

SPBE Policy Evaluation in Army Physical Services Toward One Physical Data Service

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Abstract

Purpose: This study aims to evaluate the implementation of the Electronic-Based Government System (SPBE) within the Indonesian Army's Physical Services Department (Dinas Jasmani Angkatan Darat od Disjasad), focusing on the Physical Information System (Sisfojas) as a digital service innovation for managing single physical data. The evaluation seeks to identify challenges and formulate strategies to improve the system's effectiveness, efficiency, and integration.

Methodology: This study uses a descriptive qualitative approach based on William N. Dunn's policy evaluation model, which includes six dimensions: effectiveness, efficiency, adequacy, equity, responsiveness, and accuracy. Data were collected through interviews, observations, and document reviews, and analyzed using Miles and Huberman's interactive model with triangulation.

Results: The findings indicate that Sisfojas has not been optimally implemented as an evidence-based decision-making tool. The limitations include low data update frequency, uneven participation among units, and lack of regulatory reinforcement. Despite its potential to support leadership decisions and data integration, current SPBE practices remain centralized within a single unit (Infolahta) and lack comprehensive coordination.

Conclusions: Improving SPBE implementation requires six key actions: regulatory updates, human resource capacity building, system modernization, role restructuring, hybrid work integration, and performance incentives linked to SPBE data, summarized in a logical framework for sustainable improvement.

Limitations: The study is limited to Sisfojas in Disjasad and does not cover other military branches or broader populations.

Contributions: This study contributes theoretically by adapting Dunn's evaluation model to military digital governance and practically by proposing a policy roadmap for improving SPBE through regulatory, cultural, and technological reforms.

Keywords: *Electronic Government System, Policy Evaluation, Public Administration*

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1. Introduction

The rapid advancement of information and communication technology has opened significant opportunities for Indonesian ministries and institutions to implement innovations, particularly through electronic-based government systems (SPBE) or e-government. The Ministry of Communication and Informatics defines e-government as the application of electronic-based services to enhance the effectiveness and efficiency of public service delivery. In public administration, SPBE aims to establish a bureaucracy that is organized, accountable, efficient, and productive (Masengi, 2025).

The implementation of SPBE in Indonesia is legally based on Presidential Regulation Number 95 of 2018, which emphasizes the use of information technology to promote clean, effective, transparent, and accountable governance. Complementing this, Minister of Administrative and Bureaucratic Reform Regulation Number 59 of 2020 provides evaluation guidelines covering policy, governance, management, and service indicators. These frameworks align with the 2020–2024 National Medium-Term Development Plan (RPJMN) and Golden Indonesia Vision 2045, both of which prioritize digital transformation as a key driver of developing a modern and adaptive bureaucracy.

Within the Indonesian Army (TNI AD), the SPBE implementation is realized through the Information and Technology System (Sistekinfo), as regulated by the Army Chief of Staff Regulations Number 14 of 2021 and Number 73 of 2022. One of its core innovations is the Physical Information System (Sisfojas), developed by the Army Physical Service (Disjasad) in 2017 as a centralized database for physical training policies, facilities, personnel, education, and athlete information. Despite its strategic potential, recent evaluations have indicated persistent challenges, such as low operational usage, limited system integration, restricted access, and a steady decline in user activity since 2020. These issues suggest gaps in policy implementation that warrant further research.

Previous studies on e-government evaluation have primarily focused on civilian public service contexts ([Damayanti & Prantama, 2025](#); [Divayana, 2017](#); [Malau & Ambarawati, 2025](#); [Mantiri, Dilapanga, & Mongi, 2019](#); [Picazo-Vela, Gutiérrez-Martínez, Duhamel, Luna, & Luna-Reyes, 2021](#); [Redfada & Nurharjadmo, 2024](#); [Rokim, Putra, Rumana, & Indawati, 2024](#)). Their findings consistently show that evaluating public information systems contributes to greater bureaucratic efficiency, effectiveness and transparency. However, limited research has examined SPBE evaluation in the defence sector, particularly in the Indonesian Army's military environment.

To address this research gap, this study evaluates the implementation of the SPBE policy in the Army Physical Service through a case study of the Sisfojas system as an innovation in a single physical data service. This study employs Dunn's public policy analysis model combined with fishbone analysis, offering a novel framework for assessing SPBE in a military context, an area rarely explored in existing scholarship. The originality of this study lies in bridging public administration theory with the practical realities of digital governance in the defense sector. Digital technologies significantly influence consumer behavior, as individuals now possess constant access to information and communication tools, such as social media via mobile devices, which shape how they interact and make decisions ([Khan & Al Amin, 2021](#); [Vial, 2021](#)). The study's findings are expected to enrich the discourse on SPBE implementation in military organizations and provide practical insights into strengthening digital transformation within the Indonesian Army. Ultimately, this study supports Indonesia's broader agenda of building an inclusive, effective, and adaptive digital bureaucracy in the era of Industry 4.0.

2. Literature Review

2.1 Evaluation Models in Public Policy

Evaluation is a systematic process of collecting and analyzing evidence to determine the effectiveness and impact of a policy, program, or process, against its objectives. According to the Great Dictionary of the Indonesian Language and LAN (2015), evaluation not only measures results but also examines policy implementation, its effects, justifications, and social implications. Hence, evaluation functions as a strategic instrument for identifying policy benefits and guiding evidence-based policy improvements.

Various models have been developed to provide structured frameworks for policy evaluations. One of the most widely used is Stufflebeam's CIPP (Context, Input, Process, Product), which assesses needs, strategies, implementation, and outcomes. Its strength lies in supporting decision-making across program stages, although it requires extensive data. Another model, the CSE-UCLA Model by Alkin (1969–1991), adopts a more adaptive and continuous approach through five evaluation stages: system assessment, planning, implementation, improvement, and certification (Parma, 2023). This model emphasizes responsiveness and iterative learning during the execution of the program.

In contrast, [Dunn \(2015\)](#) positions policy evaluation as an integral part of policy analysis and proposes six key dimensions: effectiveness, efficiency, adequacy, equity, responsiveness, and appropriateness. These indicators allow evaluators to capture both the technical and social dimensions of policy performance. Dunn's model is particularly relevant for assessing the Indonesian Army's Physical Information System (Sisfojas) because it accommodates considerations of fairness, user responsiveness, and institutional suitability beyond purely operational outcomes.

2.2 SPBE and Information Systems in the Public Sector

Information systems are central to the digital governance. The adoption of information and communication technologies including mobile apps, online platforms, and automated systems enables governments to enhance administrative efficiency across multiple areas, ranging from registration processes to the delivery of public services ([Prayitno, 2023](#); [Putri, Syamsu, & Triono, 2024](#); [Ukwuoma, Cirman, & Oye, 2022](#)). Similar views are expressed by Mulyanto, [Cegielski et al. \(2014\)](#), [Singh and Hess \(2020\)](#), who highlight their strategic role in supporting management and decision-making processes. The rise of Industry 5.0 has further accelerated public service digitalization. Heiskala et al. (2016) described digitalization as the transformation of manual activities into digital processes to improve efficiency. Other scholars [Torfing \(2019\)](#), [Tui, Ilato, and Katili \(2022\)](#), affirm that digital transformation enhances transparency, accountability, and service accessibility.

In Indonesia, the implementation of the Electronic-Based Government System (SPBE) is guided by Presidential Regulation Number 95 of 2018 and aims to promote clean, effective, and accountable governance in the public sector. The Ministry of Administrative and Bureaucratic Reform further supports this framework through Regulation Number 59 of 2020, which provides evaluation indicators for SPBE performance. These policies align with the national digital transformation agenda articulated in the 2020–2024 RPJMN and Vision of Golden Indonesia 2045 ([Mukhlis, Makhya, Yulianto, & Aviv, 2025](#)).

2.3 Innovation and Digital Transformation in Military Institutions

Innovation plays a critical role in sustaining the digital transformation. As President Joko Widodo stated in the 2019 Annual Session, innovation must transform limitations into opportunities (State Secretariat of Indonesia, 2019). Rogers (in Suwarno, 2008) conceptualized innovation as the introduction of new ideas, practices, or technologies that create value. Robbins (1994) classified innovation into new ideas, products, and continuous improvement, while Albury (2003) emphasized novelty and tangible benefits. Khessina (2018) further notes that innovation evolves from creativity to a large-scale impact.

Within the Indonesian Army (TNI AD), digital transformation is embodied in the implementation of SPBE through the Information and Technology System (Sistekinfo), as mandated by Army Chief of Staff Decree Number KEP/762/X/2020 and reaffirmed in the 2023 TNI AD Rengar Infolakta Rakernis. Sistekinfo development prioritizes reliability, integration, security, validity, interoperability, and good governance ([Manshur, 2021](#)). One of its flagship initiatives is the Physical Information System (Sisfojas), a real-time database that supports evidence-based decision-making in military physical development and personnel training.

2.4 Synthesis and Research Focus

Previous studies on e-government and information system evaluation have predominantly explored civilian public service sectors such as e-learning ([Divayana, 2017](#); [Molenveld, Verhoest, & Wynen, 2021](#)), performance assessments, population data management [Mantiri et al. \(2019\)](#), and health services ([Rokim et al., 2024](#)). While these studies demonstrate that information system evaluation enhances bureaucratic performance and transparency, few have examined SPBE evaluation in the defense environment. Therefore, this study fills a critical gap by analyzing SPBE implementation in the Indonesian Army through the Sisfojas system.

This study employs Dunn's policy analysis model complemented by fishbone analysis to identify the causal factors influencing SPBE performance. This study adopts an exploratory and descriptive qualitative approach, focusing on evaluating system implementation rather than testing hypotheses. The

aim is to generate insights that bridge public administration theory with digital governance practices in military institutions, contributing to both scholarly understanding and policy improvements.

3. Methodology

This study employs a descriptive qualitative design to explore the implementation, evaluation, and development of the Physical Information System (Sisfojas) as a service innovation within the Army Physical Education Service (Disjasad). A qualitative approach enables a holistic understanding of policy phenomena within their real context, allowing researchers to interpret meanings and implications beyond quantitative indicators ([Sugiyono, 2010](#)).

3.1 Research Site and Informants

The research was conducted at the Army Physical Education Service (Disjasad), located on Jalan HMS Mintaredja No. 80, Baros, Cimahi. Disjasad plays a strategic role in developing soldiers' physical fitness and education, making Sisfojas an essential system for managing real-time physical data. Informants were selected through purposive sampling, considering their expertise and direct involvement in the Sisfojas management. They included the Head of the Army Physical Service (Kadisjasad), Head of Information and Data Processing (Kainfolahtha Disjasad), Head of Personnel and Logistics Section (Kabagperslog Setdisjasad), and Officer of Information and Data Processing Section (Pasi Infolahtha Disjasad). This combination ensured a balanced representation of the strategic, managerial, and technical perspectives.

3.2 Data Collection and Analysis

Data were gathered through in-depth interviews, direct observations, and document reviews. Primary data were obtained from Sisfojas application use and internal evaluation documents, while secondary data were drawn from interviews and institutional records. To ensure data validity, triangulation was applied across sources, techniques and time ([Kankanhalli, Charalabidis, & Mellouli, 2019](#)). Data analysis followed [Kankanhalli et al. \(2019\)](#) interactive model comprising data reduction, data display, and conclusion drawing, allowing findings to evolve through iterative verification and refinement.

3.3 Analytical Framework

This study applies William N. Dunn's policy evaluation model was used as the main analytical framework, assessing six dimensions of policy performance: effectiveness, efficiency, adequacy, equity, responsiveness, and appropriateness ([Dunn, 2015](#)). This model is particularly relevant for evaluating Sisfojas because it captures both the technical and organizational aspects of digital policy implementation. To complement this, a Fishbone Diagram analysis was used to identify the root causes of implementation challenges related to human resources, technology, data management, policy alignment, organizational environment, and monitoring mechanisms. The integration of these two analytical tools strengthens the study's credibility by linking the evaluative dimensions with the causal diagnosis.

3.4 Validity and Credibility

The validity of the findings was ensured through data, method, and theory triangulation, which minimized bias and enhanced reliability. The combined use of Dunn's model and fishbone analysis provides a rigorous foundation for evaluating SPBE policy implementation and supports the formulation of practical recommendations for strengthening digital governance within the Army Physical Education Service.

4. Results and Discussions

4.1 Evaluation of SPBE on the Indonesian Army's SISFOJAS as an Innovation in One Physical Data Service

Digital transformation in the public sector refers to the application of digital technologies to reshape and improve the delivery of government services to citizens. This process is closely linked to digital innovation, which involves creating and implementing new digital products and services. While digital innovation focuses on developing novel solutions, digital transformation represents the broader impact

of multiple digital innovations that collectively alter organizational structures, practices, and values within the public sector. Together, they drive systemic change in how government institutions operate and interact with society, replacing or complementing traditional administrative processes ([Hinings, Gegenhuber, & Greenwood, 2018](#)). Digital transformation encompasses the adoption and integration of various new information and communication technologies to develop more efficient, flexible, agile, and sustainable solutions for industrial systems. Besides technology, this process also involves new organizational forms and leads to new business models ([Camarinha-Matos, Fornasiero, Ramezani, & Ferrada, 2019](#)). The implementation of the Electronic-Based Government System (SPBE) within the Army Physical Service (Disjasad) reflects the military's efforts to modernize administrative processes and strengthen digital governance. Through [Dunn \(2015\)](#) six dimensions: effectiveness, efficiency, adequacy, equity, responsiveness, and accuracy this study evaluates how the Physical Information System (Sisfojas) functions as a single-data service innovation.

a. Effectiveness

SPBE has improved access to key data on soldiers' physical abilities, fitness levels, and athletic performance, thereby supporting evidence-based decision-making. However, gaps remain in leadership awareness and coordination of data sources. The findings suggest that strengthening data literacy among leaders is crucial to ensure that SPBE data directly inform policies and operational decisions.

b. Efficiency

The system accelerates data processing and reduces manual workloads; however, overreliance on a single unit (Infolahta) for data input reduces overall efficiency. Limited commitment to routine updates causes data delay. Improving inter-unit collaboration and assigning clear data management responsibilities are necessary to achieve a balanced and efficient system performance.

c. Adequacy

The current SPBE platform, developed in 2017, no longer meets the growing complexity of data management requirements. Outdated features hinder its functionality and relevance. Regular system renewal and digital innovation, such as dashboard integration and automated analytics, are essential to maintain service adequacy in line with evolving technological standards.

d. Equity

SPBE implementation varies among units, with some actively updating data while others lag behind due to unequal digital skills and workload distribution. Strengthening digital training and ensuring equitable task allocation will enhance inclusivity and system reliability across the organization.

e. Responsiveness

SPBE has increased the speed of response to leadership information needs, particularly in terms of providing personnel and performance data. However, responses to system improvements remain reactive. Institutionalizing SPBE development through internal regulations and proactive policy mechanisms sustains responsiveness and adaptive innovation.

f. Accuracy

The system produces relevant data but requires improvement to align with user needs in the digital era. The interviewees emphasized the necessity of new policies supporting mobile access, real-time monitoring, and user-friendly interfaces. Aligning system design with actual user workflows strengthens data accuracy and credibility.

Overall, SPBE in the Army Physical Service has demonstrated progress as a data-driven innovation but still faces structural and cultural constraints. The sustainability of its development depends on the following:

- a. Periodic system and feature updates
- b. Strengthened policies for compliance and evaluation
- c. Equitable human resource capacity and digital literacy; and
- d. User centered innovation

By addressing these areas, the SPBE can evolve into a credible, integrated, and adaptive single physical data service that supports the modernization of military digital governance. Similar to the results of [Lægveid and Rykkja \(2022\)](#), the findings reveal that horizontal collaboration encourages local

adaptation and leverages specific expertise, fostering a collaborative culture that promotes wider participation and more deliberative decision-making processes.

4.2 Gap Analysis of SPBE Implementation in the Army Physical Service Environment

In view of rising social and economic inequalities, public service delivery should be both universal, that is, independent of the recipients' social or economic status, and contextualized, that is, able to compensate for different local needs and conditions ([Bertot, Estevez, & Janowski, 2016](#)). Therefore, based on the results of in-depth interviews with five key informants within the Army Physical Services Department and an analysis of the six dimensions of policy evaluation according to William N. Dunn, a complete picture was obtained regarding the implementation of the Electronic-Based Government System (SPBE), specifically the Physical Information System application. Findings emerging from the dimensions of effectiveness, efficiency, adequacy, equity, responsiveness, and accuracy indicate that although the SPBE has great potential in supporting fast, accurate, and integrated physical data services, its implementation still faces various structural, technical, and cultural obstacles. Therefore, to clarify the current position of SPBE implementation, it is important to conduct a gap analysis that compares the expected ideal conditions with the actual conditions in the field. This analysis is expected to serve as the basis for formulating strategies to update and innovate the SPBE as the main driver of quality and evidence-based physical data services (evidence-based policy).

Table 1. Gap analysis of theory and field findings

Evaluation Dimension	Ideal Condition (Theoretical)	Actual Condition (Empirical)	Implementation Gap
Effectiveness	SPBE is actively utilized as a valid and up-to-date evidence base for leadership decision making.	SPBE utilization is not yet widespread, with some leaders unaware of the data sources from the physical information system.	SPBE utilization is not yet widespread, with some leaders unaware of the data sources from the physical information system.
Efficiency	SPBE accelerates work processes and is efficient in terms of time, effort and resources.	SPBE is not yet optimally utilized, data updates are inconsistent, and it still relies on specific departments for its use.	Lack of staff commitment and capability in maintaining the system and routinely inputting data
Edequacy	SPBE meets all current and relevant information needs in line with technological developments and is supported by adequate, formal policies.	SPBE has not been updated since 2017; many features are irrelevant, and there are no new policies from management.	There is no formal policy governing the strategic, comprehensive updating, and utilization of the SPBE.
Equity	The workload related to the SPBE input was distributed evenly and proportionally across each work unit.	The data input workload was uneven. Some units are active, whereas others are passive. There is a dependency on Infolahta and a lack of a handover mechanism for data input tasks during personnel rotations.	The imbalance in roles between work units and a weak personnel rotation management mechanism leads to stagnant data updates.
Responsiveness	SPBE can respond to data needs quickly and accurately and is widely used in	SPBE is used on a limited basis and has not yet become a work habit for the staff. Leadership responses	There is a gap between leadership appreciation of SPBE and actual implementation on the

	decision-making by leaders and staff.	are generally positive but have not yet been incorporated into strategic policies and implementation incentives.	ground; there are no responsive policies that emphasize SPBE priorities.
Accuracy	The SPBE policy is regularly updated to reflect evolving needs and technologies while strategically addressing organizational challenges.	Some features are irrelevant to this new policy. No regular policy revisions were observed. The need for innovation has been recognized but has not yet been formalized in the literature.	No regular policy updates or technical system revisions were available. However, the policy direction has not been adjusted to operational conditions.

The analysis of these six dimensions revealed several implementation gaps between the ideal and actual conditions in the field. To gain a deeper understanding of the factors contributing to the suboptimal implementation of the Electronic-Based Government System (SPBE) within the Army Physical Services Department, a Fishbone Diagram analysis approach was used. This approach identifies the root causes of the gaps through six main categories: Man (human resources), Method (policies and procedures), Machine (technology/systems), Material (data and infrastructure), Environment (organizational conditions), and Measurement (evaluation and monitoring).

1. **Man (Human Resources):** One of the main causes of the ineffectiveness of SPBE implementation lies in the quality and distribution of human resources. Staff's lack of understanding of the urgency and function of SPBE as an evidence-based policy tool leads to low enthusiasm for operating the system. Furthermore, personnel rotation without a formal transfer process results in the loss of institutional knowledge and work continuity. Weak commitment and low digital literacy in some work units also exacerbate disparities in SPBE utilization. Furthermore, there is a generation gap, with most policymakers being over 50 years old and tending to be more familiar with conventional work methods. This situation slows the adoption of digital innovation because it has not yet become a top priority in leadership.
2. **Method (Policy and Procedure):** The absence of a written policy emphasizing the priority of SPBE resulted in its implementation being partial and non-strategic. Although leaders appreciate the system's existence, the policy is not supported by operational instruments such as SOPs, performance incentives, or a reward and punishment system that could encourage a digital work culture. This policy inaccuracy prevents SPBE from becoming part of the institution's overall work culture.
3. **Machine (Technology and Systems):** Another problem stems from the technical aspect, namely, the SPBE system itself. Since its inception in 2017, the system has not undergone adequate technical or functional updates. Many features are no longer relevant to current organizational policies, and limited access from outside the military network makes the system unreliable in a modern and flexible work context. The lack of integration with other applications within the Indonesian Army also hinders its effectiveness.
4. **Material (Data and Infrastructure):** Incomplete and irregular data input into the system are major obstacles in producing accurate and real-time information. The lack of standardized data formats and weak regular updates increase the risk of incorrect decision making. Furthermore, uneven network infrastructure and insufficient server capacity hinder optimal system connectivity and access.
5. **Environment (Organizational Environment and Work Culture):** The organizational environment, which tends to be bureaucratic, hierarchical, and resistant to digital innovation, also hinders responsiveness to SPBE. The work culture does not fully support the digital work systems. Some staff still view the system as an additional burden rather than a work tool. Although SPBE is institutionally recognized, it has not yet become a part of the culture.
6. **Measurement (Evaluation and Monitoring):** The absence of a regular evaluation mechanism for SPBE performance prevents systematic identification and addressing of system weaknesses. The last evaluation was recorded in 2022, and no evaluation was scheduled for 2023 because of budget

refocusing. The irregularity of the evaluation process also slows down the improvement of the system, which should be adapted to organizational needs.

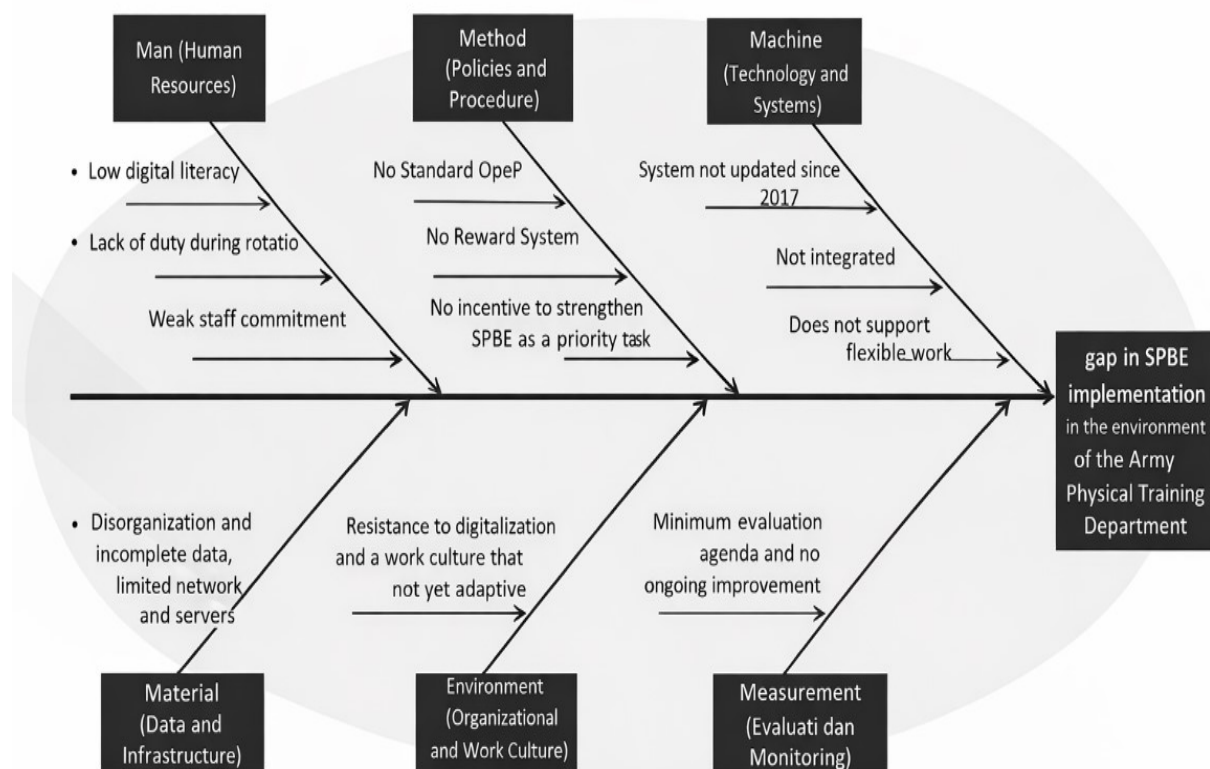


Figure 1. Fishbone diagram

Figure 1 shows the fishbone analysis, it is clear that the SPBE implementation issues in the Army Physical Education Service are not merely a technical system issue but rather a complex set of structural, cultural, and policy issues that require a comprehensive and integrative approach to improvement. This narrative also reinforces the argument for the need for comprehensive policy evaluation and updating of digital strategies within the framework of modern data-driven military bureaucratic reform. Similar to [Curtis \(2019\)](#), digital transformation in the public sector refers to the application of digital technologies to reshape and improve the delivery of government services to citizens.

4.3 Efforts to Increase the Benefits of SPBE for the Army Physical Service

Based on an in-depth evaluation of the implementation of SPBE within the Army Physical Services Department, analyzed using William N. Dunn's six dimensions of policy evaluation, reinforced with a fishbone analysis approach, provided a comprehensive picture of the various inhibiting factors in system optimization. The root causes were found to be spread across human resources (Man), procedures and policies (Method), technology (Machine), data and infrastructure (Material), the organizational environment (Environment), and measurement and evaluation (Measurement). Therefore, strategies to improve the benefits of SPBE must be systematically designed by directly addressing the identified sources of obstacles.

First, to address gaps in the effectiveness dimension related to environmental support and methodical gaps, a strategy is needed to strengthen internal regulations that make SPBE the single source of truth for all decision making. This will minimize ambiguity in data use and strengthen the institutional legitimacy of the system. A Letter of Instruction or Decree from the Head of the Army Physical Services Department can serve as a formal umbrella for mandatory and consistent system use. Second, in terms of efficiency, the strategy must target the weaknesses of both machines and humans. The system interface design must be simplified and optimized for ease of use across work units. Similarly, regular

technical training should be conducted to equip SPBE operators with adequate digital skill. This can also reduce resistance from users unfamiliar with technology and expedite bureaucratic processes.

Third, gaps in the adequacy dimension stemming from material and method factors require a strategy for periodic systems and policy updates. The SPBE modules and features need to be updated based on the needs of field users through surveys, forums, or user feedback loops. The user-driven innovation approach ensures that the system remains relevant to the needs of core tasks and the latest policies within the Indonesian Army.

Fourth, to address issues in the alignment dimension stemming from people and the environment, a formal SPBE management personnel structure should be established in each work unit. The appointment of SPBE operators through a decree and handover mechanism will strengthen the continuity of data management and prevent stagnation during personnel rotations. The direct involvement of Infolahta in this process is crucial for providing technical guidance and tiered supervision. Fifth, to address the responsiveness gap stemming from weak measurement and environmental leadership, it is necessary to emphasize that all data required by leaders must be derived from the SPBE output. Furthermore, the formation of a cross-disciplinary team for responsive SPBE development can accelerate innovation and improve cross-sector communication ([Wirtz & Daiser, 2018](#)). This will strengthen user engagement and expedite the system's response to dynamic organizational needs.

Sixth, regarding the accuracy dimension, the strategy focuses on improving measurement and methods through the institutionalization of a system evaluation and update cycle every 2-3 years. This evaluation should encompass technology, organizational structure, policies, and user needs to ensure that the policy direction remains adaptive to the unit's operational context. Periodic evaluations form the basis for developing new policies that anticipate changes in the strategic environment. Overall, the strategy for increasing the benefits of SPBE for the Army Physical Education Service requires three main approaches: (1) strengthening internal regulations based on command and incentives, (2) empowering users through training and role allocation, and (3) developing a system based on evaluation, innovation, and technology integration. If these strategies are implemented well, SPBE has the potential to become a major catalyst for modern, responsive, and sustainable digital-based unit-service reform.

To provide a more structured and measurable direction for implementing the six strategies to increase the benefits of SPBE for the Army Physical Education Service, systematic mapping in the form of a Logical Framework (logframe) is required. These six strategies are as follows: (1) strengthening internal policies and regulations, (2) improving the competency of SPBE operator human resources, (3) developing and innovating SPBE features according to current needs, (4) equalizing data input tasks through a formal assignment system, (5) increasing the speed and accuracy of SPBE-based data service responses, and (6) regular policy updates in line with operational and technological dynamics.

Each strategy has a specific objective that, if achieved synergistically, will lead to the realization of the SPBE as a single physical data service innovation that is not only efficient but also relevant to the challenges of modern digital bureaucracy. Therefore, this strategy is further formulated in a logical framework that connects the general objective, expected results (outcomes), performance indicators, and activity outputs, so that implementation is not merely conceptual but can also be monitored and evaluated systematically and accountably. The developed logframe aims to serve as an operational reference in developing SPBE work programs within the Army Physical Service and as a basis for future policymaking. In this way, digital reform efforts through SPBE truly provide tangible benefits in improving service effectiveness and the accuracy of evidence-based decision-making ([Nicha, Andri, Adianto, & Zulkarnaini, 2025](#)).

Table 2. Logical framework for strategy to improve SPBE of the Army physical service department

General Objective (Impact)	Optimizing SPBE as a digital innovation for one physical data service to support policies and improve the organizational performance of the Army Physical Service		
Specific Objectives (Outcome)	Performance Indicators	Sources Verification	Assumptions
1. SPBE is utilized effectively by all work units	Increased number of accesses and utilization of SPBE in the decision-making process.	System reports, utilization documentation.	Leaders issue formal regulations regarding the use of the SPBE.
2. Work efficiency increases through an integrated system of work.	The data presentation time was reduced by $\geq 30\%$ compared to that before.	Manual data benchmarking vs. SPBE.	A stable network and server infrastructure.
3. The SPBE is updated according to the needs and latest technology.	New features were integrated, and the system was made more user-friendly.	System update logs and user feedback.	System update budget is available.
4. An equal distribution of data input was achieved in all work units.	Each unit has an active operator and routinely updates operator assignment decree data	SPBE activity logs.	Technical training and supervision were provided.
5. SPBE's responsiveness of the SPBE in meeting data needs has increased.	80% of management data requests are fulfilled in less than 1 day	System response time and service documentation are also important.	Staff commitment and cross-departmental engagement.
6. The SPBE policy is regularly and appropriately updated.	Minimum of one SPBE policy revision every two years.	Policy documents and system performance evaluation.	Alignment of organizational direction and digital innovation.
Output	Main Activity	Output Indicator	Source Verification
1. Formal regulations for the Disjasad	- Policy development workshop - Regulation dissemination to all units.	1 SPBE regulation document was published and disseminated to the public.	Copies of the regulations and activity attendance lists were also provided.
2. Availability of SPBE operator training modules	- Curriculum development - Regular training	More than 80% of work units participate in training.	List of participants and training materials
3. Implementation of system updates and innovations	- User needs survey - Development and integration of new features:	At least two new features were implemented.	Update logs and user survey responses.
4. Formation of the Cross-Unit SPBE Team	- Team Formation Decree - Regular Coordination Meetings	An official team is formed with a minimum of four meetings per year.	Team Decree: Meeting minutes.

5. Periodic monitoring and evaluation of SPBE	- Semesterly audited SPBE performance - Evaluation results reporting	Two evaluation reports are generated annually.	System evaluation report document
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After developing the Logical Framework as a strategic planning tool, the next step is to ensure that the implementation of the SPBE benefit enhancement strategy is not limited to the planning stage but is truly integrated into the work systems and organizational culture of the Army Physical Education Service. The six strategies outlined in the logframe provide concrete guidance on the necessary interventions, ranging from regulatory aspects, human resources, and technology development to organizational governance. For example, strengthening internal policies and regulations should be a top priority, as clear and robust policies will provide legitimacy for all SPBE implementations. Furthermore, increasing the capacity of human resources as technical implementers ensures that the existing system operates optimally. The development of digital features and innovations also needs to be directed at the real needs of users so that SPBE does not become an obsolete and abandoned system.

All outputs outlined in the logframe, such as the establishment of a formal SPBE policy, increased operator participation, a distributed assignment system, and the availability of a digital-based monitoring and evaluation system, must serve as indicators of success that are continuously monitored over time. This requires collaboration across work units within the Army Physical Services Agency and support from the higher command to ensure comprehensive budget, resources, and policy support. This is in line with the research by [Szedmák, Varga, and Szabó \(2025\)](#), which found that digital transformation within the public sector can adopt approaches to collaborating with stakeholders. Thus, the logframe is not simply a strategic documentation tool but also a managerial control tool for the continuous improvement of the SPBE system. Successful implementation of this strategy will ultimately result in improved organizational performance, more efficient internal public services, and the use of physical data as an accurate, real-time, and relevant evidence base for leadership decision making.

4.4 Evaluation Efforts on the Formulation of SPBE Policy in the Indonesian Army

An evaluation of the SPBE within the Army Physical Education Service revealed significant gaps between the ideal and actual conditions. These findings have important implications for the formulation and improvement of SPBE policy more broadly, within the Indonesian Army. Conceptually, policy evaluation is not simply an effort to assess results, but also serves as a feedback loop instrument to reshape the direction and substance of policy to remain relevant to environmental changes and organizational needs ([Dunn, 2015](#)).

1. First, the primary implication is the need for a more responsive, adaptive, and data-driven SPBE policy. The evaluation revealed that the existing SPBE policy had not been updated since its development in 2017. This condition resulted in system features becoming irrelevant and not supporting the real-time information needs of the leaders. Therefore, reformulating the SPBE policy within the Indonesian Army must include adjustments to current information technology developments and the dynamic operational needs of the organization ([Dwiyanto, 2011](#)).
2. Second, from an organizational perspective, the evaluation results emphasize the importance of formulating an SPBE policy that includes a clear institutional structure and responsibility. The lack of equitable distribution of data input across work units and reliance on specific departments indicate the need for internal regulations governing the division of roles, coordination mechanisms, and formal appointment of operators. This policy must be binding and supported by a reward-punishment system for effective implementation ([Osborne & Brown, 2011](#)).
3. Third, the evaluation emphasized the importance of making SPBE part of an evidence-based decision-making system. The policy to be formulated must affirm that all strategic decisions within the Indonesian Army, particularly in the physical field, are based on data sourced from the SPBE. Thus, the information system will not simply be an administrative complement but a key foundation for modern defense institutional governance ([Schedler & Proeller, 2007](#)).
4. Fourth, strategically, the evaluation results can serve as a basis for strengthening the synergy between the Army Physical Service and the central unit managing the Indonesian Army's

information system, such as the Information and Training Service. This implication opens up opportunities for proposing system revisions through a more systematic framework supported by the budget so that improvements do not stop at the technical level but also reach higher-level policy structures.

5. Finally, the results of this evaluation have implications for training design and human resource capacity building. Every future SPBE policy must mandate periodic training, digital literacy, and enhanced information technology capabilities for all personnel involved as a form of organizational readiness to implement the policy consistently and sustainably ([Indrajit & Djokopranoto, 2006](#)).

From this evaluation, the SPBE in the Army Physical Service not only provides a snapshot of the unit's internal conditions but also serves as an important reference for the Indonesian Army in developing a more strategic, service-oriented SPBE policy that supports the modernization of a data-driven defense-management system.

4.5 Implication

a. Theoretical Implications

This study expands the application of Dunn's policy evaluation framework into the military administration context, integrating it with fishbone analysis to identify the root causes of implementation barriers. This demonstrates that public administration models can be adapted to hierarchical and security-sensitive organizations, enriching the literature on digital governance in the defense sector.

b. Practical Implications

This study identifies several strategic directions to enhance SPBE performance within Disjasad:

- 1) Formulating updated and binding regulations on SPBE roles and responsibilities.
- 2) Strengthening digital literacy and competency-based HR development
- 3) Modernizing the Sisfojas platform through system updates, integration, and user-friendly features
- 4) Establishing a data-driven culture through regular monitoring, incentives, and leadership modeling.

By implementing these measures, Disjasad can transform Sisfojas into a credible, adaptive, and sustainable innovation in physical data management, contributing to the broader goals of bureaucratic reform and digital governance in the Indonesian Army. Similar to the results of [Lopes and Farias \(2022\)](#), for collaborative innovation processes in the public sector to succeed, governance should ensure several key factors: the active involvement of top leaders and decision-makers, the formulation of clear objectives and identified needs, the creation of innovations that deliver tangible value to stakeholders, and the development of mechanisms that enable effective communication, interaction, and the exchange of information and knowledge.

5. Conclusions

5.1 Conclusion

This study concludes that the implementation of the Electronic-Based Government System (SPBE) in the Physical Information System (Sisfojas) within the Army Physical Service (Disjasad) has made notable progress but remains suboptimal as a single data service innovation. Evaluation using Dunn's policy analysis framework revealed that although the SPBE contributes to data integration and efficiency, its performance is constrained by uneven data management, limited policy support, and varying levels of user engagement. The findings emphasize that successful SPBE implementation in the defense sector requires not only technological enhancement but also organizational adaptation. Strengthening leadership commitment, regulatory clarity, and digital competency is critical to sustaining an evidence-based and data-driven culture within Disjasad. Furthermore, the Logical Framework developed in this study provides a structured roadmap for aligning strategy, performance indicators, and operational activities in SPBE governance. Overall, this study contributes to the literature by demonstrating how Dunn's evaluative model can be effectively applied to assess digital transformation within a military institution, a domain rarely explored in public administration studies.

5.2 Research Limitations

This study is limited to evaluating the implementation of the Electronic-Based Government System (SPBE) within the Army Physical Services Department (Disjasad) and focuses solely on the Sisfojas

application as a physical data service. Consequently, the findings cannot be generalized to other Indonesian Army units or military branches in Indonesia. Additionally, this study employs a descriptive qualitative approach emphasizing policy analysis; future studies could integrate quantitative or mixed-method approaches to measure system performance more systematically. Cultural, organizational, and technological factors outside Disjasad were not explored in depth, leaving room for broader comparative research on digital transformation across the defense sector.

5.3 Suggestions and Direction for Future Research

To address these obstacles, this study recommends that the Army Physical Education Service immediately draft and implement a new, more comprehensive SPBE policy. This policy should include a clear role structure, data update procedures, and incentives and performance consequences for each unit involved in the process. Furthermore, increasing human resource capacity through regular training and technical assistance is essential to strengthen a data-driven work culture and improve the digital literacy of all SPBE operators in Indonesia. In addition to regulatory and human resource aspects, technical and substantive system updates are urgently needed. The Sisfojas application needs to be adapted to current technological developments and organizational needs, including the support of hybrid or online work concepts that allow for flexible work without compromising data accuracy. Furthermore, a monitoring and evaluation system based on measurable performance indicators must be implemented to ensure the sustainability of SPBE implementation and to maintain accountability across all work units.

Another important recommendation is the need to integrate Sisfojas with other information systems within the Indonesian Army to achieve cross-unit data integration. This integration will improve the effectiveness of holistic decision-making and strengthen the realization of a single, accurate, and real-time physical education data service. The evaluation results of this study are also expected to serve as a reference for policymakers at higher levels, such as the Indonesian Army's Information and Data Processing Service and Army Headquarters, to support system updates with policy and budget support aligned with the direction of the national digital transformation. Thus, this study confirms that the successful implementation of SPBE within the Army's Physical Services depends not only on the availability of a sound information system, but also on the courage to implement policy updates, strengthen human resource capacity, and develop integrated data governance that is oriented toward evidence-based policy.

This study provides a comprehensive overview of the implementation of the Electronic-Based Government System (SPBE) in the Physical Information System (Sisfojas) application within the Army Physical Service Department. However, this study has several limitations that provide opportunities for further research. First, this study focused solely on the Army Physical Service Department; therefore, the results cannot be generalized to all Indonesian Army organizational units. Therefore, future research could expand the scope of the study to include other units within the Army, thereby obtaining a more comprehensive mapping of SPBE implementation in the defense sector as a whole. Second, this study used a descriptive qualitative approach with an emphasis on policy analysis using William N. Dunn's model. While this approach provides an in-depth understanding, further research could combine it with quantitative or mixed methods to more structuredly measure the system's effectiveness, efficiency, and responsiveness, for example, through surveys involving a wider number of respondents. This would enrich the data and yield more robust findings.

Third, the dynamics of technological development and the demands of rapid digitalization require the ongoing evaluation of Sisfojas. Future research could examine the integration of Sisfojas with other information systems within the Indonesian Army (TNI AD) and the national SPBE platform, particularly regarding data interoperability in accordance with the One Data Indonesia principle. Such a study is crucial for assessing the extent to which Sisfojas can support cross-unit decision-making and strengthen integrated data governance. Fourth, further research should explore the cultural and social factors influencing SPBE utilization in the military, including resistance to change, digital literacy levels, and organizational readiness for digital transformation. This analysis will help formulate SPBE

implementation strategies that focus not only on technical aspects but also on building a sustainable and data-driven work culture.

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Author Contributions

All the authors contributed significantly to this study. RAS conceptualized the study, designed the study, collected the data, and drafted the initial manuscript. MNA analyzed the findings, synthesized the relevant literature, and assisted with manuscript editing. SA coordinated the fieldwork, facilitated the interviews, and validated the empirical data. HTG provided supervision, reviewed the methodology, and critically revised the manuscript to enhance its quality. All authors have read and approved the final version of this manuscript.

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