GOLDEN RATIO OF SOCIAL SCIENCE AND EDUCATION
VOLUME 6, ISSUE. 1 (2026)
Website: https://goldenratio.id/index.php/grsse/index

GOLDEN RATIO
ISSN [Online]: 2797-5827

SOCIAL SCIENCE AND EDUCATION | RESEARCH ARTICLE

Improving Government Effectiveness: Analysis of the Implementation of the Electronic-Based Government System (SPBE) in Sarolangun Regency

Riska Afriyanti[1], Sofjan Aripin[2], Rahmat Budiman[3]

[1,2,3] Magister of Public Administration Program, Universitas Terbuka, Indonesia. Email: riskaafrykesra@gmail.com[1], sofjan@ecampus.ut.ac.id[2], budiman@ecampus.ut.ac.id[3]

ARTICLE HISTORY

Received: June 03, 2025
Revised: January 06, 2026
Accepted: February 28, 2026

DOI
https://doi.org/10.52970/grsse.v6i1.1359

ABSTRACT
The objective of this study is to analyze the implementation of the Electronic-Based Government System (SPBE) policy in Sarolangun Regency, Jambi Province. This policy is one of the government's initiatives to enhance the effectiveness of governance through the use of information technology. Since the issuance of Sarolangun Regent Regulation No. 58 of 2020 concerning the Implementation of the Electronic-Based Government System, the Sarolangun Regency Government has encountered numerous impediments in its implementation, resulting in suboptimal execution of the Electronic-Based Government System. The present study employs a qualitative approach, drawing on data from interviews, observations, and documentation. The results of the study indicate that the implementation of SPBE in Sarolangun Regency continues to face challenges in communication and resource allocation. Several factors, including limited ICT infrastructure, a shortage of skilled human resources, insufficient socialization of digital services, and limited internet access, have hindered the implementation of this policy. The Sarolangun Regency Government, through the Sarolangun Regency Communication and Information Agency, must strengthen and improve resources and enhance communication to optimize the implementation of SPBE in Sarolangun Regency.

Keywords: Implementation Policy, Electronic-Based Government System, Public Policy, Government.

I. Introduction

In the digital era, characterized by significant advancements in information technology, the implementation of the Electronic-Based Government System (SPBE) policy has become imperative for local governments seeking to enhance the quality of public services (Anggraeni et al., 2013). The digitization of public services constitutes a strategic effort to enhance the quality of governance in Indonesia (Arifin et al., 2025). In Indonesia, the implementation of information and communication technology (ICT) commenced with the issuance of Presidential Instruction No. 6 of 2001, which addressed the development and utilization of telematics. Subsequently, in 2003, Presidential Instruction Number 3 of 2003 of the Republic of Indonesia

ISSN [Online]: 2797-5827

was issued, concerning National Policies and Strategies for E-Government Development. This document specifically contained government policies on implementing e-government in Indonesia. In an effort to prioritize electronic governance, the government established a policy on e-government implementation, formalized through Presidential Regulation No. 95 of 2018 concerning Electronic-Based Government Systems (SPBE). This regulatory framework serves as a foundational document for the public sector's digital transformation. A series of regulations and policies have been established to guide the development of the Electronic-Based Government System. These directives call upon the heads of ministries, institutions, and local governments to engage in strategic planning and to formulate subsequent plans for the implementation of the Electronic-Based Government System within their respective agencies.

In accordance with Article 1, paragraph 1 of Presidential Regulation No. 95 of 2018 concerning Electronic-Based Government Systems, the term "Electronic-Based Government Systems" is defined as the administration of government that utilizes Information and Communication Technology to provide services to its users. The implementation of electronic government system services entails more than merely converting government agency work from a manual system to a computerized or digital/online-based system. It is also subject to distortions in the organization's external environment or to demands that necessitate change. Digital transformation in government aims to apply sustainable modern technology to improve government performance. (Amane et al., 2023). In an effort to expedite the transformation of the bureaucratic system in Sarolangun Regency, the Sarolangun Regent promulgated Regulation Number 58 of 2020 concerning the Implementation of an Electronic-Based Government System. The impetus for formulating this policy was to accelerate the bureaucratic transformation process, which had been characterized by sluggish progress and stagnation. The regulation marks the initiation of SPBE implementation in Sarolangun Regency, constituting a transformative measure intended to enhance the government's effectiveness by integrating ICT into all facets of its operations in the region. This integration encompasses data and information management, administrative processes, financial planning, and public services.

Sarolangun Regency, as one of the regions committed to adopting an electronic government system, is striving to integrate its administrative system with information technology to meet public demands for more transparent, efficient, and responsive services. The objective of this policy is to enhance the effectiveness of government operations by implementing digital technologies across various public services. This initiative is expected to enhance the efficiency of bureaucratic processes and facilitate enhanced access to information for the community. However, implementing this policy is not without challenges and obstacles, including technological infrastructure, human resources, and resistance to organizational cultural change. The implementation of a digital bureaucratic system is anticipated to streamline bureaucracy, thereby enhancing its efficiency and precision. This initiative is expected to expedite decision-making processes and improve the quality of services rendered to the public. A significant initiative undertaken is the digitization of various government administrative processes, encompassing permit applications, document processing, and financial reporting. The digitization system enables the public and relevant parties to access these services online, thereby reducing costs and time requirements and circumventing corruption. The transition of the bureaucracy in Sarolangun Regency towards a digital-based system entails more than the mere utilization of technology; it also necessitates shifts in work culture and the development of human resources. The implementation of SPBE has been demonstrated to enhance the quality and scope of public services provided to the community and other stakeholders, thereby ensuring enhanced efficiency, effectiveness, accountability, and transparency. (Amri et al., 2022).

Preliminary observations by the researcher revealed several issues at the Sarolangun Regency Communication and Information Agency (Diskominfo), the entity tasked with overseeing the implementation of the electronic government system in the Sarolangun Regency. These issues included a shortage of computer experts, more commonly referred to as programmers. In light of the prevailing circumstances, it has been determined that the Diskominfo Sarolangun Regency will not appoint any computer experts, also referred to as programmers, until the end of 2024. Furthermore, the integration of electronic government systems in Sarolangun Regency has been suboptimal due to the continued management of existing SPBE

ISSN [Online]: 2797-5827

services by their respective agencies. Additionally, there are still blind spots and low-signal areas in several sub-districts of Sarolangun Regency. This hinders access to Electronic-Based Government System services, particularly in areas with weak signal strength and coverage, often referred to as blind spots. Moreover, the implementation of office administration between Regional Apparatus Organizations (OPD) in Sarolangun Regency remains conventional in terms of correspondence administration (paper-based administration). This indicates that the implementation of the Electronic-Based Government System policy, which aims to enhance user experience, has not yet achieved its full potential in Sarolangun Regency. In light of the aforementioned challenges, the objective of this study is to delineate the implementation of the Electronic-Based Government System policy in Sarolangun Regency. The study aims to identify the factors impeding the policy's implementation and propose solutions to optimize its implementation. The ultimate goal is to enhance government effectiveness. This study examines the various factors that influence the implementation of the Electronic-Based Government System policy. It is expected that the study will provide concrete recommendations for the Sarolangun Regency government, particularly the Communication and Information Agency, to improve the effectiveness of this system. Moreover, it is anticipated that the findings of this study will contribute to the development of public policy theory and practice, particularly in the context of the electronic government system.

II. Literature Review and Hypothesis Development

2.1. Public Policy

Public policy is defined as an action initiated by individuals with authority to achieve predetermined, approved objectives. (Handoyo, 2016). Meanwhile, James E. Anderson (2003) defines policy as a plan of action that possesses a purpose and objective, which is methodically pursued and implemented by one or more actors to solve a particular problem (Tahir, 2020). Furthermore, Amara Raksasataya's conceptualization of policy as a series of strategies and tactics aimed at achieving a specific objective by furnishing the mechanisms for implementing those strategies or tactics (Suwitri et al., 2022) offers a comprehensive framework for understanding policy in relation to its intended outcomes. As defined above, this concept can be understood as a structured, directed plan or program designed to achieve specific objectives. The function of policy is to serve as a compass in the decision-making process and the implementation of actions, thereby ensuring that the desired objectives are aligned with the actions taken. The efficacy of policy formulation depends on the consideration of ethical and moral dimensions alongside economic and administrative efficiency. (Tachjan, 2006). The underlying rationale of an action is accentuated from an ethical standpoint, whereas morality focuses on how the action should be carried out. The process of planning, selection, approval, implementation, and evaluation in public policy is intended to address public issues. (Suwitri et al., 2022). Dunn (2003) proposes a theoretical framework positing three elements as influential factors in the policy-making process: the policy itself, the policy actors involved, and the policy implementation environment. The efficacy of a policy depends on the interplay among these components.

2.2. Policy Implementation

Policy implementation is regarded as a means to achieve predetermined objectives (Tahir, 2020). Dunn (2003) posits that policy implementation entails regulating policy actions within a specified timeframe. The concept of policy implementation underscores the necessity of attaining the objectives delineated in policy documents in accordance with the predetermined intentions. Tachjan (2006) further emphasizes that implementing every policy requires supporting tools to achieve its objectives. This phenomenon is intricately intertwined with the policy itself, which is inextricably linked to various institutions within the government system and to the community, the primary beneficiary of the policy (Aripin, 2009). Subarsono (2012) posits that the success of implementation is influenced by four main factors: the social environment and the

involvement of target groups; inter-organizational relationships and stakeholder cooperation; human and non-human resources within the organization; and the characteristics and capacity of policy implementers.

A multitude of theoretical frameworks exist to support the analysis of policy implementation. According to Edwards III (1980)Four factors prevent a policy from being implemented: communication, resources, disposition, and bureaucratic structure. This model does not consider external factors that can influence organizations. Nevertheless, it is more straightforward and efficient for comprehending policies. Van Meter and Van Horn (1997) propose six variables that link policy and achievement. They also emphasize the importance of implementation procedures that account for concepts of change, control, and compliance. (Aripin, 2009). The six variables encompass the scope and objectives of the policy, the availability of resources, the characteristics of the implementers, the implementers' attitudes towards the policy, inter-organizational communication, and the economic, social, and political environment. (Suardiyanti et al., 2025). This model continues to incorporate external factors that may influence a policy's efficacy. Merilee S. Grindle emphasizes that policy content and environment can significantly influence policy implementation. (Aripin, 2009). This model identifies the dynamics between bureaucracy, political power, and interest groups that influence policy implementation. (Suardiyanti et al., 2025). William Dunn proposes that policy actions are driven by two overarching objectives: regulation and allocation. Regulatory actions aim to ensure adherence to established standards and procedures (SOPs), while allocation actions necessitate inputs such as financial resources, time, personnel, and equipment. (Dunn, 2003). This model underscores the significance of effective resource management and distribution in the execution of policy.

2.3. Electronic-Based Government System

According to Grant (2010)The Electronic-Based Government System is considered a component of digital governance, which is defined as the delivery of government services through the use of ICT, particularly the Internet. Meanwhile, (Indrajit et al., 2005) define the Electronic-Based Government System as the provision of electronic information services by and with the government, without being limited by space and time, to increase the participation of all stakeholders. The implementation of an electronic-based government system has been demonstrated to enhance the effectiveness, efficiency, and transparency of government administration and public service provision. (Indrajit et al., 2005). Indrajit (2006), posits that the successful implementation of the concept of digitization in the public sector is contingent upon the prioritization and meticulous consideration of three factors: support, capacity, and value. The development of an Electronic Government System has been demonstrated to facilitate greater access to government information, thereby enhancing the quality of development administration. Moreover, the integration of an Electronic Government System has been demonstrated to enhance the efficiency and effectiveness of government operations, thereby providing a competitive advantage in public administration. (Suardiyanti et al., 2025).

III. Research Method

This study employs a qualitative approach to elucidate the intricacies of implementing the Electronic-Based Government System in Sarolangun Regency (Moleong, 2014). This methodological approach enables researchers to investigate stakeholders' perceptions, experiences, and challenges encountered during implementation (Pasolong, 2020). This research was conducted at the Sarolangun Regency Communication and Information Agency, which is responsible for implementing e-government in the regency. The data utilized in this study encompassed both primary and secondary sources. The present study used data from in-depth interviews with key informants, including officials from the Communication and Information Agency, SPBE operators, and stakeholders involved in implementing the aforementioned policy. These interviews served as the primary data collection method. Concurrently, official documents, including regulations, budget planning documents, work plans, and pertinent literature, were utilized as secondary data sources. Through semi-structured interviews, observations, and documentation reviews, the researcher gained comprehensive

insights into the implementation of SPBE. These insights included the actual conditions of the system's implementation in the work environment, as well as the factors that influence its success and the obstacles to its implementation. Subsequently, the data's veracity was confirmed through a meticulous review of documentation. The data analysis process comprises three primary stages: data reduction, data presentation, and conclusion drawing. The analysis was guided by the Miles and Huberman data analysis model (Sugiyono, 2017). The subsequent reduction of data was achieved through meticulous selection of pertinent information and filtering of superfluous data. The data were subsequently presented in descriptive narratives, tables, and diagrams to facilitate understanding. Conclusions were derived by identifying patterns and relationships between variables that contributed to the implementation of this policy. The validity of the data in this study was ensured through triangulation of sources and techniques to ensure the reliability and accuracy of the findings.

IV. Results and Discussion

Regulation Number 58 of 2020 concerning the Implementation of an Electronic-Based Government System in Sarolangun Regency is indicative of the Sarolangun Regency Government's commitment to enhancing public services by simplifying administrative bureaucracy through the utilisation of information technology. The results of the in-depth interviews indicate that all research informants concur that the primary objective of the Electronic-Based Government System policy in Sarolangun Regency is to streamline previously intricate, manual, and protracted bureaucratic processes into a more efficient, accessible, and technologically-driven bureaucracy.

4.1. Implementation of Electronic-Based Government System Policy

The implementation of the Electronic-Based Government System policy in Sarolangun Regency is a strategic step in efforts to improve the efficiency and transparency of governance. SPBE, as a system that utilizes information and communication technology, aims to facilitate public access to public services. It is anticipated that this policy will stimulate innovation in services and expedite government administrative processes. The implementation of the Electronic-Based Government System (SPBE) policy in Sarolangun Regency, Jambi Province, has been supported by various regulations that serve as references for its implementation. These regulations are included in the support element. Indrajit (2006) posits that the support element is a factor that enables e-government to function effectively and efficiently. The regulations established by the Sarolangun Regency government govern the behavior of individuals, groups, or organizations in society, thereby ensuring public welfare. Furthermore, the implementation of these regulations is intended to facilitate the transformation of Sarolangun Regency into a smart city. As demonstrated in Table 4.1.1, an analysis of relevant regulatory documentation has facilitated the identification of internal policies and technical regulations governing the electronic government system in Sarolangun Regency.

Table 1. Technical Policies and Regulations for the Implementation of SPBE

No.	Regulations	Year
1.	Sarolangun Regent Regulation Number 58 of 2020 concerning the Implementation of an Electronic-Based Government System in Sarolangun Regency	2020
2.	Sarolangun Regent Regulation Number 94 of 2020 concerning the Use of Electronic Certificates in Electronic Systems within the Sarolangun Regency Government	2020
3.	Decree of the Regent of Sarolangun Number 344/Diskominfo/2020 concerning the Establishment of an Evaluation Team for the Electronic-Based Government System (SPBE) of Sarolangun Regency in 2020	2020

ISSN [Online]: 2797-5827

No.	Regulations	Year
4.	Decree of the Regent of Sarolangun Number 345/Diskominfo/2020 concerning the Establishment of the Electronic-Based Government System (SPBE) Coordination Team for the Sarolangun Regency Local Government in 2020	2020
5.	Sarolangun Regent Regulation Number 13 of 2022 concerning the Architecture and Roadmap of the Sarolangun Regency Government's Electronic-Based Government System for 2022-2027	2022
6.	Sarolangun Regent Regulation Number 23 of 2022 concerning the Implementation of Non-Cash Transactions within the Sarolangun Regency Government	2022
7.	Sarolangun Regent Regulation Number 33 of 2022 concerning the Implementation of Encryption for Information Security within the Sarolangun Regency Government	2022
8.	Decree of the Regent of Sarolangun Number 145/Diskominfo/2023 concerning the Establishment of an Implementation Team for the Movement Towards a Smart City in Sarolangun Regency	2023
9.	Decree of the Regent of Sarolangun Number 146/Diskominfo/2023 concerning the Establishment of the Smart City Council of Sarolangun Regency	2023
10.	Sarolangun Regent Regulation Number 41 of 2024 concerning Guidelines for Information Security Management of Electronic-Based Government Systems within the Sarolangun Regency Local Government	2024
11.	Sarolangun Regent Regulation Number 11 of 2024 concerning the Implementation of Public Service Malls	2024
12.	Decree of the Regent of Sarolangun Number 88/Diskominfo/2024 concerning the Formation of an Internal Evaluation Team for the Electronic-Based Government System of Sarolangun Regency in 2024	2024
13.	Decree of the Regent of Sarolangun Number 87/Diskominfo/2024 concerning Amendments to Decree of the Regent of Sarolangun Number 167/Diskominfo/2021 concerning the Establishment of the Coordination Team for the Electronic-Based Government System (SPBE) of the Sarolangun Regency Government.	2024
14.	Decree of the Regent of Sarolangun Number 248/Diskominfo/2024 concerning the Determination of Domains, Subdomains of Websites, and Subdomains of Applications of the Sarolangun Regency Government in 2024	2024

In an effort to enhance government effectiveness and provide superior services to the community, Sarolangun Regency has developed several applications to support the implementation of an electronic government system. The implementation of these applications is not solely intended to modernize administrative processes; it also aims to enhance efficiency and transparency in public services. The development of applications in the implementation of SPBE in Sarolangun Regency is a strategic step to support better government performance and improve services to the community. It is hypothesized that this innovation will enhance the efficiency, transparency, and responsiveness of administrative processes, thereby fostering greater public trust in government. Sarolangun Regency has developed the following digital services:

Table 2. The following categories are represented by the digital services available

No	Types of Digital Services	Purposes
1	SIMPEG (Sistem Informasi Manajemen Kepegawaian)	The objective of this initiative is to expedite personnel administration processes, develop civil service resource management, collect personnel data regularly, improve the quality of personnel data presentation, and make it easier for employees to input and monitor their personal data.
2	Whistle Blowing System	The objective is to empower individuals, both within and outside of an organization, to report acts of corruption, abuse of power, or other ethical violations without fear of retaliation or negative consequences.

ISSN [Online]: 2797-5827

No	Types of Digital Services	Purposes
3	SIPD (Sistem Informasi Pemerintahan Daerah)	The objective is to provide support for the planning, implementation, and supervision of regional development.
4	SIMPATDA (Sistem Informasi Pendapatan Daerah)	The objective is to facilitate the process of verifying tax data for both tax officials and the general public.
5	SIKEMAS (Sistem Informasi Kesehatan Puskesmas)	The management of health data at the community health center level, in conjunction with the demand for improved quality in health services, merits close examination.
6	PPID (Pejabat Pengelola Informasi dan Dokumentasi)	The objective is to oversee the management and provision of access to public information.
7	SIAPAKS (Sistem Aplikasi Presensi Absensi Kabupaten Sarolangun)	The objective of this study is to collect attendance data on civil servants in the Sarolangun Regency government.
8	SRIKANDI (Sistem Informasi Kearsipan Dinamis Terintegrasi)	The objective is to streamline correspondence and electronic file management processes in government agencies.
9	JDIH (Jaringan Dokumentasi dan Informasi Hukum)	The objective is to manage and distribute information and legal documentation in a structured and integrated manner.
10	E-LPPK (Laporan Perkembangan Pelaksanaan Kegiatan Elektronik)	The objective is to oversee and document the electronic advancement of government operations.
11	C-Desy (Competency Development System)	The objective is to oversee and cultivate human resource competencies within the organization.
12	OSS (Online Single Submission)	The objective is to facilitate permit issuance for both individual businesses and business entities.
13	LPSE (Layanan Pengadaan Secara Elektronik)	The objective is to streamline the acquisition of government goods and services by implementing a digital platform that ensures transparency, efficiency, and accountability.
14	Website Sarolangun	As the official website of the local government, it serves as a repository of public information. The public can easily access the latest news, policies, and programs being implemented by the government.

Indrajit (2006) posits that the advantages of SPBE in government administration extend beyond the government itself to the community and other stakeholders, incorporating value elements. The efficacy of SPBE in Sarolangun Regency is substantiated by the presence of digital services that facilitate effective governance. SPBE services refer to various government systems and public services delivered through information and communication technology. The primary objective of SPBE services is to enhance efficiency, transparency, and accessibility in interactions between the government and the community. The majority of SPBE services in Sarolangun Regency are classified as Shared Use Systems or Applications with a Center, which facilitates the execution of office tasks and public services. This finding aligns with the conclusions of recent studies by Juliarso (2019) and Choirunnisa et al. (2023) which demonstrates that implementing SPBE can enhance the effectiveness and accessibility of public services through the services provided.

In addition, the Sarolangun Regency Government has initiated a program to enhance public services. This initiative has culminated in the establishment of a Public Service Mall, which houses 16 service counters representing various government agencies and vertical institutions. The 16 service counters include the BKPSDM, which handles civil service matters; the BPPRD, which oversees regional taxes and levies; the Social Service Department, which administers the Smart Indonesia Card (KIP), Healthy Indonesia Card (KIS), and Jamkesda; the Health Service, which issues certificates and practice licenses; and the PUPR Service, which manages spatial planning activities. The DPMPTSP is responsible for administering business and non-business licensing. The BPN oversees land registration. The Ministry of Religious Affairs, the Tax Office, the BPJS Health, the BPJS Employment, Samsat, PDAM, and the Disdukcapil are involved in various aspects of the identification

ISSN [Online]: 2797-5827

and registration process. The Disdukcapil also manages the issuance of electronic ID cards, Family Cards, birth certificates, and Child Identity Cards (KIA). Bank 9 Jambi and Environmental Services are also involved in this process. In the domain of public policy implementation, the theoretical framework developed by George C. Edwards III underscores the pivotal role of resources in determining success. In accordance with Edwards' findings, Van Horn & Van Meter similarly underscore the significance of resources. In this perspective, resources are not merely financial entities measured in currency units; instead, they encompass a comprehensive spectrum of essential elements needed to translate policy into concrete action. In the context of implementing the Electronic-Based Government System, this concept of resources assumes a more complex and strategic dimension. The procurement of technological infrastructure, software development, and system maintenance is contingent upon adequate funding.

Implementing SPBE requires more than allocating financial resources and human capital; it also requires adequate facilities and equipment. Such facilities and equipment include, but are not limited to, secure and reliable data centers, stable communication networks, and the latest hardware and software. Despite the rationality and clarity of a policy's objectives, external factors can influence its implementation. The availability of resources is also a critical factor in the success of a policy. A recurrent observation is that inadequate funding and a shortage of qualified personnel are two primary causes of policy failure. To implement the SPBE policy, Sarolangun Regency requires adequate human resources. The implementation of this policy is contingent upon the availability of adequate resources.

In addition to human resources, implementing SPBE policies requires allocating financial resources to develop digital infrastructure in Sarolangun Regency. The allocation of budgetary resources constitutes a pivotal element in facilitating the implementation of SPBE. The capacity factor, as defined by Indrajit (2006), refers to the government's potential or effectiveness in achieving e-government objectives. This factor pertains to the availability of adequate resources necessary for the execution of various SPBE initiatives, particularly financial resources, information technology infrastructure, and human resources with the requisite competencies and expertise. The implementation of SPBE is contingent upon these factors, ensuring that it aligns with the anticipated benefits. The availability of the SPBE management budget is contingent upon the allocation of funds necessary to support the implementation, maintenance, and development of government systems that utilize information technology. A review of several budget documents related to SPBE reveals the budget availability at the Communication and Information Agency, as illustrated in Figure 1.

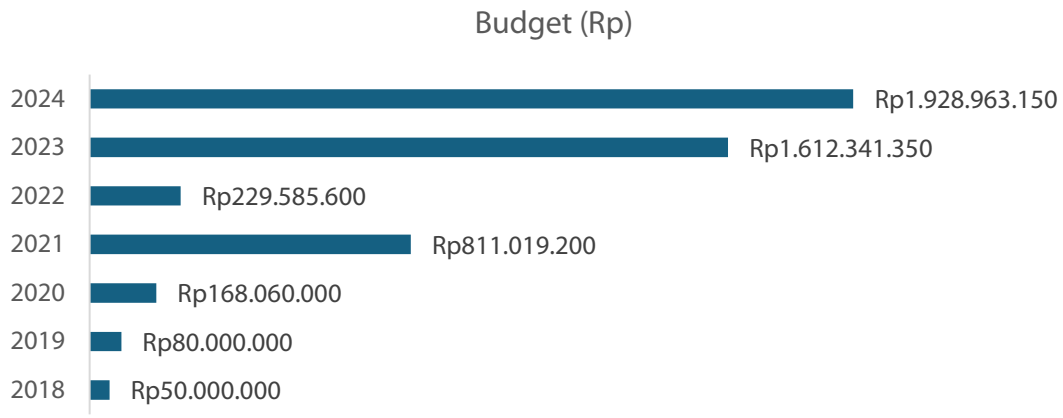

Figure 1. The availability of the SPBE Implementation Budget in the Sarolangun District

As illustrated by the graph above, there is a clear trend of escalating budgetary allocations for the Electronic-Based Government System at the Communication and Information Agency. In 2018, the budget allocated for SPBE management was only fifty million rupiah, but by 2024 it had increased to 1.9 billion rupiah. This outcome indicates that the Sarolangun Regency Government is allocating substantial resources to the administration of the electronic government system. The budget is also one of the elements that support the

implementation of the Electronic-Based Government System (Indrajit, 2006). This finding aligns with the conclusions of a study by Taufik et al (2023) which identified the budget as a pivotal factor in the effective implementation of the Electronic-Based Government System policy. The recent budget increase indicates the Sarolangun Regency government's growing recognition of the significance of digital transformation for public services. An augmented budgetary allocation enables the development of information technology infrastructure, augmented human resource capacity, and fortified information security systems. Given this upward trend, it is hoped that the implementation of SPBE will run more optimally and provide broader benefits to the community by facilitating more efficient, transparent, and accountable government services.

4.2. An Examination of the Factors that Impede the Implementation of Electronic Government System Policies

4.2.1 Limitations of Information and Communication Technology (ICT) Infrastructure

The capacity of regional infrastructure is a critical factor to consider when supporting the implementation of an electronic government system. The use of information technology to enhance public services depends on adequate infrastructure, including a stable internet connection, hardware, and suitable software. The absence of adequate infrastructure constitutes a significant impediment to digitization efforts in Sarolangun Regency, hindering the achievement of objectives and the practical implementation of SPBE. The Sarolangun Regency Communication and Information Agency has established regulations for the provision of internet and intranet networks. These regulations stipulate the allocation of bandwidth to regional devices, contingent upon a thorough analysis of bandwidth requirements. Moreover, the agency undertakes systematic, periodic, and routine monitoring and control of the utilization of local government bandwidth. As illustrated in Table 4.2.1.1, the Sarolangun Regency Communication and Information Agency's infrastructure capacity is evident.

Table 3. Availability of SPBE Infrastructure in Sarolangun Regency

No.	Components	Condition	Ideal Conditions	Requirements
1.	Bandwidth Allocation	350	2.360	2.010
2.	Network Device (Modem)	45	233	188
3.	There are 18 servers at the Communication and Information Agency (3 of which are damaged).			
4.	Six external servers belonging to the Ministry of Communication and Information Technology (two of which are damaged)			

As illustrated in Table 3, the technological infrastructure used to implement the Electronic-Based Government System (SPBE) in Sarolangun Regency has not yet reached the required optimal standard. A significant impediment to achieving this objective is the limited bandwidth allocation, currently set at 350 megabits per second (Mbps). This falls considerably short of the optimal requirement of 2,360 Mbps, indicating a discrepancy of 2,010 Mbps. This limitation indicates that government digital services are currently unable to operate at optimal capacity, particularly in terms of access speed and network stability. Moreover, the current availability of network devices (modems) is only 45 units, whereas the optimal requirement is 233 units. This discrepancy indicates a shortage of 188 units. This has resulted in limited network access in several government agencies and areas that the digital system has not yet covered. This infrastructure deficiency signifies the necessity for substantial enhancements to internet networks, hardware, and system maintenance. These improvements are crucial for the effective implementation of SPBE in Sarolangun Regency, thereby ensuring the provision of enhanced public services. The constraints imposed by the limitations of information and communication technology (ICT) infrastructure in implementing SPBE in Sarolangun Regency are consistent with Edward III's assertion that inadequate resources, in this case ICT infrastructure, are a primary factor hindering effective policy implementation. In addition to Edward III's assertions, Indrajit's statements substantiate this claim. The implementation of SPBE is contingent on the local government's capacity to

ISSN [Online]: 2797-5827

establish ICT infrastructure. Consequently, the absence of such capacity hinders the successful implementation of SPBE.

4.2.1. Limitations of Human Resources

The efficacy of the system being implemented depends on the availability of skilled, knowledgeable human resources in information technology. To enhance government officials' understanding and competence in technology use, it is imperative to implement systematic training and educational programs. Sarolangun Regency must develop a sustainable training program to ensure that its human resources are adequately prepared to confront the challenges posed by the digitization of government administration and public services.

Table 4. Availability of Human Resources in Sarolangun Regency in 2024

No.	Level of Education	Number	Condition/Value
1.	Elementary School (SD)	5	The number of employees with a background in Computer Science/ Information Technology is 10 (ten) people.
2.	Junior High School (SMP)	13	
3.	Senior High School (SMA)	568	
4.	Diploma I/Certificate I	11	
5.	Diploma II/Certificate II	210	
6.	Diploma III/Certificate III	588	
7.	Diploma IV/Certificate IV	70	
8.	Bachelor/S1	2.161	
9.	Magister/S2	240	
10.	Doctoral/S3/Ph.D	4	
Total		**3.871**	

The data presented herein reveal several noteworthy observations. A total of 244 employees, constituting 0.6% of the workforce, have an educational background beyond a master's degree (postgraduate – doctorate). A total of 2,405 civil servants possess bachelor's/master's/doctoral degrees, constituting 62% of the total. Higher education can provide lessons that other civil servants can apply to improve their education levels, thereby promoting the mutual progress of the local government. Furthermore, the high level of education among civil servants will also affect the acceptance of bureaucratic changes, including digitalization in the government sector. Moreover, the data indicate that the implementation of SPBE in the Sarolangun Regency Local Government has been a successful endeavor. This phenomenon can be attributed to the fact that the majority of the Sarolangun Regency Local Government's human resources possess a commendable level of education. A notable challenge in implementing SPBE in Sarolangun Regency pertains to the limited capacity and competence of human resources, particularly technical information technology managers.

An analysis of available data indicates that only 10 employees have a background in computer science or information technology. A mere 10 out of 3,871 civil servants (ASN) possess an educational background in information technology, indicating a pronounced deficit of skilled professionals capable of effectively managing and utilizing information technology in Sarolangun Regency. This perspective aligns with the tenets of public administration theory, which hold that the efficacy of public services is contingent not solely on established processes and methodologies, but also on the caliber and capacity of human resources. This condition is inadequate to meet the ideal human resource requirements for implementing SPBE, particularly in Sarolangun Regency, which is in the process of becoming a Smart City. Despite the limited number of human resources with expertise in information technology and the low level of digital competence among some human resources in implementing SPBE, the strong commitment and enthusiasm of employees responsible for IT-based implementation offer an opportunity to develop SPBE in Sarolangun Regency.

ISSN [Online]: 2797-5827

The scarcity of digital human resources with ICT expertise constitutes a significant impediment to the implementation of SPBE. This condition concerns the limited availability of skilled and experienced professionals in ICT, which hinders the fulfillment of organizational requirements, particularly in developing and overseeing technology-based systems. In Sarolangun Regency, the proportion of employees who are ICT graduates remains modest, with only 10 out of 3,871 civil servants being ICT graduates. This is a salient concern, given the necessity of proficient civil servants in ICT management to facilitate the implementation of SPBE. The scarcity of digital human resources with ICT expertise can lead to delays in technology project implementation, challenges with system maintenance, and diminished effectiveness in the provision of technology-based services. This finding aligns with the observations made by Karman et al. (2021) and Juliarso (2019), who reported that the scarcity of human resources with the capacity to operate and manage applications poses a significant challenge to the implementation of SPBE. This study aligns with the findings of Edwards III and Van Horn & Van Meter, which underscore the significance of resources. Constrained financial resources and insufficient human capital will hinder the implementation of policy. The implementation of the SPBE process is subject to disruption due to resource constraints, which can impact various aspects, including training and capacity building.

4.2.2. The absence of socialization about SPBE services has been identified as a salient issue.

In addition to infrastructure and superstructure support, which are two complementary and crucial components in supporting the successful implementation of the Electronic-Based Government System, as per Indrajit's (2006) theory, socialization is also considered one of the supporting elements in achieving the successful implementation of SPBE. The advent of the SPBE concept is predicated on achieving specific objectives and functions, namely the establishment of good governance and the enhancement of community services through greater effectiveness and efficiency. The digitization of public services plays an instrumental role in fostering enhanced interaction between the government and the community (Syaifuddin, 2025). The absence of socialization of digital services refers to a situation in which information and knowledge about government or public services based on information and communication technology (ICT) are not effectively disseminated to the community. This can lead to a lack of awareness or understanding within the community about available services and their access mechanisms. In the Sarolangun Regency, issuing UMKM business licenses can be facilitated through the WhatsApp application. Using this messaging application enables the public to obtain business licenses remotely, obviating the need for in-person visits to the DPMPTSP office. However, this information remains largely inaccessible to the general public due to the DPMPTSP's limited socialization efforts. This finding aligns with the observations of Zahran et al. (2024), who reported that the primary impediment to the integration of digital technologies is the lack of extensive, pervasive, and sustained socialization, leading to the public's limited awareness of digital services that could facilitate their access to data or documents. It is imperative to recognize that the efficacy of innovation in the electronic licensing system depends on a sufficient level of public understanding. This could lead the public to continue using conventional methods that are more time-consuming and labor-intensive. Consequently, this could hinder the main objective of public service digitalization, which is to improve efficiency and ease of access.

Additionally, the absence of public awareness regarding the availability of digital services constitutes a significant impediment to the implementation of the Electronic-Based Government System. The efficacy of the technology depends on adequate socialization and public participation, which are prerequisites for optimal benefits. From the perspective of institutional theory, the presence of regulatory frameworks suggests that the Sarolangun Regency government has established an institutional infrastructure conducive to the implementation of an electronic government system. Nevertheless, interaction between government agencies and the public is a pivotal element in ensuring that implemented policies meet community needs. The limitations in socialization demonstrate that, despite regulations, successful implementation requires active community participation.

The lack of socialization of SPBE services indicates deficiencies in cultivating public support. Van Horn & Van Meter emphasize that stakeholder support is crucial for successful implementation. Absent adequate support, the acceptance and implementation of policies may encounter significant challenges. The lack of socialization about the availability of digital services within the community is a primary impediment to implementing SPBE. For instance, the WhatsApp application designed for business permit applications, which was intended to offer convenience to the community, has not been utilized to its full potential. In the context of good governance theory, this obstacle underscores the notion that existing regulations do not determine transparency and accountability in isolation. Instead, it is equally important to consider the extent to which the community can access and comprehend the services rendered by the government. The efficacy of technology implementation depends on adequate socialization and community participation, which are prerequisites for optimal benefits.

4.2.3. Limited Internet Access

Preliminary analysis of the data presented in Figure 4.2.3.1 indicates that 14 villages across five subdistricts in Sarolangun Regency remain within areas lacking adequate telecommunications coverage. These areas lack internet connectivity, a circumstance that significantly restricts residents' access to information and communication. The limited internet access in these villages poses a significant challenge, hindering social, economic, and educational development. This challenge must be overcome to improve the quality of life for the people of Sarolangun Regency. It is imperative to expand the internet infrastructure in these regions. This is essential to ensure that all residents have access to the benefits of information technology.

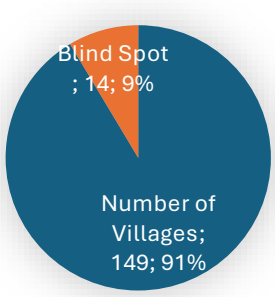

Figure 2. Blind Spot Data in Sarolangun Regency in 2024

According to Indrajit's theory, the failure to implement the electronic-based government system in Sarolangun Regency can be attributed to limited access to the internet and technology. This limitation, in turn, results in insufficient capacity to implement SPBE. As posited by Edward III, a confounding element impeding the execution of policy is the scarcity of available resources. These limitations in internet access will undoubtedly have a significant impact on the implementation of the Electronic-Based Government System, which depends on internet capabilities. In the absence of an internet network in a given region, the implementation of SPBE in that region will be compromised.

4.3. Efforts to Overcome Factors Hindering the Implementation of Electronic-Based Government System Policies

4.3.1. Strengthening and Improving Resources

The initial step in this process is to fortify resources, particularly the information technology infrastructure. The Sarolangun Regency Government has endeavored to establish an intra-government network accessible to all Regional Apparatus Organizations (OPD) within the Sarolangun Regency. This is

ISSN [Online]: 2797-5827

evidenced by the fact that nearly all OPDs in Sarolangun Regency are connected to the Communication and Information Network. The enhancement of human resource competencies has been identified as a pivotal strategy to overcome the impediments to the implementation of an electronic government system. The implementation of meticulously designed and sustained training programs for government officials is imperative to ensure their adeptness in the proper utilization of information technology. Furthermore, this training can encompass components of change management, thereby facilitating employees' adaptation to the novel system. It is hypothesized that by enhancing their HR competencies, personnel will exhibit greater confidence and proactivity in their use of the Electronic-Based Government System. The Sarolangun Regency Government has pursued this initiative through various measures. These include deploying government officials to attend training programs outside the region and establishing workshops focused on the use of government applications, particularly those related to financial planning. To fortify and enhance these resources, leaders—in this case, regional heads or agency heads—must demonstrate commitment to fostering collaboration, empowering teams, and cultivating an environment conducive to continuous feedback. This commitment is essential to ensure the seamless implementation of the aforementioned policy. (Prasodjo, 2024).

4.3.2. Improved Communication

The implementation of SPBE in Sarolangun Regency requires cultivating an organizational culture that fosters innovation and adaptability within government entities. Local governments must foster a work environment that encourages employees to be receptive to new technologies and contribute to the development of SPBE. To that end, there is a need for intensive dissemination of information about the benefits and objectives of the Electronic-Based Government System to reduce resistance to change. Effective communication can engender a sense of ownership of the system being implemented. In this regard, the Sarolangun Regency Government has established a dedicated WhatsApp group for Regional Government Information System (SIPD) operators. This group serves as a platform for discourse and communication on the use of the SIPD web-based application in regional financial planning.

Communication strategies must be tailored to the diverse characteristics and needs of target audiences. In regions with constrained access to digital technologies, face-to-face communication strategies facilitated by community leaders and community forums have been demonstrated to be more efficacious. Concurrently, in metropolitan areas characterized by extensive internet penetration, the use of digital communication channels, including social media platforms, government websites, and mobile applications, can reach a broader audience. The content of communication must be meticulously designed to ensure relevance, accuracy, and ease of understanding. The use of straightforward language, engaging data visualizations, and pertinent case studies has been shown to enhance the appeal and effectiveness of the message being conveyed. Furthermore, it is imperative to provide clear information on feedback mechanisms and technical support to help the public address any issues that may arise when using digital services. Moreover, the lack of socialization and limited adoption of digital services in Sarolangun Regency indicate critical deficiencies in the local government's communication strategy. A strategic solution to this problem is to optimize the regency government's official website as an integrated single point of access (SPA) for all digital services. This approach is predicated on the principles of information centralization and simplification of accessibility, which, in principle, can improve the effectiveness of communication and service adoption. The public often faces challenges when trying to access government digital services because information is disseminated across multiple platforms and websites. The integration of all digital services into a unified district government website establishes a centralized information hub. This reduction in complexity enhances public accessibility, enabling them to locate and use the services they require with greater ease. An integrated, user-friendly website design can enhance the accessibility of digital services for individuals with varying levels of digital literacy. Providing an intuitive interface, straightforward navigation, and easily comprehensible guidance is instrumental in removing technical barriers and enhancing the ease of use of digital services.

V. Conclusion

The Sarolangun Regency Government, through the Communication and Information Agency, has formally adopted an electronic government system in accordance with Sarolangun Regent Regulation Number 58 of 2020, which stipulates its implementation within the Sarolangun Regency. Researchers in the field have conducted a comprehensive review of the extant literature, as well as a meticulous analysis of pertinent interviews, firsthand observations, and assiduously reviewed documentation. This has led to the conclusion that the implementation of the Electronic-Based Government System in Sarolangun Regency, Jambi Province, has been in effect since the issuance of Sarolangun Regent Regulation No. 58 of 2020. This implementation has been shown to improve the government's effectiveness. This assertion is further substantiated by internal policies that explicitly support its implementation. In an effort to enhance the effectiveness of governance through the Electronic-Based Government System, the Sarolangun Regency government has developed digital services encompassing both administrative government services and electronic public services. This phenomenon is inextricably linked to the provision of resources and the dedication of policy implementers, which has been cultivated through effective communication between Regional Apparatus Organizations. The implementation of an electronic government system in Sarolangun Regency, Jambi Province, is confronted with numerous substantial challenges that impede the government digitization process. The identified challenges encompass a paucity of ICT infrastructure, a shortage of skilled human resources, the absence of socialization of digital services, and constrained internet access. To address these challenges, the Sarolangun Regency Government is undertaking several initiatives. These include the strengthening of ICT infrastructure resources, the improvement of human resource competencies through planned and ongoing training, the enhancement of communication between the government and the community by promoting the digital services provided by the local government, and the optimization of the official website of the Sarolangun Regency Government as an integrated single point of access (SPA) for all digital services.

References

Amane, A. P. O., Lutfi, M., Subandi, Y., Admira, Tb. M. A., Safarudin, M. S., Rustandi, Pradana, H. A., & Pakarbudi, A. (2023). Digitalisasi Governance (Issue December). https://doi.org/10.17605/OSF.IO/28RMY

Amri, U., Adianto, & As'ari, H. (2022). Kebijakan Inovasi dalam Penyelenggaraan Sistem Pemerintahan Berbasis Elektronik (SPBE) di Kota Dumai. Jurnal Pendidikan Tambusai, 6(2), 12201–12207.

Anderson, J. E. (2003). Public Policy Making (Fifth Edition). Houghton Mifflin Company.

Anggraeni, F. D., Hardjanto, I., & Hayat, A. (2013). Implementasi Strategi Pemerintah Dalam Pengembangan Usaha Batik Tulis Tenun Gedog. Jurnal Administrasi Publik (JAP), 1(6), 1286–1295.

Arifin, Z., Subagja, I. K., & Hakim, A. (2025). Digital Governance: Studi Kasus Digitalisasi Pelayanan Publik Terpadu di Kabupaten Serang. Jurnal Sosial Teknologi, 5(1), 1105–1123. https://doi.org/10.59188/jurnalsostech.v5i1.31861

Aripin, S. (2009). Pengaruh Implementasi Kebijakan Peningkatan Kualifikasi Akademik dan Sertifikasi Pendidik Untuk Guru Terhadap Kompetensi Guru Sekolah Dasar di Kabupaten Belitung. Provinsi Kepulauan Bangka Belitung. [Disertasi]. Universitas Padjadjaran.

Choirunnisa, L., Oktaviana, T. H. C., Ridlo, A. A., & Rohmah, E. I. (2023). Peran Sistem Pemerintah Berbasis Elektronik (SPBE) Dalam Meningkatkan Aksesibilitas Pelayanan Publik di Indonesia. Sosio Yustisia: Jurnal Hukum Dan Perubahan Sosial, 3(1), 71–95. https://doi.org/10.15642/sosyus.v3i1.401

Dunn, W. (2003). Pengantar Analisis Kebijakan Publik (II). Gadjah Mada University Press.

Edwards III, G. C. (1980). Implementing Public Policy. Congressional Quarterly Inc.

Grant, J. P. (2010). Electronic government for developing countries. Report on the ITU telecommunication development sector's ICT Application and cybersecurity.

Handoyo, E. (2016). Kebijakan Politik (Vol. 15, Issue 2).

Indrajit, R. E. (2006). Electronic Government: Strategi Pembangunan dan Pengembangan Sistem Pelayanan Publik Berbasis Teknologi Digital. Andi.

Indrajit, R. E., Rudianto, D., & Zainuddin, A. (2005). E-Government In Action. Andi Offset.

Juliarso, A. (2019). Analisis Implementasi E-Government Dalam Meningkatan Kinerja Pelayanan Publik Pada Pemerintah Daerah Kabupaten Ciamis. Kebijakan : Jurnal Ilmu Administrasi, 10(1), 10. https://doi.org/10.23969/kebijakan.v10i1.1417

Karman, K., Deswanto, R., & Ningsih, S. A. (2021). Implementasi E-Government Pada Pemerintah Daerah. Jurnal Studi Ilmu Pemerintahan, 2(2), 43–50. https://doi.org/10.35326/jsip.v2i2.1525

Moleong, L. J. (2014). Metode Penelitian Kualitatif (Revisi). Remaja Rosdakarya.

Pasolong, H. (2020). Metode Penelitian Administrasi Publik. Alfabeta.

Prasodjo, T. (2024). Agile Governance in the Digital Age: A Qualitative Study of Its Effectiveness and Implementation Challenges. Golden Ratio of Social Science and Education, 5(1), 01–10. https://doi.org/10.52970/grsse.v5i1.941

Suardiyanti, N. L. P., Aripin, S., & Widnyani, I. A. P. S. (2025). Implementation of Local Government Information System in Improving the Quality of Development Planning in Jembrana Regency, Indonesia. Golden Ratio of Social Science and Education, 5(1), 191–201. https://doi.org/10.52970/grsse.v5i1.1198

Subarsono, AG. (2012). Analisis Kebijakan Publik (Konsep, teori, dan Aplikasi). Pustaka Pelajar.

Sugiyono. (2017). Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Alfabeta.

Suwitri, S., Purnaweni, H., & Kismartini. (2022). Analisis Kebijakan Publik (3rd ed.). Universitas Terbuka.

Syaifuddin, S. (2025). The Impact of Implementing Digital Marketing in Public Administration on The Quality of Public Services and Public Satisfaction. Golden Ratio of Social Science and Education, 5(1), 106–114. https://doi.org/10.52970/grsse.v5i1.925

Tachjan. (2006). Implementasi Kebijakan Publik. AIPI.

Tahir, A. (2020). Administrasi Publik (Good Governance menuju Sound Government). Bandung: Alfabeta.

Taufik, Liwaul, & Sartono. (2023). Analisis Faktor Keberhasilan Implementasi Kebijakan Sistem Pemerintahan Berbasis Elektronik Di Kabupaten Konawe Selatan. Journal Publicuho, 6(2), 507–524. https://doi.org/10.35817/publicuho.v6i2.134

Zahran, A. M., Samugyo Ibnu Redjo, & Ivan Darmawan. (2024). Penerapan e-Government Melalui Website Bandung Smart Map Plus (BSM+) dalam Penataan Ruang di Kota Bandung Tahun 2022. NeoRespublica : Jurnal Ilmu Pemerintahan, 5(2), 480–496. https://doi.org/10.52423/neores.v5i2.188