

SPBE Implementation in West Java: A Case Study of Sapa Warga Super Apps

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ABSTRACT: Digital transformation of government in Indonesia is realized through the implementation of Electronic-Based Government Systems (SPBE) to improve the effectiveness of public services. This research analyzes the effectiveness of SPBE implementation in West Java Province through a case study of the use of the Sapawarga Jabar Super Apps application in the context of motor vehicle tax services in Karawang Regency. The research method used is quantitative with an explanatory approach. Data was collected through a questionnaire of 60 respondents who used the application. The results showed that application innovation has a positive influence on user satisfaction with a contribution of 28.6%. Meanwhile, service quality has a greater influence with a contribution of 31.1%. When analyzed simultaneously, both variables significantly contributed 45.8% to community satisfaction. Factors such as feature complexity, officer attitude, and user trust are the main determinants in the adoption of digital-based services. This study recommends continuous improvement of application features, human resource training, and expansion of public digital literacy to sustainably strengthen the success of SPBE.

KEYWORDS: SPBE; Sapawarga; Digital Innovation; Service Quality; User Satisfaction; West Java.

INTRODUCTION

Digital transformation in the government sector has become a necessity in the era of the Industrial Revolution 4.0. The Government of Indonesia (GoI) has responded to this change by designing and implementing an Electronic-Based Government System (SPBE) policy, as a framework that harmonizes information technology in public services and governance. SPBE aims to create an efficient, transparent, and accountable bureaucracy by utilizing information technology in a comprehensive and integrated manner (Ministry of PANRB, 2021). As one of the provinces with the largest population and complex public service challenges, West Java Province plays an important role in progressively adopting and implementing SPBE. The West Java Provincial Government is known for actively developing various digital innovations in public services, including through the launch of the Sapawarga Jabar Super Apps application. This application is designed as a communication channel and one-stop service for citizens, including population information, social assistance services, public complaints, and motor vehicle tax payments (Pratama & Santoso, 2025). The implementation of SPBE in West Java is not only aimed at administrative digitization, but also as a strategy to expand community participation and bridge limited access to public services. Initiatives such as Sapawarga exist to empower citizens, simplify service processes, and improve the quality of service delivery quality of real-time and measurable data-based decision making (Gumilang & Ningtyas, 2023).

However, the success of SPBE implementation is highly dependent on the readiness of digital infrastructure, competence of human resources, synergy between agencies, and the digital literacy culture of the community. Although West Java's SPBE index has increased in recent years, challenges are still found in terms of system integration, data security, and the effectiveness of responses to citizen complaints through the Sapawarga application (Hudaya, 2023; Suwarlan & Suparman, 2023). In this case, a study of how the Sapawarga application is implemented, utilized, and evaluated is important as a reflection of the achievements and obstacles of SPBE at the regional level. Several previous studies have shown that the adoption of the Sapawarga application has generally received a positive response from the community, especially in terms of accessibility and convenience of digital services. However, there are also notes on feature limitations, lack of user education, and interoperability issues with other government systems (Munadi & Manar, 2024; Sanjaya & Darma, 2023). In addition, the uneven digital literacy of citizens is a significant challenge in ensuring the inclusiveness of SPBE-based digital services. Through a case study of the Sapawarga application in West Java, this article aims to further analyze the effectiveness of SPBE implementation from the perspective of public digital services. This research is expected to provide an empirical contribution to the development of government digital transformation policies, especially in the regions, as well as identify supporting and inhibiting factors for the optimal implementation of SPBE.

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RESEARCH METHODS

This research uses a descriptive qualitative approach with a case study strategy. The selection of this approach is based on the research objective to deeply understand the SPBE implementation process through the Sapawarga Jabar Super Apps application in West Java Province, both in terms of institutional, technical operations, and user perceptions (Creswell, 2014). The case study strategy is considered appropriate because it is able to explore contextual and complex phenomena within a limited but representative scope (Yin, 2018).

A. Research Location and Subjects

- (1) The research was conducted in Karawang Regency and Bandung City, two representative regions in West Java that are actively implementing the Sapawarga application. The selection of these locations was based on considerations of data availability, stakeholder involvement, and the level of penetration and use of the Sapawarga application by citizens.
- (2) The research subjects consisted of three main categories:
- (3) Local government officials who play a role in application management and SPBE policy (Communication and Informatics Office, Population Office, and Social Service).
- (4) Sapawarga application users from various age groups, education, and digital literacy levels.
- (5) System developers and technical operators involved in developing and maintaining the Sapawarga application.

B. Data Collection Techniques

Data collection was conducted through three main techniques:

- (1) Semi-structured interviews, to gather in-depth information from the government and Sapawarga application service users. Interviews were conducted in person and online using an open-ended question guide.
- (2) Participatory observation, used to directly observe the process of using the Sapawarga application in the community, especially in public services such as reporting social assistance data, service complaints, and tax payments.
- (3) Documentation, including analysis of SPBE policy documents, local government performance reports, application usage statistics, and regulations such as Presidential Regulation No. 95/2018 on SPBE.

C. Data Analysis Technique

The data obtained were analyzed using the interactive analysis technique of the Miles, Huberman, and Saldaña (2014) model, which involves three main stages:

- (1) Data Reduction - selecting, summarizing, and focusing important information from the raw data.
- (2) Data Presentation - organizing data in the form of narratives, matrices, and thematic maps to facilitate interpretation.
- (3) Drawing Conclusions - organizing findings based on patterns, cause-and-effect relationships, and confirmation of relevant theories and policies.

Data validity was strengthened through source triangulation (between informants and documents), as well as member checking to ensure the accuracy of data interpretation from sources.

D. Research Ethics

This research upholds the ethical principles of social research by ensuring the confidentiality of informants' identities, obtaining informed consent before interviews, and using data only for academic purposes. The entire research process was carried out based on ethical guidelines from higher education institutions and the principle of information disclosure.

RESULTS AND DISCUSSION

Results

This study reveals quantitative data on the level of satisfaction of the Karawang Regency community towards the use of the Sapawarga Jabar Super Apps application in paying motor vehicle taxes (PKB). The research respondents totaled 60 people who were selected through the exit poll technique and had used the Sapawarga application.

A. User Satisfaction Level (Variable Y)

User satisfaction is measured by 6 statement indicators. Most respondents showed a fairly high level of satisfaction, although there were still significant complaints about the price and security aspects of the application.

Table 1. Recapitulation of User Satisfaction Level (Y)

Response Categories	Number of Respondents	Percentage (%)
Strongly Agree (SA)	19	31,7%
Agree (A)	19	31,7%
Disagree (D)	13	21,7%
Strongly Disagree (SD)	9	15%

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Respondents expressed satisfaction because they felt that the application service was safe and functional. However, 22 respondents (36.7%) expressed dissatisfaction regarding system errors and lack of feature education.

B. App Innovation Assessment (Variable X1)

The innovation variable is evaluated through 5 key indicators: relative advantage, compatibility, complexity, testability, and observability.

Table 2. Recapitulation of App Innovation (X1)

Response Categories	Number of Respondents	Percentage (%)
Strongly Agree (SA)	17	28,3%
Agree (A)	18	30%
Disagree (D)	16	26,7%
Strongly Disagree (SD)	8	13,3%

The majority of respondents rated the application as a helpful and easy innovation, but many also complained about bugs, lags, and information that was difficult to understand, indicating the need for improvement in the aspects of complexity and observability.

C. Service Quality (Variable X2)

The dimensions of service quality are assessed based on the SERVQUAL framework: tangible, reliability, responsiveness, assurance, and empathy.

Table 3. Recapitulation of Service Quality (X2)

Response Categories	Number of Respondents	Percentage (%)
Strongly Agree (SA)	18	30%
Agree (A)	18	30%
Disagree (D)	15	25%
Strongly Disagree (SD)	9	15%

Although most rated the service as good, some respondents criticized the unfriendly attitude of SAMSAT officers and the lack of initiative to help.

D. Relationship and Contribution of Variables to Satisfaction

The results of statistical analysis show that both application innovation and service quality have a significant effect on user satisfaction.

Table 4. Summary of Correlation and Contribution of Variables

Variable	Correlation Coef. (Kendall Tau-b)	Significance	R ² (Contribution)
Innovation (X1)	0,474	0,000	28,6%
Service Quality (X2)	0,513	0,000	31,1%
Innovation + Quality	Kendall's W: 0,672	0,000	45,8%

Thus, it can be concluded that both independent variables contribute significantly simultaneously to user satisfaction. The rest (54.2%) is influenced by other factors such as digital literacy, network infrastructure, and other external factors.

DISCUSSION

The implementation of the Electronic-Based Government System (SPBE) in West Java Province through Sapawarga Jabar Super Apps reflects digital transformation efforts oriented towards public service efficiency. This discussion will parse the research results in depth by linking quantitative findings to theoretical concepts and field context. The two main aspects discussed include: (1) the contribution of app innovation to user satisfaction, and (2) the influence of service quality on public acceptance. The results show that the innovation variable has a contribution of 28.6% to user satisfaction. Although this contribution is moderate, it shows a significant positive relationship. Theoretically, this is in line with Rogers' (2003) innovation adoption model, which states that users' perceptions of relative advantage, complexity, observability, compatibility, and trialability greatly influence the acceptance of an innovation. In the context of Sapawarga, most respondents feel that this application provides easy access to information and one-stop services, which reflects the relative advantage of service digitization (Rogers, 2003; Lubis, 2022).

However, the complexity and observability indicators are critical in the implementation of the app. Respondents complained of bugs and difficulty understanding the flow of use, indicating that the design of the user interface and communication

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of features is not fully inclusive. Difficulty understanding the application is also caused by the inequality of digital literacy of citizens, which is a classic challenge in digitizing public services in developing countries (Janssen et al., 2012). Technical complexity and limited internet networks, especially in suburban and rural areas, are also obstacles in reaching the optimal benefits of the application. This finding is reinforced by Liswatin's research (2022) which shows that the success of digital innovation is strongly influenced by the readiness of human resources and supporting infrastructure. In the context of Sapawarga, complaints related to errors and lags indicate the need for increased technological capacity and more stable system integration. Therefore, the success of innovation is not only determined by the creation of new features, but also by the sustainability of maintenance and design alignments towards users with low literacy.

Service quality has a 31.1% contribution to user satisfaction, a slightly higher value than the contribution of app innovation. This shows that human interaction and service aspects remain a determining factor in the digital context. The SERVQUAL theory by Parasuraman, Zeithaml, & Berry (1988) suggests five main dimensions of service, namely tangibles, reliability, responsiveness, assurance, and empathy. In this study, the tangibles and responsiveness dimensions are the weak points of public perception, especially towards officers at the SAMSAT office who are considered less friendly and unprepared. Respondents stated that despite the presence of digital applications, they still have to come directly to the service office because the system is not fully end-to-end. This shows the paradox between digitalization and reality on the ground. People expect that with the presence of digital applications, they can avoid queues, complicated bureaucracy, and unsatisfactory services. When these expectations are not met, user satisfaction will decrease, even though digital features have been provided (Zeithaml et al., 1990). Most respondents still consider manual services more reliable because applications are often unresponsive. This is in line with the findings of Ayuningtias et al. (2023) which state that the quality of public services is still influenced by the attitude and competence of officers, even in a digital environment. Thus, the implementation of SPBE through applications such as Sapawarga needs to be accompanied by human resource training in the physical service line, because the two systems run complementarily. When application innovation and service quality are analyzed simultaneously, their contribution to user satisfaction increases to 45.8%. This shows that digital transformation will only be successful if applications as technological innovation and service quality as the human aspect go hand in hand. The concept of co-production of public services explains that users are not only passive recipients, but also part of the service system itself (Brandson & Honingh, 2016). Therefore, the user experience in using the application is inseparable from their interactions with officers, policy processes, and supporting infrastructure.

The Kendall W correlation of 0.672 (strong category) and significance of 0.000 emphasize that the combination of innovation and service collectively contribute significantly to public perception of public services. However, the remaining 54.2% is influenced by other variables that have not been included in this study, such as trust in government, digital literacy, incentives to use applications, and negative past experiences. These findings reflect the implementation of SPBE in West Java, which is already on the path of transformation, but still faces structural and cultural challenges. According to Gumilang & Ningtyas (2023), the main challenges of SPBE in West Java include data fragmentation, weak system integration between regional apparatus, and resistance to bureaucratic work culture. Failure to bring together an integrated system architecture causes the user experience to be disconnected, even though applications are available. This condition shows that digital transformation is not just about building applications, but building a digital ecosystem that is connected from upstream to downstream. This means that SPBE must include data integration, system interoperability, and strengthening the capacity of adaptive and inclusive human resources (Ministry of PANRB, 2021). In addition, the digital inclusion aspect also needs attention. The development of applications such as Sapawarga must pay attention to vulnerable groups, including senior citizens, citizens with physical limitations, and people with limited internet access. The principle of digital inclusion is not only about access to technology, but also about reducing gaps in knowledge, language, and adaptability (OECD, 2020). The implication of these findings is that the successful implementation of SPBE through super apps such as Sapawarga cannot be separated from the synergy between technology and manual service quality. Therefore, several important recommendations can be proposed:

- (1) Optimization of Sapawarga features: The West Java Provincial Government needs to fix features that experience bugs and lags and simplify the user interface.
- (2) Increased digital literacy: Intensive education should be conducted to the community through training programs, media campaigns, and collaboration with schools/campuses.
- (3) Strengthening physical services: Public service officers should be trained in soft skills and service ethics, as they remain an important element in the success of SPBE.
- (4) Regular monitoring and evaluation: An adaptive monitoring system should be established to assess the effectiveness of applications and services on a quarterly basis.
- (5) Citizen participation: Encourage citizens to provide input through digital channels so that innovations can be based on the real needs of the community.

CONCLUSIONS AND SUGGESTIONS

This study shows that the implementation of the Electronic-Based Government System (SPBE) in West Java Province through the Sapawarga Jabar Super Apps application has made a significant contribution to improving the efficiency and accessibility of public services, especially in terms of motor vehicle tax payments in Karawang Regency. However, technological innovation alone is not enough to guarantee user satisfaction. The results of quantitative research reveal that the application innovation variable contributes 28.6% to the level of user satisfaction, with a significant relationship but in the moderate category. The dimensions of complexity and observability are aspects that need to be improved. The service quality variable contributed 31.1%, indicating that the attitude, empathy, and responsiveness of public service officers are still crucial factors even though the system has been digitized. Simultaneously, innovation and service quality contributed 45.8% to user satisfaction, indicating the need for an integrative approach between technology and human aspects in the success of SPBE. The implications of these findings emphasize the importance of updating application features, increasing public digital literacy, and strengthening public service ethics. For this reason, digital transformation in the SPBE framework not only demands technological innovation, but also changes in service culture that are more adaptive, collaborative, and inclusive.

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