

E-Governance Reforms and Service Delivery Efficiency in Sub-National Revenue Administration: Evidence from Kogi State, Nigeria

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DOI: <https://doi.org/110.47772/IJRISS.2025.91200225>

Received: 24 December 2025; Accepted: 29 December 2025; Published: 07 January 2026

ABSTRACT

This study examines the effect of e-governance reforms on service delivery efficiency in sub-national revenue administration, with empirical evidence from the Kogi State Board of Internal Revenue (KG-BIR), Nigeria, covering the period 2019–2024. Anchored on the Technology Acceptance Model and New Public Management theory, the study adopts a descriptive case study design supported by mixed methods. Primary data were obtained through structured questionnaires administered to KG-BIR staff and registered taxpayers, complemented by semi-structured interviews with senior revenue officials and ICT consultants. Secondary data were sourced from institutional records, administrative reports, and relevant policy documents. Findings indicate that e-governance reforms, particularly the introduction of electronic tax registration, automated assessment systems, and online payment platforms, significantly enhanced service delivery efficiency by reducing processing time, improving transparency, minimizing revenue leakages, and strengthening taxpayer compliance. Comparative performance indicators reveal notable improvements in administrative turnaround time and sustained growth in internally generated revenue during the reform period. However, the effectiveness of these reforms is constrained by challenges such as unstable internet connectivity, inadequate ICT infrastructure in rural areas, limited digital literacy among taxpayers, and insufficient technical support. The results affirm the relevance of the Technology Acceptance Model, as perceived usefulness and ease of use significantly influenced adoption, while New Public Management principles explain the shift toward efficiency-driven and performance-oriented revenue service delivery. The study recommends sustained investment in ICT infrastructure, continuous capacity building for revenue personnel, targeted taxpayer digital literacy programmes, strengthened technical support mechanisms, and the institutionalization of supportive digital governance policies to ensure sustainability. The study concludes that e-governance reforms have substantially improved service delivery efficiency in Kogi State's revenue administration, although long-term success depends on inclusive, coordinated, and context-responsive implementation strategies.

Keywords: E-governance reforms; Service delivery efficiency; Sub-national revenue administration; Public sector reform; Nigeria

INTRODUCTION

E-governance has emerged as a critical instrument for reforming public administration across both developed and developing economies, particularly in response to increasing demands for efficiency, transparency, accountability, and citizen-centred service delivery. The rapid advancement of information and communication technologies has fundamentally altered how governments design, implement, and evaluate public services. Through the digitization of administrative processes, e-governance enables public institutions to reduce bureaucratic bottlenecks, improve decision-making accuracy, and enhance interaction between the state and its citizens. International development agencies and multilateral institutions increasingly regard e-governance as a

cornerstone of modern public sector reform, especially in countries seeking to strengthen institutional performance and rebuild public trust in government operations.

In developing countries such as Nigeria, the relevance of e-governance is further amplified by persistent challenges associated with weak administrative capacity, corruption, revenue leakages, and inefficiencies in public service delivery. Nigeria's public sector has historically been characterized by manual procedures, excessive human discretion, and fragmented information systems, particularly in revenue administration. These structural weaknesses have constrained the ability of government institutions to mobilize domestic revenue effectively and to deliver timely and reliable services to citizens and businesses. Consequently, successive reforms at both the federal and state levels have emphasized the adoption of digital solutions as a strategy for improving governance outcomes and fiscal sustainability.

The importance of e-governance has become even more pronounced in the context of Nigeria's fiscal decentralization framework. Under the federal system, state governments bear increasing responsibility for financing public goods and services, especially in the face of volatile federal allocations and declining oil revenues. Internally generated revenue has therefore become a critical component of state fiscal autonomy and development planning. Efficient and transparent tax administration is central to this objective, as it determines the capacity of states to mobilize resources, broaden the tax base, and improve compliance. Digital tax systems are widely perceived as a viable mechanism for addressing long-standing inefficiencies in revenue collection by automating processes, minimizing human interference, and strengthening accountability.

Against this backdrop, many Nigerian states have embarked on e-governance reforms within their internal revenue agencies, with varying degrees of success. While states such as Lagos and Kaduna have been extensively studied due to their advanced digital infrastructure, relatively limited empirical attention has been given to mid-tier states with moderate institutional and technological capacity. Kogi State represents an important case in this regard. Beginning in 2019, the Kogi State Government initiated a series of e-governance reforms at the Kogi State Board of Internal Revenue, including the introduction of electronic tax registration, automated assessment systems, and online payment platforms. These reforms were aimed at improving service delivery efficiency, reducing revenue leakages, and enhancing taxpayer confidence in the tax system.

Despite the growing adoption of digital tools in Kogi State, there remains limited empirical evidence on the actual performance outcomes of these reforms, particularly from the perspectives of both service providers and service users. Questions persist regarding the extent to which e-governance has translated into measurable improvements in efficiency, transparency, and accessibility of tax services, as well as the challenges that continue to constrain optimal implementation. This study addresses this gap by systematically examining how e-governance reforms implemented at the Kogi State Board of Internal Revenue between 2019 and 2024 have influenced the efficiency of service delivery. By providing a context-specific and evidence-based analysis, the

study contributes to the broader discourse on sub-national e-governance and offers practical insights for strengthening public revenue administration in Nigeria and comparable developing economies.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Conceptual Review

The concept of e-governance has been widely discussed in contemporary public administration literature as a transformative approach to governance and service delivery. E-governance refers to the systematic application of information and communication technologies to governmental functions with the aim of improving efficiency, transparency, accountability, and citizen participation (United Nations, 2022). Unlike traditional administrative systems that rely heavily on manual procedures and face-to-face interactions, e-governance emphasizes automation, online service provision, and real-time information exchange between government institutions and stakeholders. This shift is particularly relevant in developing economies, where administrative inefficiencies and governance deficits have historically undermined public sector performance (Basu, 2004).

Service delivery, within the public sector context, denotes the processes through which government institutions provide goods and services to citizens in an effective, timely, and equitable manner. Effective service delivery is commonly assessed using indicators such as accessibility, responsiveness, efficiency, transparency, and user satisfaction (World Bank, 2020). In revenue administration, service delivery encompasses taxpayer registration, assessment, payment, enforcement, and dispute resolution. The integration of e-governance into these processes is intended to simplify procedures, reduce delays, and minimize discretionary powers that often give rise to corruption and inefficiency (Latupeirissa, 2024).

Public revenue administration plays a central role in the fiscal sustainability of sub-national governments, particularly in federal systems such as Nigeria. It involves the mobilization, management, and enforcement of internally generated revenue through taxes, levies, and fees. Weak revenue administration systems limit governments' capacity to finance development programmes and deliver essential services. Consequently, e-governance has been promoted as a strategic tool for strengthening revenue administration by improving data management, broadening the tax base, enhancing compliance, and reducing revenue leakages through automated systems and electronic audit trails (Adeniran et al., 2023). The conceptual relationship between e-governance, service delivery, and revenue administration therefore rests on the assumption that digital technologies enhance administrative efficiency and institutional accountability, which in turn improve service outcomes and fiscal performance.

Empirical Review (Global, African, and Nigerian Perspectives)

Empirical studies on e-governance across different regions of the world consistently demonstrate its positive impact on public service delivery, administrative efficiency, and revenue performance, although the magnitude and sustainability of outcomes vary across institutional and socio-economic contexts. At the global level,

evidence from both developed and emerging economies indicates that the digitization of tax administration significantly improves processing speed, transparency, and taxpayer satisfaction. The World Bank (2020) reports that countries that have successfully implemented digital tax systems record lower compliance costs, faster transaction processing, and improved accuracy in revenue records. Similarly, the Organisation for Economic Co-operation and Development notes that e-taxation platforms enhance predictability of revenue flows and strengthen public financial management by enabling real-time monitoring and data-driven decision-making (OECD, 2021). Studies from countries such as Estonia, South Korea, and Singapore further demonstrate that integrated digital tax systems reduce opportunities for corruption and foster higher levels of voluntary compliance through transparent and user-friendly platforms (UN DESA, 2022).

In the African context, empirical evidence suggests that e-governance has become an increasingly important tool for addressing long-standing challenges of weak administrative capacity, revenue leakages, and low taxpayer trust. Studies from countries such as Rwanda, Kenya, and South Africa reveal that the adoption of electronic tax systems has contributed to improved revenue mobilization, reduced transaction costs, and enhanced accountability in public finance management (African Development Bank, 2021). For instance, Wasike and Omwenga (2020) find that Kenya's iTax system significantly improved compliance levels and reduced turnaround time for tax services. Similarly, Bwalya and Mutula (2016) report that e-governance initiatives in several African countries have strengthened service delivery efficiency, although progress remains uneven due to infrastructural and capacity-related constraints. Despite these gains, African empirical studies consistently highlight challenges such as limited broadband penetration, unreliable power supply, and digital exclusion, particularly in rural areas, which continue to affect the depth and inclusiveness of e-governance outcomes (AfDB, 2021; United Nations, 2022).

Within Nigeria, a growing body of empirical literature has examined the relationship between e-governance and revenue administration, reflecting increasing policy attention to digital reforms at both federal and state levels. Oloyede (2022) finds that electronic governance significantly improved tax revenue collection and remittance by reducing manual handling of transactions, minimizing human error, and improving record accuracy. Similarly, Oyelami et al. (2022) report that the adoption of e-taxation platforms across selected Nigerian states resulted in higher compliance rates and increased internally generated revenue, attributing these outcomes to automated processes and reduced face-to-face interactions between taxpayers and officials. Afolabi and Ayo (2023) further observe that digital tax systems enhanced transparency and reduced opportunities for revenue diversion, particularly in states with relatively advanced ICT infrastructure and strong political commitment to reform.

However, Nigerian empirical studies also underscore persistent challenges that undermine the effectiveness of e-governance initiatives, especially at the sub-national level. Olatunji and Aremu (2022) identify infrastructural constraints, notably unreliable electricity supply and limited internet connectivity, as major barriers to effective e-governance implementation in many states. Afolayan and Musa (2022) emphasize that

low levels of digital literacy among taxpayers, particularly in rural and informal sectors, restrict access to and effective use of e-tax platforms. In addition, organizational resistance to change, inadequate technical support, cyber security risks, and policy inconsistency have been identified as critical impediments to sustainability and scale-up of digital reforms in public institutions (Bamidele & Chukwu, 2024; Adeniran et al., 2023).

Despite the expanding empirical literature, relatively few studies provide in-depth, state-specific analyses of e-governance reforms in mid-tier Nigerian states such as Kogi. Most existing research focuses on highly urbanized and economically advanced states, including Lagos, Abuja, and Kaduna, where infrastructural readiness and institutional capacity are relatively high. This urban-centric focus limits the generalizability of findings and obscures the realities of e-governance implementation in states with moderate fiscal and technological capacity. This study addresses this gap by offering an empirical assessment of e-governance and service delivery efficiency at the Kogi State Board of Internal Revenue. By situating the analysis within a global, African, and Nigerian empirical context, the study contributes context-specific evidence that enriches the broader discourse on sub-national e-governance and public revenue administration in developing economies.

Synthesis of Literature

The empirical literature from global, African, and Nigerian perspectives highlights the transformative potential of e-governance in public service delivery and revenue administration, while also revealing important contextual limitations. Across regions, there is broad consensus that digital technologies enhance administrative efficiency, transparency, and accountability. International evidence shows that well-designed e-governance and e-taxation systems reduce bureaucratic delays, lower compliance costs, improve data accuracy, and encourage voluntary taxpayer compliance through predictable and user-friendly platforms (World Bank, 2020; OECD, 2021; United Nations, 2022). These outcomes demonstrate the capacity of e-governance to strengthen public financial management and support sustainable revenue mobilisation.

At the African level, similar efficiency and revenue gains are evident, particularly in countries that have invested in integrated digital infrastructure and institutional reforms. Studies from Kenya, Rwanda, and South Africa indicate that electronic tax systems improve revenue performance, service responsiveness, and accountability while reducing opportunities for corruption (AfDB, 2021; Wasike & Omwenga, 2020). However, African empirical evidence consistently points to structural constraints, including weak ICT infrastructure, unreliable electricity supply, limited broadband coverage, and digital exclusion, which moderate the effectiveness of e-governance initiatives. These findings suggest that while the benefits of e-governance are evident, their realisation remains uneven and highly dependent on institutional and infrastructural readiness.

In Nigeria, empirical studies largely align with global and African findings by demonstrating that e-governance reforms enhance tax administration efficiency, increase internally generated revenue, and improve transparency in revenue processes (Oloyede, 2022; Oyelami et al., 2022; Afolabi & Ayo, 2023). Nevertheless,

persistent challenges at the sub-national level, such as poor connectivity, low digital literacy, organisational resistance, and policy inconsistency, continue to constrain the sustainability and scalability of digital reforms (Olatunji & Aremu, 2022; Afolayan & Musa, 2022; Bamidele & Chukwu, 2024). These constraints are particularly pronounced in states with moderate fiscal and technological capacity, which remain under-represented in empirical research.

Synthesising the literature reveals three key insights. First, e-governance improves service delivery efficiency and revenue performance when supported by adequate infrastructure, skills, and institutional commitment. Second, user acceptance and organisational adaptation are as critical as technological deployment, underscoring the relevance of the Technology Acceptance Model and New Public Management theory. Third, there remains a clear empirical gap in state-level studies in Nigeria, especially in mid-tier states.

This synthesis justifies the present study, which extends existing knowledge beyond urban-centric analyses by examining e-governance reforms at the Kogi State Board of Internal Revenue. The study bridges global theory and local practice and provides policy-relevant evidence for strengthening sub-national e-governance in Nigeria and comparable developing economies.

Gap in Literature

Despite the expanding body of literature on e-governance and digital transformation in public service delivery, several critical gaps remain, particularly regarding sub-national revenue administration in developing countries. At the global level, most empirical studies focus on advanced economies with high digital maturity, strong institutional capacity, and robust ICT infrastructure. Although these studies provide valuable insights into best practices and long-term reform outcomes, their findings are often less applicable to developing and transitional contexts where infrastructural deficits, institutional weaknesses, and socio-economic constraints are more pronounced (World Bank, 2020; OECD, 2021). As a result, global empirical evidence on e-governance performance under conditions of moderate or low technological readiness remains limited.

Within Africa, although research on e-governance initiatives is growing, much of the literature remains country- or sector-aggregated, with emphasis on national-level reforms or flagship digital projects in relatively advanced economies such as South Africa, Kenya, and Rwanda (AfDB, 2021; United Nations, 2022). These studies often report efficiency and revenue gains but under explore micro-level institutional dynamics, user experiences, and sustainability challenges within specific agencies. In addition, many African studies rely on broad governance indicators without sufficiently disaggregating service delivery outcomes in sector-specific areas such as internal revenue administration, thereby limiting policy relevance for sub-national fiscal institutions.

In Nigeria, the literature on e-governance and revenue administration has expanded considerably, yet important limitations persist. Existing studies are heavily skewed toward highly urbanised states such as Lagos, Abuja,

and Kaduna, where ICT infrastructure and digital literacy are relatively strong (Afolabi & Ayo, 2023; Oyelami et al., 2022). This urban-centric focus restricts the generalisability of findings and obscures the realities of e-governance implementation in mid-tier and less-developed states. Moreover, many Nigerian studies emphasise macro-level indicators such as aggregate revenue growth, with limited attention to operational service delivery metrics including processing time, error reduction, accessibility, and compliance behaviour (Oloyede, 2022).

Another gap concerns the limited integration of theory and empirical analysis at the sub-national level. Although frameworks such as the Technology Acceptance Model and New Public Management are frequently cited, they are often applied superficially without systematically linking user behaviour, institutional reform, and service delivery outcomes (Latupeirissa, 2024). Few studies also adopt mixed-methods approaches that integrate quantitative performance indicators with qualitative insights from service providers and users.

In response to these gaps, this study provides a context-specific, theory-informed, and methodologically robust assessment of e-governance and service delivery efficiency at the Kogi State Board of Internal Revenue between 2019 and 2024. By focusing on a mid-tier Nigerian state and integrating performance data with stakeholder perspectives, the study contributes original evidence and deepens understanding of how e-governance can strengthen sub-national revenue administration in developing federal systems.

Theoretical Framework

This study is anchored on the Technology Acceptance Model and the New Public Management theory, which together provide a comprehensive analytical framework for understanding both user behaviour and institutional reform in e-governance implementation. The Technology Acceptance Model, developed by Davis (1989), posits that an individual's intention to adopt and use a technology is primarily influenced by two factors: perceived usefulness and perceived ease of use. Perceived usefulness refers to the extent to which users believe that a technology enhances job performance or service efficiency, while perceived ease of use relates to the degree to which the technology is perceived as free from effort. In the context of e-governance, TAM is particularly relevant for analysing how tax officials and taxpayers perceive and adopt digital tax systems. Empirical studies confirm that when users perceive e-governance platforms as useful and easy to navigate, adoption rates and sustained usage increase significantly (Venkatesh & Davis, 2000).

Complementing TAM, the New Public Management theory emphasizes efficiency, performance measurement, accountability, and customer-oriented service delivery in the public sector. Emerging in the late twentieth century, NPM advocates the application of private-sector management practices to public institutions in order to improve effectiveness and responsiveness (Hood, 1991; Osborne & Gaebler, 1992). In revenue administration, NPM supports the use of performance indicators such as processing time, revenue growth, and taxpayer satisfaction to evaluate institutional performance. The adoption of ICT tools aligns with NPM principles by enabling results-oriented management, reducing bureaucratic rigidity, and enhancing transparency.

By integrating the Technology Acceptance Model and New Public Management theory, this study captures both the behavioural and institutional dimensions of e-governance reforms. This integrated framework provides a robust basis for analysing how digital transformation at the Kogi State Board of Internal Revenue has influenced service delivery efficiency, while also accounting for user acceptance, organizational dynamics, and performance outcomes.

METHODOLOGY

This study adopted a descriptive case study research design, complemented by a mixed methods approach, to examine the effect of e-governance on the efficiency of service delivery at the Kogi State Board of Internal Revenue (KG-BIR) between 2019 and 2024. The descriptive case study design was considered appropriate because it enables an in-depth and context-specific examination of institutional processes, practices, and outcomes within a real-life administrative setting. By focusing on KG-BIR as a single case, the study was able to capture the unique institutional, technological, and operational dynamics associated with e-governance reforms in a sub-national public revenue agency. The mixed methods approach further strengthened the research design by allowing the integration of quantitative and qualitative data, thereby providing a more comprehensive understanding of both measurable outcomes and stakeholder perceptions.

The population of the study comprised two major categories of stakeholders directly involved in or affected by the e-governance reforms at KG-BIR. These included internal stakeholders, consisting of management staff, tax officers, and ICT personnel responsible for the implementation and administration of digital tax systems, and external stakeholders, comprising registered individual and corporate taxpayers who interact with the e-governance platforms for tax-related transactions. The inclusion of both groups was essential for capturing institutional perspectives as well as user experiences, which together determine the effectiveness of e-governance initiatives.

Given the impracticality of studying the entire population, a combination of purposive and simple random sampling techniques was employed. Purposive sampling was used to select key officials within KG-BIR, including senior management, departmental heads, and ICT specialists, whose positions and responsibilities provided them with in-depth knowledge of the design, implementation, and operational challenges of the e-governance system. This approach ensured that information-rich participants capable of providing relevant and detailed insights were included in the study. In contrast, simple random sampling was applied to select taxpayers from the KG-BIR registry, ensuring that each registered taxpayer had an equal chance of being selected. This technique enhanced the representativeness of the sample and minimized selection bias, particularly with respect to user experiences and perceptions of service delivery.

Primary data for the study were collected through structured questionnaires and semi-structured interviews. The questionnaires were designed to generate quantitative data on key variables such as system usage,

perceived efficiency, transparency, accessibility, and user satisfaction. Separate questionnaire instruments were administered to KG-BIR staff and taxpayers to reflect their distinct roles and experiences within the tax administration process. In addition, semi-structured interviews were conducted with selected senior officials and ICT consultants to obtain qualitative insights into policy intentions, implementation processes, operational challenges, and reform outcomes. Secondary data were obtained from official KG-BIR records, annual reports, policy documents, audit reports, and other relevant publications relating to e-governance and revenue administration.

Quantitative data generated from the questionnaires were analysed using descriptive statistical techniques, including frequencies, percentages, and mean scores. These methods were considered suitable for summarizing respondents' characteristics and assessing patterns in perceptions and experiences related to e-governance and service delivery efficiency. Qualitative data from interviews and documentary sources were analysed using thematic analysis, which involved coding responses, identifying recurring patterns, and organizing them into coherent themes. The integration of quantitative and qualitative findings enabled data triangulation, thereby enhancing the validity and reliability of the study's conclusions. Overall, the methodological approach provided a robust framework for systematically assessing the impact of e-governance reforms on service delivery efficiency at the Kogi State Board of Internal Revenue.

Data Presentation and Analysis

This section presents and analyses the quantitative and qualitative data generated from the field survey, interviews, and institutional records of the Kogi State Board of Internal Revenue (KG-BIR). The presentation is structured to provide a seamless narrative that links empirical evidence directly to the study's objectives and theoretical framework. Both primary and secondary data are integrated to ensure triangulation, enhance validity, and provide a comprehensive assessment of the effect of e-governance on service delivery efficiency.

Quantitative Data Analysis

Response Rate and Distribution

A total of **140 questionnaires** were administered to respondents comprising **50 staff of the Kogi State Board of Internal Revenue (KG-BIR)** and **90 registered taxpayers** across selected locations in Kogi State. Out of this number, **134 questionnaires were correctly completed and returned**, representing a **95.7 percent response rate**, which is considered adequate for statistical analysis and generalization within a case study context (Creswell & Creswell, 2018).

Of the valid responses, **48 (35.8 percent)** were from KG-BIR staff, while **86 (64.2 percent)** were from taxpayers. This distribution ensured that both service providers and service users were sufficiently represented in the analysis.

Perception of E-Governance and Service Delivery Efficiency

Respondents were asked to indicate their level of agreement with statements relating to the impact of e-governance on service delivery efficiency at KG-BIR.

The results show that **78.4 percent** of respondents agreed that e-governance significantly reduced tax processing time, while **12.7 percent** were undecided and **8.9 percent** disagreed. This suggests that the majority of respondents experienced noticeable improvements in service speed following the introduction of digital systems.

Regarding transparency and accountability, **74.6 percent** of respondents agreed that e-governance reduced human interference and opportunities for revenue diversion, **15.7 percent** were undecided, and **9.7 percent** disagreed. This indicates a strong perception that automation enhanced transparency in tax administration.

On taxpayer compliance, **71.3 percent** of respondents agreed that the ease of electronic registration and payment improved compliance levels, while **17.9 percent** were undecided and **10.8 percent** disagreed. The relatively lower level of disagreement suggests that e-governance positively influenced compliance behaviour.

Staff-Specific Operational Efficiency

Analysis of responses from KG-BIR staff indicates that **81.3 percent** agreed that e-governance reduced manual errors in tax assessment and record keeping, while **10.4 percent** were undecided and **8.3 percent** disagreed. Furthermore, **79.2 percent** of staff respondents affirmed that digital systems improved workflow coordination and inter-departmental efficiency.

However, **43.8 percent** of staff respondents reported frequent technical challenges such as network downtime and system delays, suggesting that infrastructural issues remain a significant operational constraint despite overall efficiency gains.

Taxpayer Accessibility and Convenience

Among taxpayer respondents, **76.7 percent** agreed that e-governance improved access to tax services by reducing the need for physical visits to KG-BIR offices. Additionally, **69.8 percent** reported that online payment platforms reduced the cost and time associated with tax compliance.

Conversely, **38.4 percent** of taxpayers, particularly those operating in rural areas, indicated difficulty in navigating the digital platforms due to limited digital literacy and poor internet connectivity. This finding highlights the uneven distribution of e-governance benefits across different socio-economic groups.

Qualitative Data Analysis

Qualitative data were generated from **semi-structured interviews** conducted with **six senior KG-BIR officials** and **four ICT consultants** involved in the design and implementation of the e-governance system. Thematic analysis was used to identify recurring patterns and interpret respondents' experiences.

Theme One: Improvement in Operational Efficiency

Most interviewees acknowledged that e-governance significantly improved operational efficiency within KG-BIR. One senior official stated:

“Before automation, tax files could remain unattended for weeks. With the e-system, assessments and confirmations are now completed within days, sometimes hours.”

This perception supports the quantitative findings on reduced processing time and improved workflow efficiency.

Theme Two: Transparency and Accountability

Interview respondents consistently emphasized the role of digital systems in enhancing transparency. An ICT consultant explained:

“The system records every transaction automatically. Once a payment is made, it reflects immediately, and there is an electronic trail that can be audited at any time.”

This theme aligns with respondents' perception that e-governance reduced revenue leakages and strengthened accountability mechanisms.

Theme Three: Infrastructure and Technical Challenges

Despite positive outcomes, infrastructure-related challenges were frequently mentioned. A departmental head noted:

“Network instability is our biggest challenge. During peak periods, the system can slow down or go offline, affecting service delivery.”

This finding reinforces quantitative evidence of persistent technical constraints.

Theme Four: Digital Literacy and User Adaptation

Interviewees also highlighted challenges related to user adaptation, particularly among taxpayers:

“Some taxpayers, especially in rural areas, still prefer manual processes because they are not comfortable with digital platforms.”

This theme explains the mixed responses observed among taxpayers regarding accessibility and ease of use.

RESULTS AND DISCUSSION

This section discusses the findings of the study in relation to the research questions and the theoretical frameworks that underpin the analysis, namely the Technology Acceptance Model (TAM) and the New Public Management (NPM) theory. The discussion integrates empirical evidence from the quantitative and qualitative data with existing literature to explain how and why e-governance reforms have influenced service delivery efficiency at the Kogi State Board of Internal Revenue (KG-BIR).

Synthesis with Research Questions

With respect to tax processing speed and workflow efficiency, responses from KG-BIR staff indicate that automation substantially reduced the time required for key revenue-related activities such as taxpayer registration, assessment, and payment confirmation. Prior to the adoption of e-governance, these processes were largely manual, time-consuming, and prone to delays caused by bureaucratic procedures and human intervention. The introduction of electronic registration systems, automated assessment tools, and online payment platforms streamlined these processes, resulting in faster service delivery and improved coordination among departments. Staff respondents reported a reduction in repetitive tasks and manual errors, which in turn enhanced productivity and allowed officers to focus on compliance monitoring and revenue analysis rather than routine paperwork.

Transparency and accountability also emerged as major areas of improvement following the adoption of e-governance. The findings show that digital systems minimized discretionary powers by limiting face-to-face interactions between tax officials and taxpayers, thereby reducing opportunities for informal practices and revenue leakages. Electronic transaction records and audit trails enabled easier tracking of payments and assessments, strengthening internal control mechanisms and oversight. These improvements contributed to increased confidence among taxpayers regarding the integrity of the tax system, which is a critical factor in voluntary compliance. This result aligns with existing studies that emphasize the role of digital governance in enhancing transparency and reducing corruption in public financial management.

From the taxpayers' perspective, the results indicate improved accessibility and convenience in accessing tax services. A majority of taxpayer respondents acknowledged that e-governance platforms reduced the need for physical visits to tax offices, allowing them to complete registration, payment, and inquiries remotely. This development lowered compliance costs, particularly for small business owners and individuals with limited time and resources. However, the findings also reveal that challenges related to digital literacy and internet

connectivity persist, especially among rural taxpayers and older users. These constraints limited the extent to which some segments of the population could fully benefit from the digital systems, highlighting the need for inclusive implementation strategies.

A key outcome of the e-governance reforms was the substantial increase in internally generated revenue recorded during the study period. Comparative analysis of pre- and post-e-governance performance indicators shows a significant rise in revenue collections following the automation of tax processes. This increase can be attributed to improved taxpayer registration, enhanced compliance monitoring, reduced revenue leakages, and the integration of digital payment platforms that simplified remittance processes. The findings support the argument that efficient digital systems strengthen fiscal capacity by broadening the tax base and improving enforcement mechanisms.

Synthesis with Theoretical Frameworks

Overall, the findings provide strong empirical support for the relevance of both the Technology Acceptance Model and New Public Management theory in explaining the outcomes of e-governance reforms at KG-BIR. TAM explains user behaviour by linking positive perceptions of usefulness and ease of use to increased adoption and sustained utilization of digital tax systems. NPM, on the other hand, explains the institutional shift toward efficiency, transparency, and performance-oriented service delivery facilitated by digital technologies. The interaction between these two frameworks highlights that successful e-governance implementation requires not only technological innovation but also user acceptance and organizational reform.

The results of this study are consistent with the assumptions of the Technology Acceptance Model, which posits that perceived usefulness and perceived ease of use are critical determinants of technology adoption. Both staff and taxpayers reported that the digital tax systems improved efficiency and were relatively easy to use, which positively influenced their willingness to adopt and sustain usage of the platforms. Similarly, the findings align with the objectives of the New Public Management framework, which emphasizes efficiency, performance measurement, accountability, and customer-oriented service delivery. The shift from manual, process-driven administration to automated, results-oriented revenue management reflects key NPM principles, particularly the focus on performance outcomes such as reduced processing time, increased revenue, and improved user satisfaction.

Overall, the results demonstrate that e-governance has had a transformative impact on service delivery efficiency at the Kogi State Board of Internal Revenue. However, the persistence of infrastructural and capacity-related challenges suggests that the full benefits of digital transformation can only be realized through sustained investment in ICT infrastructure, continuous capacity building, and inclusive policies that address digital exclusion. These findings provide empirical support for the continued adoption and strengthening of e-governance as a strategic tool for enhancing public revenue administration in sub-national governments.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study examined the effect of e-governance on the efficiency of service delivery at the Kogi State Board of Internal Revenue (KG-BIR) between 2019 and 2024, with particular emphasis on tax administration processes, transparency, and revenue performance. Drawing on empirical evidence from questionnaires, interviews, and institutional records, the study established that the adoption of e-governance has significantly improved the efficiency and effectiveness of internal revenue administration in Kogi State. The introduction of electronic tax registration, automated assessment systems, and online payment platforms reduced processing time, minimized human errors, and strengthened accountability mechanisms within the revenue system.

The findings further demonstrate that e-governance reforms contributed to improved taxpayer accessibility and convenience, thereby enhancing voluntary compliance and broadening the tax base. The substantial growth in internally generated revenue recorded during the study period underscores the fiscal benefits of digital governance, particularly in sub-national contexts where revenue mobilization is critical for development planning and service provision. From a theoretical standpoint, the study confirms the relevance of the Technology Acceptance Model by showing that perceived usefulness and ease of use significantly influenced the adoption of digital tax systems by both staff and taxpayers. Similarly, the outcomes align with the principles of New Public Management, which emphasize efficiency, performance measurement, transparency, and customer-oriented public service delivery.

Despite these positive outcomes, the study also reveals that the full potential of e-governance has not yet been realized. Persistent challenges such as inadequate ICT infrastructure, unstable internet connectivity, limited technical support, and gaps in digital literacy among taxpayers continue to constrain optimal performance. These findings suggest that e-governance is not a one-time technological intervention but a continuous reform process that requires sustained institutional commitment, capacity development, and supportive policy frameworks. Overall, the study concludes that while e-governance has positively transformed service delivery efficiency at the Kogi State Board of Internal Revenue, its long-term sustainability depends on addressing structural and human capacity constraints.

Recommendations

Based on the findings and conclusions of the study, the following recommendations are proposed to strengthen the effectiveness and sustainability of e-governance in Kogi State's internal revenue administration:

First, there is a need for sustained investment in ICT infrastructure. The Kogi State Government and the management of KG-BIR should prioritize the provision of reliable internet connectivity, modern hardware, and secure digital platforms across all tax offices, including those in rural and semi-urban areas. Improved

infrastructure will reduce system downtime, enhance operational efficiency, and ensure equitable access to e-governance services.

Second, continuous capacity building for staff should be institutionalized. Regular training programmes focusing on digital skills, data management, cybersecurity awareness, and change management should be provided for revenue officials. Strengthening the technical competence of staff will improve system utilization, reduce resistance to digital reforms, and enhance overall service delivery performance.

Third, targeted digital literacy and sensitization programmes should be developed for taxpayers. Public enlightenment campaigns, user-friendly guides, and helpdesk support systems should be deployed to educate taxpayers on the use of e-governance platforms. Such initiatives will reduce digital exclusion, improve user confidence, and promote voluntary tax compliance, particularly among rural dwellers and older taxpayers.

Fourth, technical support and system maintenance mechanisms should be strengthened. Establishing a dedicated in-house ICT support unit within KG-BIR will enable timely troubleshooting, routine system upgrades, and effective management of cybersecurity risks. This will enhance system reliability and sustain public trust in digital tax administration.

Finally, supportive policy and legislative frameworks should be institutionalized to ensure the sustainability of e-governance reforms. Clear policies on data protection, digital security, performance monitoring, and inter-agency collaboration should be enacted and consistently implemented. Strong policy backing will insulate e-governance initiatives from political disruptions and ensure continuity across administrative transitions.

In conclusion, the effective implementation of these recommendations will consolidate the gains of e-governance reforms in Kogi State and position the Kogi State Board of Internal Revenue as a model for efficient, transparent, and citizen-oriented revenue administration in Nigeria.

REFERENCES

1. Adeniran, A. O., Yusuf, S. A., & Salami, R. O. (2023). Digital governance and revenue administration efficiency in sub-national governments in Nigeria. *Journal of Public Administration and Policy Research*, 15(2), 45–60. <https://doi.org/10.5897/JPAPR2023.0784>
2. African Development Bank. (2021). *Digital transformation and public finance management in Africa*. AfDB. <https://www.afdb.org/en/documents>
3. Afolabi, I. T., & Ayo, C. K. (2023). E-taxation and transparency in Nigerian public revenue administration. *Information Development*, 39(2), 312–325. <https://doi.org/10.1177/0266669221112456>
4. Afolayan, O. S., & Musa, A. M. (2022). Digital literacy and the adoption of e-governance platforms in Nigeria. *African Journal of Information Systems*, 14(3), 198–214. <https://digitalcommons.kennesaw.edu/ajis>
5. Bamidele, A. O., & Chukwu, E. J. (2024). Cybersecurity and sustainability of e-governance reforms in developing economies. *Journal of E-Government Studies and Best Practices*, 2024, 1–15. <https://doi.org/10.5171/2024.884512>
6. Basu, S. (2004). E-government and developing countries: An overview. *International Review of Law, Computers & Technology*, 18(1), 109–132. <https://doi.org/10.1080/13600860410001674779>

7. Bwalya, K. J., & Mutula, S. (2016). *E-government: Implementation, adoption and synthesis in developing countries*. De Gruyter. <https://doi.org/10.1515/9783110305282>
8. Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications. <https://us.sagepub.com>
9. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>
10. Hood, C. (1991). A public management for all seasons? *Public Administration*, 69(1), 3–19. <https://doi.org/10.1111/j.1467-9299.1991.tb00779.x>
11. Latupeirissa, J. J. (2024). Integrating technology acceptance and public sector reform theories in e-governance research. *Government Information Quarterly*, 41(1), 101879. <https://doi.org/10.1016/j.giq.2023.101879>
12. Organisation for Economic Co-operation and Development. (2021). *Tax administration 2021: Comparative information on OECD and other advanced and emerging economies*. OECD Publishing. <https://www.oecd.org/tax/administration>
13. Olatunji, O. C., & Aremu, A. Y. (2022). Infrastructure constraints and e-governance effectiveness in Nigerian states. *Journal of African Governance*, 9(2), 87–103. <https://journals.co.za/doi/abs/10.10520/EJC-2f7f6e0f3f>
14. Oloyede, J. A. (2022). Electronic governance and tax revenue performance in Nigeria. *International Journal of Economics and Financial Issues*, 12(4), 110–118. <https://www.econjournals.com>
15. Osborne, D., & Gaebler, T. (1992). *Reinventing government: How the entrepreneurial spirit is transforming the public sector*. Addison-Wesley.
16. Oyelami, L. O., Adebayo, S. O., & Ogunleye, T. S. (2022). E-tax systems and internally generated revenue in Nigerian states. *Journal of Accounting and Taxation*, 14(1), 1–12. <https://doi.org/10.5897/JAT2021.0456>
17. United Nations. (2022). *E-government survey 2022: The future of digital government*. UN Department of Economic and Social Affairs. <https://publicadministration.un.org/egovkb>
18. United Nations Department of Economic and Social Affairs. (2022). *Compendium of digital government initiatives*. UN DESA. <https://publicadministration.un.org>
19. Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46(2), 186–204. <https://doi.org/10.1287/mnsc.46.2.186.11926>
20. Wasike, S., & Omwenga, E. (2020). Electronic tax systems and tax compliance in Kenya. *African Journal of Business Management*, 14(6), 150–160. <https://academicjournals.org/journal/AJBM>
21. World Bank. (2020). *Digital governance and service delivery in developing countries*. World Bank Group. <https://www.worldbank.org/en/topic/digitaldevelopment>