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The Level of Adoption and Utilization of Digital Revenue Collection Systems among Taxpayers in Iringa Municipality, Tanzania

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ABSTRACT

The increasing digitalization of public revenue administration has transformed the way taxpayers interact with government revenue collection institutions. Digital revenue collection systems are intended to simplify payment procedures, improve compliance, reduce transaction costs, and strengthen transparency and accountability. However, the effectiveness of such systems depends substantially on their adoption and actual utilization by taxpayers. This study examined the level of adoption and utilization of digital revenue collection systems among taxpayers in Iringa Municipality, Tanzania. A mixed-methods approach was employed, combining quantitative data collected through questionnaires with qualitative evidence obtained through key informant interviews with revenue officers and taxpayers. The quantitative component involved 80 respondents. Descriptive statistics were used to analyse the questionnaire responses, while qualitative data were analysed thematically. The findings revealed a generally high level of adoption and utilization of digital revenue collection systems. Specifically, 73.7% of respondents agreed that taxpayers frequently use digital platforms for filing and payments, while 86.9% confirmed regular use of digital systems by revenue officers. Furthermore, 76.3% reported high compliance with digital filing and payment requirements, and 84.2% indicated that training and support had contributed to adoption. However, only 63.1% agreed that digital revenue systems were easy to use and understand, indicating persistent usability challenges. Qualitative findings reinforced the quantitative results, highlighting convenience, accessibility, time savings, reduced transaction costs, immediate payment confirmation, and improved transparency as major drivers of adoption. Nevertheless, limited digital literacy, poor internet connectivity, inadequate access to digital devices, and occasional system failures continued to constrain full utilization. The study concludes that adoption is relatively high, but sustained taxpayer education, improved ICT infrastructure, simplified interfaces, and responsive technical support are necessary to achieve inclusive and effective digital revenue collection.

Keywords: Digital revenue collection, taxpayer adoption, digital taxation, electronic payment, tax compliance.

1. Introduction

1.1 Background

Digital transformation has increasingly become an important component of modern public financial management and tax administration. Governments are adopting electronic filing, digital payment platforms, Electronic Fiscal Devices (EFDs), mobile payment services, and other information and communication technologies to modernize revenue collection and improve interactions between taxpayers and revenue authorities. Digitalization can reduce reliance on manual procedures, improve access to services, strengthen transaction records, and facilitate more efficient revenue administration. The adoption of digital revenue systems is, however, not determined solely by the availability of technology. The extent to which taxpayers perceive digital systems as useful, convenient, accessible, and easy to use can influence their willingness to adopt and continue using them. The Technology Acceptance Model suggests that perceived usefulness and perceived ease of use are important determinants of users' acceptance of information technology (Davis, 1989). The extended Technology Acceptance Model further emphasizes the importance of external factors and user perceptions in explaining technology acceptance and continued use (Venkatesh & Davis, 2000).

In Tanzania, digitalization of revenue collection has expanded through electronic tax services, EFDs, electronic payment systems, and the Government Electronic Payment Gateway (GePG). These reforms seek to make revenue collection more efficient while strengthening transparency, accountability, and compliance. Mtebe and Sausi (2021), for example, demonstrate that the GePG system has contributed to the transformation of government revenue collection by facilitating electronic payments and strengthening public value creation. Evidence from Tanzania also suggests that the adoption of digital revenue systems has produced both opportunities and challenges. Mashauri and Magali (2021) found that taxpayers are more likely to use electronic tax systems when the systems are perceived to be efficient, reliable, and user-friendly. Similarly, Kira (2018) found that taxpayers recognized the benefits of EFDs in reducing reporting time and improving the security and accuracy of tax records, although high equipment costs, connectivity problems, and limited taxpayer education constrained adoption.

More recent study from Mbeya City also indicates that although digital fiscal systems can improve tax reporting and compliance, adoption may be constrained by the cost of devices and other practical barriers (Talian, 2025). These findings demonstrate that the availability of digital revenue systems

does not automatically translate into universal or effective utilization. Within this context, understanding the level of adoption and utilization at the municipal level is particularly important. Local taxpayers may experience digital revenue systems differently depending on their technological skills, access to digital devices, internet connectivity, and interactions with revenue officers. The attached study therefore examined the level of adoption and utilization of digital revenue collection systems among taxpayers in Iringa Municipality. The study specifically assessed frequency of system use, compliance with digital filing and payment requirements, ease of use, and the contribution of training and support to adoption.

1.2 Problem Statement

Despite the increasing implementation of digital revenue collection systems, the existence of digital platforms does not necessarily guarantee widespread or effective utilization by taxpayers. Some users may continue to experience difficulties associated with digital literacy, internet connectivity, access to appropriate devices, system usability, and technical failures. Previous studies in Tanzania have largely focused on particular digital systems, such as EFDs and GePG, or on specific dimensions of revenue administration. For example, Kira (2018) identified cost, connectivity, and education as barriers to EFD adoption, while Talian (2025) reported similar challenges among traders in Mbeya City. However, there remains a need for localized evidence examining the overall level of taxpayer adoption and utilization of digital revenue collection systems within the municipal context.

Iringa Municipality provides an important setting for such an assessment because digital revenue collection reforms have been implemented through electronic tax filing, digital payment platforms, EFDs, and other digital technologies. The study therefore sought to establish the extent to which taxpayers and revenue officers have adopted and utilized these systems and to identify factors facilitating or constraining their use.

1.3 Objective of the Study

The objective of this article was to examine the level of adoption and utilization of digital revenue collection systems among taxpayers in Iringa Municipality, Tanzania.

The indicators used to assess adoption and utilization included frequency of system use, compliance with digital filing and payment, ease of use and usefulness, and the proportion of taxpayers using digital channels.

2. Literature Review

2.1 Technology Acceptance Model

The study was guided primarily by the Technology Acceptance Model (TAM), which explains how users come to accept and use technological systems. Davis (1989) identifies perceived usefulness and perceived ease of use as two central factors influencing technology acceptance. In the context of digital revenue collection, taxpayers are more likely to use electronic systems when they believe that the systems make payment and filing easier, faster, more convenient, and more beneficial than traditional procedures.

Venkatesh and Davis (2000) extended the Technology Acceptance Model by incorporating additional determinants of perceived usefulness and technology acceptance. The model provides a useful theoretical basis for examining taxpayer adoption because adoption is influenced not only by the availability of technology but also by users' experiences and perceptions regarding its usefulness and ease of use. The study consequently operationalized adoption and utilization through frequency of use, compliance with digital filing and payment requirements, ease of use and usefulness, and the proportion of taxpayers using digital channels.

2.2 Empirical Evidence on Digital Revenue System Adoption

Mashauri and Magali (2021) found that the efficiency, reliability, and user-friendliness of electronic tax systems are important factors influencing taxpayer adoption in Tanzania. Their findings suggest that taxpayers are more likely to embrace digital systems when the systems provide tangible benefits and are easy to use.

Kira (2018), examining EFD adoption among taxpayers in Dodoma, found that taxpayers recognized the contribution of electronic systems to reducing reporting time and improving the security and accuracy of tax information. Nevertheless, high machine costs, network problems, limited education, and inadequate supplier availability constrained adoption.

Similarly, Talian (2025), in a study of traders in Mbeya City, reported that digital fiscal systems contributed to improved tax reporting responsibility, although device costs remained a significant barrier. The study recommended taxpayer education, incentives, and technical support to promote wider adoption. These studies suggest that adoption involves both benefits and constraints. While convenience, efficiency, and improved accountability encourage taxpayers to use digital systems, technological and socioeconomic barriers can limit adoption, particularly among users with low digital literacy or limited access to digital devices.

3. Methodology

3.1 Research Approach and Design

The study employed a mixed-methods approach, combining quantitative and qualitative techniques to obtain a comprehensive understanding of taxpayer adoption and utilization of digital revenue collection systems. The quantitative component measured the extent of adoption using structured questionnaire items, while the qualitative component provided deeper insights into taxpayers' and revenue officers' experiences with digital revenue systems.

The study was conducted in Iringa Municipality, Tanzania, which was selected because of its implementation of digital revenue collection reforms, including electronic tax filing, EFDs, and digital payment platforms.

3.2 Population, Sampling and Data Collection

The quantitative component involved 80 respondents, comprising taxpayers, revenue collection officers, and finance officers. Primary data were collected using structured questionnaires based on Likert-scale statements. Key informant interviews were also conducted with revenue officers and taxpayers to obtain detailed qualitative information concerning adoption, utilization, opportunities, and challenges associated with digital revenue collection systems.

3.3 Measurement and Data Analysis

Adoption and utilization of digital revenue collection systems were assessed using five key indicators: the frequency with which taxpayers used digital platforms for filing and payments, the regularity with which revenue officers used digital systems to manage collections, users' perceptions of the ease of use and understanding of digital revenue systems, the level of compliance with digital filing and payment requirements, and the extent to which training and support contributed to the adoption of digital systems. The questionnaire responses were analysed using descriptive statistics, particularly frequencies and percentages, to determine the level of agreement among respondents. Qualitative data obtained through interviews with taxpayers and revenue officers were analysed thematically by identifying recurring themes related to the factors facilitating or constraining the adoption and utilization of digital revenue collection systems.

The adoption and utilization construct demonstrated good internal consistency, with a Cronbach's alpha coefficient of 0.792, exceeding the commonly accepted threshold of 0.70. This indicates that the questionnaire items consistently measured the intended construct.

3.4 Ethical Considerations

Ethical considerations were incorporated throughout the research process to protect the rights, dignity, privacy, and welfare of all participants. Before data collection, participants were informed about the purpose of the study, the nature of their participation, and their rights as research participants. Informed consent was obtained from participants, and participation was entirely voluntary. Participants were informed that they could decline to answer any question or withdraw from the study at any stage without facing any negative consequences. Confidentiality was maintained by securely handling the collected information and using the data exclusively for academic purposes. To protect anonymity, respondents were not identified by their names or other personal identifiers; instead, codes were used during data processing and reporting.

Particular care was taken when collecting information from taxpayers and revenue officers because some responses concerned experiences with revenue administration and digital payment systems. The researcher therefore ensured that participants could express their views freely without fear of exposure or adverse consequences. The study also promoted transparency by providing participants with a summary of the findings as ethical feedback. These procedures were consistent with the ethical considerations specified in the original dissertation.

4. Results

4.1 Level of Adoption and Utilization

The findings demonstrate a generally high level of adoption and utilization of digital revenue collection systems in Iringa Municipality.

Table 1: Adoption and Utilization of Digital Revenue Collection Systems

Statement	Agree/Strongly Agree	Disagree/Strongly Disagree	Neutral
Taxpayers frequently use digital platforms for filing and payments	73.7%	10.5%	15.8%
Revenue officers regularly use digital systems to manage collections	86.9%	10.5%	2.6%
Users find digital revenue systems easy to use and understand	63.1%	15.8%	21.1%
Compliance with digital filing and payment requirements is high	76.3%	7.9%	15.8%

Training and support have helped staff and taxpayers adopt digital systems	84.2%	2.6%	13.2%

Source: Field Data (2026).

Frequency of Use

The results indicate that 59 respondents (73.7%) agreed that taxpayers frequently use digital platforms for filing and payments, while 8 respondents (10.5%) disagreed and 13 (15.8%) remained neutral. This demonstrates that digital channels have become an important means through which taxpayers fulfil their revenue obligations. The finding is consistent with the Technology Acceptance Model because frequent utilization suggests that taxpayers perceive digital systems as sufficiently useful to replace or complement traditional payment methods.

Institutional Utilization

The strongest level of agreement was observed regarding revenue officers' use of digital systems. Seventy respondents (86.9%) agreed that revenue officers regularly use digital systems to manage collections, compared with 8 (10.5%) who disagreed and 2 (2.6%) who were neutral. This indicates strong institutional utilization of digital revenue collection systems within the municipality.

Ease of Use and Understanding

Although adoption was generally high, usability emerged as an area requiring further attention. Only 50 respondents (63.1%) agreed that users find digital revenue systems easy to use and understand. Meanwhile, 13 (15.8%) disagreed and 17 (21.1%) were neutral. The relatively lower level of agreement compared with other indicators suggests that adoption does not necessarily mean that all users experience digital systems as simple or intuitive. This finding supports Davis's (1989) argument that perceived ease of use is a central determinant of technology acceptance.

Compliance with Digital Filing and Payment

The findings further indicate relatively strong compliance. Sixty-one respondents (76.3%) agreed that compliance with digital filing and payment requirements was high, while 6 (7.9%) disagreed and 13 (15.8%) were neutral. This finding suggests that digitalization has become integrated into taxpayers' revenue payment practices and may be helping to make compliance more convenient and accessible.

Role of Training and Support

Training and support were also strongly associated with adoption. Sixty-seven respondents (84.2%) agreed that training and support had helped staff and taxpayers adopt digital systems. Only 2 respondents (2.6%) disagreed, while 11 (13.2%) were neutral. This result highlights the importance of user support in the digital transformation of revenue administration.

The quantitative findings were complemented by interviews with revenue officers and taxpayers. The qualitative evidence provides important explanations for why digital revenue collection systems have been adopted and why some users continue to experience difficulties.

Convenience and Accessibility as Drivers of Adoption

Revenue officers reported that taxpayer adoption had increased considerably following the introduction of electronic payment platforms, mobile money services, e-filing systems, and other digital technologies. According to the officers, taxpayers increasingly preferred digital platforms because they were faster, more convenient, and capable of providing immediate transaction confirmation.

One revenue officer explained that taxpayers could make payments from different locations without travelling to municipal offices. This flexibility reduced the need to queue physically and allowed taxpayers to use mobile phones, computers, and other internet-enabled devices. The officer associated this convenience with increased willingness to comply and improved taxpayer satisfaction. This evidence strongly reinforces the quantitative finding that digital systems are widely used. It also supports the Technology Acceptance Model, particularly the importance of perceived usefulness and convenience in encouraging technology adoption (Davis, 1989).

Reduction in Time and Transaction Costs

Another important theme was the reduction in the time and financial costs associated with revenue payments. A revenue officer explained that, compared with the previous manual system, taxpayers no longer needed to spend significant time travelling to municipal offices, waiting to be served, and completing lengthy payment procedures. Digital systems allowed transactions to be completed remotely and more quickly, reducing transport expenses and time away from business activities. This finding is particularly important for small business taxpayers whose time away from business may have direct economic consequences. The ability to complete payments remotely therefore provides a strong practical incentive for continued utilization.

Transparency and Immediate Confirmation

Qualitative evidence from taxpayers further indicated that digital transactions improved transparency and record management. Electronic receipts generated after payment provided immediate evidence of transactions and reduced the possibility of missing or misplaced physical records. The ability to verify transactions electronically was perceived as improving accountability and confidence in the revenue collection process.

5.4 Digital Literacy and Accessibility Challenges

Despite the generally high adoption rate, qualitative interviews revealed that adoption was not uniform across all taxpayers. Revenue officers identified limited digital literacy, poor internet connectivity, inadequate access to smartphones and computers, and occasional technical problems as important barriers.

One respondent specifically noted that older taxpayers and those living in remote areas sometimes struggled to use digital platforms because of limited technological knowledge and digital literacy.

5.5 Network and Technical Challenges

The qualitative findings further indicate that connectivity and technical reliability remain important determinants of the user experience. Network interruptions may delay transactions and create frustration, particularly when taxpayers are attempting to meet payment deadlines. Occasional system interruptions can therefore undermine users' confidence even where overall adoption is high.

The findings demonstrate an important distinction between adoption and effective utilization. A taxpayer may have access to a digital platform and use it regularly but still experience difficulties when the system is unavailable, slow, difficult to understand, or dependent on unreliable internet connectivity.

Discussion of Findings

The findings of the study demonstrate that although the overall adoption and utilization of digital revenue collection systems in Iringa Municipality is relatively high, the major concern is not whether taxpayers are adopting the systems, but whether all taxpayers can use them effectively, consistently, and without unnecessary difficulties. The finding shows that respondents agreed that taxpayers frequently use digital platforms for filing and payments indicates substantial acceptance of digital revenue systems; however, the remaining respondents who were neutral or disagreed point to an adoption gap that should not be overlooked. More importantly, respondents agreed that users find the systems easy to use and understand which the weakest result among the five indicators was. This suggests that some taxpayers may be using digital systems because they are required to do so rather than because the systems are sufficiently simple or user-friendly. In practical terms, taxpayers with limited digital skills, particularly older users and those in areas with weaker technological access, may depend on other people to complete transactions, increasing the possibility of errors, delays, or non-compliance.

Moreover, the study findings show that poor internet connectivity, limited digital literacy, inadequate access to digital devices, and technical failures remain key barriers to effective utilization. These challenges can delay payments, frustrate taxpayers, and reduce confidence in digital systems. The study praises continuous taxpayer training, simplified platforms, reliable ICT infrastructure, and responsive technical support, particularly for older taxpayers and small businesses. Training should also be continuous as systems change. With 76.3% reporting high compliance and 84.2% recognizing the importance of training and support, future digital revenue reforms should focus not only on adoption but also on accessibility, reliability, usability, and quality of service to strengthen taxpayer satisfaction, compliance, transparency, and trust.

The findings are supported by Davis (1989), who argues that perceived usefulness and ease of use are key determinants of technology adoption. In Iringa Municipality, taxpayers were encouraged by the convenience, speed, and accessibility of digital revenue systems, although challenges in ease of use remained. Similarly, Mashauri and Magali (2021) found that taxpayers are more likely to adopt electronic tax systems when they are efficient, reliable, and user-friendly, which is consistent with the present findings. Kira (2018) also found that digital revenue systems improve reporting time and record accuracy but face challenges related to network connectivity, limited digital knowledge, and equipment costs. These studies therefore support the finding that successful digital revenue collection requires not only the availability of technology but also user friendly systems, reliable connectivity, taxpayer education, and adequate technical support.

6. Conclusion

The study concludes that the adoption and utilization of digital revenue collection systems among taxpayers in Iringa Municipality is generally high, with digital platforms becoming an important part of revenue administration and taxpayer compliance. The findings indicate that taxpayers increasingly use digital platforms for filing and payments, while revenue officers demonstrate strong institutional utilization. Convenience, accessibility, reduced transaction time and costs, immediate payment confirmation, and improved transparency were identified as key factors encouraging adoption. Training and technical support also play an important role in facilitating the use of digital systems.

However, high adoption does not necessarily mean effective or equal utilization among all taxpayers. Limited digital literacy, poor internet connectivity, inadequate access to digital devices, and occasional technical problems continue to hinder effective use, particularly among some older taxpayers and small businesses. The study therefore concludes that future digital revenue reforms should focus not only on increasing adoption but also on improving usability, reliability, accessibility, and technical support. Strengthening taxpayer education, ICT infrastructure, system simplicity, and responsive support services will help ensure more inclusive digital revenue collection and contribute to improved compliance, transparency, accountability, and sustainable revenue mobilization.

Policy Implication

The central policy implication from these findings is that government should shift from a "digital adoption" approach to an "effective digital utilization" approach**.** Measuring how many taxpayers have access to or use digital systems is not sufficient; policymakers should also assess whether taxpayers can complete transactions independently, whether systems are available when needed, how quickly technical problems are resolved, and whether vulnerable users receive adequate assistance. This approach would make digital revenue collection more inclusive, sustainable, and capable of delivering the intended improvements in compliance and revenue administration.

6.1 Recommendations

Based on the findings, the study recommends the following:

6.1.1 Strengthen Continuous Taxpayer Training

Revenue authorities should provide continuous practical training on digital filing and payment procedures, particularly targeting taxpayers with limited digital skills and older users.

6.1.2 Improve Digital Infrastructure

Investment should be directed toward reliable internet connectivity and system infrastructure to minimize transaction failures and delays.

6.1.3 Simplify Digital Platforms

Digital revenue platforms should be designed with simple interfaces and clear instructions so that taxpayers with different levels of digital literacy can use them independently.

6.1.4 Strengthen Technical Support

Municipal revenue authorities should establish responsive customer support mechanisms through which taxpayers can quickly obtain assistance when they encounter payment, filing, or system-related problems.

6.1.5 Promote Access to Digital Devices

Measures should be considered to reduce the barriers created by the cost and limited availability of smartphones and other digital devices, particularly for small and low-income taxpayers.

6.1.6 Maintain Multiple Support Channels During Transition

While digital systems should remain the primary direction of modernization, appropriate support mechanisms should be maintained for taxpayers who experience genuine technological or connectivity difficulties. This would help ensure that digitalization does not unintentionally exclude vulnerable users.

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