



Enhancing Public Sector Innovation through SIPD: A Case Study of Budget Planning at Bappelitbangda, Cimahi City

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Abstract

Purpose: This paper explores the implementation of the *Sistem Informasi Pemerintahan Daerah* (SIPD) in the context of integrated budget planning at Bappelitbangda Cimahi City, Indonesia. It aims to evaluate how SIPD supports local e-government transformation and to identify factors that affect its implementation. **Research Methods:** The study adopts a qualitative descriptive approach using a single-case study design. Data were collected through in-depth interviews with SIPD users and implementers, direct observation of planning activities, and document analysis of internal procedures and reports. The data were analyzed using Miles and Huberman's interactive model and interpreted through the lens of Van Meter and Van Horn's policy implementation framework. **Findings:** The results reveal that although SIPD has been formally integrated into local budget planning processes, several barriers remain, including limited technical infrastructure, insufficient human resource capacity, and weak communication with central authorities. Despite these challenges, the positive disposition of local implementers has played a key role in sustaining the system's use. The study confirms that while regulatory clarity and legal mandates are necessary, they must be supported by adaptive institutional practices and continuous coordination. **Implications:** The findings suggest the need for greater investment in digital capacity-building, more responsive intergovernmental communication mechanisms, and flexible implementation strategies that consider local administrative realities. These insights are relevant for improving digital governance initiatives not only in Indonesia but also in other decentralized governance settings.

Keywords: digital governance, e-government, policy implementation, public administration, SIPD

1. Introduction

In the era of digital transformation, the public sector faces increasing pressure to adopt innovative approaches that enhance efficiency, transparency, and responsiveness in government operations. One such innovation is the implementation of e-government systems that utilize information and communication technology (ICT) to streamline administrative processes and improve service delivery (Inakefe et al., 2024). In Indonesia, the Ministry of Home Affairs has introduced the *Sistem Informasi Pemerintahan Daerah* (SIPD), or Regional Government Information System, as a nationwide digital platform intended to integrate planning, budgeting, and reporting processes across all levels of regional government (Permendagri No. 70/2019).

Despite its ambitious scope, the implementation of SIPD across various regions in Indonesia has faced notable challenges, including inadequate infrastructure, technical instability, and limited digital literacy among civil servants (Nalle, 2023). These obstacles not only hinder system functionality but also threaten the broader goal of achieving good governance through digital means. As such, understanding the dynamics of SIPD implementation at the local level becomes crucial for identifying bottlenecks, disseminating best practices, and formulating context-specific strategies to optimize its usage.

This paper examines the implementation of SIPD in the context of budget planning at Badan Perencanaan Pembangunan, Penelitian, dan Pengembangan Daerah (Bappelitbangda) of Cimahi City. The selection of Cimahi as a case study is driven by its efforts to comply with national mandates while grappling with practical challenges in integrating SIPD into existing administrative workflows. The research draws upon the theoretical framework of policy implementation, particularly the model proposed by Van Meter and Van Horn (1975), which emphasizes six interrelated variables: policy

standards and objectives, resources, inter-organizational communication, characteristics of implementing agencies, disposition of implementers, and the socio-political environment (Lestari et al., 2025).

The purpose of this study is threefold: (1) to analyze the process of implementing SIPD in Cimahi's budget planning system, (2) to identify the technical and organizational barriers encountered during the implementation, and (3) to formulate strategic recommendations for optimizing SIPD use in local governance. Using a qualitative-descriptive approach, the study collects empirical data through interviews, field observations, and document analysis involving key stakeholders within the Bappelitbangda.

A review of relevant literature indicates that while SIPD has been acknowledged for its potential to modernize regional financial management (Vitriana et al., 2022); (Wilansari et al., 2022), existing studies tend to focus on normative evaluations or isolated technical aspects, without adequately addressing the multi-dimensional nature of policy implementation in diverse local contexts. This research thus seeks to fill that gap by providing an integrated analysis that combines theoretical perspectives with empirical findings from a localized case.

By situating the research within the broader discourse of digital governance and public sector reform, this paper contributes to the understanding of how national digital policy initiatives translate into local administrative realities. Furthermore, it offers practical insights into how implementation strategies can be refined to accelerate e-government innovation in Indonesia and similar developing countries.

2. Methods

This study employed a qualitative research approach using a descriptive case study design to explore the implementation of the Regional Government Information System (Sistem Informasi Pemerintahan Daerah) in Cimahi City, West Java, Indonesia. The qualitative design was selected to gain in-depth insights into the practical, technical, and organizational dimensions of SIPD implementation within a real-life governance setting. The case study method allows for the detailed examination of a contemporary phenomenon within its contextual environment (Lim, 2025), which is essential in understanding the nuanced challenges and adaptive strategies involved in digital governance at the local level.

The study was conducted at Badan Perencanaan Pembangunan, Penelitian, dan Pengembangan Daerah (Bappelitbangda) of Cimahi City, the agency responsible for planning and budgeting functions within the municipal government. The research population consisted of civil servants and policy implementers directly involved in SIPD operations. Using purposive sampling, six (6) key informants were selected based on their roles, experience, and direct involvement with the system. These included structural officials (e.g., heads of sub-divisions), SIPD operators, and technical personnel handling planning and budgeting documents.

This study employed three qualitative data collection methods: in-depth interviews, participant observation, and document analysis. In-depth interviews were conducted with key personnel involved in SIPD implementation at Bappelitbangda Cimahi. Using a semi-structured guide, the interviews explored informants' experiences, challenges, and perspectives related to system usage and policy execution. Through participant observation, the researcher directly observed activities such as data input and interdepartmental coordination. This enabled identification of practical issues like login failures, interface difficulties, and real-time responses to system errors. Lastly, document analysis was used to review internal reports, SOPs, training manuals, error logs, and correspondence. These documents helped contextualize findings and verify the accuracy of interview and observation data. Combined, these methods offered a comprehensive view of SIPD implementation in practice, ensuring both depth and validity in the research findings.

The analysis in this study followed Miles and Huberman's interactive model, which includes three interrelated steps: data reduction, data display, and conclusion drawing with verification. During the data reduction phase, interview transcripts, observation notes, and relevant documents were carefully coded and condensed to highlight key patterns and themes related to SIPD implementation (Endahati et al., 2024). This process helped focus the analysis on the most relevant information. In the data display stage, the researcher organized findings into visual formats such as matrices and charts to better understand connections between variables, especially those related to organizational behavior and system challenges. Finally, in the conclusion drawing and verification stage, the emerging insights were interpreted and continuously cross-checked using Van Meter and

Van Horn’s policy implementation framework. This ensured that interpretations remained consistent, theoretically grounded, and analytically sound.

To ensure validity, the study applied triangulation by using multiple data sources and collection methods, including interviews, observations, and document analysis (Morgan, 2024). This approach helped cross-verify findings and strengthen the accuracy of interpretations. For reliability, standardized interview protocols and detailed field notes were maintained throughout the research process. The purposive selection of informants with direct involvement in SIPD implementation further contributed to the credibility and consistency of the study’s results.

Ethical clearance was obtained from the research committee of the institution. All participants were informed of the study’s purpose, and their informed consent was obtained before data collection. Confidentiality and anonymity were guaranteed by coding names and ensuring secure data storage.

3. Results and Discussion

This section presents the findings of the study on the implementation of SIPD at Bappelitbangda Kota Cimahi and discusses their relevance based on the theoretical framework of Van Meter and Van Horn. The analysis addresses each key variable in the framework to explain how the system is functioning in practice and to what extent it aligns with the intended policy goals.

3.1 SIPD Implementation Based on Policy Implementation Variables

The implementation of SIPD in Cimahi demonstrates both progress and persistent challenges. While the policy framework is clear and aligned with national digital transformation objectives, the practical execution reveals technical, organizational, and coordination-related constraints.

No	Variable	Findings	Interpretation	Status
1	Policy Standards & Objectives	Policy guidelines are clearly stated and uniformly mandated.	Provides clarity, but lacks contextual flexibility.	Confirmed
2	Resources	Limited technical staff and infrastructure issues remain.	Reduces system efficiency and responsiveness.	Partially Confirmed
3	Organizational Characteristics	Organizational support exists but lacks updated SOPs.	Weakens consistency and adaptability.	Partially Confirmed
4	Implementers’ Disposition	Strong motivation and commitment among key staff.	Positive internal factor for sustainability.	Confirmed
5	Inter-Organizational Communication	Weak communication with central government and limited technical feedback.	Obstructs effective problem resolution.	Unconfirmed
6	External Environment	Supportive legal framework, but digital readiness varies across units.	Requires ongoing support and adaptation.	Partially Confirmed

Table 1. Summary of SIPD Implementation at Bappelitbangda, Cimahi City
Source: field interviews, observations, and document analysis (2025)

The implementation of the Sistem Informasi Pemerintahan Daerah (SIPD) in Cimahi shows a mixed outcome. While there are clear policy standards and strong commitment from key implementers, significant issues remain in terms of resources, organizational procedures, and inter-organizational communication. Although some aspects such as the legal framework and internal motivation are supportive, technical limitations and poor coordination with the central government continue to hinder effective execution. Overall, the policy is only partially implemented, with several variables still requiring improvement for full operational success.

No	Challenge Category	Findings	Interpretation	Status
1	Internal (Obstacle)	There are employees who are still lacking in using SIPD	There is a positive work culture within Bappelitbangda, particularly in terms of mutual support in the use of SIPD.	Partially Met
2	External (Challenge)	The SIPD server is still unstable, the central response is slow in responding to reports regarding problems with SIPD.	Providing offline files as a preventive measure in anticipation of potential system errors.	Partially Met

Table 2. Summary of Challenges in SIPD Implementation at Bappelitbangda, Cimahi City

Source: Processed from interview data, and observation records (2025)

The implementation of SIPD at Bappelitbangda, Cimahi City, faces both internal and external challenges. Internally, some employees still lack proficiency in using the system; however, this is partially mitigated by a supportive work culture that encourages mutual assistance. Externally, the instability of the SIPD server and slow central response hinder optimal use, although preventive steps like preparing offline files have been taken. Overall, both issues are partially met, indicating that improvements have begun but are not yet fully resolved.

3.2 Discussion

The study affirms that strong policy design and top-down mandates alone do not guarantee successful local implementation (Zhang & Xing, 2025). The findings confirm that while SIPD is formally integrated into planning workflows, the effectiveness of its use is influenced by several key factors. First, the clarity of policy standards has enabled a common understanding of SIPD's objectives among staff. However, the rigid structure of implementation limits local discretion and adaptation to operational realities, echoing prior research on centralized digital policy challenges (Alfian & Marlina, 2022).

Second, the availability of resources, particularly in terms of trained personnel and digital infrastructure, remains a core obstacle.

Month (2025)	Types of Technical Constraints	Average waiting time
January	• SIPD login error	3 days
February	• Slow server	2 days
March	• Failed to upload documents	1 day
April	• Server frequently undergoing	4 days
May	maintenance	2 days
June	• Failed to download	5 days
July		7 days

Table 3. Summary of SIPD Technical Disruptions per Month, 2025

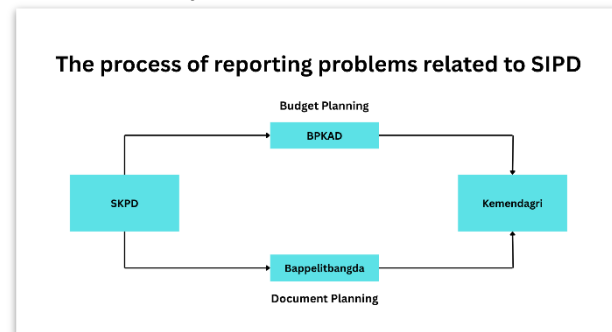
Source: Head of Program and Reporting Sub-Section

The table illustrates recurring technical disruptions in the SIPD system from January to July 2025, involving issues such as login errors, slow servers, failed document uploads/downloads, and frequent server maintenance. The average waiting time for resolution ranges from 1 to 7 days, with July recording the longest delay (7 days), indicating the most critical period of system instability. These findings highlight the urgent need for system upgrades and faster technical response to prevent delays in administrative processes.

The frequent system errors and access issues reported during observations highlight the impact of resource limitations on system reliability. Third, although the organizational structure of Bappelitbangda supports SIPD execution, the absence of updated and context-specific SOPs undermines the consistency and efficiency of internal processes. This suggests that structural support must be complemented by operational clarity.

On a positive note, the disposition of SIPD implementers has emerged as a strength. The motivation and willingness of staff to adapt, troubleshoot, and continue working despite systemic

challenges demonstrate high levels of commitment, which is essential for sustaining long-term innovation in public service delivery.



picture 1. The process of reporting problems related to

However, inter-organizational communication, particularly between the local government and the Ministry of Home Affairs, is notably weak. The lack of responsive feedback mechanisms hinders the ability to resolve technical issues quickly, leaving local users without adequate support during system downtimes.

Lastly, although there is a supportive legal and political environment for e-government initiatives, varying levels of digital literacy and readiness among staff highlight the need for ongoing capacity-building and tailored support at the local level. In summary, the study supports the notion that digital innovation in public administration must be matched by flexible implementation strategies, responsive technical support, and continuous investment in human and technological capacity.

4. Conclusion

This study examined the implementation of the *Sistem Informasi Pemerintahan Daerah* (SIPD) in the context of integrated budget planning at Bappelitbangda Kota Cimahi. Using Van Meter and Van Horn's policy implementation model, the research explored how policy standards, resource availability, organizational characteristics, implementer attitudes, inter-organizational communication, and environmental conditions influence the effectiveness of SIPD at the local level.

The findings demonstrate that while the policy objectives of SIPD are clearly articulated and institutionally supported, its practical implementation remains constrained by several challenges. Limited technical resources, unstable system performance, and the absence of responsive feedback mechanisms hinder its full optimization. Nevertheless, the strong motivation and adaptability of local implementers have emerged as a critical enabling factor, helping to sustain the system's use despite recurring disruptions.

Moreover, the study reveals that effective digital policy implementation requires more than just formal mandates it demands continuous investment in infrastructure, updated operational procedures, and improved coordination between central and local governments. The case of Cimahi underscores the importance of tailoring national digital systems to the operational capacities and contextual realities of local institutions.

4.1 Implications for Future Research

Future research should expand the scope beyond a single case study to explore comparative insights across different regional governments. Investigating variations in SIPD implementation can offer a deeper understanding of contextual factors influencing digital governance outcomes. Additionally, further studies could examine the role of leadership, change management, and digital capacity-building as mediating factors in policy implementation. Incorporating longitudinal data may also provide valuable insights into the long-term impacts of SIPD on transparency, efficiency, and public accountability in local government.

In conclusion, the SIPD initiative represents a significant step toward modernizing public sector planning and budgeting in Indonesia. However, its success will depend on how well national systems are adapted to local capacities and how actively stakeholders collaborate to overcome institutional and technological barriers.

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