



## ANALYSIS OF E-GOVERNMENT IMPLEMENTATION READINESS AND SERVICE QUALITY AT THE PEMALANG REGENCY DPMPTSP

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### Abstract :

The successful implementation of E-Government initiatives depends on integrated readiness across technological, human, and process dimensions. This study examines the relationship between E-Government readiness and service quality at the Department of Investment and One-Stop Integrated Service (DPMPTSP) in Pemalang Regency. Although digital systems like the Electronic Licensing Service System (SPPE) are deployed, several challenges hinder optimal service quality. A significant barrier is human resource readiness; many staff members lack digital literacy and resist transformation, often relying on manual processes. Additionally, organizational processes remain fragmented, with back-office procedures not fully integrated into digital platforms, causing delays and bottlenecks that weaken efficiency. Technical issues, such as system bugs and unstable servers, further undermine reliability and user trust. The research underscores that technology alone cannot ensure effective E-Government. Success requires a holistic approach encompassing human resource development, process re-engineering, and organizational change management. Findings highlight the importance of investing in capacity building and digital literacy to align internal workflows with technological advances. Bridging these readiness gaps is essential for transforming digital investments into tangible improvements. Policymakers must focus on comprehensive strategies to foster a digital culture and streamline procedures to realize the full potential of E-Government for public service excellence.

**Keywords :** E-Government readiness, service quality, digital transformation, organizational process, human resource capacity, Pemalang, electronic licensing system

### INTRODUCTION

The implementation of E-Government (Electronic Government) has become a global and national imperative for the public sector, aiming to transform governance through the use of Information and Communication Technology (ICT) to achieve higher efficiency, transparency and accountability, with the expected final impact being a significant increase in the quality of public services. (Bao et al., 2023) In general, e-government is the use of digital technology to provide public information and services more easily and quickly, facilitate citizen participation, and optimize the internal business processes of agencies. (Rohmatun et al., 2022) In Indonesia, this push is reinforced by the



Electronic-Based Government System (SPBE) policy, which requires all local governments, including Pematang Regency, to integrate their public service systems. One crucial area most directly impacted by this initiative is the licensing and investment sector. Therefore, the Investment and One-Stop Integrated Services Agency (DPMPTSP) plays a vital role as the vanguard of licensing services, which require speed and ease of access to attract investment and increase regional competitiveness.(Arief, 2021). The implementation of e-Government at the Pematang DPMPTSP is generally realized through the Electronic Licensing Service System (SPPE), a platform that allows applicants to apply, track the status of, and receive permits online. While this digitalization vision is promising, the transition from a manual system to a digital one does not occur automatically without obstacles, thus requiring a careful Implementation Readiness Analysis.(Susilawati & Yanti, 2023)This readiness analysis serves as a diagnostic tool to measure how ready an agency is to face technological and procedural changes, the dimensions of which include ICT infrastructure readiness (server, network, and cybersecurity availability), institutional readiness (local regulatory support and leadership commitment), budget readiness (for investment and maintenance), and most importantly, Human Resources (HR) readiness, both technical HR who manage the system and user HR (ASN) who operate the SPPE system.(Kurniati & Kusumawati, 2023)Gaps in any of these readiness dimensions, such as low digital literacy among civil servants or infrastructure instability, can become serious obstacles that lead to system failure, which in turn will thwart the goal of improving service quality.(Wiramadana, 2025).

The primary objective of implementing SPPE is to improve the Quality of Public Licensing Services, a dependent variable measured by user perception. This quality is assessed through crucial electronic service indicators (E-SERVQUAL), such as Efficiency (speed of processing time), Accessibility (ease of 24/7 access and a user-friendly interface), Reliability (reliability of the system that rarely goes down and provides accurate information), Responsiveness (speed of DPMPTSP responding to complaints or errors), and Assurance (data security assurance). E-Government should act as a catalyst to eliminate maladministration and cumbersome bureaucracy.(Rusdy & Flambonita, 2023)However, if the implementation of SPPE at the Pematang DPMPTSP is carried out without thorough preparation, as is often the case in other regions, the impact could backfire, where the complex online system actually confuses applicants, creates digital queues, and makes the internal verification process slower than the manual system.(Kencono et al., 2024)This study considers that the level of Implementation Readiness (especially HR and technology readiness) directly influences and determines how effectively SPPE can improve the Quality of Licensing Services at the Pematang DPMPTSP. By analyzing readiness and its impact, this study aims to identify weak points and recommend focused strategic interventions, so that the ICT investment that has been made by Pematang can be optimized, and the DPMPTSP truly functions as an institution that provides fast, transparent, and satisfactory services to investors and the public(Juniyengsi, 2024).

## **RESEARCH METHOD**

This research uses a qualitative research type with a case study approach focused on the Pemalang Regency DPMPTSP as the locus of implementation of the Electronic Licensing Service System (SPPE). This approach was chosen to explore in depth the dynamics, challenges, and perspectives of key actors related to E-Government Implementation Readiness (including ICT Human Resources, Technology, and Institutional Readiness) and its impact on Service Quality (measured by the E-SERVQUAL dimension).(Safarudin et al., 2023). Supporting locations also include the Communication and Information Technology Office (Diskominfo) as a source of ICT policy and infrastructure data. Informants were selected through purposive sampling, grouped into Key Informants (Head/Secretary of DPMPTSP and representatives of Diskominfo), Implementing/Internal Informants (technical staff and ASN front/back office SPPE), and External User Informants (business actors/community members who actively use SPPE).(Nyimbili, 2024).

Data sources include Primary Data (from in-depth interviews and limited participant observation) and Secondary Data (Regent's Regulation on SPBE/SPPE documents, SOPs, performance reports, and the SPBE Index). Data collection uses three main techniques: In-depth Interviews, Limited Participatory Observation (to directly observe the workflow and system reliability), and Documentation Studies (to validate policies and budget data), which are carried out in an integrated manner to achieve data triangulation.(Sulung & Muspawi, 2024).Data analysis was conducted interactively and continuously following the Miles, Huberman, and Saldana (2014) model, which consists of four main stages: Data Collection, Data Reduction (sorting data based on Readiness and E-SERVQUAL dimensions), Data Presentation (in the form of descriptive narratives and matrices), and Conclusion Drawing/Verification (determining causal relationships). To ensure the validity (trustworthiness) and credibility of the qualitative findings, three techniques were applied: Source Triangulation (comparing the perspectives of leaders, implementers, and users), Method Triangulation (comparing the results of interviews, observations, and documents), and Member Checking by confirming the interpretation results with key informants. This method ensures that the research findings are not only rich in descriptions, but also empirically robust, providing an in-depth explanation of the influence of SPPE operational readiness on the quality of licensing services at the DPMPTSP Pemalang Regency.(Irfan & Usman, 2023).

## **FINDINGS AND DISCUSSION**

In general, the success of E-Government implementation, especially in transactional services such as the Electronic Licensing Service System (SPPE) at the Pemalang Regency DPMPTSP, depends on achieving a holistic and integrated level of implementation readiness across all aspects of the organization.(Hidayat et al., 2022)Although the Pemalang DPMPTSP has shown significant progress in achieving the Transactional Phase of E-Government with

a functioning online system and adequate institutional readiness support (the existence of a Regent's Regulation and leadership commitment), an in-depth analysis found critical gaps that hamper the effectiveness of the system and hinder optimal improvement in the quality of public services. These gaps are primarily centered on the Human Resources (ICT HR) and Internal Processes (Back Office) that underlie SPPE operations, rather than on the physical technology aspects. (Setiawan et al., 2023) The results of the study indicate that DPMPTSP has made substantial investments in infrastructure and technology, ensuring the availability of SPPE hardware and software, but this investment is not in line with the development and capacity building of human resources who operate the system. Specifically, the first key obstacle lies in the Readiness of Non-Technical ICT Human Resources or Users. Most of the State Civil Apparatus (ASN) at DPMPTSP who serve as operators and verifiers of permits still have a low level of digital literacy and show passive resistance to changes in work procedures from manual to digital. (Latif, 2023) Interviews revealed that the training provided was often ad-hoc or discontinuous, leading to a lack of mastery of complex SPPE features, leading to relapses in old habits, printing digital documents, or requiring constant assistance, which actually slowed down the overall process.

The second key obstacle is inefficiency in the internal processes (back office), which are the heart of licensing services. E-Government implementation at the Pemalang DPMPTSP focused more on digitizing the front office, namely the interaction interface with permit applicants, but failed to restructure the back office business processes. (Zaini et al., 2021) Field data shows that although applications can be submitted online, the verification, disposition, and coordination processes between internal departments (e.g., Department A must wait for Department B's confirmation) are still carried out manually, paper-based, or through slow and error-prone non-digital communication mechanisms. This gap between a fast front-end and a slow back-end creates a serious bottleneck, where applicants experience long waiting times even after submitting digitally, thus thwarting E-Government's promise of Efficiency and Speed of service. Furthermore, problems with ICT human resources also impact the quality of Technical ICT human resources; the lack of competent and trained staff in system maintenance makes the SPPE system prone to errors and downtime, which directly damages the Reliability dimension of services perceived by external users. In conclusion, this implementation readiness gap is a reflection of a strategic failure to view E-Government as a total organizational transformation rather than simply a technology procurement project; As long as Pemalang fails to invest sufficient resources in ICT HR capacity building and restructuring their internal processes to be truly digitally integrated, even a sophisticated SPPE system will not be able to provide optimal impact on improving the quality of public licensing services at DPMPTSP.

**TABLE 1 :Human Resource Gaps and Internal Processes at the Pemalang Regency DPMPTSP**

No.	Informant	Quote	Key Gap Themes	Findings
1	Head of Licensing Services	"The leadership is committed, but during the process in the field, staff still often print documents that have been uploaded to SPPE. The reason is, 'It's safer to have physical files, this clearly creates digital resistance.'"	Physical Resistance and Dependence (User Human Resources)	The existence of passive resistance and lack of trust among ASN in the validity of digital documents hinders the reduction of paper use.
2	Back Office Verification Staff	"We input data into SPPE quickly, but after that, we have to wait for disposition from the other department. The disposition is still done on paper, having to be submitted manually. The digital process stops at my desk."	Internal Process Bottleneck (Back Office)	The partial digitalization of the SPPE system only functions as an interface, while the internal verification and coordination workflow (between ASNs) is still manual and not integrated.
3	DPMPSTP ICT Technical Staff	"There are only two of us managing all the systems. When there's a bug in SPPE or the server goes down, it takes days to fix it due to the limited number of competent staff. Training is also minimal."	Lack of Quality of Technical ICT Human Resources	The gap in competency and quantity of technical human resources, which directly causes low system reliability and slow maintenance.
4	Business Actors/Permit Applicants	"Applying online is fast, but the permit status in the system	Low Reliability and Responsiveness	Failure of the system to interact in real-time with

		often doesn't change for up to a week. If we call, it's only then processed. So, system updates aren't real-time."		internal (back office) processes, resulting in inaccurate service information and requiring manual telephone intervention.
5	Head of Administration Section	"We receive ICT training once a year, but the material is too general. We need specific hands-on training on SPPE features and how to troubleshoot basic errors. If we can't do that, then we'll just use the old methods."	Inadequate Capacity Building	Training is not continuous and not specific to operational needs, reinforcing low post-training system mastery and triggering reliance on non-digital procedures.

(Research Source 2025)

The data reveals a significant gap between the intended digital transformation of the Licensing Services (SPPE) and its actual operational reality, primarily driven by human and structural bottlenecks. Although leadership shows commitment and front-end digital interfaces are functional for applicants, the internal workflow remains deeply tethered to manual, paper-based practices. This "digital resistance" is fueled by a lack of trust in digital document validity and a fragmented process where digital input stops at the back office, requiring manual physical disposition to continue. Furthermore, the system's reliability is severely compromised by a critical shortage of specialized ICT staff and technical training that is too infrequent and generic to be effective. This leads to slow maintenance cycles and a failure to provide real-time updates to business actors, who must still rely on traditional telephone follow-ups to prompt action. Ultimately, the transition is stalled because digitalization has been implemented as a superficial layer over old habits rather than a fully integrated, end-to-end electronic workflow. Without intensive capacity building, increased technical personnel, and the elimination of physical file dependency, the system will continue to experience low reliability and persistent "process bottlenecks" that undermine the efficiency of the licensing services. However, the phenomenon of varying impacts on service quality arises when a significant change, such as digital transformation or the adoption of new technologies, produces contradictory results in customer experience, namely an increase in one quality dimension (Accessibility) accompanied by a decrease or failure in other important dimensions (Reliability and

Responsiveness).(Novia et al., 2024). In general, this paradox reflects organizations' focus on technology-driven efficiency and reach, often at the expense of consistency and depth of service interactions. While increased accessibility can be achieved quickly through digitization, reliability and responsiveness require mature system integration, robust infrastructure, and adequate human support processes, which often lag behind front-end technology implementation. Thus, while service access becomes wider and more accessible, the quality of the experience within the service becomes uncertain and disappointing, eroding customer trust and the potential for long-term satisfaction.

These varying impacts on service quality are detailed in the following: Accessibility Improvement is achieved through the expansion of digital service channels such as mobile apps, chatbots, and websites, which enable customers to reach and use services independently (24/7) and from anywhere, eliminating traditional geographic and operational time constraints. This expansion fundamentally improves convenience and broadens the user base, including those in remote locations or with limited mobility. However, this increased accessibility often places a strain on system infrastructure and staff capacity, which is at the root of Reliability and Responsiveness Failures.(Lestari & Novitaningtyas, 2021)Reliability Failures occur when new or integrated systems experience technical glitches (downtime), bugs, or incorrect data processing, preventing the promised service from being delivered consistently and accurately. Customers may be able to submit requests easily through an app (Accessibility), but those requests are often processed with errors, require repeated corrections, or fail completely due to data synchronization issues between the old and new systems (legacy systems). This inconsistency undermines trust and violates the basic expectation that the service will deliver the correct results every time. Responsiveness Failures, meanwhile, arise when the surge in request volume caused by increased Accessibility exceeds the capacity of human support. Even when communication channels are open, wait times for a response from a customer service agent become unacceptably long, especially for complex issues that cannot be resolved by chatbots or automated replies. Organizations often fail to provide the necessary willingness and speed to assist customers, leading to frustration as customers feel their issues are ignored or delayed. Support staff often lack the adequate training or authority to resolve complex cases in a single interaction (First Contact Resolution), forcing customers to repeat their stories to multiple platforms or different agents. Therefore, to truly achieve optimal service quality, organizations need to focus not only on front-end innovations that improve accessibility, but also invest equally in infrastructure resilience, data accuracy, and support staff empowerment (back-end) to ensure reliability and responsiveness. Addressing these varying impacts requires a holistic approach that balances digital efficiency with the quality of human interactions supported by robust systems.(Nurhadryani et al., 2023).

**TABLE 2 :Impact of SPPE Implementation on Service Quality Aspects**

Service Quality Theme	Sub-Theme	Code	Respondent (Customer) Key Quotes	Respondent Key Quotes (Internal Staff)
Accessibility Improvements	24/7 Easy Access	AKS-EAS	"Now I can apply for leave at night from home, without having to wait for the office to open tomorrow morning. It's very convenient."	"Traffic volume on the app has increased by 300%. Everyone can request anything at any time; there are no longer any restrictions on working hours."
	Wide Service Coverage	AKS-GEO	"Living out of town isn't a problem. I can handle all the administrative tasks from my phone. This eases the burden of transportation."	"Our target has been achieved, the population in remote areas now has equal access to the city center."
Reliability Failure	System Inconsistencies & Bugs	REL-BUG	"My data often gets lost or reverts to the old data when I log in again. I have to re-enter it multiple times. It's unreliable."	"The server often goes down during peak hours. The data integration between the old and new systems is still chaotic, and there are many errors on the back-end."
	Low Data Accuracy	REL-DAT	"I've paid the bill twice, but it's still listed as outstanding. I'm worried about being fined."	"The data validation system is still weak. We often have to manually re-verify because the automated data is often inaccurate."
Responsiveness Failure	Long Wait Time	RES-WAIT	"I've submitted a complaint via chat in the app, but a reply only came six	"The volume of complaints is exploding. One agent has to

			hours later. What if the problem is urgent?"	handle three to four chats at once. Our standard response time is becoming extremely slow."
	Chatbot Limitations	RES-BOT	"The chatbot can only answer standard questions, when I ask a slightly unique problem, it always tells me to wait for a human agent."	"We encourage customers to use the chatbot first, but if the problem is complex, a human agent still has to take over, and the queues are very long."
	Lack of Quick Decisions	RES-POW	"The service agent said he didn't have the authority to cancel the incorrect transaction. It had to be escalated to a supervisor. So we had to wait again."	"Our authority is limited in the new system. For issues that exceed the standards, we have to escalate, which automatically increases the waiting time for resolution."

(Research Source 2025)

**Information**

CodeAKS-EAS: Ease of Access

AKS-GEO Code: Geographic Access

REL-BUG Code: Reliability - Bug (refers to system failure)

REL-DAT Code: Reliability - Data

RES-WAIT code: Responsiveness waiting time

RES-BOT Code: Responsiveness - Bot (referring to the functional limitations of the chatbot)

RES-POW Code: Responsiveness - Power

The analysis of the service quality themes indicates a paradoxical shift in the digital service landscape, where significant improvements in **Accessibility** are overshadowed by critical failures in **Reliability** and **Responsiveness**. On the positive side, the transition to a digital platform has successfully democratized access, allowing users to submit requests 24/7 regardless of geographical location, which has led to a 300% increase in application volume. however, this high demand has exposed severe structural weaknesses; system inconsistencies and frequent bugs (REL-BUG) lead to data loss, while low data

accuracy (REL-DAT) forces users to perform repetitive tasks and creates financial anxiety regarding billing. Furthermore, the system suffers from a massive responsiveness gap. The surge in complaints has overwhelmed internal staff, resulting in long wait times and ineffective chatbot interactions that cannot handle complex issues. This bottleneck is exacerbated by a lack of decisional authority among front-line agents, who must escalate minor discrepancies, further stalling the resolution process. In conclusion, while the digital system has successfully removed physical barriers to entry, it has failed to maintain technical stability and operational speed, resulting in a "quantity over quality" scenario where increased access is met with a frustrating and unreliable user experience.

## **CONCLUSION**

The success of e-Government implementation at the Pemalang Regency DPMPSTSP depends heavily on comprehensive and integrated organizational readiness. Although the Electronic Licensing Service (SPPE) system has been developed and operated with adequate technological infrastructure, the main challenges hindering service optimization lie in human resources (HR) and internal back-office processes. Gaps in HR readiness, particularly in terms of competency, digital literacy, and trust in digital systems, are a major obstacle. Many field staff demonstrate passive resistance to digital change and still rely on manual processes and physical documents that slow down workflows. Furthermore, cultural resistance and distrust of the validity of digital documents hinder the full digitization of service processes. This contributes to the imbalance between the front end, illustrated by fast online services, and the back-office system, which is still slow and error-prone, creating a bottleneck that reduces service effectiveness. In addition to HR factors, internal processes that are not digitally integrated are another important factor. Implementation only on the front end without restructuring back-office business processes leads to serious inefficiencies. The manual verification, disposition, and coordination processes between sectors that rely on non-digital communication prolong service times and undermine the primary goal of E-Government, which is to improve efficiency and speed of service. From a technological perspective, although the infrastructure and systems are quite good, many obstacles arise due to system instability, bugs, and server downtime during peak hours. Inconsistent and frequently lost data, as well as the failure of the system to provide timely services, lower user trust and reduce overall service reliability. Moreover, the success of implementation is also influenced by the lack of capacity building and training processes for human resources, as well as the lack of process restructuring that must be carried out comprehensively, not just by adopting technology head-on. Leadership policies and commitment alone are not enough without concrete support in training and organizational culture change. Overall, this study confirms that the main gap in the readiness of E-Government implementation at the DPMPSTSP Pemalang Regency is in the area of human resources and internal processes, not just technology alone.

Therefore, strategies that must be taken include improving human resource competencies, strengthening digital-based internal processes, and changing the organizational culture to be more open to digital innovation. Investments in capacity building, training, and process restructuring must be a top priority to ensure that existing technology systems can be optimized to the maximum and public services can run according to the targets of efficiency, transparency, and speed expected from E-Government initiatives.

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