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Maturity Level Analysis of SPBE Service Domain Using Capability Maturity Model Integration at the Communication and Information Technology Office of Palembang City

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Abstract: This journal aims to analyze the maturity level of the implementation of Electronic-Based Government Systems (EBS) in the service domain at the Communication and Information Technology Office of Palembang City. This research uses the Capability Maturity Model Integration (CMMI) approach to evaluate processes, identify weaknesses, and provide recommendations for improvement. CMMI was chosen because it can measure process effectiveness and help organizations achieve optimal performance. The research was conducted using survey and interview methods to collect data related to SPBE implementation. The collected data was analyzed using the CMMI framework to determine the maturity level from level 1 (Initial) to level 5 (Optimizing). The results of the analysis show that the maturity level of the SPBE service domain at the Communication and Information Technology Office of Palembang City is at level 3 (Defined) with a maturity level value of 3.66 from recapitulation of value mapped to each process area: OPF, OPD, MA, CAR and PPQA. Some areas need to be improved, especially related to lack of clearly defined and consistently applied standard operating procedures (SOPs) leads to variations in service delivery and hampers the overall effectiveness of SPBE implementation, performance monitoring mechanisms such as tracking and evaluation of service delivery outcomes are inadequate which makes it difficult to assess the effectiveness of SPBE services, existing systems are not fully compatible or lack the necessary features to support technology integration within the SPBE framework leading to inefficiencies and failure to leverage technology to improve public services. This research contributes by providing strategic recommendations to improve the maturity of SPBE implementation at the Communication and Informatics Office of Palembang City. The recommendations given are increasing the capacity of human resources, consistent application of standard operating procedures (SOPs), and the use of more integrated technology to support more effective and efficient services. The results of this study are expected to serve as a guide for the Communication and Information Technology Office of Palembang City in implementing SPBE more optimally.

Keywords: Maturity Level, CMMI, SPBE, Service Domain

INTRODUCTION

The Palembang City Government encourages the implementation of Electronic-Based Government System (EBS) to improve efficiency, effectiveness, transparency, and accountability of public services. the Communication and Information Technology Office of Palembang City as the SPBE implementer has an important role in providing information technology-based services to the community. However, the implementation of SPBE often faces various challenges, such as lack of system integration, lack of process standards, and low competence of human resources. When systems are not integrated, the likelihood of errors increases, as data may need to be

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manually transferred between systems. This manual intervention can lead to errors, which can jeopardize the integrity of the information and services offered. The lack of standardized processes can lead to inconsistencies in data management across different platforms. This inconsistency can affect the accuracy and reliability of data used for decision-making, ultimately impacting the quality of services provided to the public. lack of system integration and process standards can severely impact the effectiveness of SPBE implementation by creating inefficiencies, increasing risks, and limiting the ability to provide high-quality public services. Addressing these issues is critical to improving the overall performance of the E-Government initiative of The Communication and Informatics Office of Palembang City.

One of the main obstacles in SPBE implementation is the lack of understanding of the maturity level of existing processes. Without knowing the maturity level, it is difficult for organizations to identify weaknesses, measure effectiveness, and design targeted improvements. This research proposes the use of Capability Maturity Model Integration (CMMI) to evaluate the maturity level of the SPBE service domain. CMMI is a framework that helps organizations understand the maturity level of their processes from the basic level (Initial) to the highest level (Optimizing), thus enabling continuous development. This research aims to measure the maturity level of SPBE service domain in Communication and Informatics Office of Palembang City, identify weaknesses in SPBE implementation, provide strategic recommendations to improve electronic-based service processes. This research confirms the importance of maturity level analysis to support the successful implementation of SPBE, especially in the context of The Communication and Informatics Office of Palembang City. With this approach, it is expected that the Communication and Information Technology Office of Palembang City can optimize the performance of their public services through the utilization of information technology.

The development of technology in the field of electronic-based government systems (e-Government) has become one of the strategic steps in improving the efficiency, transparency, and accountability of public services. (Sutabri, 2012)One example is the Communication and Informatics Office of Palembang City which is a local government agency responsible for the management of information, public communication, and information technology in Palembang City. One of its main tasks is to support the implementation of Electronic-Based Government System (SPBE). In this case, the Office of Communication and Information plays a role in digital infrastructure development, data management, information security, and electronic-based public services.

Sistem Pemerintahan Berbasis Elektronik (SPBE) is a modern approach to governance that utilizes information and communication technology to improve the efficiency, transparency, and accountability of public services. The implementation of SPBE helps the government reduce bureaucratic red tape, support data-based decision-making, and create a government ecosystem that is more responsive to community needs. Based on Presidential Regulation No. 95/2018 on Electronic-Based Government System (EBS) is a policy that aims to accelerate digital transformation in Indonesia's government sector. With SPBE, the government encourages the integration of information systems across agencies and ensures that services to the public can be accessed more easily, quickly, and affordably. This regulation is also a strategic step in supporting bureaucratic reform and strengthening national competitiveness in the digital era. SPBE plays an important role in realizing effective and competitive governance in the digital era. SPBE evaluation is conducted to measure the maturity level of SPBE implementation in government agencies. The main purpose of this evaluation is to ensure that the implementation of SPBE is in line with government policies, supports good governance, and improves the quality of public services. With this evaluation so that the author can provide recommendations for improvement and the government can develop strategic steps to improve and improve the implementation of SPBE.(Titah & Sutabri, 2024)

To measure the Quality of SPBE in this study using Capability Maturity Model Integration (CMMI) which is a framework used by organizations to help improve processes, reduce risks in product development, increase productivity, services and software. To evaluate the maturity level of SPBE implementation using the Capability Maturity Model Integration (CMMI), specific criteria and indicators are typically used to assess the processes, performance, and overall maturity. These criteria align with the five maturity levels of CMMI, ranging from Level 1 (Initial) to Level 5 (Optimizing). The specific criteria or indicators commonly used to evaluate SPBE maturity are Process Management and Standardization, Performance Monitoring and Evaluation, Resource Management, Stakeholder Engagement and Communication, Compliance and Security, Continuous Improvement. Service Delivery and User Experience and Risk Management. By evaluating these criteria, CMMI helps determine the maturity level of SPBE implementation, ranging from Level 1 (Initial), where processes are ad hoc and unstructured, to Level 5 (Optimizing), where processes are continuously improved based on quantitative feedback and innovation. These criteria help ensure that SPBE systems are robust, scalable, and capable of delivering efficient and transparent government services. Capability Maturity Model Integration (CMMI) is an approach model for assessing the capability and maturity scale of a software organization. (Apriliani, 2024)This framework focuses on customization to evaluate the development process and produce quality software. This method provides structured guidance to help organizations identify weaknesses, improve processes, and achieve higher operational efficiency. CMMI consists of various maturity levels that reflect the stages of an organization's development,

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ranging from unorganized processes to well-defined and continuously refined processes. With this approach, CMMI helps organizations improve quality, reduce risk, and ensure sustainability in achieving business goals.

Based on the above description, the research aims to analyze the Maturity Level of the SPBE Service Domain using the Capability Maturity Model Integration (CMMI) at the Communication and Informatics Office of Palembang City.

LITERATURE REVIEW

Previous Studies or Research

Table 1. Previous Studies

Author	Topic	Conclusion
M.Rizeki Y., 2020	Medium-term plan for e-government development in banjar district	The results of this study indicate that the implementation of SPBE by the Banjar Regency industry and trade office government is still at level 1 maturity level, namely 'Information' with the criterion 'SPBE Services Provided in the Form of 1.52'. From this value, it can be concluded that the management of SPBE services is carried out in a Performance Process.
Stella G.,2024	Data management Warehouse & Business Intelligence using CMMI	The results show that there are still some sub-activities that are at maturity level 2, including define and maintain the DW-BI architecture, process data for business intelligence, monitor and tune business intelligence activities and performance. Some recommendations given are the need for task identification and integration or unification of several main functions to ensure the DW-BI architecture is perfect.
Rabiah A., 2020	Data Management, specifically Data Operations Management.	As a government institution tasked with reviewing financial transactions, XYZ Financial Institution is required to produce accurate analysis results. Accurate analysis results can be produced if XYZ Financial Institution has accurate data and information so that data management in this institution must be carried out properly.

Based on the table 1, it can be seen that there have been many studies on maturity level evaluation using the CMMI method and the focus in this evaluation is on data management. However, there has not been much research on evaluating the level of maturity of services in a government system. This research addresses the unique challenges of evaluating the maturity of government system services by adapting the CMMI-DEV framework, using comprehensive data collection methods, prioritizing aspects of user satisfaction and compliance with government policies, developing recommendations that can be implemented. This approach makes a significant contribution in differentiating this research from conventional data management research, focusing on the specific needs of public services and SPBE service improvement in government agencies.Then the research that will be carried out at this time shifts the focus to evaluating the level of maturity of a government system service. It aims to measure the extent to which system-based services meet quality, efficiency, and user satisfaction standards in the context of government. Measuring quality, efficiency, and user satisfaction standards in government system-based services requires specific metrics or criteria relevant to the public service context and SPBE objectives described in the 16 SPBE service domain indicators divided into Aspect 7 Electronic Government Administration Services and Aspect 8 Electronic-based Public Services.Thus, this research is expected to provide a more comprehensive picture of service maturity in supporting better governance. *(Alqadri, Budiardjo, Ferdinansyah, & Rokhman, 2020)*

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Sistem Pemerintahan Berbasis Elektronik

Sistem Pemerintahan Berbasis Elektronik (SPBE) is a strategic effort of the Indonesian government in utilizing information and communication technology to improve the quality of public services and governance. The Office of Komunikasi and Informatika (Kominfo) as the main implementer in the field of information and communication technology has an important role in implementing SPBE.Kominfo is tasked with developing digital infrastructure, building integrated systems, and managing data and information needed to support electronic-based government operations. SPBE aims to create a more effective, efficient, transparent, and accountable government through digital services that are easily accessible to the public and various related parties. Kominfo is also responsible for ensuring information security and system sustainability, so as to meet service quality standards in accordance with applicable regulations. *(Zhafrani, Budiardjo, & Mahatma, 2024)*

Maturity Level

Maturity level is a concept used to measure the level of maturity or readiness of an organization, system, or process in achieving certain goals. Maturity levels are usually expressed in stages or levels that show the progression from basic (initial) conditions to optimal (highest) conditions. Each level has certain characteristics, capabilities, and indicators that reflect the extent to which the process or organization is organized, managed, and optimized. The model is often used in frameworks such as Capability Maturity Model Integration (CMMI) to generate business process, quality, and organizational efficiency, helping to identify areas that require improvement. *(Saheel, Rahman, Humaira, Sadia, & Hasan, 2022)*

E-Government

In previous research explains that E-government is the use of the latest information and communication technology by the government to provide intensive services to the public, business people and the government environment using web-based applications through changes in internal and external processes in order to reduce corruption, increase transparency, increase convenience, increase revenue, and reduce costs in governance. This concept rests on the theoretical foundation of modern public administration that emphasizes the transformation of bureaucratic processes to be more responsive and integrated through digitalization. In its implementation, E-Government is based on the principles of public service, community participation, and technological innovation, with the main goal of creating a more open, efficient, and accountable government.

CMMI-Dev Versi 1.3

Evaluation of Sistem Pemerintahan Berbasis Elektronik (SPBE) using the Capability Maturity Model Integration (CMMI) aims to provide structured guidance in measuring and improving the quality of SPBE implementation in government agencies. The application of CMMI-DEV version 1.3 to evaluate SPBE (Electronic Based Government System) in government faces several limitations and potential challenges including Employees in government office have limited knowledge of the CMMI-DEV framework, so implementation and evaluation can face technical difficulties, In addition, available time and resources are often limited. The solution is to start with a subset of process areas that are considered priority for resource efficiency. Another limitation is that government processes tend to be more complex with multiple layers of bureaucracy, so data collection, analysis, and decision-making based on the CMMI-DEV framework can be difficult. Solutions include engaging key stakeholders from the beginning to gain commitment and buy-in, simplifying the model by selecting the most relevant process areas for initial evaluation and creating detailed process maps to understand relevant workflows and intervention points.In this research, the CMMI used is CMMI-Development Version 1.3 which is a framework that provides guidance for applying CMMI best practices to develop quality products and services and most of these products are successfully implemented because they meet the needs of customers and end users.(Rashid, Khan, Khan, & Ilyas, 2021) This research uses CMMI because this model helps organizations integrate effective development processes, improve product quality, and reduce risks and costs. The model also includes 22 process areas that cover various aspects such as project management, quality management, and technical development. As an enhancement of the previous version, version 1.3 emphasizes flexibility of implementation, better integration with other methodologies, and an increased focus on risk management and organizational process efficiency.

CMMI Roadmap

The roadmap in CMMI-DEV version 1.3 is a structured guide that helps organizations improve their development process capabilities incrementally based on maturity levels. The model consists of five maturity levels: Initial, where processes are ad hoc; Managed, with basic processes planned and controlled; Defined, which ensures processes are standardized across the organization; Quantitatively Managed, where performance is measured quantitatively; and optimizing, which focuses on continuous improvement. (Do Rosario Cabrita, Antunes, & Costa, 2021)Each level includes specific process areas that must be implemented, such as project

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management, risk management, and product development. (O'Regan, 2022)The roadmap provides an integrated framework of steps to help organizations achieve greater efficiency, consistency, and quality in product or service development.

The roadmap helps the organization to choose which process areas to implement first based on the improvement goals the company wants to achieve and the problems the company is facing and wants to solve. (Tsai, 2021)The CMMI-Dev version 1.3 model is a collection of best development practices from government and industry resulting from the CMMI Version 1.3 architecture and framework. (Rabiah & Fadillah, 2023)There are 6 (six) levels of capability levels designed by the Software Engineering Institute (SEI) for continuous representation. Continuous representation, the following levels are; (0) Incomplete, (1) Performed, (2) Managed, (3) Defined, (4) Quantitatively Managed, (5) Optimizing. There are five roadmaps defined by SEI in CMMI Technical Notes, including Project Roadmap, Product Roadmap, Product Integration Roadmap, Process Roadmap and Measurement Roadmap.

Information Technology Governance

The implementation of Information Technology (IT) governance requires evaluation to ensure that the use of IT is aligned with the organization's strategic goals and provides optimal value. This evaluation is important to measure the extent to which IT governance has been implemented effectively, efficiently, and in accordance with certain standards or frameworks, such as COBIT, ITIL, or CMMI. (Liu, Zheng, Yi, & Ding, 2023) Through evaluation, organizations can identify strengths and weaknesses in IT management, ensure compliance with policies, and manage risks that may arise. In addition, IT governance evaluation helps in improving service quality, optimizing resource allocation, and ensuring that IT investments have a positive impact on overall organizational performance. With a planned evaluation process, organizations can make continuous improvements in IT governance and face the challenges of evolving technology. (Astuti, Elmayati, & Hasanah, 2022; Yudhistira & Fajar, 2024)

METHOD

The research flow can be seen in Figure 1. Namely divided into problem identification, literature study, data collection, data analysis, and providing recommendations.

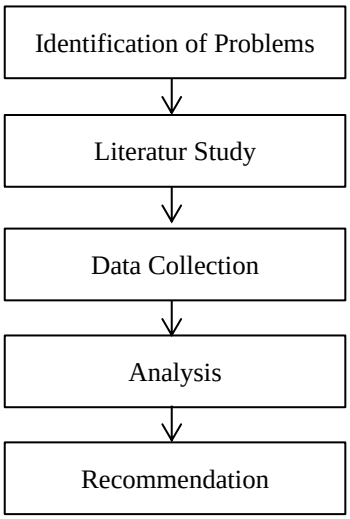

Figure 1. Research Flow

Based on Figure 1 research flow, the first step taken in this research is problem identification as described earlier. The second step is the literature study, namely collecting relevant information about the level of maturity, the CMMI Framework sourced from books or journals of previous research related to the research topic being researched. (Al-Ghuwairi et al., 2023)Then the next step is data collection In this study, the data collection method used is divided into 3, namely observation, interviews and questionnaires. Observations and interviews were conducted with 12 employees of the Palembang Communication and Information Service related to 10 Process Area questions, then the answers were used to complete the questionnaire data used for evaluating the SPBE maturity level. The 10 questions in the Process Area consist of 2 questions about Organizational Process Focus (OPF), 2 questions about Organizational Process Definition (OPD), 1 question about Measurement and Analysis (MA), 2 questions about Causal Analysis and Resolution (CAR) and 3 questions about Process and Product Quality

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Assurance (PPQA). The results of the Process Area Achievement Score Measurement per indicator are then recapitulated to produce an SPBE maturity level value which is used as an index in evaluating the SPBE maturity level.First, observations were made at the location, namely at the Communication and Informatics Office of Palembang City, then interviews were conducted at the the Communication and Informatics Office of Palembang City and finally a questionnaire consisting of a series of written questions to respondents, where here the intended respondents are staff / employees who are in the scope of SPBE in the the Communication and Informatics Office of Palembang City. The maturity level in the questionnaire is rated 1-5. To ensure that the maturity level ratings (1-5) from the questionnaire accurately reflect the real condition of SPBE services, this study applies various systematic steps aimed at validating the data and ensuring representative results. The following approaches were taken: through direct observation, researchers could check whether the ratings given on the questionnaire matched the reality of processes and practices in the field; data from the questionnaire could be validated by in-depth interviews, where employees could explain the rationale behind their answers; questionnaire data served as a baseline, which was cross-checked using observation and interview data to ensure consistency; questionnaire questions were designed based on the CMMI-DEV v1. 3, which has been tested as a maturity level evaluation instrument, before being used, respondents were asked to provide concrete evidence to support the rating they chose in the questionnaire in the form of work process documentation or reports related to SPBE services, SPBE service performance data, the study ensured that questionnaire respondents were employees who had direct experience and knowledge of SPBE services, the results of questionnaires, interviews, and observations were consulted with officials of the Communication and Informatics Office of Palembang City to ensure conformity with real conditions. The next step is the data analysis stage based on the data that has been collected, in this study the data analysis method used is the CMMI-Dev Version 1.3 method which will be the main instrument in this study to evaluate SPBE services. And the last step is the preparation of recommendations if there is a gap from the maturity level calculation results, this recommendation is expected to be a reference for service improvement in SPBE.

In this study, the data collection methods used by researchers were observation, interviews and questionnaires. Respondents here are staff/employees within the scope of the Communication and Informatics Office of Palembang City. Meanwhile, the data analysis method to evaluate SPBE uses the CMMI (Capability Maturity Model / CMMI Integration) method in accordance with regulation the minister of Administrative Reform and Bureaucracy Reform number 5 of 2018 and Districts / Provinces that have done so. This method will later become an SPBE evaluation instrument in accordance with the SPBE stages themselves starting from planning, implementation and reporting. The specific criteria or indicators used in the CMMI-Dev Version 1.3 Process roadmap method to evaluate SPBE services include Organizational Process Focus (OPF), Organizational Process Definition (OPD), Measurement and Analysis (MA), Causal Analysis and Resolution (CAR) and Process and Product Quality Assurance (PPQA). CMMI-Dev Version 1.3 is in line with the minister of Administrative Reform and Bureaucracy Reform number 5 of 2018 as mentioned in the minister of Administrative Reform and Bureaucracy Reform number 59 of 2020 concerning Monitoring and Evaluation of Electronic-Based Government Systems that CMMI is the basis for developing SPBE maturity level models that are built as tools to measure the maturity level of process capability and service capability. CMMI will measure the maturity level of process capability. The measurement of each maturity level is graded as follows: Level 1 (one) is rated 1 (one). Level 2 (two) is rated 2 (two). Level 3 (three) is given a value of 3 (three). Level 4 (four) is rated 4 (four). Level 5 (five) is given a value of 5 (five) in accordance with the 5 Maturity Levels in CMMI Level 1: Initial, Level 2: Managed, Level 3: Defined, Level 4: Quantitatively Managed, and Level 5: Optimizing. (Alqadri et al., 2020)

RESULT

The case study in this research is an enterprise engaged in the Government sector, namely the Communication and Informatics Office of Palembang City, which was previously described in the general description of the object of research. This research focuses on the maturity level of Function Capability, namely domain 4 of SPBE services which can be seen in Table 1, and the characteristics of the maturity level can be seen in Table.2.

Weights are given to domains and aspects according to different levels of importance. The SPBE service domain is given a weight value of 45.50%, the SPBE internal policy domain is given a weight value of 13%, the SPBE governance domain is given a weight value of 25%, and the SPBE Management domain is given a weight value of 16.5%. The weight of domain 4 and its aspects can be seen in Table 3, while the weight value of each indicator in an aspect can be calculated from the aspect weight value divided by the number of indicators in that aspect. Meanwhile, the index value that represents the maturity level of SPBE implementation is grouped based on the predicate as in Table 4.

Table 1. Domain 4 SPBE Service Maturity Level Function Capability

Domain 4	SPBE Services

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Aspect 7	**Electronic Government Administration Services**
Indicator 32	Planning Services
Indicator 33	Budgeting Services
Indicator 34	Financial Services
Indicator 35	Public Procurement Services
Indicator 36	Employment Services
Indicator 37	Dynamic Archival Services
Indicator 38	Regional Property Management Services
Indicator 39	Government Internal Audit Services
Indicator 40	Organizational Performance Accountability Services
Indicator 41	Employee Perfomance Services
Aspect 8	**Electronic Based Public Services**
Indicator 42	Public Service Complaint Services
Indicator 43	Open Data Services
Indicator 44	Legal Information and Documentation Network
Indicator 45	Public Service Sector 1
Indicator 46	Public Service Sector 2
Indicator 47	Public Service Sector 3

Table 2. Maturity Level of SPBE Service Domain

Level	**Criteria**
1 Information	SPBE services are provided in the form of one-way information
2 Interactions	SPBE services are provided in the form of two-way information
3 Transactions	SPBE services are provided through the exchange of service information
4 Collaborations	SPBE services provided through integration with other SPBE services
5 Optimization	SPBE services can adapt to changing needs in the internal and external environment

Table 3. Weighted Value of SPBE Domains and Aspects

Domains and Aspects of Assessment	**Total Indicators**	**Total Weight**
Domain 4 – SPBE Services	15	45,5%
Aspect 7 - Electronic Government Administration Services	9	27,5%
Aspect 8 - Electronic Based Public Services	6	18%

Table 4. SPBE Index Predicate

No	**Index Value**	**Predicate**
1	4,2 – 5.0	Satisfactory
2	3,5 - < 4,2	Excellent
3	2,6 - < 3,5	Good
4	1,6 - < 2,6	Enough
5	< 1,8	Less

Table 5. Aspect Index Assessment Results on Domain 4 SPBE Services

Service Domain Index	
Aspect	Index
Electronic Government Administration Services	3,45
Electronic Based Public Services	4

Table 6 Index Assessment Results per Indicator on Domain 4 SPBE Services

Indicators	**Index**
Planning Services	4,00
Budgeting Services	4,00
Financial Services	4,00
Public Procurement Services	4,00
Employment Services	4,00
Dynamic Archival Services	5,00

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Regional Property Management Services	3,00
Government Internal Audit Services	2,00
Organizational Performance Accountability Services	4,00
Employee Performance Services	4,00
Public Service Complaint Services	3,00
Open Data Services	3,00
Legal Information and Documentation Network	5,00
Public Service Sector 1	5,00
Public Service Sector 2	4,00
Public Service Sector 3	4,00
Total Index	3,67

DISCUSSIONS

Table 7. Relevance Matrix of CMMI Roadmap Criteria and Characteristics

Criteria	Project Roadmap	Product Roadmap	Produk Integration Roadmap	Process Roadmap	Measurement Roadmap
Broader activity planning and budgeting management system	√	-	-	√	√
Effective and efficient performance management system	√	-	-	√	√
Better and more responsive employment management system	√	-	-	√	-
More efficient official script system	-	-	-	√	-
Evaluative public complaint system	-	-	-	√	-
Integrated public service system	-	√	-	-	-
Result	3	1	0	5	2

The results of the questionnaire calculations focusing on domain 4 of SPBE Services at the the Communication and Informatics Office of Palembang City can be seen in Table 5, Table 6 and Figure 1. The objectives to be improved related to SPBE in the Communication and Informatics Office of Palembang City include: broader activity planning and budgeting management system, effective and efficient performance management system, better and more responsive employment management system, more efficient official script system, evaluative public complaint system and integrated public service system. The six objectives were prioritized based on the results of the Index Assessment per Indicator in Domain 4 of SPBE Services and the criteria that determined their selection to be mapped in the SPBE roadmap because they are aligned with the strategic objectives of the local government, are overarching objectives for which SPBE implementation is prioritized and objectives that significantly improve the quality and efficiency of public services. The six objectives were then mapped to determine the roadmap to be used. The relevance matrix can be seen in Table 7.

From Table 7, it can be seen that the process roadmap has the highest level of conformity so that it is used as the roadmap in the current CMMI research. With the process area approach that refers to the CMMI roadmap, the identification of process areas is directed at roles related to SPBE services at the Communication and Informatics Office of Palembang City. The expectation from the approach taken to the identification of this process area is to get an answer to the actual level of SPBE maturity in the field. The process area approach is instrumental in ensuring accurate identification of SPBE maturity levels through its structured framework, role-specific focus, integration of best practices, and comprehensive data collection. However, challenges such as implementation complexity, resource constraints, resistance to change, and the dynamic nature of processes can limit its effectiveness. The 5 (five) process areas in this study along with Best Practice can be seen in Table 8.

Table 8. Best Practice Key Process Area CMMI Dev 1.3

Process Area	Spesific Practice	Generic Practice
OPF	SP 1.1 Establish organizational process needs SP 2.2 Implement process action plan	
OPD	SP 1.1 Establish process standards SP 1.7 Establish rules and guidelines for the team	GP 2.9 Evaluate compliance objectively
MA	SP 1.1 Establish measurement objectives	GP 3.2 Collect relationship process
CAR	SP 1.1 Select results for analysis SP 2.3 Record cause and effect from data analysis	

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PPQA	SP 1.1 Evaluate area processes SP 1.2 Evaluate products and services objectively

Table 9. Recapitulation of the Number of Questions Mapped to Each Process Area

Process Area	Number of Questions
OPF	2
OPD	2
MA	1
CAR	2
PPQA	3
Total Questions	10

The identification of questionnaires taken in this study is adjusted to the selected process areas, namely Organizational Process Focus (OPF), OPD, Measurement and Analysis (MA), Causal Analysis and Resolution (CAR) and Process and Product Quality Assurance (PPQA). A recapitulation of the number of questions that have been mapped to each process area can be seen in Table 9. Identification of answers from the SPBE questionnaire resulting in the achievement value of each process area can be seen in Table 10 to Table 15.

Table 10. Measurement of OPF Process Area Achievement Score

Respondent to-	Value per questionnaire	
	Question 1	Question 2
1	3	4
2	3	4
3	3	4
4	3	4
5	4	4
6	4	4
7	4	4
8	4	4
9	4	3
10	4	3
11	4	3
12	4	3
Total	44	44
Average Value	7,33	
PA Value	3,67	

Table 11. Measurement of OPD Process Area Achievement Score

Respondent to-	Value per questionnaire	
	Question 3	Question 4
1	4	4
2	4	4
3	4	3
4	4	3
5	4	4
6	4	4
7	4	4
8	4	4
9	4	4
10	3	4
11	3	4
12	3	4
Total	45	46
Average Value	7,58	
PA Value	3,79	

Table12. Measurement of MA Process Area Achievement Score

	Value per questionnaire

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Respondent to-	Question 5
1	4
2	4
3	4
4	4
5	4
6	4
7	3
8	3
9	3
10	3
11	4
12	4
Total	44
Average Value	3,67
PA Value	3,67

Table13. Measurement of CAR Process Area Achievement Score

Respondent to-	Value per questionnaire	
	Question 6	Question 7
1	4	3
2	4	4
3	4	4
4	4	4
5	3	3
6	3	4
7	3	4
8	4	4
9	3	4
10	3	4
11	4	4
12	4	3
Total	43	45
Average Value	7,33	
PA Value	3,67	

Table 14. Measurement of PPQA Process Area Achievement Score

Respondent to-	Value per questionnaire		
	Question 8	Question 9	Question 10
1	4	3	3
2	4	3	3
3	4	3	3
4	3	3	4
5	3	3	4
6	3	4	4
7	3	4	4
8	3	4	4
9	3	3	3
10	4	3	3
11	4	4	4
12	4	4	4
Total	42	41	43
Average Value	10,5		
PA Value	3,5		

Table 15. Recapitulation of Value mapped to each Process Area

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Process Area	PA Value	Maturity Level
OPF	3,67	3 - Defined
OPD	3,79	3 - Defined
MA	3,67	3 - Defined
CAR	3,67	3 - Defined
PPQA	3,5	3 - Defined
Maturity Level Value	**3,66**	**3 - Defined**

Based on table 15, it can be seen that the value of the maturity level of SPBE services of the Communication and Informatics Office of Palembang City according to CMMI is 3.66, which is at maturity level 3 (Defined Process) which means; processes and activities are clearly defined, procedures or regulations are in place, activities are carried out in accordance with procedures or regulations and there is no clear control yet.

CONCLUSION

The index value of the assessment of the maturity level of the SPBE service domain at the Communication and Information Technology Office of Palembang City is 3.67, with an index value for the government administration service aspect of 3.45 and an index value for the public service aspect of 4. The results of this study indicate that the implementation of SPBE by the government of the Communication and Information Technology Office of Palembang City is at level 3 maturity level, namely 'Transactions' with the criteria 'SPBE Services Provided Through Service Information Exchange'. From the identification of problems based on the SPBE service index assessment that still requires improvement, for this reason the CMMI method is used by researchers to be able to provide guidance for process improvement on a project, division, or the entire organization, helping to integrate traditionally separate organizational functions, helping to determine processes for improving organizational goals and priorities and helping to provide guidance for improving the quality of organizational processes and providing references for organizational process assessment. improvement suggestions to achieve a better level. The results of the calculation found that the average value of the maturity level of SPBE services of the Communication and Information Technology Office of Palembang City at this time was 3.66. From this value, it can be concluded that the management of SPBE services is carried out by Defined Process.

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