

Research Article

Implementation of Tax Administration Service Digitalization at Waingapu Tax Office, Directorate General of Taxes

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Abstract: This study examines the implementation of digitalization in tax administration services at KPP Pratama Waingapu, Directorate General of Taxes, using the Indonesian e-Government Ranking (PeGI) framework. The research is motivated by the uneven readiness of digital public services in peripheral and archipelagic regions, particularly in areas with limited infrastructure and digital literacy. This study employs a qualitative descriptive approach, with data collected through in-depth interviews, observation, and document analysis. The analysis focuses on five PeGI dimensions: policy, institutional capacity, infrastructure, applications, and planning. The findings reveal that although tax digitalization at KPP Pratama Waingapu has been formally implemented and supported by national policies, significant gaps remain between policy design and local implementation. These gaps are primarily caused by centralized policy formulation, limited external digital infrastructure, organizational capacity constraints, application complexity, and uneven user readiness. Empirically, tax administration performance remains stable due to strong supervision and intensive assistance by tax officers rather than increased taxpayer autonomy through digital services. The study concludes that the success of tax digitalization cannot be assessed solely based on system availability, but must also consider contextual adaptability, institutional capacity, and digital inclusion. Therefore, a more adaptive and hybrid digital service approach is required to ensure inclusive and sustainable tax administration in archipelagic regions such as Sumba.

Keywords: Digitalization; e-Government; PeGI; Public Service; Tax Administration.

1. Introduction

Public services in the taxation sector play a crucial role in building public trust while increasing state revenue. Digital innovation in the public sector context is defined as the creation and implementation of processes, products, services, and delivery methods that result in improvements. Digitalization in public services can be defined as transforming or integrating manual services into digital technology-based systems in an effort to improve the quality of public services.

In the modern administrative era, digitalization is essential to address changing public needs, particularly in providing fast, efficient, and accessible services (Sedarmayanti, 2009). Therefore, the Directorate General of Taxes (DGT) continues to strive to introduce digital innovations to ensure the quality of its services meets expectations. Ideally, tax services should be easily accessible, transparent, and utilize technology that facilitates taxpayers. However, in practice, particularly in geographically challenging areas such as East Sumba Regency, these services have not yet fully implemented.

One of the challenges emerging is the digital divide. Although the Directorate General of Taxes (DGT) has made extensive efforts to digitize tax services through various applications (DGT Online, e-Filing, etc.), its implementation in remote areas like East Sumba faces serious obstacles. This gap creates a gap between the availability of modern digital services and the public's ability to access and utilize them. Difficult geographical conditions, uneven telecommunications infrastructure, and low levels of digital literacy in the local

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community are major factors exacerbating the situation. As a result, digital services that should simplify matters actually become new obstacles, which in turn can impact taxpayer compliance levels and hinder the goals of digitalization itself. This issue highlights that policy effectiveness depends not only on technology, but also on social preparedness and supporting infrastructure on the ground.

Data from the Central Statistics Agency (2024) shows that Sumba Island is one of the regions with the highest poverty rates in East Nusa Tenggara Province. The March 2024 Susenas (National Survey) lists the number and percentage of poor people by regency/city in East Nusa Tenggara province, showing the following percentages: East Sumba Regency/City: 27.04%, West Sumba: 26.52%, Central Sumba: 30.84%, and Southwest Sumba: 27.27%. This situation demonstrates significant socio-economic challenges for local communities, which indirectly impact their access to and participation in the tax system.

As a technical implementation unit of the Directorate General of Taxes (DGT), the Waingapu Pratama Tax Service Office (KPP Pratama) has the primary task and important function of providing services, counseling, supervision, and law enforcement in the tax sector for all taxpayers within its jurisdiction. This office implements a modern tax administration system and is located in Waingapu City, East Sumba Regency. The Waingapu Tax Office (KPP Pratama) covers four regencies on Sumba Island: East Sumba, Central Sumba, West Sumba, and Southwest Sumba. The vast coverage area, coupled with the geographic challenges and socioeconomic conditions of the communities in these areas, makes digitalization of services no longer merely an option but an urgent necessity. To illustrate the potential and workload of the tax services it undertakes, the following data presents the number of registered taxpayers on Sumba Island by regency. This data illustrates the distribution of taxpayers targeted by tax services in the region.

Table 1. Data on the Number of Registered Taxpayers (WP) on Sumba Island.

Regency	Number of Individual Taxpayers	Number of Corporate Taxpayers	Total WP
East Sumba	44.065	2.160	46.810
Central Sumba	9.891	617	10.508
West Sumba	20.591	1.588	22.179
Southwest Sumba	27.545	1.544	29.089
Total	102.092	5.909	108.586

Data Quality Assurance Section (PKD), Waingapu Pratama Tax Office, 2024.

Given the dispersed geographic conditions and hampered accessibility, conventional tax services are inefficient, especially in areas with limited basic infrastructure such as roads and public transportation. In remote areas, people often experience difficulty reaching the Tax Office directly, resulting in delays in tax reporting and low levels of compliance and participation. Furthermore, the gap in technological infrastructure is also a serious obstacle. Unequal internet access, particularly in rural and hilly areas, hinders the implementation of digitalization designed to streamline services.

In this regard, the Directorate General of Taxes (DGT) has developed various digital platforms, such as e-Filing, e-Billing, e-Registration, e-Form, and DJP Online, to facilitate taxpayers' independent reporting and payment of taxes. In addition, the DGT has also developed the Core Tax Administration System (CTAS) as an effort to comprehensively modernize tax data management. While this system is highly beneficial in areas with adequate digital infrastructure, its implementation in areas like East Sumba still faces various obstacles, ranging from weak internet connections, limited devices, and low digital literacy. Many taxpayers are unfamiliar with the system's terminology and are reluctant to use it without direct guidance. As a result, instead of accelerating services, digitalization can create access gaps for certain groups. Therefore, the use of technology needs to be balanced with ongoing education and a hybrid approach between digital and manual.

The digitalization of services implemented by the Directorate General of Taxes (DGT) and Tax Offices (KPP) is inseparable from strategic policies designed to strengthen national tax governance. One major policy is Tax Reform Volume III, which emphasizes improving

core business processes, enhancing human resource quality, and utilizing digital technology comprehensively (Directorate General of Taxes, 2023). This policy is followed up with regulations such as the Director General of Taxes Regulation and the Minister of Finance Decree, which provide technical guidance for implementation in the field. For example, strengthening the risk-based monitoring system, integrating data across agencies through Tax Big Data, and establishing work units to support service digitalization. At the Waingapu Pratama Tax Office (KPP Pratama), this policy is being implemented in stages due to local challenges that do not always align with the central policy design. While this policy is important as a framework for innovation, it must be accompanied by flexibility in implementation to avoid creating administrative burdens or confusion for taxpayers in areas with low literacy.

The condition of the facilities and infrastructure at the Waingapu Pratama Tax Office significantly impacts the effectiveness of tax services. As a service office located in eastern Indonesia, this Tax Office (KPP) is responsible for serving four districts on Sumba Island, a geographically challenging area with limited basic infrastructure. The availability of facilities such as service rooms, computer network systems, technological devices, operational vehicles, and internet connectivity are crucial elements supporting daily tax service operations. In the context of service digitization, the availability of these facilities significantly determines the extent to which technology is accessible to the public. However, budget constraints and remote geographic locations often result in uneven updating and distribution of facilities.

Furthermore, Weber's concept of modern bureaucracy, which emphasizes rationality, formal rules, and efficiency, is also tested in digitalization practice to determine whether technology-based systems are truly capable of creating more rational, transparent, and accountable services, or instead present new challenges in the form of a digital divide. Therefore, this research has theoretical value because it not only tests the relevance of existing theories but also enriches the literature on digital governance and public service reform in Indonesia. The results are expected to form the basis for developing more adaptive and contextual theories, particularly to address the challenges of digitalization in regions with diverse social, economic, and geographic conditions.

2. Preliminaries or Related Work or Literature Review

Bureaucracy

Bureaucracy is an organizational system used to regulate the execution of tasks in a formal, systematic, and hierarchical manner. The term originates from the French "bureau," meaning desk or office, and the Greek "kratos," meaning power. Literally, bureaucracy is power exercised through a desk or office administration. In practice, bureaucracy is often used by governments and large institutions to ensure that all activities are carried out in accordance with established procedures. The primary goal of bureaucracy is to create efficiency, consistency, and fairness in the implementation of tasks and public services (Anwar & Sos, 2022).

Bureaucratic Reform

Bureaucratic reform is a renewal process aimed at creating a cleaner, more efficient government that meets public expectations. A good bureaucracy should not only enforce regulations but also provide public services quickly, transparently, and accountably. In the book *Introduction to Public Administration*, it is explained that bureaucratic reform includes changes in organizational structure, improving the quality of state civil servants, and implementing good governance principles such as accountability and public participation (Raja et al., 2024).

Digital Transformation

Digital transformation is the process of using digital technology to transform work methods, services, and organizational systems to become more efficient, faster, and responsive to public needs. Digital transformation in public administration is a strategic step towards creating a more efficient, transparent, and responsive government. The use of information technology not only simplifies bureaucratic processes but also accelerates previously slow and cumbersome public services. Services such as population identity processing, business licensing, and tax reporting can now be accessed online, providing convenience and reducing the need for direct interactions that are prone to irregularities.

(Riwayati, 2023) explains that digital transformation encourages the creation of technology-based public services that are faster, more affordable, and more adaptive to social change and increasingly complex public needs.

Digitalization in Public Services

Digitalization in public services in Indonesia was officially initiated with the issuance of Presidential Instruction No. 3 of 2003 concerning the National Policy and Strategy for e-Government Development. This Presidential Instruction marked the beginning of the government's efforts to utilize information technology to support more efficient, transparent, and accountable government processes. Initially, the focus of digitalization was more directed at developing infrastructure and internal information systems in government agencies. However, with technological advancements and public demands, digitalization has begun to expand into the realm of public services to improve accessibility and quality of services to citizens (Amrozi et al., 2022; Presidential Instruction No. 3, 2003).

Digital Divide

The digital divide refers to differences in access, capabilities, and utilization of information and communication technology (ICT) among individuals, groups, or specific regions (Van Dijk, 2020). This disparity relates not only to the availability of devices and internet networks but also encompasses digital literacy, the ability to access information, and the ability to utilize technology for productive activities and public services. In the context of taxation, the digital divide can affect the extent to which taxpayers are able to use digital administration systems, such as e-Filing, e-Billing, and other online services. Digital transformation at the Directorate General of Taxes aims to improve efficiency, transparency, and tax compliance through ICT-based services (Directorate General of Taxes, 2022).

E-Government

E-Government is the use of information and communication technology by governments to improve the quality of public services and efficiency in government administration (Global Information and Communication Technologies Department, The World Bank Group, 2002). With e-Government, various services that typically require time and in-person delivery can now be accessed online via the internet. This makes it easier for the public to obtain information, manage administrative matters, and interact with the government without having to visit government offices. In addition to facilitating public services, e-Government also helps the government manage data, monitor performance, and increase transparency in the implementation of its duties.

3. Proposed Method

Research Approach and Type

This research uses a descriptive qualitative approach to in-depth examine the dynamics of digital innovation at the Waingapu Pratama Tax Office (KPP Pratama), from policy design to employee and taxpayer responses. Through interviews, observations, and document review, the researcher explored the meaning, interaction patterns, and socio-cultural factors influencing the adoption of digital tax applications in an area with limited infrastructure and technological literacy.

Research Location

This research took place at the Waingapu Pratama Tax Office (KPP Pratama), located at Jalan Ahmad Yani No. 69, Waingapu City, East Sumba Regency, East Nusa Tenggara. This KPP oversees four regencies on Sumba Island: East Sumba, West Sumba, Southwest Sumba, and Central Sumba, which are geographically dispersed and hilly, and experience significant gaps in infrastructure and digital literacy.

4. Results and Discussion

Tax Administration Performance of the Waingapu Pratama Tax Office

Table 2. Compliance with Annual Tax Return Submissions for 2022–2024.

Delivery Media	2022	2023	2024
Manual	3.766	3.010	1.009
<i>e-Filing</i>	25.270	25.619	24.133
<i>e-Form</i>	2.305	2.375	2.211
Total	31.341	31.004	27.353

Data Quality Assurance Section (PKD), Waingapu Pratama Tax Office, 2025.

The sharp decline in manual reporting indicates accelerated public acceptance of the digital system provided by the Directorate General of Taxes. The dominant use of e-Filing for three consecutive years demonstrates that most taxpayers have adapted to the digital-based reporting process, although Sumba's vast geographic distribution and varying internet access remain challenges. The use of e-Forms also demonstrates consistency, particularly among corporate taxpayers requiring reporting with more complex document attachments. This pattern confirms that the Waingapu Pratama Tax Office has successfully fulfilled its educational and assistance role in supporting increased compliance and the effectiveness of tax administration.

However, from an e-government theoretical perspective, technology adoption cannot be understood solely as the success of digitalization. The success of e-government is also determined by the system's ability to increase accessibility, reduce reliance on face-to-face interactions, and encourage user independence (Indrajit & Richardus Eko, 2012). The decline in the total number of tax returns filed in 2024 indicates that, despite increasing use of digital services, challenges remain in reaching all taxpayers, particularly in areas with limited infrastructure and digital literacy.

Table 3. Summary of Organizational Performance Scores.

Year	Organizational Performance Score (%)	Description
2022	110,83%	Performance exceeded target
2023	101,6%	Performance remains above target
2024	105,47%	Achievements through the second quarter

Waingapu Pratama Tax Office Profile Book, 2024.

Overall, the tax administration performance of the Waingapu Pratama Tax Office (KPP Pratama Waingapu) shows relatively positive empirical results and aligns with the normative objectives of national tax policy, particularly in maintaining stable state revenues and taxpayer compliance levels. However, from a theoretical e-government perspective, these achievements do not fully reflect the success of the digital transformation oriented towards improving the quality of public services. The relatively high revenue stability and compliance reflect more the strong role of supervision, mentoring, and direct intervention by tax officials rather than increased ease of access, process efficiency, and taxpayer independence in utilizing digital services. This situation indicates that the digitalization of tax administration at the Waingapu Pratama Tax Office still functions as a supporting instrument for officials, rather than as a service mechanism that fully empowers users. Therefore, a more in-depth analysis is needed using an e-government evaluation framework, such as the Indonesian e-Government Ranking (PeGI), to systematically identify gaps between digital policy objectives at the central level, implementation practices at the local level, and the theoretical principles of public service digitalization that emphasize efficiency, inclusiveness, and service sustainability.

Policy Dimension

Vision and Mission

The vision and mission of the Waingapu Pratama Tax Office (KPP Pratama Waingapu) directly translate the vision and mission of the Directorate General of Taxes, which emphasizes the modernization of tax administration through the use of information technology. Digitalization is positioned as a strategic instrument to improve service quality, strengthen oversight functions, and encourage taxpayer compliance.

As a vertical unit of the DGT, KPP Pratama Waingapu does not have the authority to formulate a vision and mission that is local or tailored to the conditions of the Sumba region. This was emphasized by the Head of the Supervision Section for Region V:

"We follow the vision and mission directly from the Directorate General of Taxes. The KPP does not formulate its own vision and mission, because all policy directions are determined centrally." (Informant Interview, October 24, 2025)



Figure 1. Interview with the Head of the Supervision Section for Region V
Author Interview Documentation, 2025.

These findings indicate that policy direction has been clearly formulated and uniformly applied nationally. However, from an e-government theory perspective, centrally designed policies have the potential to experience implementation limitations when faced with diverse local conditions. The success of e-government in developing countries is determined not only by the clarity of central policies, but also by the readiness of the organizations and environments in which those policies are implemented (Alfiani et al., 2024). In the context of the Sumba region, which has limited infrastructure and uneven levels of digital literacy, the nationally formulated digitalization vision faces challenges in its implementation at the operational level.

Budget

From a budgetary perspective, the tax administration digitalization policy is entirely designed and allocated by the central government through the Directorate General of Taxes. The Waingapu Pratama Tax Office does not have the authority to establish or manage a special budget specifically intended for strengthening digital infrastructure in its jurisdiction. All needs related to systems, applications, and technology development are determined centrally. This situation was expressed by an Account Representative as follows:

"Regarding application or network budgets, they all come from the central government. At the Tax Office (KPP), we can't budget for them ourselves; we only implement what's already available." (Informant Interview, October 24, 2025)



Figure 2. Account Representative Interview .
Author Interview Documentation, 2025.

Reliance on the central budget has limited the flexibility of the Tax Office (KPP) in responding to local needs, particularly in areas with limited internet access. This finding indicates that although digitalization policies have a clear national direction and funding, the policy dimension still requires a more adaptive approach to ensure more effective e-government implementation in island and remote areas like Sumba.

From a policy perspective, the implementation of tax digitalization at the Waingapu Pratama Tax Office (KPP Pratama) reflects the character of public policy that is still strongly influenced by a centralized approach. From a public administration perspective, policies with a top-down approach like this are common within the New Public Management paradigm, which emphasizes procedural uniformity and organizational efficiency. However, Keban (2023) emphasizes that in the context of contemporary public services, policies should be adaptive to diverse social and geographical conditions.

Institutional Dimension

Clarity of Digital Organizational Structure

The organizational structure of the Waingapu Pratama Tax Office has been established in accordance with the provisions of the Directorate General of Taxes, with a relatively clear division of duties and functions within each section. Within the PeGI framework, this situation indicates that the organization has formally met institutional indicators, particularly regarding the clarity of the structure and roles of work units. In implementing the digitalization of tax administration, the Data and Information Processing Section (PKD) plays a strategic role in data management, system support, and information technology operations at the service office level.

However, the clarity of the formal organizational structure has not been fully matched by adequate personnel. In practice, the limited number of employees has resulted in significant duplication of duties, particularly in functions directly related to digital system management. This was confirmed by a PKD Section employee who stated:

"There is only one Section Head and two executives, both of whom also serve as system administrators, as well as performing network maintenance, hardware maintenance, and printer repairs in case of damage." (Informant Interview, October 24, 2025)



Figure 3. Interview with PKD Section Employees.

Author Interview Documentation, 2025.

This situation indicates that although the organizational structure has been clearly established, the institutional capacity to support digital transformation still relies heavily on the ability of individual employees to perform multiple functions simultaneously. This dependency has the potential to create service delays and reduce the effectiveness of digital system management, especially when application disruptions or workload spikes occur.

Furthermore, the official coordination mechanism has been standardized through the use of the NADIN application on the Ministry of Finance's SATU platform. The entire official document management process is carried out in an integrated manner, from document creation to delivery between sections. The Head of the Regional Supervision Section V emphasized that:

"The process of creating, approving, and sending official letters is carried out in an integrated manner so that approved letters are immediately received by the intended section." (Informant Interview, October 24, 2025)

The implementation of this system demonstrates that institutionally, the digital organizational structure at the Waingapu Pratama Tax Office is supported by a clear and well-documented formal coordination mechanism, although informal coordination is still used to maintain smooth daily operations.

Based on the researchers' observations, the implementation of this system supports a streamlined workflow and strengthens formal coordination between sections. However,

informal coordination continues to occur in daily practice to address personnel limitations and technical barriers. This phenomenon indicates that the digital institutional framework at the Waingapu Pratama Tax Office (KPP Pratama) is adaptive, but still relies heavily on individual employee initiative, rather than solely on the organization's structural capacity.

Infrastructure Dimension

Device, Network, and Server Quality

In addition to availability, the quality of digital infrastructure is also determined by connection stability, network capacity, and the reliability of the servers supporting the application system. In the context of e-government, network and server quality directly impacts smooth access, data processing speed, and the continuity of public services. At the Waingapu Tax Office (KPP Pratama), the quality of the internal infrastructure is relatively adequate, but service effectiveness is greatly influenced by the condition of the external network and the stability of the Directorate General of Taxes' central server. Limited external network quality is a major obstacle for taxpayers in utilizing digital tax services. This is reflected in taxpayers' direct experience accessing the DJP Online application. One taxpayer stated the following:

"Sometimes I have to go to town or to a family member's house where the signal is stronger to be able to log in to DJP Online and file my tax return." (Informant Interview, October 29, 2025)

Another taxpayer expressed a similar obstacle:

"At home, I often fail to log in because the network is intermittent, so it's safer to go directly to the KPP for assistance." (Informant Interview, October 29, 2025)



Figure 4. Taxpayer Interview.

Author Interview Documentation, 2025.

Based on the researcher's observations, this situation results in digital services not fully functioning as self-service systems, but rather remaining dependent on direct assistance from officers. Within the PeGI framework, this situation indicates that the quality of digital infrastructure does not fully support the goals of efficiency and user independence (Rahmadany, 2021a).

To reinforce the context of digital infrastructure needs, this study refers to Table Digital Activities and Services Requiring Stable Internet Access in Rural Areas, which shows that high-speed internet has become a basic need for communities across almost all sectors. In the context of taxation, this situation confirms that DJP Online services require network quality on par with other essential public services, such as education and health.

Application Dimension

Application Ease of Use

In addition to suitability with work processes, the level of application ease of use is a determining factor in the success of tax digitalization. Ease of use relates not only to the interface appearance but also includes clarity of flow, simplicity of steps, and the application's ability to be used by users with varying levels of digital literacy. In regions like Sumba, this aspect is crucial because most taxpayers are unfamiliar with complex digital systems. Research shows that the digital tax application is still considered quite complicated by most taxpayers. The lengthy process, numerous menus, and repeated verification processes often lead to confusion. A Service Section employee explained:

"The process is quite long and requires multiple verifications, so many taxpayers are confused."



Figure 5. Service Section Employee Interview.

Author's Interview Documentation, 2025.

In daily service practice, employees often have to provide additional technical assistance not explicitly stipulated in the SOP. A Service Section employee also stated:

“Many taxpayers only bring phones with full memory or the application is incompatible, so they have to be helped from the start.”

Taxpayers also confirmed these difficulties. One taxpayer stated:

“The flow in the application is quite confusing, especially when asked to upload documents that require small files.”



Figure 6. Taxpayer Interview.

Author Interview Documentation, 2025.

Another taxpayer added:

“It took a long time to understand the flow because there were so many menus and steps to follow.”

Meanwhile, a corporate taxpayer considered the application relatively flexible because it could be accessed via mobile devices, but network constraints remained a major inhibiting factor. The taxpayer stated:

“The problem isn't the application, but the internet is often slow, especially at the end of the month.”

Therefore, although the digital tax application has been designed to be modern and integrated, its level of usability at the Waingapu Pratama Tax Office (KPP Pratama Waingapu) is still influenced by system complexity, device readiness, taxpayer digital literacy, and network and server quality.

Gap between PeGI Standards and Field Reality at the Waingapu Pratama Tax Office

Based on an analysis of the five dimensions of the Indonesian e-Government Ranking (PeGI), this study shows that e-government implementation at the Waingapu Pratama Tax Office still faces structural and systemic gaps. These gaps are not isolated but arise from a combination of centralized policy design, limited digital infrastructure in island regions, incompatibility of applications with remote areas, and low user readiness. The findings of this study not only indicate a delay in achieving tax digitalization targets but also demonstrate that most obstacles have not been addressed through a comprehensive and contextual policy approach. Therefore, more fundamental strategic steps are needed, both at the policy formulation level by the Directorate General of Taxes and at the implementation level at the Waingapu Tax Office.

5. Conclusions

This study aims to analyze the implementation of tax administration digitalization at the Waingapu Pratama Tax Office (KPP Pratama) using the Indonesian e-Government Ranking (PeGI) framework. Based on the research results and discussion in Chapter IV, it can be concluded that the digital transformation of taxation at the Waingapu Pratama Tax Office has been ongoing and shown significant progress, particularly in terms of application implementation and strengthening of the administrative system. However, this implementation has not yet fully achieved optimal conditions when viewed from the alignment between national policies, institutional readiness, external infrastructure support, application characteristics, and the capabilities and readiness of service users in the archipelago.

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