). This puts the sub-district government apparatus in a complicated dilemma. On the one hand, they are obliged to accommodate the aspirations of the community absorbed through the Development Planning Conference (Musrenbang), but on the other hand, they are hit by the limitations of the menu of options available in the application. As a logical consequence of these obstacles, the apparatus is forced to take a pragmatic step by conducting forced matching, i.e. including real activities in the field into the nomenclature category available in the system even though there are substantial differences. This administrative practice has a serious impact on the validity of information, resulting in distortion of planning data where the digital documents produced no longer reflect the reality of the actual implementation of activities (Afifah et al., 2023).

Structural Inefficiency in the Budgeting Stage In the next stage, the process of preparing the Work Plan and Budget or RKA is colored by the phenomenon of structural inefficiency caused by chronic systemic failures of application. The operational performance of SIPD is highly dependent on the stability and capacity of central servers managed exclusively by the Ministry of Home Affairs (Bau et al., 2025). Reports from the field show that systems often experience extreme access delays as well as technical glitches or errors, especially in the crucial period leading up to the budget deadline. These technical conditions lead to massive time inefficiencies, where workloads that could ideally be completed in a matter of hours, in reality take up to weeks. This situation forces the apparatus to work outside normal working hours, even until the early hours of the morning, simply to wait for the moment when the system is more stable. This phenomenon confirms a paradox in which digitalization efforts, which should speed up work processes, actually create structural inefficiencies and trigger increased organizational stress among the apparatus (Tumija & Ramadhan, 2023).

Paralysis of Flexibility in the Administration Stage The administration or budget implementation stage shows the real impact of system rigidity on the responsiveness of public services. The workflow implemented in the SIPD for the process of budget revision

or shift proved to be very rigid and loaded with bureaucratic procedures (Setiawan & Anisykurlillah, 2024). This mechanism causes any budget shift attempt, even for urgent needs, to go through a lengthy multi-tiered approval process. This condition is problematic for the sub-district government which is positioned as a street-level bureaucracy. Work units at this level should have the discretion to act flexibly in responding to the dynamic and unexpected needs of society (Lipsky, 1980). However, due to the implementation of a rigid system, the adaptability becomes paralyzed, so that public services are hampered because the apparatus is locked by unaccommodating system procedures.

Fundamental Factors Causing Problems

Systemic Failure of Technology Technology factors have been identified as the main triggers of various operational problems that arise in the implementation of government digitalization. SIPD architectures built with a centralized model have inherent vulnerability to single point of failure risk (Hutabarat et al., 2025). The capacity of the central server infrastructure has proven to be inadequate to serve the simultaneous access load from all regions of Indonesia, especially during the peak reporting period. This problem is further exacerbated by the condition of the internet network infrastructure at the local level which is often unstable and has limited bandwidth. The combination of disruptions in national data centers and limited connectivity in the regions creates a double barrier that is a major source of work inefficiencies and prolonged frustration among user devices.

Rational Resistance of the Apparatus The attitude of resistance shown by the apparatus, especially from the senior employee group, cannot immediately be seen as a form of laziness or inability to learn new technologies. This phenomenon is more accurately understood as a rational response to a work system that has a low level of reliability (Dewi et al., 2023). The apparatus calculates the cost-benefit intuitively and realizes that the energy and time invested in operating a system that often fails far outweighs the benefits obtained. This situation triggers a massive transfer of technical workloads to more junior operators. The further impact of these conditions is the loss of institutional knowledge that senior officials have in the data input process, as they withdraw from direct interaction with the application system.

Organizational Design Rigidity Systems that apply a one-size-fits-all approach have proven to fail to accommodate the heterogeneity of diverse needs and operational characteristics at the sub-district level (Ryas, 2023). This design problem is exacerbated by regulatory ambiguity, especially related to the handling mechanism when a system error or error handling occurs. The absence of clear standard operating procedures regarding problem mitigation measures puts the apparatus in a difficult dilemmatic position. They are caught in the uncertainty between the administrative demands of completing tasks on time and the absence of official guidance to address the technical obstacles faced in the field.

Workaround and Accountability Practices

Institutionalization of the Shadow System In the face of persistent technical and structural obstacles to the official system, government officials at the sub-district level proactively develop survival strategies to ensure the continuity of administrative tasks. This adaptation strategy is manifested through the use of number processing applications or spreadsheets as the main work system to replace the role of unreliable digital systems (Heeks, 2017). In daily operational reality, the application of the Regional Government Information System (SIPD) is no longer functioned as an instrument to carry out substantive government processes, but its function has been drastically reduced to just a formality reporting tool. All crucial processes that require high precision, from needs analysis, budget simulations, to planning revisions, are carried out completely outside of the official system using spreadsheets. The data that has been processed and finalized in the manual system is only then transferred or copied into the SIPD platform at specific moments when the stability of the system is deemed adequate. The phenomenon of using a shadow system is no longer an individual incidental initiative, but has undergone a

strong institutionalization process so that it has become a standard work procedure that applies de facto in the organizational environment.

Shifting the Meaning of Accountability The adoption of workaround practices in a bureaucratic environment has profound implications for the concept of public accountability, namely the creation of the phenomenon of accountability dualism (Bovens et al., 2017). This dualism separates accountability mechanisms into two distinct domains: internally functioning substantive accountability and externally functioning procedural accountability. Substantive accountability is practiced within the internal scope of the work unit by referring to real and dynamic data stored in spreadsheets as the basis for operational decision-making. Instead, procedural accountability is carried out to meet the demands of external parties through formal reporting within the SIPD. This situation marks a fundamental shift in the focus of governance, moving away from achieving material truth and real performance, towards simply fulfilling formal adherence to the logic of applications or systems. This disjunction between work reality and reporting ultimately gives birth to a form of shadow accountability, a condition that effectively delegitimizes the validity of official digital data because it no longer reflects the actual work processes that occur in the field.

CONCLUSION

The implementation of the Local Government Information System at the sub-district level faces complex challenges that have an impact on the quality of governance. These problems manifest in the form of distortion of planning data, inefficiency of working time due to technical problems, and loss of flexibility in public services. The root of the problem lies in the systemic failure of the technological infrastructure, rigid and uncontextual system design, and the resistance response from the apparatus that arises due to system unreliability. The apparatus responded to this situation by developing a shadow work system using a number processing application to ensure the sustainability of government tasks. This practice results in pseudo-accountability where formal compliance with the system takes precedence over the truth of the substance of governance.

The results of this study provide theoretical implications in the form of a review of the assumption of technological effectiveness in bureaucratic supervision. Technology that is not supported by adequate infrastructure can actually degrade the quality of accountability. In practical terms, these findings provide input for the central government to evaluate the architecture of the system to be more adaptive and for local governments to provide more concrete technical support to the work units under it.

The Ministry of Home Affairs is advised to immediately conduct a thorough audit of the technology infrastructure and increase server capacity to ensure access stability. It is necessary to make adjustments to the system design that provide flexibility for the sub-district government in terms of the nomenclature of activities and procedures for budget revision. Regency/City Regional Governments need to form a responsive technical support team and develop standard operational procedures for handling system disturbances to provide job certainty for apparatus. The researcher was then advised to conduct a quantitative study to measure the correlation between the reliability of the system and the level of use of alternative practices in various regions.

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