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Beyond Compliance

Implementing the Electronic-Based Government System as a Digital Governance Transformation Process in East Kalimantan Province

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Abstract: The implementation of the Electronic-Based Government System (SPBE) in Indonesia has largely been perceived as an administrative compliance mechanism aligned with national policies and index-based assessments. Conceptually, however, SPBE is intended as an instrument for transforming governmental governance toward an integrated, effective, and accountable digital government. This study aims to analyze the implementation of SPBE in East Kalimantan Province by positioning it as a digital governance transformation process rather than merely an administrative obligation. Using a qualitative case study approach, data were collected through policy document analysis, SPBE performance reports, and interviews with key stakeholders within the East Kalimantan Provincial Government. Data were analyzed using a descriptive-analytical method by linking empirical findings to the digital government transformation framework. The findings indicate that SPBE implementation in East Kalimantan Province remains largely compliance-driven, as reflected in institutional fragmentation, limited system and data integration, and uneven human resource capacities across government agencies. Nevertheless, the study also identifies opportunities to strengthen digital governance transformation through reinforcing SPBE institutional governance, enhancing civil servants' digital competencies, and promoting cross-system and service integration. This study underscores the need to shift the paradigm from administrative compliance toward substantive digital governance transformation at the provincial government level.

Keywords: Electronic-Based Government System; Digital Transformation; Governance; Digital Government; East Kalimantan Province.

1. Introduction

Digital transformation of government is a strategic agenda that is gaining strength in modern public governance, along with increasing demands for bureaucratic effectiveness, transparency, accountability, and quality of public services. Various studies showed that the use of digital technology in government is no longer limited to the digitization of administrative procedures, but has evolved into a strategic instrument for creating public value, strengthening public trust, and improving overall government performance (Ariansyah et al., 2025; Moon, 2002; Zhang & Kimathi, 2022). In the context of developing countries, digital transformation is also seen as a means to overcome structural bureaucratic limitations and accelerate inclusive regional development (Anas & Cahyawati, 2023; Sutrisno et al., 2023).

In Indonesia, the agenda for digitalization is formalized through the Electronic-Based Government System (SPBE) policy, which serves as a foundation for bureaucratic reform and the enhancement of public services. Numerous studies have indicated that the implementation of e-government and electronic-based systems (ESBS) significantly contributes to increased public trust, citizen satisfaction, and the effectiveness of public services, especially when supported by sufficient system maturity (Ariansyah et al., 2025; Widodo & Kusnan, 2023). However, the practice of implementing SPBE at the regional level still shows significant performance variations, influenced by institutional capacity, human resource readiness, digital leadership, and local policy context (Eko et al., 2022; Emor et al., 2024; Wahyudi & Putri, 2025).

Theoretically, this research originates from the grand theory of policy implementation, which positions implementation as a political and administrative process that is greatly influenced by the institutional context, actors, and organizational capacity (Grindle, 1980). At the middle-range theory level, the study adopts perspectives on e-government and digital governance, focusing on maturity stages, system integration, and the interplay among technology, organizations, and society (Rahmadany, 2021; Sheoran & Vij, 2022). Meanwhile, at the applied theory level, this research refers to the public value approach and digital governance innovation, which positions digital transformation as a means to improve the quality of services, welfare, and inclusiveness of regional development (Saksono, 2024; Sastra, 2024).

Although the literature on e-government and SPBE in Indonesia continues to grow, a research gap persists in studies that comprehensively link SPBE policies, field implementation practices, and monitoring and evaluation dynamics within the context of local government. Most research tends to focus on technical aspects, organizational readiness, or partial case studies, without systematically linking these to policy processes and digital government performance outcomes (Huda & Yunas, 2016; Zubaidah et al., 2024). Moreover, there are still a few studies that view SPBE as a dynamic and sustainable policy process, particularly in regions facing complex geographical and institutional challenges.

Based on these conditions, this research problem focuses on how SPBE implementation is carried out as a policy process at the local government level and the factors influencing its success and sustainability. Referring to these problems, the following research questions are formulated: (1) What are the dynamics of SPBE implementation in East Kalimantan Province in the context of policy, governance, and field practice? And (2) How does this implementation contribute to system integration, improved bureaucratic performance, and the creation of digital public value?

This research aims to analyze the SPBE implementation process in East Kalimantan Province, identify the practices, challenges, and strengthening mechanisms employed by local governments, and evaluate their implications for digital transformation in government and public services. This study is expected to provide empirical insights into the development of SPBE policies at the local level and serve as a reference for other regions with similar characteristics.

From a state-of-the-art (SOTA) perspective, this research lies at the intersection of public policy studies, e-government, and digital governance, with an emphasis on the relationship between digital system maturity, policy governance, and public value (Bernot et al., 2024; Sensuse et al., 2022; Zainudin, 2025). The novelty of this research lies in its analytical approach that integrates policy analysis, implementation practices, and SPBE monitoring and evaluation mechanisms into a single, integrated framework at the provincial level, thereby enriching the Indonesian SPBE literature and providing a contextual perspective for strengthening the digital transformation of local government.

2. Methods

This research uses a qualitative case study design to gain a deeper understanding of the implementation of SPBE within the East Kalimantan Provincial Government. This approach was chosen because it captures the policy dynamics, institutional processes, and socio-organizational context that influence the digital transformation of local government. Furthermore, researchers can explore policy phenomena in a contextual, holistic, and in-depth manner, particularly within a local government environment with specific social, administrative, and geographic characteristics.

The research data consists of both primary and secondary sources. Primary data were collected through in-depth interviews with key informants, including SPBE management officials, heads of regional government agencies responsible for information and communication technology, and stakeholders directly involved in SPBE planning and implementation. Secondary data were gathered by analyzing policy documents, regulations, SPBE evaluation reports, regional planning documents, and official publications related to SPBE implementation for the 2019–2024 period. Data collection techniques included systematic and selective documentation, as well as limited observations of SPBE implementation.

This research was conducted within the East Kalimantan Provincial Government, focusing on regional apparatuses that play a strategic role in implementing SPBE. The research period covered the 2019–2024 period, chosen to allow for longitudinal analysis of policy developments, SPBE index achievements, and the dynamics of regional government digital transformation implementation.

Data analysis was conducted thematically, with stages of data reduction, theme categorization, and analytical conclusions drawn. The analysis process was conducted iteratively, comparing empirical findings with the theoretical framework of policy implementation and the literature on digital transformation of government. Data interpretation techniques were employed by linking empirical findings with the theoretical framework of policy implementation, specifically models that emphasize the interaction between context, actors, and policy resources, including theories of digital transformation of government and literature relevant to the discussion. Data validity was maintained through source triangulation and analytical consistency through cross-checking of interview data, documents, and observational results.

3. Results and Discussion

3.1. Dynamics of SPBE Implementation Development: Between Index Achievement and Transformation Maturity

The research results showed that the implementation of SPBE in East Kalimantan Province during the 2019–2024 period experienced relatively progressive development, especially after the issuance of East Kalimantan Governor Regulation Number 4 of 2023, which served as a basis for strengthening regional SPBE governance. The increase in the SPBE index score, as illustrated in Figure 1, reflects dynamics across the dimensions of internal policy, governance, management, and digital services. This reflects the institutional commitment of the regional government to adjust policies and organizational structures to align with national SPBE policies and accelerate the digital transformation of local government.

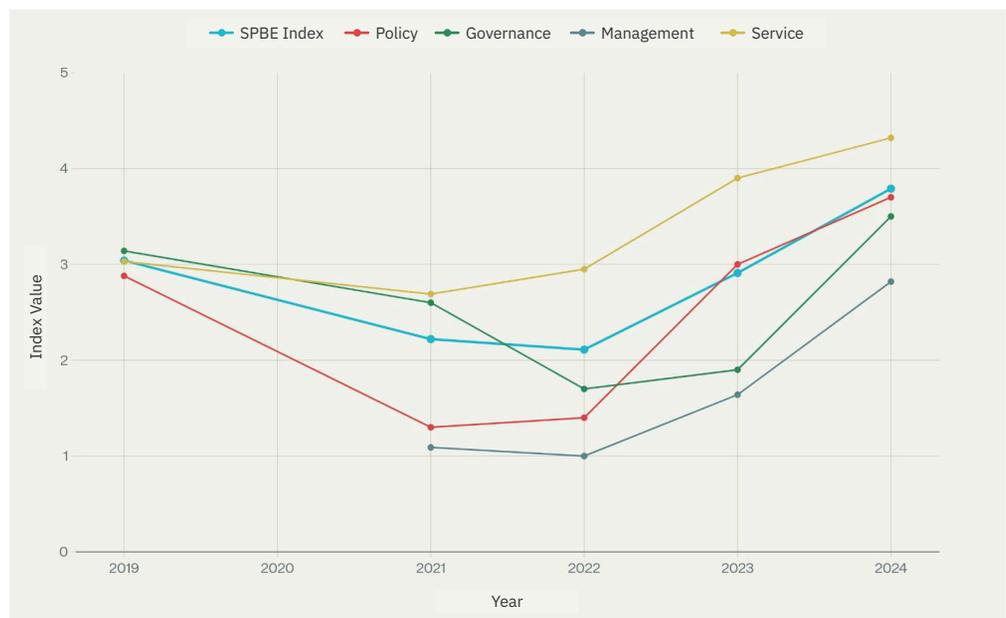


Figure 1. East Kalimantan Provincial Government SPBE Index Development Graph for the 2019–2024 Period

Source: Department of Communication and Information of East Kalimantan Province. Data Processed. 2025.

This finding aligns with Saksono (2024) who states that the digital divide between regions and government units is a structural issue that requires inclusive, long-term policy intervention. This situation can be interpreted as meaning that the relatively increasing SPBE index does not fully reflect the maturity of regional government digital transformation.

In practice, the increase in the SPBE index does not fully reflect an even level of implementation maturity across regional government agencies. Field findings indicate significant disparities in implementation readiness and capacity, particularly between regional agencies with strategic ICT functions and those in the service sector. This confirms that aggregate SPBE index performance still masks variations in operational implementation performance. This means that the increase in the SPBE index in East Kalimantan is more accurately understood as an early indicator of policy success, but does not fully reflect the quality of digital system utilization in public service practices and internal government governance.

It is important to note that the East Kalimantan Provincial Government has worked to establish a strategic agenda, which includes the SPBE Masterplan, the development of an integrated data center, and the creation of digital public service applications. Collaboration among Regional Government Organizations (OPDs) and

the active role of the SPBE Coordination Team have enhanced synergy, optimized policies, and monitored program implementation. This is evident in the SPBE Index, which has shown a 5.24% increase over the past seven years (2019–2025). The development of the SPBE index value across its various aspects is illustrated in [Table 1](#).

Table 1. Development of the SPBE Index of the East Kalimantan Provincial Government 2019–2025 According to SPBE Aspects

SPBE Aspect	2019	2020	2021	2022	2023	2024	2025	Rate (%)
SPBE Index	3.04	3.14	2.22	2.11	2.91	3.79	4.13	5.24
Predicate*)	Good	Good	Fair	Fair	Good	Very Good	Very Good	Significant
SPBE Domain:								
Policy	-	2.88	1.30	1.40	3.00	3.70	4.30	8.35
Governance	-	3.14	2.60	1.70	1.90	3.50	3.80	3.89
Management	-	-	1.09	1.00	1.64	2.82	2.91	37.28
Service	-	3.03	2.69	2.95	3.90	4.32	4.70	9.18

Source: Department of Communication and Information of East Kalimantan Province. Data Processed. 2025.

*) F = Fair; G= Good; VG = Very Good

**) I = Indicator; D= Domain

Description: In 2020, no score was assigned to the SPBE Management Domain, so the multi-year improvement rate was calculated from 2021 to 2025. Furthermore, due to the absence of SPBE Domain Value data in 2019, the improvement rate for each aspect was calculated from 2020 to 2025.

Based on [Figure 1](#) and [Table 1](#), the implementation of SPBE in East Kalimantan Province for the 2019–2025 period shows a consistent upward trend in the index, with a significant spike following the issuance of East Kalimantan Governor Regulation No. 4 of 2023. The SPBE index increased from the Sufficient to Very Good category, especially in the policy and digital service domains, which recorded growth rates of 8.35% and 9.18%, respectively.

However, the index increase does not fully reflect the maturity of the government’s digital transformation. [Table 1](#) shows that the SPBE management domain, despite experiencing the highest growth (37.28%), remains at a relatively low absolute value compared to the service domain. The East Kalimantan SPBE Index is better understood as an early indicator of policy readiness, rather than as evidence of substantive digital government maturity. This is because an increase in the e-government score does not automatically translate into governance transformation unless the integration of systems, data, and decision-making processes accompanies it. This suggests that the index’s performance is compliance-driven, as e-government measurement in Indonesia still predominantly assesses administrative compliance, rather than substantive developments in digitalization and public digital literacy.

In line with the upward trend in the East Kalimantan Province SPBE Index, monitoring and evaluation activities are carried out in an institutionalized, ongoing manner through quarterly SPBE Team coordination meetings, technical guidance on the SIA-SPBE architecture, and external visits and audits by the Ministry of Administrative and Bureaucratic Reform. A coordination forum led by the Regional Secretary and involving the Communication and Information Technology Office (Diskominfo), the Organizational Bureau, the Inspectorate, and all Regional Apparatus Organizations (OPDs) serves as the primary mechanism for implementation control. In contrast, internal audits and user satisfaction surveys serve as the basis for improving SOPs, applications, and human resource capacity. The direct link between these monitoring practices and improved index scores demonstrates that the SPBE achievement in East Kalimantan is not merely administrative, but is supported by evaluation mechanisms that encourage cross-OPD integration and policy learning. Although the maturity of substantive digital

transformation still requires strengthening in terms of system interoperability and implementation consistency across all regional apparatuses.

3.2. Implementation of SPBE as a Policy Process

From a policy and institutional perspective, the East Kalimantan Provincial Government has demonstrated its efforts to institutionalize SPBE through the development of derivative regulations, the establishment of SPBE management units, and the alignment of regional digital planning documents. The existence of regional head regulations, SPBE plan maps, and the establishment of SPBE management units demonstrate efforts to institutionalize the policy. This finding aligns with policy implementation theory, which emphasizes the importance of clear objectives and institutional structures in determining successful implementation.

Although the implementation of SPBE in East Kalimantan Province shows an improving trend, research and interviews indicate that the obstacles encountered are multidimensional in the policy process. These include the lack of synchronization between central and regional regulations in the technical translation of East Kalimantan Governor Regulation No. 4 of 2023 to the Ministry of Administrative and Bureaucratic Reform (PAN-RB) standards, limited ICT infrastructure in remote areas, low data interoperability and security, and fluctuations in budgets for system development and human resource training. Meanwhile, at the implementation level, low digital literacy, organizational cultural resistance, limited ICT expertise, and reliance on non-technical personnel weaken the bureaucracy's capacity to consistently internalize digital policies.

These obstacles underscore that SPBE's effectiveness is not solely determined by policy design but also highly dependent on local governments' ability to manage resources, align regulations, and build a digital work culture for sustainable government transformation. This demonstrates that local governments with a relatively high SPBE index still face issues of system fragmentation and disparities in apparatus capacity. The dynamics of the SPBE index emphasize that the index value is necessary but not sufficient to ensure the success of digital government transformation.

3.3. Content of Policy and Context of Implementation SPBE

The SPBE policy in East Kalimantan Province has a broad scope, encompassing administrative efficiency, organizational restructuring, public service integration, and the development of digital competencies for civil servants. This policy explicitly targets changes in bureaucratic business processes through service digitization and strengthening the role of the Communication and Information Technology Agency as the leading sector.

The SPBE implementation policy in East Kalimantan Province is based on East Kalimantan Governor Regulation (Pergub) No. 4 of 2023 concerning the Implementation of Electronic-Based Government Systems in Regional Governments. This policy is a response to Presidential Regulation (Perpres) Number 95 of 2018 concerning Electronic-Based Government Systems.

Substantively, the Pergub regulates the implementation of SPBE to support better, more transparent, and more efficient governance using digital technology. The goal is to accelerate digital transformation in the regional government sector to improve the quality of public services and internal efficiency of the East Kalimantan Provincial Government, and to strengthen integration across Regional Apparatus

Table 2. Review of the Contents of the SPBE Implementation Policy

Affected Interests	Types of Policy Benefits	Degree of Change	Program Implementers and Resources
Civil Servants and Provincial Government Employees Influences governance, work processes, and employee digital competency development, particularly in the Communications and Informatics Office, the Organizational Bureau, and the Inspectorate.	Administrative Efficiency Digital bureaucratic processes reduce service time and costs, accelerate decision-making, and reduce data duplication.	Organizational Restructuring Repositioning the role of the Communication and Information Technology Agency, establishing the SPBE Coordination Team, and strengthening the GCIO to manage system integration.	Department of Communication and Information (leader and integrator of the digital ecosystem)
Regency/City Regional Governments As implementers of digitalization programs at the local level, they must make administrative and technical adjustments.	Transparency and Accountability Systematic electronic reporting, monitoring, and evaluation increase data transparency and reduce opportunities for corruption.	Work Process Transformation Converting manual services to digital, digitizing archives, and implementing electronic performance dashboards.	SPBE Coordination Team
External Stakeholders (Community, Business, Academics) Receive direct benefits in the form of faster, more transparent, and more accessible digital public services, including ease of licensing, consultation, and reporting through online systems.	Public Service Integration The integration of various services into an integrated digital ecosystem, from licensing and complaints processing to population data management and financial reporting.	Human Resource Management Adjusting competency needs, developing ICT-based functional positions, and establishing digital career paths.	Internal Assessor (monitoring & evaluation)
SPBE Coordination Team, Internal Assessors, and GCIO Special assignments include digital infrastructure development, data synchronization, and cross-unit SOP development.	Improving Human Resources Quality GCIO technical guidance, training, and certification activities are aimed at improving digital literacy and competency among civil servants.	Implementation of Technical Standards Development of data standards, application system integration, and use of APIs to promote interoperability.	Cross-Functional OPD (application and service users)
	Digitalization of Government Business Processes Modernization of government governance towards paperless administration and implementation of a one-data policy.		

Source: Research Results. Processed Data. 2025.

Organizations (OPDs). A summary of the implementation results is presented in [Table 2](#).

However, research results indicate that the degree of change produced is uneven across policy actors. Civil servants in ICT technical units are more adaptable than service-sector OPDs, which still face capacity constraints and resistance to work culture. Internal audit results indicate that the composition of human resources at the East Kalimantan Provincial Communication and Informatics Office is relatively diverse across class, employment status, and educational level. There are 52 civil servants with educational backgrounds ranging from high school to master's degree, dominated by the Supervisor (III) to Regulator (II) levels, as well as 73 Outsourced Personnel (TAD), most of whom perform daily technical operational functions. This composition reflects the unequal configuration of SPBE implementing actors, where digital technical functions remain heavily dependent on non-civil servants. From a policy perspective, this situation has implications for local governments' limited institutional capacity to sustainably control and internalize digital transformation.

Based on the distribution of class, position, and employment status, there is a clear disparity in the number and capacity of ICT human resources between leadership, administrative, and digital technical levels. In response to these conditions, local governments can strengthen the capacity of their apparatus through digital training and technical guidance for SPBE, Government Chief Information

Officer (GCIO) certification, and technical competency development encompassing data management, application management, system security, and the development of standard operating procedures (SOPs) for electronic services. These efforts reflect a policy strategy oriented toward improving bureaucratic compliance and responsiveness to the SPBE agenda, while also serving as a governance instrument to strengthen the Communication and Information Technology Office's role as a leading sector in cross-OPD orchestration.

However, in its daily operation, structural human resource challenges continue to limit the effectiveness of SPBE governance. The limited availability of ICT experts across several regional government agencies (OPD), particularly in non-technical work units and at the district/city level, has led to uneven implementation of SPBE. Disparities in human resource quality, as reflected in internal assessment and monitoring results, and the practice of shifting non-ICT staff to digital functions, have resulted in suboptimal system integration and consistent SPBE management. This means that the readiness of civil servant human resources is not merely a technical issue but an integral part of the context of policy implementation and the quality of digital governance, which requires an equitable distribution of qualified ICT personnel, ongoing development, and incentives aligned with the real needs of the regional digital bureaucracy. This suggests that, despite adequate policy design, the organization's absorptive capacity remains a major limiting factor.

Judging from the content of the policy, according to Grindle's framework, East Kalimantan Gubernatorial Regulation No. 4 of 2023 provides a relatively comprehensive normative foundation for the digital transformation of regional government. The data in [Table 2](#) show that the SPBE policy explicitly targets administrative efficiency, transparency, and accountability, as well as improving the quality of ASN human resources and digitalizing government business processes.

The research results show that this policy has had a direct impact on changing bureaucratic business processes, particularly at the Communications and Information Office, the Organization Bureau, and the Inspectorate, as the core actors of the SPBE. The digitization of archives, the implementation of e-office, and electronic performance dashboards are concrete examples of this transformation in work processes.

However, the degree of change produced remains asymmetrical across OPDs, as reflected in the variation in management and governance domain achievements ([Table 1](#)). This condition confirms the study by [Israyudin et al. \(2025\)](#) which found that the success of digital policy is determined not only by regulatory design but also by the capacity for policy implementation and internalization at the organizational level. Thus, the SPBE in East Kalimantan has produced initial structural changes, but has not yet fully established a "digital-first mindset" across all regional government agencies.

This situation reinforces [Makmur's finding \(2023\)](#) that bureaucratic digitalization often stops at procedural changes, without accompanying a transformation of organizational culture. Thus, [Table 3](#) confirms that the Content of SPBE Policy in East Kalimantan is progressive, but has not yet fully resulted in substantive change across all levels of the bureaucracy.

Analysis of the Context of Policy Implementation ([Table 3](#)) shows that the relative success of SPBE in East Kalimantan is heavily influenced by actors' interests and strategies, institutional characteristics, leadership support, and compliance and responsiveness. The role of the Communication and Informatics Agency as a policy entrepreneur and integrator across regional government agencies (OPD), the

Organizational Bureau, the Inspectorate, and the SPBE Coordination Team is a key factor, acting as a dominant actor driving consistent policy implementation, as emphasized by Chung et al. (2022) and Zuhriyati et al. (2025) regarding the importance of e-leadership in the digital transformation of government.

Table 3. Review of the Context Dimensions of SPBE Policy Implementation

Policy Context Dimensions of SPBE Implementation		
Actor Interests and Strategies	Institutional Characteristics & Leadership Support	Compliance and Responsiveness
<p>Regulatory Synchronization</p> <p>The Provincial Government is striving to maintain harmony between central regulations (Presidential Decree 95/2018, Presidential Decree 132/2022) and regional regulations (East Kalimantan Governor Regulation No. 4/2023), so that program implementation can run without overlapping or fragmentation of policies.</p>	<p>Policy Support</p> <p>Various regulatory products and regional head regulations actively support the digital government ecosystem..</p>	<p>Monitoring & Evaluation</p> <p>The SPBE implementation process is supported by a systematic monitoring-evaluation mechanism, including visits and audits by the Ministry of Administrative and Bureaucratic Reform, as well as internal evaluations conducted by the Assessor Team.</p>
<p>Cross-OPD Collaboration</p> <p>Through the SPBE Coordination Team, the digital transformation agenda is carried out together, by sharing roles from the planning stage, execution, to monitoring and evaluation of the program.</p>	<p>Organizational Architecture</p> <p>Adjustments to the organizational structure facilitate the integration of digital services, the formation of new units (Internal Assessor Team, GCIO), and the strengthening of monitoring and audit functions by the Inspectorate.</p>	<p>OPD Responsiveness</p> <p>Many OPDs under the coordination of Diskominfo are able to make service adjustments quickly, for example when there is a system disruption or digital application update.</p>
<p>Stakeholder Participation</p> <p>The implementation of SPBE, not only involves the internal bureaucracy, but also the public and the business world in the Digital Services Consultation Forum to gather input and maintain policy relevance.</p>	<p>Leadership</p> <p>The commitment and exemplary leadership of regional heads, along with the availability of competent human resources who are open to innovation, are the foundation for sustainable change.</p>	<p>Empirical Case Study</p> <p>An interview with the Head of the Communications and Information Service emphasized the importance of bureaucratic compliance with service standardization and responsiveness to public needs so that digitalization can truly have a direct impact on the community.</p>
<p>Two-Way Communication</p> <p>The implementation strategy emphasizes information transparency, openness, and the creation of feedback between work units to facilitate rapid adaptation to obstacles and dynamic changes in the field.</p>		

Source: Research Results. Processed Data. 2025.

The SPBE Coordination Team, along with quarterly meetings, regular visits, and evaluations at the Ministry of Administrative and Bureaucratic Reform (PAN-RB), enhances bureaucratic compliance and organizational responsiveness. This approach aligns with the recommendations from the OECD (2016) and the UN E-Government Survey, both of which emphasize the importance of effective governance orchestration within the digital government ecosystem. However, field observations reveal that fragmentation of authority and sectoral egos among regional government agencies (OPDs) continues to hinder the integration of systems and services across these agencies. Coordination remains a weak spot in consolidating SPBE implementation and poses a significant challenge to e-government efforts in the regions. Furthermore, many OPDs view SPBE as an additional administrative burden rather than a strategic tool to enhance performance. As a result, there is low substantive compliance even though formal compliance with regulations is relatively high. In the context of SPBE implementation, it is increasingly clear that strong leadership and effective coordination mechanisms are crucial for reconciling stakeholder interests and alleviating tensions between progressive policy frameworks and entrenched bureaucratic practices.

3.4. Digital Resource and Infrastructure Readiness

Empirical data show that human resource readiness and digital infrastructure (ICT) are the main limiting factors in implementing SPBE. Furthermore, limited system interoperability and digital human resource readiness remain major obstacles to creating public value through SPBE. Empirical data show that Regional Government Organizations (OPD) with adequate ICT human resources tend to have higher levels of digital system utilization, while other OPDs still rely on third parties. Although local governments have conducted various training and capacity-building programs, the human resource profile of the Communication and Information Technology Office (Diskominfo) shows a continued high reliance on outsourced personnel and limited ICT-capable civil servants, which impacts the sustainability of digital system management.

This condition confirms that the digital transformation of local government cannot be separated from continuous investment in human capacity, infrastructure, and data governance, as recommended by [Sense et al. \(2022\)](#). This finding also confirms the results of the study by [Sunardi et al. \(2022\)](#), which emphasizes that the quality of human resource development and e-readiness are very important in improving the performance of digital-based regional government.

In addition, the vast and heterogeneous geographical conditions of East Kalimantan influence the distribution of digital infrastructure and widen the gap in access to infrastructure ([Rachmawati et al., 2023](#)). This inequality causes system integration and data utilization to be suboptimal, resulting in SPBE implementation not being fully supported by integrated digital services in evidence-based decision-making ([Saksono et al., 2023](#)). Overall, the implementation of SPBE in East Kalimantan has shown the right policy direction, but has not yet fully transformed from administrative compliance to public value-based digital governance.

3.5. System Integration, Public Value, and the Digital Transformation Agenda

From a digital governance perspective, the primary challenges in implementing SPBE in East Kalimantan are interoperability and data integration. The existence of partially functioning sectoral applications limits the creation of digital public value, while e-government maturity should impact public trust and well-being. To date, data integration, digital identity, and public digital literacy are the main foundations of digital governance, even though they remain a challenge at both the central and regional levels. This finding aligns with [Manoby et al. \(2021\)](#), who emphasized the importance of inclusiveness and public digital literacy in ensuring the benefits of digital transformation.

In essence, SPBE implementation in East Kalimantan Province has moved beyond the technology adoption stage, but has not yet fully achieved a public value-oriented digital governance transformation. Therefore, strengthening system integration, digital leadership, and institutional capacity are key prerequisites for SPBE to function not merely as a mechanism for administrative compliance but as a strategic instrument for bureaucratic reform and sustainable regional development ([Mujahidin & Kusuma, 2025](#)).

[Table 4](#) describes the strategic direction of SPBE sustainability in East Kalimantan Province, which emphasizes the importance of harmonization of central-regional policies, equal distribution of digital infrastructure, strengthening the digital culture

of ASN human resources, institutional synergy, and standardization of data interoperability and security.

Table 4. Thematic Policy Relationships, SPBE Roadmap, System Integration, Role of Regional Governments, and Sustainability

Dimensions	Explanation
East Kalimantan SPBE Policy (2023–2024)	East Kalimantan Governor Regulation No. 4/2023 and the SPBE Roadmap, Strengthening Cross-OPD Coordination
Implementation Challenges	Infrastructure Disparities, Cultural Resistance, Limited Human Resources, Interoperability Constraints
Strategic Recommendations	Regulation Harmonization, Strengthening Digital Human Resources, Integrated Monitoring, Adoption of Best Practices
Position in National/International Studies	Strengthening Findings on Institutional Synergy (Moon, 2002); In Line with the Recommendations of the UN (2016), OECD (2016), and Closing the National Analysis Gap (Emor et al., 2024; Wahyudi & Putri, 2025).

Source: Research Results. Processed Data. 2025.

The explanation in Table 4 further confirms that SPBE implementation requires not only strong regulations but also collaborative governance across regional government agencies (OPDs) through the SPBE Coordination Team. This position underscores the importance of institutional synergy in digital transformation while emphasizing that actor context and institutional capacity are determining factors in policy effectiveness.

In reality, the East Kalimantan SPBE serves as a model for regional policy learning that goes beyond a descriptive approach by combining longitudinal analysis of index achievements, mapping implementation challenges, and formulating adaptive strategies grounded in the local context. Interview findings with OPD leaders and service users confirm that system integration, human resource readiness, and leadership support are the primary foundations for creating digital public value. However, challenges such as infrastructure disparities, bureaucratic cultural resistance, and limited human resources still need to be addressed. The progress of SPBE in East Kalimantan has broadened the application of policy implementation theory and global e-government practices, oriented toward governance transformation and the improvement of public service quality.

The SPBE implementation strategy in East Kalimantan Province was implemented through strengthening governance and system integration, beginning with the formation of an SPBE Coordination Team led by the Regional Secretary, the development of an SPBE masterplan and roadmap, and the harmonization of central and regional regulations. This was further strengthened through increased digital leadership and human resource capacity, enhanced ICT infrastructure, and accelerated digitalization of public services across regional government agencies (OPD). Field practice demonstrates that continuous monitoring and evaluation, internal audits, and routine coordination, supported by visits from the Ministry of Administrative and Bureaucratic Reform (PAN-RB), along with multi-stakeholder collaboration, enable rapid follow-up of recommendations through SOP adjustments and rapid improvements, thus promoting system interoperability, improving the SPBE index, and creating more transparent, efficient, and sustainable digital public value within the regional government digital transformation agenda.

Specifically, it can be emphasized that SPBE implementation in East Kalimantan Province is on the right track, but still requires strengthening governance, resource capacity, and system integration to ensure effective and sustainable government digital transformation. Therefore, strengthening the coordinating role of SPBE management units, continuously improving the human resource capacity of civil servants, and accelerating system and data integration across regional government agencies are necessary. This is needed as an empirical basis for formulating digital

transformation policies that are more adaptive to the specific characteristics and challenges of local governments.

4. Conclusion

This study concludes that the implementation of SPBE in the East Kalimantan Provincial Government has shown significant progress in policy and institutions, but has not yet reached the level of maturity in regional government digital transformation. The increase in the SPBE index and the presence of regional regulations demonstrate the regional government's commitment to systematically adopting digital government policies. Overall, SPBE implementation in East Kalimantan Province is on the right track, but still requires strengthening governance, capacity, and integration to achieve effective and sustainable digital government transformation. This is because it is suspected that this achievement still reflects greater administrative compliance with national policies than optimization of SPBE use in public service practices and strategic decision-making.

The main challenges in implementing SPBE in East Kalimantan Province lie in institutional coordination, system integration, and human resource readiness. The fragmentation of implementation across regional government agencies has led to suboptimal integration of digital services and data use. This situation indicates that the government's digital transformation is still sector-based and has not yet fully adopted an integrated digital governance approach.

Ultimately, the readiness of human resources and digital infrastructure is the determining factor for the success of SPBE. Limited digital competency among civil servants, dependence on third parties, and suboptimal system interoperability hinder the use of SPBE as an instrument for improving local government performance. Therefore, the success of SPBE is not solely determined by technological factors but also depends heavily on the quality of governance, policy leadership, and ongoing institutional capacity strengthening.

As a follow-up, several strategic agendas are recommended to strengthen the implementation of SPBE in the East Kalimantan Provincial Government. First, strengthening institutional coordination and integration requires affirming the role of the SPBE management unit as an orchestrator of digital transformation across regional government organizations. This step is crucial to reducing implementation fragmentation and ensuring consistency of digital policies across all regional government sectors.

Second, local governments need to prioritize developing the capacity of their human resources through planned, sustainable, and organizationally needed digital competency improvement programs. This capacity building should focus not only on technical aspects but also on understanding digital governance, change management, and the use of data in decision-making.

Third, optimizing system integration and data interoperability needs to be a key agenda in SPBE development. Local governments are advised to strengthen SPBE architecture and integrated data governance so that the digital systems developed are not fragmented but rather capable of supporting integrated public services and evidence-based policies.

In future research, an expanded SPBE implementation could be studied using the perspective of public service users, along with a comparison of SPBE practices across regions. This approach is expected to provide a more comprehensive

understanding of the effectiveness of digital transformation in local government in Indonesia.

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