

Implementation of CMM Method to Measure Maturity Level of SPBE in Palembang City Government

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Abstract: The Palembang City Government faces challenges in synchronizing internal policies with the operational implementation of the Electronic-Based Government System (SPBE). This research aims to measure the maturity level of the Internal Policy Domain and the SPBE Governance Domain in the Palembang City Government using the Capability Maturity Model (CMM) method. Additionally, the study aims to identify gaps through gap analysis and formulate strategic recommendations to achieve the "Optimum" maturity level. The research focuses on evaluating 20 indicators covering the Internal Policy and SPBE Governance domains within the Palembang City Government. The maturity level analysis refers to the framework of Permenpan-RB No. 59 of 2020 and Menpan-RB Guideline No. 3 of 2024. The indicator assessment results show that the Internal Policy Domain reached an index of 4.1 (Very Good), while the Governance Domain obtained an index of 3.4 (Good). Overall, the Palembang City Government possesses a very strong regulatory foundation; however, governance effectiveness remains sectoral and is not yet fully aligned with technical implementation across all regional apparatus. It is recommended that the Palembang City Government strengthen cross-sector coordination through integrated SPBE budget synchronization and conduct periodic policy reviews accompanied by formal documentation to ensure the sustainable improvement of SPBE quality.

Keywords: Electronic-Based Government System, Capability Maturity Model, Internal Policy, SPBE Governance, Maturity Assessment

INTRODUCTION

The Palembang City Government plays a strategic role in adopting and implementing the Electronic-Based Government System (SPBE). Increasing public demand for fast, accessible, and affordable services has driven the administration to continuously innovate its digital infrastructure and suprastructure. However, the implementation of technology alone does not guarantee successful digital transformation. Often, the primary challenge lies not in hardware or software availability, but in process maturity, human resource readiness, and the governance frameworks overseeing technological integration. Therefore, measuring the maturity level is a crucial instrument for mapping the current position and determining future strategic steps.

Despite the establishment of national SPBE regulatory frameworks, regional implementation often faces significant hurdles. A key issue identified is the disconnect between strategic policy and operational execution. Within the context of SPBE evaluations conducted by the Ministry of Administrative and Bureaucratic Reform (KemenPANRB), many local government agencies struggle to provide valid and relevant supporting data aligned with assessment indicators. National evaluations frequently capture only outputs without providing an in-depth view of the internal process capabilities that produce them. Consequently, evaluation results may not fully reflect the actual state of ICT governance maturity within the institution.

This situation is evident in the Palembang City Government, where efforts to fulfill SPBE indicators are often reactive, intensifying only as national evaluation periods approach. A purely administrative approach risks neglecting the essence of sustainable service quality improvement. There is a profound need for a structured self-assessment mechanism to identify internal strengths and weaknesses before external evaluations occur. This

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research addresses this gap by applying the Capability Maturity Model (CMM), tailored to the specific domains and assessment aspects of the national SPBE.(Tingkat Kematangan SPBE Di Disperindag Kabupaten Banjar et al., 2020)

This study holds significant urgency in streamlining data collection and preparation for the KemenPANRB SPBE evaluation. It involves detailed mapping of the existing e-government governance in Palembang. Unlike standard evaluation questionnaires, this research performs a rigorous analysis of evidence and ongoing business processes. The findings will provide not just scores or indices, but concrete process improvement recommendations. Thus, this study serves as a pre-evaluation or internal audit, preparing the Palembang City Government for national evaluation with more accurate and verified data.(Fitri et al., 2024) It is essential to distinguish this research from the National SPBE Evaluation. While the National Evaluation is a macro-assessment tool focused on compliance and general performance targets (per Minister of PANRB Regulation No. 59 of 2020), this research focuses on micro-analysis of process capabilities. This study explores the "why" and "how" behind an indicator's level, rather than just the "what." If the National Evaluation provides a "snapshot" of the condition, this research provides a "clinical diagnosis" of the health of Palembang's SPBE governance system.(Endang et al., 2022) The novelty of this research lies in its integrative approach. Rather than adopting the CMM framework rawly, it aligns CMM capability levels with specific SPBE indicators, particularly within the Internal Policy and Governance domains in a local government context. Furthermore, this study develops a prescriptive improvement framework, providing step-by-step guidance for increasing maturity levels. This approach remains underexplored in previous studies, which tend to be purely descriptive-evaluative.(Pratiwi et al., 2020)

The Capability Maturity Model (CMM) is utilized due to its global track record in measuring software development and IT governance maturity. CMM classifies process maturity into five levels, namely: Initial (Unpredictable and reactive), Managed (Process characterized for projects and often reactive), Defined (Process characterized for the organization and proactive), Quantitatively Managed (Process is measured and controlled), Optimizing (Focus on continuous process improvement).(Ramelan et al., 2023) Palembang was selected as the research object due to its complexity as an economic hub in South Sumatra. With diverse Regional Government Agencies (OPD) and public services, system integration remains a massive challenge. Initiatives like "Palembang Smart City" demonstrate commitment, yet the SPBE foundation must be tested for robustness. Preliminary data shows variations in technology adoption across departments, indicating non-uniform maturity levels.(Prassida & Rifky, 2023) Based on this background, this study evaluates the maturity level of the Electronic-Based Government System (SPBE) in the Palembang City Government titled "Implementation of the Capability Maturity Model to Measure the Maturity Level of Electronic-Based Government Systems (SPBE) in the Palembang City Government." The ultimate goal is to provide strategic recommendations that enable Palembang to achieve an optimal national SPBE index and excellent public service delivery.(Hamidah et al., 2024)

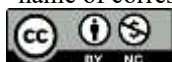
LITERATURE REVIEW

Previous Studies or Research

Table 1. Previous Studies

No	Researcher(s)	Research Title	Methodology	Research Findings
1	Endang Sri Hidayah, Muzzaman Almadani	Maturity Analysis of the Electronic-Based Government System (SPBE) in the South Sulawesi Provincial Government	Qualitative Method	The study found that the SPBE index for South Sulawesi Province was 2.05, categorized as "Fair" (Cukup). This result was attributed to very low contribution scores across several SPBE assessment aspects.
2	Hemy Dwi Pratiwi, Widhy Hayuhardika N.P, Admaja Dwi Herlambang	Evaluation of E-Government Implementation in Sumbawa Besar Regency Government Using the Electronic-Based Government System (SPBE) Framework	Qualitative Method	Dari hasil penilaian penerapan e-government menggunakan SPBE didapatkan nilai 2,8 yang berarti Baik. Based on the assessment of e-government implementation using the SPBE framework, a score of 2.8 was obtained, which is categorized as "Good" (Baik).
3	Diyan Anjani	Process Capability Analysis on the SPBE Management Domain at Diskominfo Tasikmalaya City Based on	Qualitative Method	The results of the process capability analysis within the SPBE management domain yielded a score of 2.28, categorized as "Good" (Baik).

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		PERMENPAN-RB No. 59 of 2020		
4	Afida Nur Faida, Mardiana, Muh. Sarkowi	Implementasi Sistem Pemerintahan Berbasis Elektronik (SPBE) Dinas Komunikasi dan Informatika Kabupaten Tulang Bawang	Qualitative Method	The results of the process capability analysis within the SPBE management domain yielded a score of 2.28, categorized as "Good" (Baik). Tulang Bawang Regency Communication and Informatics Office, reached approximately 99.05% of the target.
5	Grandys F, Giovany M,	Monitoring and Evaluation of the Electronic-Based Government System in Balikpapan City Government Based on Minister of PAN-RB Regulation No. 59 of 2020	Qualitative Method	The maturity level calculation resulted in a final SPBE index of 3.11 for the Balikpapan City Government in 2022, falling into the "Good" category. This index reflects Level 3 (Defined) in process capability maturity, meaning that SPBE implementation follows management functions and standardized guidelines across all work units.

The collective findings from the five previous studies indicate that while the implementation of the Electronic-Based Government System (SPBE) in various Indonesian regions generally achieves a "Good" or "Fair" maturity level with index scores ranging from 2.09 to 3.11, several consistent structural and technical challenges persist. Although domains such as Governance and Public Services often show positive results, there is a recurring weakness in the Management and ICT Audit domains due to insufficient supporting documentation and low process capability. Furthermore, the research highlights that optimal implementation is frequently hindered by limited human resource capacity, budget constraints, and a lack of integrated coordination between regional departments. Consequently, these studies emphasize that achieving a "Very Good" or "Satisfactory" predicate requires a strategic focus on strengthening internal policies, enhancing leadership commitment, and ensuring continuous evaluation of data management and security controls.

E-Government

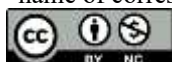
E-Government refers to electronic governance through the use of information and communication technology (ICT) aimed at enhancing efficiency, transparency, and the accessibility of government services, while simultaneously improving relationships between the government and its stakeholders. (Hamidah Purnama Agustriani et al., 2025) Conceptually, as formulated by the World Bank, the use of ICT in managing government bureaucracy serves to transform the relationship between the government and the public, the private sector, or other government institutions to promote community empowerment, public service delivery, transparency, accountability, and administrative efficiency. Currently, the concept of e-government in Indonesia is formally known as the Electronic-Based Government System (SPBE), which is defined as government administration that leverages ICT to provide services to SPBE users. In Indonesia, the e-government concept first gained significant attention in 2001 when President Abdurrahman Wahid issued an instruction regarding the development and utilization of telematics, addressing its role in society, the private sector, the business climate, and the enhancement of technological capacity. By 2003, the concept was further developed through Presidential Instruction No. 3 of 2003 concerning the national policy and strategy for e-government development. (Ramelan et al., 2023) As information technology continued to advance, Indonesia's e-government framework officially transformed into SPBE with the enactment of Presidential Regulation No. 95 of 2018. SPBE encompasses all areas of reform as a fundamental and comprehensive effort in state apparatus development to accelerate the achievement of world-class bureaucracy. Specifically, SPBE is implemented within the area of governance reform, focusing on the application of transparent, effective, efficient, and measurable systems, processes, and work procedures supported by electronic systems. (Visvizi et al., 2022)

Capability Maturity Model (CMM)

The Capability Maturity Model (CMM) is a methodology used to develop and refine an organization's software development process. (Kim & Grant, 2010) The model describes a five-level evolutionary path of increasingly organized and systematically more mature processes. In the context of SPBE evaluation in Indonesia, these levels correspond to:

1. Level 1 - Initial is defined as Processes are ad-hoc, chaotic, and unpredictable. Success depends on individual

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effort.

2. Level 2 – Managed is defined as Processes are planned, performed, measured, and controlled at the project level.
3. Level 3 – Defined is defined as Processes are well-characterized and understood, and are described in standards, procedures, tools, and methods at the organization level.
4. Level 4 - Quantitatively Managed is defined as Sub-processes are controlled using statistical and other quantitative techniques.
5. Level 5 – Optimizing is defined as Focus on continuous process improvement through incremental and innovative technological changes.

SPBE Framework

The SPBE Framework in Indonesia is structured based on Permenpan-RB No. 59 of 2020. It comprises four domains is defined as Internal Policy, Governance, Management, and Services. (*Permen PAN & RB No. 59 Tahun 2020*, n.d.) Each domain consists of aspects, and each aspect contains specific indicators. This research focuses on:

1. Domain 1 Internal Policy is defined as Covers internal regulations supporting SPBE governance, management, and services.
2. Domain 2 Governance is defined as Covers strategic planning, ICT, and organizational structure (organizers).

The maturity level of the Electronic-Based Government System (SPBE) implementation features an assessment structure comprising domains, aspects, and indicators. (Panjaitan et al., 2021) A domain represents the implementation area of the Electronic-Based Government System which contains several assessment aspects. Furthermore, an aspect is a specific area within each SPBE domain that includes several evaluated assessment indicators, while an indicator refers to the specific information from the SPBE implementation aspect being assessed. (Anugrah et al., 2022) The process capability maturity level is a measurement of organizational ability in a specific process and is utilized to measure the maturity level of policies, governance, and management of the Electronic-Based Government System. (Amalia & Aditya, 2019)

The assessment of the SPBE process capability maturity level is conducted for each indicator within the aspects of SPBE strategic planning, information and communication technology, and SPBE implementation, based on the Regulation of the Minister of Administrative and Bureaucratic Reform of the Republic of Indonesia Number 59 of 2020 concerning the monitoring and evaluation of the Electronic-Based Government System. (Akbar, 2020) Process capability maturity is measured across five levels, namely ad-hoc (rintisan), managed (terkelola), defined (terdefinisi), integrated and measurable (terpadu dan terukur), and optimized (optimum). (Putu et al., 2021) Based on the Regulation of the Minister of Administrative and Bureaucratic Reform of the Republic of Indonesia Number 59 of 2020, the index value which represents the maturity level of the Electronic-Based Government System (SPBE) implementation is categorized by rank. (Taqiya et al., 2020)

Table 2. Assessment Predicates for the Electronic-Based Government System

No	Electronic-Based Government System Index Value	Predicate
1	4.2 - 5.0	Outstanding (Satisfactory)
2	3.5 - < 4.2	Very Good
3	2.6 - < 3.5	Good
4	1.8 - < 2.6	Fair (Sufficient)
5	< 1.8	Poor (Lacking)

METHOD

The research flow can be seen in Figure 1. Namely divided into research questions, literature review, data collection, data analysis and conclusion..

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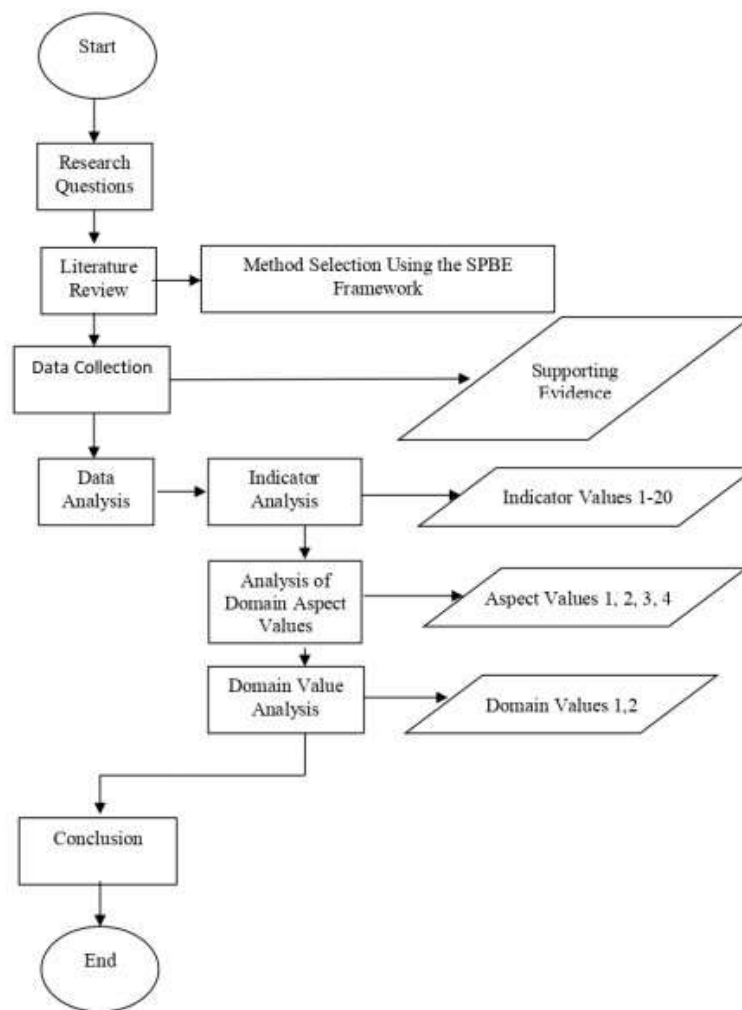


Figure 1. Research Flow

Based on Figure 1 research flow, Research Stages, the following provides a systematic explanation of the research procedures conducted. This study is structured using the Capability Maturity Model (CMM) approach to measure the maturity level of the Electronic-Based Government System (SPBE) within the Palembang City Government. The procedure is divided into five main phases: the initial stage begins with problem identification to understand gaps in SPBE implementation, followed by establishing research objectives to provide clear direction for determining current IT infrastructure and governance maturity levels. In the second phase, data collection and foundational research are conducted through parallel activities, including a literature study of CMM theories and SPBE regulations alongside data gathering via observations, interviews, and document reviews. The third phase involves data analysis and processing (the core research), where the CMM framework is applied to identify and assess specific SPBE domains such as infrastructure, applications, and security. The fourth phase consists of a maturity assessment to evaluate data against a five-level maturity scale, followed by a gap analysis comparing the actual (As-Is) state with the desired (To-Be) target. Finally, the research concludes with reporting and recommendations, involving a comprehensive synthesis of findings into the Results and Discussion section, which serves as the basis for formulating conclusions and suggestions. (Pedoman Menteri PAN RB No. 3 Tahun 2024 Tentang Tata Cara, n.d.) To assess the index of the Electronic-Based Government System (SPBE) aspects, the maturity level of each constituent indicator is required, calculated using the following formula:\

$$\text{Indeks Aspek}_i = \frac{1}{BA_i} \sum_{j=m}^n NI_{ij} \times BI_{ij} \quad (1)$$

Where:

Indeks Aspek represents the index value of the i-th aspect

BA_i is the weight of the i-th aspect

NI_{ij} is the maturity level value of the j-th indicator within the i-th aspect

BI_{ij} is the weight of the j-th indicator within the i-th aspect

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During the aspect evaluation stage, the researcher collects all indicator values based on the criteria achieved representing the maturity level derived from available supporting evidence and inputs these maturity levels into the aspect calculation table for further analysis.

The domain index is a value that describes the maturity level of the Electronic-Based Government System (SPBE) implementation within a specific domain. It is calculated by summing the product of the aspect index and the aspect weight, which is then divided by the total domain weight.

$$\text{Indeks Domain}_i = \frac{1}{BD_i} \sum_{j=m}^n NA_{ij} \times BA_{ij} \quad (2)$$

Where:

Indeks Domain_i is the i-th domain aspect value;

BD_i is the weight of the i-th domain;

NA_{ij} is the maturity level of the j-th aspect within the i-th domain;

BA_{ij} is the weight of the j-th aspect within the i-th domain.

Upon obtaining all aspect index values, the researcher inputs these figures into the calculation table for the Policy Domain and Governance Domain indices. This process results in the final maturity level values for the Policy and Governance domains of the Palembang City Government's Electronic-Based Government System.

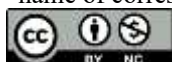
RESULT

The Internal SPBE Governance Policy Aspect evaluates the extent to which the Palembang City Government has established robust internal policies as a foundation for implementing the Electronic-Based Government System (SPBE). The assessment in this aspect focuses on the existence, completeness, and continuous improvement cycles of these policies. The maturity level results for the indicators within the Internal SPBE Governance Policy aspect are presented in Table 3.

Table 3
Assessment of Internal SPBE Governance Policy Aspect Indicators

Aspect 1: Internal SPBE Governance Policy			
Indicator Number	Indicator Name	CMM Maturity Level (1-5)	Description
Indicator 1	Maturity Level of Internal SPBE Architecture Policy	5 - Optimized	Policy is complete, reviewed, and followed up with new regulations (Mayoral Decision).
Indicator 2	Maturity Level of Internal SPBE Roadmap Policy	5 - Optimized	Policy is complete, aligned with national standards, reviewed, and followed up with a new Decree.
Indicator 3	Maturity Level of Internal Data Management Policy	5 - Optimized	Policy is complete, reviewed, and followed up with derivative guidelines.
Indicator 4	Maturity Level of Internal SPBE Application Development Policy	5 - Optimized	Policy is complete, reviewed, and followed up with new technical standards.
Indicator 5	Maturity Level of Internal Data Center Service Policy	3 - Defined	Policy covers all regional apparatus (OPD), but lacks evidence of review and follow-up.
Indicator 6	Maturity Level of Internal Intra-Government Network Service Policy	3 - Defined	Policy covers all regional apparatus, but lacks evidence of review and follow-up.
Indicator 7	Maturity Level of Internal Inter-Agency Service Liaison System Policy	4 - Integrated and Managed	Policy is complete, regulates interconnection, and has been reviewed.
Indicator 8	Maturity Level of Internal Information Security Management Audit Policy	3 - Defined	Policy is complete, but lacks evidence of review and follow-up.
Indicator 9	Maturity Level of Internal ICT Audit Policy for Central/Regional Government	4 - Integrated and Managed	Policy is complete, covering infrastructure, applications, and security audits, and has been reviewed.
Indicator 10	Maturity Level of Internal SPBE Coordination Team Policy	4 - Integrated and Managed	Policy thoroughly regulates the duties and functions of the coordination team and has been reviewed.

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Table 4. Assessment of SPBE Strategic Planning Aspect Indicators

Aspect 2: SPBE Strategic Planning			
Indicator Number	Indicator Name	CMM Maturity Level (1-5)	Description
Indicator 11	Maturity Level of SPBE Architecture	5 - Optimized	Architecture document is complete, aligned with national standards, reviewed, and followed up with updates.
Indicator 12	Maturity Level of SPBE Roadmap	5 - Optimized	Roadmap document is complete, reviewed, and followed up with updates.
Indicator 13	Maturity Level of SPBE Planning and Budgeting Integration	3 - Defined	Only planning documents are available; there is no formal evidence regarding budget integration that has been reviewed.
Indicator 14	Maturity Level of SPBE Business Process Innovation	2 - Managed	Only mentioned as being managed by the Organizational Affairs Division, without evidence of implementation, review, or improvement.

Table 5. Aspect 3 of the SPBE Governance Domain

Aspect 3: Information and Communication Technology			
Indicator Number	Indicator Name	CMM Maturity Level (1-5)	Description
Indicator 15	Maturity Level of SPBE Application Development	4 - Integrated and Managed	Application development is executed in an integrated manner, controlled by Diskominfo, and has been reviewed.
Indicator 16	Maturity Level of Data Center Services	2 - Managed	Policies exist, but there is no evidence of full operational implementation or documented review.
Indicator 17	Maturity Level of Intra-Government Network Services	2 - Managed	Policies exist, but there is no evidence of full implementation, interconnection, or documented review.
Indicator 18	Maturity Level of the Service Liaison System (SPLP) Utilization	2 - Managed	Policies exist, but there is no evidence of full or integrated system utilization.

Table 6. Aspect 4 of the SPBE Governance Domain

Aspect 4: SPBE Implementation Management			
Indicator Number	Indicator Name	CMM Maturity Level (1-5)	Description
Indicator 19	Maturity Level of SPBE Coordination Team Execution	4 - Integrated and Managed	The coordination team is formally established, executes comprehensive duties, and has undergone review.
Indicator 20	Maturity Level of SPBE Implementation Collaboration	4 - Integrated and Managed	Includes formal planning, a designated team, execution of collaboration with external parties, and review processes.

Table 7. Calculation of the Internal SPBE Governance Policy Aspect Index Value

Aspect Number	Aspect Name		Aspect Weight (AW) (%)	
Aspect 1	Internal Policy for Electronic-Based Government System (SPBE) Governance		13	
Indicator Number	Indicator Name	Maturity Level Value (NI)	Indicator Weight (BI) %	NI x BI
Indicator 1	Maturity Level of Internal SPBE Architecture Policy	5	1.3	6.5

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Indicator 2	Maturity Level of Internal SPBE Roadmap Policy	5	1.3	6.5
Indicator 3	Maturity Level of Internal Data Management Policy	5	1.3	6.5
Indicator 4	Maturity Level of Internal SPBE Application Development Policy	5	1.3	6.5
Indicator 5	Maturity Level of Internal Data Center Service Policy	3	1.3	6.5
Indicator 6	Maturity Level of Internal Intra-Government Network Service Policy	3	1.3	6.5
Indicator 7	Maturity Level of Internal Inter-Agency Service Liaison System Policy	4	1.3	6.5
Indicator 8	Maturity Level of Internal Information Security Management Audit Policy	3	1.3	6.5
Indicator 9	Maturity Level of Internal ICT Audit Policy for Central/Regional Government	4	1.3	6.5
Indicator 10	Maturity Level of Internal SPBE Coordination Team Policy	4	1.3	6.5
Total (NI x BI)				53,3
Aspect Index 1 = 1/BA x Total (NI x BI) = 1/13 x 53,3				4,1

Table 8. Calculation of the Maturity Level Value for the Policy Domain

Domain Number	Domain Name		Domain Weight/BD (%)	
Domain 1	Internal Policy Electronic-Based Government System		13	
Aspect Number	Aspect Name	Aspect Index Value (NA)	Aspect Weight/BA (%)	NA x BA
Aspect 1	Internal Policy for Electronic-Based Government System (SPBE) Governance	4,1	13	53,3
Total (NA x BA)				53,3
Policy Domain Index = 1/BD x Total (NA x BA) = 1/13 x 53,3				4,1

Based on the results of the Maturity Level Value calculation for the Policy Domain in Table 8, the Policy Domain Index was found to be 4.1.

Table 9. Calculation of the Strategic Planning Aspect Index Value for SPBE

Aspect Number	Aspect Name		Aspect Weight (AW) (%)	
Aspect 2	SPBE Strategic Planning		10	
Indicator Number	Indicator Name	Maturity Level Value (NI)	Indicator Weight (BI) %	NI x BI
Indicator 11	Maturity Level of SPBE Architecture	5	2,5	12,5
Indicator 12	Maturity Level of SPBE Roadmap	5	2,5	12,5
Indicator 13	Maturity Level of SPBE Planning and Budgeting Integration	3	2,5	7,5
Indicator 14	Maturity Level of SPBE Business Process Innovation	2	2,5	5
Total (NI x BI)				37,5
Aspect Index 2 = 1/BA x Total (NI x BI) = 1/10 x 37,5				3,75

Table 10 Calculation of the Information and Communication Technology (ICT) Aspect Index Value

Aspect Number	Aspect Name	Aspect Weight (AW) (%)
Aspect 3	Information and Communication Technology	10

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Indicator Number	Indicator Name	Maturity Level Value (NI)	Indicator Weight (BI) %	NI x BI
Indicator 15	Maturity Level of SPBE Application Development	4	2,5	10
Indicator 16	Maturity Level of Data Center Services	2	2,5	5
Indicator 17	Maturity Level of Intra-Government Network Services	2	2,5	5
Indicator 18	Maturity Level of the Service Liaison System (SPLP) Utilization	2	2,5	5
Total (NI x BI)				25
Aspect Index $2 = 1/BA \times \text{Total (NI x BI)} = 1/10 \times 25$				2,5

Table 11. Calculation of the SPBE Implementation Management Aspect Index Value

Aspect Number	Aspect Name		Aspect Weight (AW) (%)	
Aspect 4	SPBE Implementation Management		5	
Indicator Number	Indicator Name	Maturity Level Value (NI)	Indicator Weight (BI) %	NI x BI
Indicator 19	Maturity Level of SPBE Coordination Team Execution	4	2,5	10
Indicator 20	Maturity Level of SPBE Implementation Collaboration	4	2,5	10
Total (NI x BI)				20
Aspect Index $2 = 1/BA \times \text{Total (NI x BI)} = 1/5 \times 20$				4

Table 12 Calculation of the Maturity Level Value for the Governance Domain

Domain Number	Domain Name		Domain Weight/BD (%)	
Domain 2	SPBE Governance		25	
Aspect Number	Aspect Name	Aspect Index Value (NA)	Aspect Weight/BA (%)	NA x BA
Aspect 2	SPBE Strategic Planning	3,75	10	37,5
Aspect 3	Information and Communication Technology	2.5	10	25
Aspect 4	SPBE Implementation Management	4	5	20
Total (NA x BA)				82,5
Governance Domain Index $= 1/BD \times \text{Total (NA x BA)} = 1/25 \times 82,5$				3,4

Based on the calculation results in Table 12, the SPBE Governance Domain Index value obtained is 3.4.

DISCUSSIONS

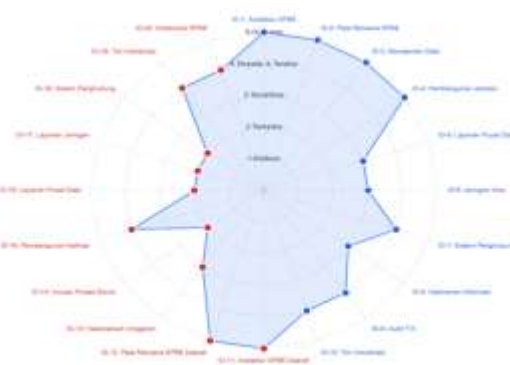


Figure 2 Radar Chart of the Overall SPBE Policy and Governance Domains

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Overall, the radar chart above demonstrates that the Palembang City Government possesses a very robust policy and strategic planning foundation, as evidenced by the dominance of Levels 4 and 5 across those indicators. However, there is a significant gap in operational implementation, specifically regarding ICT infrastructure services and business process innovation, which remain at Level 2. Addressing this gap is the primary improvement priority recommended in this research. Strategic Recommendations Based on the SPBE Maturity Level of the Palembang City Government:

a. High Priority (Short-Term: 6–12 Months)

Strengthening ICT Infrastructure Implementation Upgrade Data Center Services and Intra-Government Network Services from Level 2 to Level 3. Focus on operational standardization, technical Standard Operating Procedure (SOP) documentation, and expanding service coverage to all Regional Government Agencies. Formalization of Business Process Innovation Elevate Business Process Innovation from Level 2 to Level 3. This involves documenting the "Business Process Reengineering" already conducted and establishing standardized procedures for service innovation.

b. Medium Priority (Medium-Term: 1–2 Years)

Integration of Planning and Budgeting Enhance Budgetary Integration from Level 3 to Level 4/5. Establish formal mechanisms for ICT budget reviews that are directly integrated with the SPBE Roadmap documents. Continuous Evaluation Cycle Advance indicators from Level 3/4 to Level 5. Ensure that every evaluation or audit result is followed up with concrete, measurable improvement policies (Continuous Improvement).

CONCLUSION

This study successfully measures the maturity level of the Internal Policy and SPBE Governance Domains within the Palembang City Government across 20 indicators using the Capability Maturity Model (CMM) in accordance with Presidential Regulation No. 95 of 2018, PANRB Ministerial Regulation No. 59 of 2020, and PANRB Ministerial Guidelines No. 3 of 2024. The results indicate that the Internal Policy Domain achieved an index of 4.1 (Very Good), reflecting a high maturity level ranging from "Integrated and Measured" to near "Optimized," with key strategic indicators such as SPBE Architecture, Roadmap, Data Management, and Application Development reaching Level 5; however, infrastructure services like data centers and intra-networks remain at Level 3, highlighting a need for improved evaluation cycles. Meanwhile, the SPBE Governance Domain earned an index of 3.4 (Good), showing a medium maturity level where strengths in Strategic Planning and Implementation Management—such as coordination teams and collaboration reaching Level 4—are contrasted by a significant gap in business process innovation and ICT infrastructure implementation, which remain at Level 2 (Managed). Gap analysis reveals that while policy foundations are advanced, operational implementation is not yet fully consistent, particularly regarding the need for binding formal mechanisms in integrated budgeting and enhanced documentation for business process innovation. Furthermore, a strong pattern of centralization within the Communication and Informatics Office (Diskominfo) ensures policy consistency but requires further empowerment of other regional agencies to optimize operational execution. Ultimately, this research confirms that SPBE maturity in Palembang remains varied across domains, supported by strong strategic pillars yet challenged by practical implementation and budgetary integration.

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