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Vol. 3. No. 1 (2026), pg 1-14

Digitalization of public services in regional tax management through the PAKINTA application in Makassar City, Indonesia

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Abstract: Digitalization of local tax administration has become an essential component of Smart Governance, enabling improved efficiency, transparency, and taxpayer compliance. This study examines the implementation of the PAKINTA (Digitalized Integrated Tax) application developed by the Makassar City Regional Revenue Agency (Bapenda) as a centralized platform for checking, paying, and reporting local taxes. Using a qualitative descriptive approach, data were collected through interviews, observations, and document analysis involving Bapenda officials and PAKINTA users. The findings reveal that PAKINTA significantly enhances service efficiency by automating administrative procedures, reducing manual workloads, and minimizing processing time. The system also strengthens transparency and accountability through real-time data, digital documentation, and reduced face-to-face interactions. Furthermore, PAKINTA improves taxpayer compliance by providing accessible information, automated reminders, and simplified payment procedures. However, challenges remain, including varying levels of digital literacy, occasional technical disruptions, and digital inclusion gaps among users. Institutional readiness—encompassing staff training, workflow restructuring, and leadership support—emerges as a critical factor enabling successful digital transformation. Overall, the study demonstrates that PAKINTA contributes to stronger local fiscal governance, though continuous technological improvements and inclusive service strategies are needed to ensure sustainability and equitable access.

Keyword : Smart Governance; Local Tax Digitalization; Public Service; PAKINTA Application.

1. INTRODUCTION

Digital government initiatives have accelerated worldwide in the last decade, with public administrations using information and communication technologies (ICT) to improve service delivery, transparency, and compliance (Liu & Yuan, 2015). In the domain of fiscal administration, digitalization promises streamlined tax registration and payment, improved revenue collection, and reduced opportunities for leakage and corruption (Bellon et al., 2022). Indonesia has pursued a range of digital tax reforms at national and subnational levels ranging from e-filing and e-invoicing to local e-payment platforms driven by legal and administrative reforms and by broader e-government agendas Presidential Regulation on SPBE and national programs (Carnahan, 2015).

Makassar City launched application Integrated & digitalized tax (PAKINTA) as an integrated platform for taxpayers to check bills, make payments, and file reports for a range of local taxes (e.g., property tax/PBB, hotel and restaurant taxes, advertising, ground water extraction) and service charges. The platform is presented as the city's central tax application and is publicly accessible via the municipal portal and mobile distribution channels. The official PAKINTA portal and municipal pages describe it as "the master application for checking bills, payments, and reporting for all types of local

Vol. 3. No. 1 (2026), pg 1-14

taxes in Makassar City" and indicate continuous updates and support from the city revenue agency (Bertot et al., 2016). The implementation of Smart Governance in tax services at the Makassar City Regional Revenue Agency (Bapenda) through the Pakinta application an acronym for Digitalized Integrated Tax is a public service innovation designed to simplify local tax payments (Sarker et al., 2018). The application can be accessed online through the official Bapenda Makassar City website and has also been available on the Play Store since May 27, 2022, with over 10,000 downloads.

Figure 1 PAKINTA Website Appearance

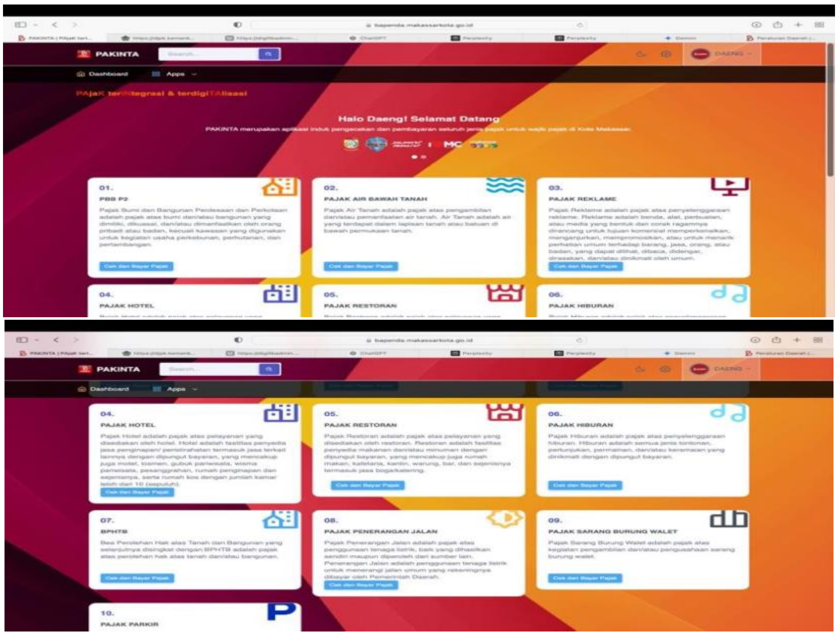

Figure 1. PAKINTA Website Appearance
Source: Bapenda, 2024

The Government's efforts to improve the quality of public services and optimize regional revenues are in accordance with the vision put forward in the Makassar City Medium-Term Development Plan (RPJMD) 2021-2026 (Hardi et al., 2025). This vision is included in Mission 1, namely, "Human Resource Revolution and acceleration of bureaucratic reform towards superior City HR with world-class public services free from indications of corruption." One of the strategic programs in supporting this mission is the "Regional Revenue Management Program" with the aim of increasing Regional Original Revenue (PAD) to reach 2 trillion, through performance indicators such as the ratio of PAD to total regional revenue and the deviation of PAD realization to the established budget (Hakim et al., 2021).

Vol. 3. No. 1 (2026), pg 1-14

Figure 2 Makassar City Regional Tax Revenue in 2024

Figure 1. Makassar City Regional Tax Revenue in 2024
Source: Bapenda, 2024

The diagram above shows that Bapenda focuses on several key taxes, primarily BPHTB (Property and Building Tax) and PBJT (Property and Building Tax), to achieve its revenue targets. This demonstrates the significant potential of the property and transportation sectors in contributing to regional revenue (Sakir et al., 2021).

2. METHODS

A. Research Design

This study used a descriptive qualitative approach. According to Naeem (2023), qualitative research is a research procedure that produces descriptive data in the form of written or spoken words from individuals and observable behavior, with an approach focused on the setting and the individual as a whole (Naeem et al., 2023).

The qualitative research is a tradition in the social sciences that fundamentally relies on observing people in their natural contexts and interacting with them using their own language and terms (Cloutier & Ravasi, 2020). qualitative research is a type of research that produces findings that cannot be achieved through statistical procedures or other quantification methods (Aslipour & Zargar, 2022).

This research can field findings that cannot be achieved through statistical procedures or other quantitative methods. The primary goal of qualitative research is to understand social phenomena or symptoms by providing clear explanations in the form of verbal descriptions, which ultimately leads to a theory (Qin et al., 2021).

B. Determination of Informants

Informants are individuals who can serve as sources of information related to the aims and objectives of the research. The information obtained is based on the quality, reliability, and richness of their information (Cloutier & Ravasi, 2020). The informants for this research consisted of 1) Head of the PAKINTA Service Sub-Division, Makassar City Regional Revenue Agency (Bapenda). 2) PAKINTA Service Staff/Administrators, Makassar City Regional Revenue Agency (Bapenda) 3) PAKINTA Land and Building

Vol. 3. No. 1 (2026), pg 1-14

Tax Users, Makassar City Regional Revenue Agency (Bapenda). 4) PAKINTA Restaurant Tax Users, Makassar City Regional Revenue Agency (Bapenda).

C. Data Collection

The data collection method is a crucial step in research, as the collected data will be used as analysis material. In this qualitative research, the technique used is triangulation. Observation or Direct observation, were conducted at the Makassar City Regional Revenue Agency Office to obtain supporting data for the research (Perera et al., 2022). Interviews, used interviews with users and informants related to the PAKINTA application at the Makassar City Regional Revenue Agency Office to obtain concrete data.Document Review This includes all written or filmed materials, while records refer to written statements made by individuals or institutions to verify an event or present accounting records. Documentation techniques in data collection involve collecting and analyzing documents, whether in written, pictorial, or electronic form (Moser & Korstjens, 2018). The researcher used the document review method through archives/documents in the research at the Makassar City Regional Revenue Agency Office .

C. Data Analysis

This step involves converting interview results regarding PAKINTA usage into text (transcripts), scanning materials related to PAKINTA digital services, typing field data obtained from observations and interviews, and grouping and organizing the data into different categories according to the source of the information (Sauerwein et al., 2019). This process helps organize information related to the effectiveness, benefits, and challenges of the PAKINTA innovation, facilitating data analysis and interpretation to produce informative and relevant conclusions. Data Reduction, means simplifying the initial information collected from interviews, observations, and documentation regarding PAKINTA implementation (Dahal, 2025). This process includes selecting and focusing relevant data to transform it into more meaningful information, thus facilitating conclusions regarding the effectiveness and challenges of this innovation. Data Presentation The reduced data is presented in narrative form to provide a structured and systematic overview of the implementation of PAKINTA services at the Makassar City Regional Revenue Agency (Bapenda).

3. RESULT AND DISCUSSION

A. The "PAKINTA" application as a digitalization service for Makassar city regional taxes

The findings of this study illustrate that the PAKINTA application represents a transformative step in the modernization of local tax administration in Makassar City. Developed as an integrated and digitalized platform for accessing, checking, paying, and reporting local taxes, PAKINTA responds to persistent challenges in the tax service system, including bureaucratic complexity, limited accessibility, and inadequate administrative transparency (Bassey et al., 2022). Data from interviews with key administrators at the Makassar City Regional Revenue Agency (Bapenda) reveal that the application was designed to align with the city’s broader Smart Governance strategy, which emphasizes digitalization, efficiency, and accountability in public service delivery.

Vol. 3. No. 1 (2026), pg 1-14

Previous to the implementation of PAKINTA, local taxpayers faced cumbersome manual procedures. Taxpayers often had to visit Bapenda's physical office to obtain billing information, verify payment obligations, or process documentation for different types of taxes such as land and building tax (PBB), restaurant tax, entertainment tax, or advertisement tax (Raisa et al., 2025). These procedures were not only time-consuming but also contributed to inefficiencies in revenue collection due to missed deadlines, administrative bottlenecks, and limited monitoring mechanisms. The introduction of PAKINTA mitigates these challenges by consolidating various services into a single digital system accessible via website and mobile application. This consolidation is one of the key innovations contributing to changes in public service performance (Bergmann et al., 2015).

From the institutional perspective, Bapenda officials noted that the application is continuously updated based on taxpayer feedback and technological developments. Consistent with global digital public administration practices, the system incorporates real-time monitoring, automated notifications, digital receipts, and data analytics features that support evidence-based decision-making. As a result, the local government is able to track taxpayer behavior, identify compliance gaps, and monitor fluctuations in revenue more effectively. Therefore, PAKINTA does not merely serve as a digital front-end service but also functions as a governance tool to strengthen Makassar's fiscal administration capacity (Ipahutar et al., 2023).

This section will further elaborate on the main findings, organized into five analytic dimensions: service efficiency, transparency and accountability, taxpayer compliance, user experience and digital inclusion challenges, and institutional capacity for sustaining digital transformation. This multi-layered discussion enables the study to deliver a comprehensive assessment of PAKINTA's significance within the digitalization of local public services (Latupeirissa et al., 2024) .

B. Enhancing Service Efficiency Through Digital Integration

Interviews with the Head of the PAKINTA Service Sub-Division confirm that the platform has significantly reduced administrative workloads at Bapenda. Before the use of PAKINTA, tax officers were required to manually process hundreds of daily transactions, ranging from issuing billing codes to printing receipts and verifying payment histories. With PAKINTA, these tasks are automated. Taxpayers can independently generate billing information, process online payments, and obtain verification documents without requiring in-person interaction with tax officers (Marianne & Marina, 2020).

This automation greatly reduces the potential for human error, particularly in data recording and document handling. Administrators explained that errors such as misplaced files, incorrect entries, or delays due to manual verification have decreased since PAKINTA's introduction. Moreover, the system's automation has allowed Bapenda to reallocate staff to more strategic tasks such as policy analysis, service innovation planning, and taxpayer education programs (Storey & Kahn, 2010).

The findings of this research align with empirical evidence from global digital tax reforms, which consistently report improvements in service efficiency as a primary outcome of digitalization. For instance, studies on e-filing and mobile tax systems in various countries show that digital platforms can reduce processing times by up to 50% and cut administrative costs by eliminating redundant manual tasks (Singh et al., 2019).

Vol. 3. No. 1 (2026), pg 1-14

Although the current study does not quantify the exact percentage of efficiency gains in Makassar, qualitative indicators from Bapenda confirm substantial improvements.

Taxpayers interviewed for this study, including PAKINTA users for land and building taxes and restaurant taxes, expressed satisfaction with the reduction in transaction time when using the application. Prior to PAKINTA, taxpayers had to spend significant time traveling to service offices, waiting in queues, and navigating complex administrative procedures (Raaphorst, 2018). The application simplifies these steps by enabling users to check their tax obligations, make payments online, and download receipts instantly. Users highlighted three time-related benefits:

First, Immediate access to payment information, eliminating the need for physical bill retrieval. Second, Faster transaction completion, especially through integrated online payment channels. Third, Elimination of waiting time, which is often a major burden in traditional tax offices. One restaurant tax user explained that prior to the PAKINTA system, monthly tax reporting required coordination with Bapenda staff and manual documentation. With PAKINTA, the process is completed within minutes, improving business efficiency (Rinaldi et al., 2015).

Digital administrative systems often lead to reductions in operational costs, and PAKINTA is no exception. Bapenda officials indicated that the digitalization of services has reduced printing costs, physical storage needs, and reliance on manual labor. Although specific budgetary data is not publicly available, qualitative insights suggest decreasing expenditures for clerical tasks and increasing resource allocation toward system maintenance and strategic planning (Alhasnawi et al., 2023).

Furthermore, online payment systems prevent revenue leakage due to intermediary handling and reduce the risks associated with cash-based transactions. This shift also supports long-term fiscal sustainability by stabilizing revenue collection patterns and increasing predictability. the findings show that PAKINTA has transformed service efficiency in local tax administration, enabling both taxpayers and administrators to experience faster, more accurate, and more cost-effective processes (He & Yi, 2023).

C. Strengthening Transparency and Accountability in Local Fiscal Governance

Transparency is a key principle of good governance, and the PAKINTA system contributes significantly by providing real-time information regarding taxpayer obligations, payment history, and transaction status. For taxpayers, this feature builds confidence and reduces uncertainty. For administrators, real-time data assists in monitoring compliance behavior and identifying discrepancies (Ly et al., 2015). Interview data revealed that Bapenda frequently uses PAKINTA generated data to assess tax performance across different sectors. The system's dashboard allows administrators to view Total number of transactions by tax category, Real-time revenue updates, Payment completion times, and Patterns of late or non-compliant taxpayers. This information strengthens internal accountability mechanisms, as officers can be evaluated based on transparent performance indicators (O'Regan et al., 2021).

Digitalization inherently reduces face-to-face interactions, thereby limiting opportunities for informal payments or administrative manipulation. Taxpayers interviewed in this study reported that PAKINTA created a more trustworthy environment by standardizing service procedures and eliminating ambiguous or discretionary steps. Administrators also emphasized that internal audits have become easier due to full digital documentation. Every transaction leaves a digital trail, making

Vol. 3. No. 1 (2026), pg 1-14

it difficult for unauthorized changes or manual alterations to go unnoticed (Han et al., 2023).

This is consistent with studies in other regions, where e-government applications significantly curb corrupt practices by promoting auditability. The transparency enabled by PAKINTA extends beyond internal auditing. Citizens can access their own tax records at any time, reducing disputes and reinforcing accountability. The availability of digital receipts and verification documents allows citizens to independently validate their payments. Moreover, the visibility of the system encourages improved governance behavior among public officials, as their performance and service responses are more easily monitored. This builds public trust—a critical component for strengthening tax compliance and civic engagement (Warren et al., 2014).

D. Improving Taxpayer Compliance Through Digital Convenience

Taxpayer compliance is strongly influenced by ease of access and perceived service convenience. PAKINTA provides an accessible platform that allows taxpayers to manage their tax obligations without time or location constraints. This is especially beneficial for small businesses and individuals with limited availability to visit Bapenda offices during working hours (Pasaribu et al., 2021).

Users highlighted that PAKINTA's automated reminders and clear payment instructions help them avoid missed deadlines. The application not only reduces the cognitive burden associated with remembering tax cycles but also lowers compliance costs, making tax adherence more appealing. Interviews suggest that the digitalization of tax services through PAKINTA has contributed to behavioral changes, particularly in terms of proactive engagement. Many taxpayers mentioned that the application increased their awareness and understanding of their tax responsibilities. The availability of clear, up-to-date information encourages taxpayers to comply voluntarily rather than being compelled by administrative enforcement (Manurung & Ardillah, 2024) .

Some users described PAKINTA as a "motivating tool," indicating that the ease of access encourages them to complete payments earlier rather than delaying them. Although this qualitative study does not include quantitative revenue data, administrators reported anecdotal evidence that local tax revenue patterns have become more stable since the implementation of PAKINTA. Increased compliance correlates with predictable revenue cycles, which support better planning for public service delivery and infrastructure development (Bernardo et al., 2024) .

The digital system ensures that even during periods of disruption such as natural disasters or public health emergencies taxpayers retain access to essential services online (Schrijvers et al., 2021).

E. User Experience Challenges and Digital Inclusion Issues

While PAKINTA has improved service delivery, the findings also indicate several challenges related to digital literacy. Not all taxpayers—particularly older adults or individuals with minimal technological experience—are comfortable navigating the application. Some users expressed confusion over specific menu functions, difficulty understanding payment procedures, or challenges using online banking features (Martínez-Navalón et al., 2023).

Users cited occasional issues such as application bugs, slow loading times, and errors during peak traffic periods. Administrators acknowledge these issues and

Vol. 3. No. 1 (2026), pg 1-14

highlight that the technical support team continuously works to improve system stability. However, the growing number of users (over 10,000 downloads) puts pressure on server capacity and technical infrastructure. The research underscores that digital transformation must be accompanied by sustained investments in technological infrastructure to support scalability, cybersecurity, and system reliability (Westergren et al., 2024) .

The internet accessibility in Makassar is relatively high compliace ared to rural regions, there are still segments of the population without consistent internet access or compatible devices. This creates a digital divide that may disadvantage some taxpayers. Several respondents suggested maintaining hybrid service options—digital services complemented by in-person assistance—to accommodate diverse user capabilities. These findings echo broader concerns in digital public administration, where disparities in digital skills can hinder universal access to services (Higgins et al., 2023).

F. Institutional Capacity and Governance Readiness

The implementation of the PAKINTA application has necessitated substantial internal adjustments within the Regional Revenue Agency (Bapenda) of Makassar City, particularly in terms of organizational structures, human resource capabilities, and operational procedures. As a digital innovation aimed at modernizing regional tax services, PAKINTA required a shift from conventional manual practices toward a more integrated and technology driven service ecosystem. This transition, according to interviews conducted with key administrative personnel, did not occur instantaneously; rather, it involved a deliberate process of enhancing institutional readiness to ensure that the digitalization initiative could be executed effectively and sustainably (Arshad et al., 2024).

One of the most prominent internal changes was the implementation of comprehensive staff training programs. Because PAKINTA introduces new digital workflows—such as automated data processing, online tax validation, and real-time payment tracking—employees needed to acquire new competencies in system navigation, troubleshooting, and digital communication. Bapenda management organized a series of training sessions, both formal and informal, to build staff familiarity with the platform. This capacity-building effort ensured that personnel at various service units could provide accurate information to taxpayers, resolve technical issues, and maintain the quality of service delivery. Interviews with officials highlighted that employees who had previously relied heavily on manual documentation or face-to-face interactions initially faced challenges adapting to digital procedures; however, continuous mentoring and peer-learning mechanisms helped accelerate the adjustment process (Li, 2010).

In addition to human resource development, organizational restructuring was an important supporting factor. Bapenda established specialized units and designated focal points responsible for overseeing the system's implementation and maintenance. Some service divisions underwent workflow redesigns to accommodate the new digital processes embedded in PAKINTA. For example, tasks related to tax verification, data entry, and reporting were reallocated to align more efficiently with the system's automated features. These structural changes not only optimized internal coordination but also reduced redundancy and minimized the likelihood of human error. Administrators noted that the shift toward digitalization required a more flexible and adaptable institutional culture one that embraces continuous improvement and technological innovation (Zou et al., 2023).

Vol. 3. No. 1 (2026), pg 1-14

Furthermore, the adoption of new standard operating procedures (SOPs) played a central role in ensuring that PAKINTA was integrated smoothly into existing organizational routines. These SOPs provided clear guidelines on how employees should handle digital transactions, manage taxpayer inquiries, respond to technical disruptions, and coordinate with other units during system maintenance. The presence of standardized procedures also strengthened accountability and consistency in service delivery, which are essential for maintaining public trust in digital tax services (Bird, 2015).

Internal collaboration emerged as another critical determinant of successful implementation. Effective coordination among the IT division, frontline service units, and administrative leadership facilitated timely problem solving and responsive system updates (Chughtai et al., 2023). the IT division worked closely with service personnel to understand operational challenges, while leadership provided strategic direction and resource allocation. This collaborative approach ensured that digitalization was not viewed as a purely technological project but as an organization wide transformation (Verhoef et al., 2021).

The experience of Bapenda Makassar demonstrates that digital public service innovation requires more than just technological adoption. Organizational readiness comprising skilled personnel, supportive structures, clear procedures, and collaborative internal dynamics is fundamental to ensuring that systems like PAKINTA can function effectively and deliver sustainable improvements in regional tax management (Amaliah et al., 2023). The Successful digital transformation depends strongly on leadership commitment. In this case, Bapenda leadership positioned PAKINTA as a cornerstone of Makassar's Smart Governance strategy. Leaders supported training programs, allocated budgets for maintenance, and encouraged innovation driven culture among staff (Pedraza-Rodríguez et al., 2023).

4. CONCLUSION

This study examined the implementation of the PAKINTA application as a digital public service innovation in local tax administration in Makassar City. The findings demonstrate that PAKINTA represents a significant step toward modernizing local fiscal governance by integrating various tax services into a single digital platform. The research highlights several key conclusions regarding service efficiency, transparency, taxpayer compliance, user experience, and institutional capacity for sustaining digital transformation.

First, the study finds that PAKINTA has substantially improved service efficiency by automating previously manual administrative tasks such as billing issuance, verification, documentation, and payment processing. This integration reduces processing time, minimizes human error, and allows tax officers to shift their focus toward more strategic and analytical tasks.

Second, PAKINTA enhances transparency and accountability through real-time information flows, digital documentation, and standardized procedures. The system reduces opportunities for informal practices, strengthens auditability, and builds public trust by enabling taxpayers to independently access and verify their tax records.

Third, the application has contributed to improved taxpayer compliance. Automated reminders, simplified digital workflows, and accessible information increase voluntary compliance and stabilize revenue cycles. Taxpayers report increased awareness and understanding of their obligations, indicating behavioral shifts attributable to digital convenience.

Vol. 3. No. 1 (2026), pg 1-14

Fourth, the findings reveal several challenges related to digital literacy, technical constraints, and digital inclusion. Some users—particularly older individuals or those with limited technological familiarity—face difficulties navigating the platform. Occasional system bugs, network disruptions, and server capacity issues also affect user experience. These challenges illustrate that digital transformation must be accompanied by infrastructure strengthening and continued user support.

Finally, the study highlights that organizational readiness is a critical factor enabling the successful implementation of PAKINTA. Internal adjustments—including staff training, workflow restructuring, revised SOPs, and improved cross-unit collaboration—were essential to sustaining the digitalization process. Leadership commitment further ensured resource allocation, policy direction, and institutional coherence in driving digital innovation.

Implication study has several practical and theoretical implications. Practically, the findings underscore the importance of aligning digital service initiatives with institutional capacity, user needs, and long-term governance strategies. The experience of Makassar suggests that digital tax systems can strengthen revenue mobilization, enhance transparency, and support more responsive public administration. Theoretically, the research contributes to discussions on Smart Governance, demonstrating how digital tools reshape administrative processes, public-sector behavior, and citizen engagement in local fiscal management.

Additionally, the results imply that digital innovation in local government is not merely a technological upgrade but an organizational transformation involving culture, competence, and leadership. Policymakers should consider hybrid service models, sustained digital literacy programs, and investment in infrastructure to achieve inclusive and resilient digital public services.

This study contributes to the growing body of literature on digital government and local tax administration by providing an in-depth qualitative assessment of a municipal digital tax platform in Indonesia. It offers empirical insights into how digitalization affects administrative efficiency, transparency, and taxpayer behavior at the subnational level. Moreover, the research enriches the conceptual understanding of organizational readiness as a determinant of successful digital transformation in public institutions.

Although the study provides rich qualitative insights, it has several limitations. First, the research does not analyze quantitative data related to changes in tax revenue, compliance rates, or operational costs before and after the implementation of PAKINTA. This limits the ability to measure the magnitude of efficiency and fiscal impacts. Second, the sample size is relatively small, focusing on selected stakeholders within Bapenda and a limited number of application users, which may affect the generalizability of findings. Third, the study captures experiences during the early years of system implementation; long-term impacts may differ as technological improvements and user familiarity increase.

Future studies should incorporate quantitative analysis of revenue data, compliance statistics, and cost-benefit evaluations to strengthen empirical evidence regarding the impact of digital tax systems. Comparative studies across multiple cities or provinces would also provide broader insights into digitalization patterns in Indonesia's local government sector. Exploring taxpayer satisfaction, cybersecurity issues, and long-term behavioral changes would further enhance the understanding of digital fiscal governance.

Conflicts of Interest: The authors declare no conflict of interest.

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Vol. 3. No. 1 (2026), pg 1-14

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Vol. 3. No. 1 (2026), pg 1-14

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