



## Digitalization of Motor Vehicle Taxes Through the SAPAWARGA Application

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### ABSTRACT

Digital transformation in public services aims to improve efficiency and public compliance, including in the payment of Vehicle Tax (PKB). The West Java Provincial Government has implemented PKB digitalization through the Sapawarga application. This study uses a descriptive qualitative method to analyze the implementation of Sapawarga at the Cirebon City Samsat, the challenges faced, and improvement efforts. Data was collected through interviews, literature review, and archival documentation from the Samsat office. The findings reveal improved access and transparency; however, challenges persist in system integration, inadequate regulatory support, and low digital literacy. Improvement efforts include routine evaluations, employee training, infrastructure upgrades, public awareness campaigns, and system updates to enhance application security and performance.

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## **INTRODUCTION**

Motor vehicle tax (PKB) is a significant source of local revenue, playing an important role in funding infrastructure development and public services that are urgently needed by the community. However, the mobility of the community has increased in line with the increasing demands of work and daily activities. This busyness makes taxpayers unable to take care of their administrative obligations, including paying motor vehicle taxes, so they often pay their motor vehicle taxes late. According to Prathama (2024), compliance in tax payment is greatly influenced by the ease of access and transparency of information related to tax obligations. Therefore, the transformation of public services in the modern era, which continues to move towards digitalization, is a strategic step in improving the quality of services to the community.

The benefits of digital technology in public services have been proven, particularly in the taxation sector, where technology can reduce the compliance burden on taxpayers, decrease tax collection costs, and improve administrative efficiency. This transformation not only supports increased efficiency but also opens up opportunities for innovation that strengthen public governance as a whole (Bahtiar et al., 2021).

The Indonesian government has strengthened the implementation of E-Government and digital government through the issuance of Presidential Instruction No. 3 of 2003 on the strategy for developing E-Government. This policy aims to improve the quality of public services by utilizing information and communication technology. Additionally, Presidential Regulation (Perpres) No. 95 of 2018 on the Electronic-Based Government System (SPBE) was introduced to promote integration and efficiency in electronic-based government systems through effective governance and management. These acceleration efforts are supported by the implementation of the SPBE index, which serves as a tool to measure the progress of electronic-based government systems at the regional level. Currently, the concept of digital government has been widely applied in public services across various regions, including West Java Province. West Java is one of the pioneers in the use of digital services, particularly in electronic tax payment systems. The province is also recorded as the first region to implement an electronic payment system to support local revenue collection, especially in the local tax sector (Bahtiar et al., 2021).

In 2019, the West Java Provincial Government launched an innovation in the form of the Sapawarga application, which is integrated with the SAMBARA (Samsat Mobile West Java) system to support Motor Vehicle Tax (PKB) administration. This service was designed as an effort to improve taxpayer compliance, optimize revenue from the motor vehicle tax sector, and build more transparent and open two-way communication. This technology-based service concept is a strategic step by the West Java government to fulfill its responsibility in providing accessible, effective, and efficient public services to support community welfare. With more practical tax payment procedures, taxpayers are expected to be more active in fulfilling their obligations, particularly in paying motor vehicle taxes. This is expected to help achieve the tax revenue targets set by the government.

However, despite the introduction of the Sapawarga application as a digital solution, its implementation has not been fully optimized. Several studies indicate that there are still obstacles in its use, such as low levels of understanding among certain groups of the community regarding this digital service, which is also due to technological infrastructure limitations in some areas. Additionally, despite the shift to a digital platform, manual procedures remain a common complaint. These include the requirement to print the E-SKKP (Tax Payment Obligation Letter), bring copies of the E-KTP and BPKP to the Samsat office, and technical issues. These challenges are prevalent across various regions, including the Samsat office in Cirebon City.

These challenges contradict the principles outlined in Government Regulation No. 97 of 2012 on Integrated One-Stop Service (PTSP), particularly Article 3, which emphasizes ease, speed, accessibility, security, and comfort in public services. These principles should serve as the foundation for the implementation of digital systems to truly benefit the public.

The digitalization of public services should be oriented toward efficiency and effectiveness, which, in practice, has not yet been fully achieved in the vehicle tax administration system through Sapawarga. In the context of public administration, it is important to understand the factors influencing the effectiveness of digital service implementation such as Sapawarga. An analysis of the service system, the obstacles faced, and the efforts made to overcome these obstacles is crucial to improving the quality of public services and achieving the true goals of E-government.

Therefore, this study will analyze the implementation of vehicle tax services through the Sapawarga application in supporting digitalization, various obstacles encountered in its implementation, and efforts made to overcome these obstacles in order to improve the quality of public services.

The primary focus of this study is on the implementation of digitalization in vehicle tax payments for two-wheeled and four-wheeled vehicles, as these two categories of vehicles are the largest contributors to vehicle tax revenue in the city of Cirebon.

## **LITERATURE REVIEW**

E-Government is the application of information and communication technology (ICT) in government administration to improve the efficiency, effectiveness, transparency, and accountability of public services. The United Nations Development Programme (UNDP) Indrajit (Puspa, 2020) defines E-Government as "the use of ICT by government agencies to support services to the public." One of the digitalization initiatives implemented by the West Java Provincial Government is the use of the Sapawarga application for the payment of Vehicle Tax (PKB). The Sapawarga application is a digital service innovation developed by the West Java Provincial Government as a public information system service and also monitors development and improves the quality of human resources so that they can develop better, thereby empowering the community and fostering synergy in digital communication (Handayani & Mulyono, 2023). The existence of Sapawarga stems from the mission to create an

open, participatory, and data-driven government. Through the application launched in 2019, the government provides digital services. In 2022, the West Java Mobile Vehicle Registration Office (SAMBARA) was officially integrated into this application. Sapawarga is also integrated with various other public services. This creates a more connected and easily accessible digital service ecosystem for the public. (provjabar.org)

| Category                     | Services                                                               | Features                                                                     |
|------------------------------|------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Tax & Vehicles               | Samsat Mobile West Java (SAMBARA)                                      | Check & pay vehicle tax, transfer ownership, reserve 5-year tax              |
| Recreation & Tourism         | West Java Tourism                                                      | Buy tickets and reserve public areas online for various destinations/events  |
| Feedback & Complaints        | Citizen Complaints and Student Bullying Complaints                     | Citizen complaint and bullying reporting channels via the app                |
| Education                    | Higher Education, Basic Education, and Non-formal Education            | SPMB, diploma certification, JFLS, and others                                |
| Employment & Economy         | Employment                                                             | Job vacancies and training information                                       |
| Permits & Public Services    | Public Service Mall                                                    | Integrated government agency licensing services                              |
| Population Administration    | Sidatuk (population data complaints), Sadarka (family data)            | Complaints and corrections related to population and family data             |
| Emergency Information        | Emergency Number (Jabar Hotline / Siaga 112)                           | Quick access to emergency services                                           |
| Infrastructure & Environment | Temanjabar (road maintenance activities)                               | Information on infrastructure maintenance and electrical conditions of homes |
| Health & Laboratory          | Syllabus (lab service information), COVID-19 Services                  | Health information & lab tests, vaccinations, vitamins, consultations        |
| Public Information & Data    | West Java Today (latest news) West Java Open Data, West Java Dashboard | News, statistics, data transparency, and location information                |

However, the implementation of E-Government does not always go as expected. Heeks in (Arief et al., 2021) states that his concept of the *design-reality gap* explains that many E-Government initiatives fail or do not run optimally due to significant differences between digital system designs and real-world conditions. Heeks developed the ITPOSMO model as a framework for analyzing E-Government implementation, which consists of seven main aspects:

1. Information: The availability and accessibility of relevant information for the public, including data transparency and public information.
2. Technology: The technological infrastructure used to support E-Government services.

3. Process: Processes optimized through the use of technology to improve efficiency and effectiveness in public services.
4. Objectives and Values: The goals to be achieved through E-Government implementation, as well as the underlying values, such as accountability, transparency, and public participation.
5. Human Resources (Staffing): The skills and competencies of government employees in using technology and providing quality services.
6. Management: Management that supports the implementation of E-Government, including existing policies and procedures.
7. Other Resources: Additional resources required to support the implementation of E-Government, such as budget or collaboration with third parties.

(Bahtiar et al., 2021) studied the implementation of the SAMBARA application in West Java and found that this digital service has improved transparency and accessibility in motor vehicle tax payments. However, they noted that "although the public welcomed the SAMBARA application, many still experienced difficulties in making electronic payments, resulting in low digital adoption rates compared to the number of vehicle owners."

Meanwhile, research (Herawati & Lesmana, 2023) on the effectiveness of tax payments through the SAMBARA application shows that the public still tends to prefer conventional payment methods. They state that "although the application is widely known, many taxpayers are not yet accustomed to using SAMBARA due to a lack of understanding and the continued need for direct verification at the Samsat Office."

A more specific study on the Sapawarga app was conducted by (Satibi et al., 2024), which examined innovations in motor vehicle tax payment services at the Samsat Soreang office. The study found that "although Sapawarga was designed to improve service effectiveness, public satisfaction remains low due to insufficient socialization and technical challenges in the app's operations."

From these various studies, it can be concluded that the digitalization of motor vehicle taxes through E-Government still faces challenges in terms of infrastructure readiness, user adoption, and implementation effectiveness. Therefore, a more comprehensive strategy is needed to improve the quality of digital services and encourage taxpayer compliance with the online payment system.

The conceptual framework of this study links E-Government theory with the implementation of Sapawarga in motor vehicle tax services in Cirebon City. The ITPOSMO model is used to analyze the success of this system's implementation based on information, technology, process, and human resource factors. The digitalization of motor vehicle taxes is expected to enhance accessibility and administrative efficiency. However, as found in previous studies, there are still challenges in technology adoption by the public and infrastructure limitations that affect service effectiveness.

## METHODOLOGY

This study employs a qualitative method with a descriptive approach to gain a deeper understanding of the phenomenon and describe the implementation of Sapawarga in motor vehicle tax services at the Cirebon City Samsat. The location was selected due to its direct relevance to the research focus. Informants were chosen purposively, namely those directly involved, such as the Head of the Cirebon City Samsat as the primary informant, and service users as supporting informants.

Data collection techniques are the most strategic step in research, as the primary objective is to obtain data that is valid and reliable (Sugiyono., 2005) Data collection was conducted through semi-structured interviews, literature review, and documentation. In-depth interviews were conducted with the Head of Samsat, while documentation was sourced from official Samsat archives, Bapenda reports, and relevant policies. Literature reviews from books, articles, and journals were used to strengthen the research analysis.

## RESEARCH FINDINGS AND DISCUSSION

### *Implementation of the Sapawarga Application in Supporting Motor Vehicle Tax Digitalization*

The implementation of E-Governance in motor vehicle tax administration through the Sapawarga application in Cirebon City was analyzed using the ITPOSMO model developed by Richard Heeks. This model consists of seven main dimensions that reflect the success factors in E-Government implementation, namely Information, Technology, Process, Objectives and Values, Staffing, Management, and Other Resources.

Through this analysis, we can gain a deeper understanding of the role of the Sapawarga application in transforming motor vehicle tax administration from conventional administrative methods to a digital platform. This change is not only aimed at meeting public expectations for more practical and efficient services but also supports the government's efforts to create a more accessible service system.

#### *Information*

The information dimension in the ITPOSMO model focuses on the quality, accuracy, and accessibility of information provided by the system to its users. Quality information must be presented clearly, relevant, accurate, reliable, and easy to understand so that users can make good use of it in the decision-making process. Ease of access to information is also an important part, because the easier the information is accessed, the higher the effectiveness of the system.

Several Sapawarga users believe that this application provides comprehensive information that can be accessed online. The quality of Sapawarga's information is reflected in the simple and attractive appearance of the application, which allows users to obtain clear information about vehicle taxes, thereby facilitating the use of Sapawarga services.

Users can easily check the status of their vehicle taxes, view payment deadlines, and understand the payment procedures that must be followed. This demonstrates that Sapawarga has provided significant benefits in improving

transparency and accessibility of vehicle tax service information. The Head of the Cirebon City Samsat Office stated that users can rely on the information available in the application without worrying about receiving incorrect data. The accuracy of this information is also acknowledged by Sapawarga app users. As a result, the presence of Sapawarga has improved accessibility for the Samsat Office by streamlining vehicle administrative services and reducing congestion and queues at the Samsat office.

### *Technology*

In the ITPOSMO model, this dimension covers infrastructure readiness, system stability, data security, and interoperability. In the Sapawarga aspect, this dimension is reflected in the use of a mobile application that makes it easier for taxpayers to access information and pay vehicle taxes online, anytime and anywhere, making services more practical, secure, and efficient.

The local government has provided infrastructure support for the implementation of vehicle tax digitalization through the Sapawarga application by providing a network system and electronic devices to support stable internet connectivity. System stability is one of the main concerns in the development of Sapawarga.

The Head of the Cirebon City Samsat confirmed that system maintenance and updates are conducted regularly by the Revenue Agency to ensure the application functions optimally. However, from the user's perspective, this poses challenges as the system is inaccessible during maintenance. Interoperability is also a crucial aspect in this context. In practice, based on interviews with key informants and user experiences, the system has been integrated with various electronic payment methods, including mobile banking, e-wallets, and interbank transfers, providing flexibility for the public in conducting transactions.

According to information from the West Java Hotline, Sapawarga implements a Timeout Session system to limit the duration of account login sessions. When an account remains inactive for a specified period (1-2 days), the session will automatically end, and the user must log in again to access the service. This is done to enhance data privacy protection and prevent unauthorized access. From the user's perspective, the system implemented is perceived as less practical. Users must log in again every time they wish to use the service, which may be inconvenient, especially for those who access the application regularly. However, on the other hand, this system ensures that personal data and transaction information remain protected from unauthorized access. Thus, the risk of account misuse due to lost devices or use by others can be minimized, providing a sense of security when conducting digital transactions.

### *Process*

The Process dimension in the ITPOSMO model focuses on efforts to improve efficiency and automate workflows in digital-based public service systems. In practice, after taxpayers make payments through Sapawarga, payment receipts are immediately sent to the user's account. This eliminates the

need for individual form filling and reduces queues at payment counters at the Samsat office, providing a more convenient experience for users. According to the Head of the Cirebon Samsat Office, the public's preference for digital services will enhance efficiency and reduce the workload of staff. For users themselves, digital services are efficient as they save time and effort since services can be accessed anytime.

Automation makes Sapawarga more efficient. The Head of the Cirebon City Samsat explained that after a transaction is completed, the system records the payment and provides a digital receipt to the taxpayer. This system ensures that every payment is properly documented and can be accessed again whenever needed.

### *Objectives*

The Objectives and Values dimension reflects the extent to which Sapawarga is relevant to the community's desires and the government's goals of improving transparency and efficiency in tax services. The main objective of this system is to provide services that are more accessible, faster, and more transparent to the community so that they comply with tax regulations.

Based on interviews with several users of this service, Sapawarga has successfully increased public compliance in paying motor vehicle taxes on time. Additionally, according to some users, the system enables the government to enhance transparency in motor vehicle tax management, as all transactions are digitally recorded and can be audited more effectively. The Head of the Cirebon City Samsat Office confirmed this, as taxes paid through the digital service are directly deposited into the General Account of the West Java Provincial Government ( ). This reduces the risk of data misuse or tax information manipulation.

In terms of value, both according to the Head of the Cirebon City Samsat Office and service users, Sapawarga has helped create a more modern tax system by adopting digital technology to replace conventional administrative methods that are less efficient and prone to administrative errors. This aligns with the government's vision of building a more efficient and responsive digital-based government that meets the needs of the community.

### *Human Resources (Staffing)*

This dimension highlights the importance of staff readiness and competence in operating and supporting digital service systems. Staff are expected to have adequate understanding of application operations so they can provide optimal service and assist the public in using the system.

Based on information from the Head of the Cirebon City Samsat, all officers have been provided with technical training on the transaction process through the Sapawarga application and skills to provide services to the public in using the Sapawarga application. Training for Samsat employees in operating the Sapawarga system covers various important aspects to ensure that services run optimally. One form of training provided is technical understanding of the Sapawarga application, where Cirebon City Samsat employees are taught how to use key features such as vehicle tax checks, payment processes, and data



validation. Additionally, they receive training in data management and system integration, enabling them to understand how taxpayer data is synchronized in real-time to ensure the accuracy of information in the Cirebon City Samsat office database.

Furthermore, Bapenda regularly evaluates the performance of Cirebon City Samsat office staff in providing services. With regular training and monitoring, Samsat staff can be more responsive in addressing questions and issues faced by taxpayers.

### *Management*

In this dimension, good management is demonstrated through inter-agency relationships, coordination, and evaluation or monitoring of relevant agencies, so that any technical or administrative issues can be addressed quickly and appropriately. The organizational structure needs to be clearly and thoroughly defined, reflecting the responsibilities of each division (Ramanda et al., 2019).

Based on interviews with key informants, the local government has established policies to continue expanding the use of this service and enhance synergy between Bapenda and Samsat offices across Indonesia, including the Samsat Office in Cirebon City.

One of the steps taken is the formation of an IT team responsible for ensuring system integration runs smoothly and resolving technical issues that arise during application use. The Head of the Cirebon City Samsat Office demonstrated to the researchers the use of a WhatsApp group connecting Samsat Offices in West Java with the West Java Bapenda Samsat Office. He stated that if any issues arise with the system, they are reported within the group and promptly addressed by the 24/7 system support center.

### *Other Resources*

This dimension covers funding, network infrastructure, and community readiness to use digital services. The Head of the Cirebon City Samsat Office has allocated funds for the development of Sapawarga, including investment in hardware, software, and training for employees to improve system quality and expand digital infrastructure coverage so that more people can access these services.

Public acceptance of the digitization of these services still varies. Some users find the services very practical. They can access vehicle tax information, make real-time payments, and obtain payment receipts without having to visit the Samsat office. This convenience is seen as a tangible example of the use of technology to simplify public services.

On the other hand, there are still groups of people who are not ready or not interested in using the Sapawarga digital service. According to the Head of the Cirebon City Samsat, the main factor influencing the low adoption of this technology is limited digital literacy. Not everyone understands how to use technology-based applications, especially the elderly. Some people feel safer and

more comfortable conducting transactions directly at the Samsat office because it is more reassuring.

### ***Challenges Faced in the Implementation of Digital Vehicle Tax Services Through the Sapawarga Application***

The digitalization of motor vehicle taxes through the Sapawarga application has been implemented. However, the service process is not yet fully digital. Users are required to bring several physical documents as valid proof for STNK validation. Based on interviews with the Head of the Cirebon City Samsat, there are several factors hindering the optimal implementation of this service, including:

#### ***Lack of Integration with the Police System***

Motor Vehicle Tax (PKB) services through the Sapawarga app are managed by the Regional Revenue Agency (Bapenda) of West Java, which is responsible for collecting motor vehicle taxes. However, the authority for validating and approving STNKs is held by the National Police Traffic Corps (Korlantas Polri). As a result, while tax payments can be made digitally, administrative processes still require manual data verification at the Samsat office. The lack of full synchronization between the Sapawarga digital system and the National Police database means that document printing is still required to ensure the validity of vehicle tax data to be reported. This system still maintains conventional methods aimed at ensuring that all vehicles whose taxes have been renewed are properly registered in the National Police database.

#### ***Reliance on Regulations and Conventional Administrative Procedures***

Challenges in optimizing vehicle tax payment services (PKB) through digital applications like Sapawarga are not only due to integration limitations but also to regulations and bureaucratic practices that still rely on physical documents. According to (Soleh, 1967), in efforts to implement a paperless bureaucracy, there are still obstacles such as changes in work culture that are accustomed to using paper and a lack of technological knowledge. Therefore, policies are needed to support this system change.

Although PKB payments can be made digitally, the procedure still requires the printing of an E-SKKP as well as photocopies of an E-KTP and BPKB. This indicates that tax administration in Indonesia still relies on conventional procedures as a form of legal validity rooted in bureaucracy. As a result, despite the availability of digital services, the physical involvement of taxpayers remains necessary, meaning that digitalization has not yet been fully optimized.

#### ***Lack of a Digital System for Automatic STNK Renewal***

Sapawarga users believe that after vehicle taxes are paid through a digital application, STNK can be automatically renewed without the need to visit the Samsat office. However, the Head of Samsat in Cirebon City stated that, to date, the digital system for annual STNK validation has not been fully implemented. One of the reasons is the lack of technological infrastructure to support the digital

validation system, as well as the absence of a validation mechanism that can be conducted online without the involvement of field officers. As a result, vehicle owners must still visit the Samsat office to obtain STNK validation. This procedure is inefficient as it contradicts the primary objective of digitalization, which is to reduce reliance on face-to-face services and expedite vehicle tax administration processes.

#### *Limited Human Resources*

The Head of the Cirebon City Samsat office has complained that a shortage of staff has caused the office to be overwhelmed in handling high transaction volumes, especially during certain periods such as when tax payment deadlines are approaching. Therefore, the Head of the Cirebon City Samsat office hopes that the government will increase the number of staff assigned to ensure that services can run more optimally.

#### *Lack of Understanding of Technology Among Some Community Groups*

Based on interviews conducted with the Head of the Cirebon City Samsat, many people are still not interested in using the Sapawarga digital service transformation. Some members of the community, especially the elderly or those who are not accustomed to using digital technology innovations, find it difficult to understand how to operate the application. According to the Head of the Cirebon City Samsat Office, they tend to prefer conventional methods such as direct payments at the Samsat office. This is also influenced by their concerns regarding security and trust in digital transactions.

#### *Technical Issues with the Application*

The Sapawarga application often experiences technical problems, especially during updates or maintenance. When the application cannot be used during these periods, users who depend on digital services complain that they cannot access vehicle tax services. This can be difficult if *maintenance* occurs when taxpayers are in the deadline period.

#### *Efforts to Optimize the Implementation of Digital Vehicle Tax Services Through Sapawarga*

To address these challenges, several strategies are needed. In order to improve the effectiveness of the motor vehicle tax digitalization system through the Sapawarga app, the Head of the Cirebon City Samsat explained that various efforts have been made by the West Java Regional Revenue Agency and the Cirebon City Samsat Office to reflect their commitment to realizing a more efficient, transparent, and accessible motor vehicle tax administration system for the public. These include:

#### *Regular Evaluations by the West Java Revenue Agency*

Bapenda West Java regularly evaluates the performance of Samsat offices throughout West Java, including Samsat Kota Cirebon. This evaluation aims to identify obstacles faced in implementing the digital system and ensure that

services run according to established standards. The evaluation also includes monitoring the level of satisfaction of employees and the public in using digital services. With regular monitoring, Bapenda can continue to improve and develop features on the Sapawarga application to better suit user needs.

#### *Monthly Evaluation of the Cirebon City Samsat*

Samsat Kota Cirebon also actively conducts internal evaluations every month. This evaluation aims to assess the effectiveness of services, identify problems faced by officers and taxpayers, and develop better improvement strategies. During these evaluation meetings, various aspects of the digital system are discussed, including technical challenges in using Sapawarga, service speed, and the readiness of human resources in handling digital transactions. Additionally, these evaluations help enhance collaboration between field staff and the technical team managing the Sapawarga application at the central office.

#### *Employee Training and Competency Development*

To improve skills in managing digital systems, communication, and public services, training is conducted every three months for Samsat Kota Cirebon employees. This training covers various aspects, from using the Sapawarga application, handling technical issues, to improving service to the public. With this regular training, it is hoped that each officer can resolve issues more quickly and provide better service to taxpayers.

#### *System Updates and Development*

To address technical issues such as server disruptions, slow access, and system capacity limitations, the West Java Communication and Information Agency (Diskominfo) and the West Java Regional Revenue Agency (Bapenda) have implemented several strategic measures. One of these is increasing *server* capacity to handle spikes in user numbers, particularly during the annual tax payment period. Additionally, stronger encryption technology has been implemented to ensure data security and prevent the leakage of personal information.

The application is also continuously optimized to be more responsive and compatible with various devices, including smartphones with low specifications. Regular monitoring of application performance is part of the strategy to detect and fix bugs or errors in the system, thereby improving the user experience and minimizing potential service disruptions.

In order to improve the quality of vehicle tax digitalization services, Bapenda Jawa Barat and the Sapawarga development team continue to update the system on a regular basis.

## **CONCLUSION**

The digitization of motor vehicle taxes through the Sapawarga application has brought significant changes to the Samsat Kota Cirebon service system. This service makes it easier for taxpayers to access information, pay taxes online, and view transaction history, thereby increasing efficiency, transparency, and public compliance.

Analysis using the ITPOSMO model indicates that the information, technology, and process aspects have developed well. However, there are still challenges in the organizational and institutional aspects ( ), such as the system not being integrated with the national database (National Police), regulations not being fully digitalized, and the absence of automatic STNK validation.

Additionally, low digital literacy among the public and technical challenges hinder the effectiveness of services. To address these issues, the West Java Revenue Agency conducts regular evaluations, trains Samsat staff, and improves infrastructure and system security. Efforts to develop a digital approval system are also ongoing.

Overall, Sapawarga has had a positive impact on tax service modernization, but it still requires ongoing improvements. Collaboration between local, central, and community governments is crucial for the system to operate optimally and inclusively.

## **RECOMMENDATIONS**

To enhance the digitalization of motor vehicle taxes through the Sapawarga application, full integration of the Sapawarga system with the Police is required to enable automatic validation of vehicle registration certificates (STNK) without requiring users to print physical documents. Regulations supporting a fully digital tax system must also be implemented to simplify administrative procedures and reduce reliance on conventional methods.

In addition, technological infrastructure must be improved by strengthening server capacity and security systems to ensure that services remain stable and accessible without obstacles. Wider dissemination through various media needs to be increased to improve public understanding of the use of Sapawarga.

Improving the competence of Samsat officers is also important so that they are better prepared to provide digital services and assist taxpayers in the online tax payment process. Providing incentives for Sapawarga users can be one strategy to increase the adoption of digital services and encourage the public to switch from conventional methods.

## **ADVANCED RESEARCH**

Further studies can explore the integration of regional tax systems like Sapawarga with national databases, particularly for automatic STNK validation. Research is also needed on policy and regulatory reforms to support fully digitalized public services. In addition, studies should examine strategies to improve public digital literacy, especially among underserved communities, to enhance user adoption. Evaluating user experience, accessibility, and cybersecurity measures can provide insights for improving system reliability and inclusiveness. Comparative research across regions implementing similar systems may also reveal best practices that can be adopted to optimize digital tax services.

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