

Electronic-Governance and Accountability in Rivers State Internal Revenue Services, 2015-2025

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Abstract

Public revenue administration in Nigeria's subnational governments has long been constrained by manual processes, weak oversight, and limited transparency as well as challenges that e-governance reforms are increasingly expected to address. This study examined the impact of e-governance on public accountability in the Rivers State Internal Revenue Service (RSIRS) between 2015 and 2025. The study adopted a descriptive survey research design while the analytical perspective was anchored on the Technology Acceptance Model. A sample of 142 staff was drawn from RSIRS using purposive and simple random sampling techniques, of which 122 valid responses were retrieved and analysed using descriptive statistics and one-sample t-tests at a 0.05 level of significance. Findings revealed that core e-governance tools, Revenue Assurance and Compliance Unit (RACU) digital monitoring tools, implementation challenges, and e-governance's impact on revenue generation and service delivery all had a statistically significant relationship with public accountability, with the e-filing portal and TIN registration system showing the strongest effects among individual tools, and Revenue Assurance and Compliance Unit digital monitoring tools showing the weakest overall impact. Infrastructural deficits, particularly unreliable power and internet connectivity, emerged as the most significant barrier to implementation, outweighing staff resistance to change. E-governance was also found to have significantly improved revenue generation and service delivery, although its effect on public trust remained comparatively modest relative to its operational gains. The study concludes that e-governance has meaningfully strengthened accountability in RSIRS but remains an incomplete transformation, particularly in internal staff oversight and the translation of operational gains into public trust. The study recommends that the Rivers State Government and the Management of RSIRS should work towards strengthening Revenue Assurance and Compliance Unit digital monitoring capacity, investing in ICT infrastructure, institutionalizing continuous staff training, and deepening public-facing transparency initiatives to sustain and extend recorded gains.

Keywords: Administration, Accountability, Electronic-Governance, Internal, Revenue Services.

Introduction

Public accountability constitutes a fundamental principle of good governance because it requires public institutions and officials to demonstrate transparency, responsibility, and answerability in the management of public resources (Nsiegbe & Emejuru, 2025). In public

financial management, accountability has remained particularly important because the mobilisation, administration, control, and utilisation of government revenue require effective institutional mechanisms capable of promoting transparency, limiting financial leakages, and ensuring that public resources are properly managed. Nsiegbe, Davies, and Ow'honda (2022) observed that corruption within the public sector could undermine good governance and weaken the effective administration of public institutions, thereby emphasising the importance of institutional controls and accountability mechanisms in the management of public resources. In this regard, accountability in revenue administration has involved ensuring that revenues collected by government agencies are accurately recorded, properly managed, transparently accounted for, and utilised in accordance with established institutional procedures. Within the context of public revenue administration, accountability has involved the accurate collection, management, documentation, and utilisation of government revenue in ways that promote transparency and public confidence (Falayi, 2023). The growing adoption of electronic governance has consequently provided public institutions with technological mechanisms through which revenue administration and accountability could be strengthened. E-governance has increasingly been associated with improved administrative efficiency, enhanced transparency, reduction of opportunities for corrupt practices, improved record management, and more responsive public service delivery. These attributes have made digital technologies increasingly relevant to public revenue administration, particularly in environments where traditional administrative procedures have been characterised by delays, multiple layers of approval, manual documentation, and limited opportunities for real-time monitoring. The significance of effective revenue administration has become more pronounced in Rivers State because of the state's historical dependence on petroleum resources and the resulting vulnerability of public finances to fluctuations in global oil markets. Internally Generated Revenue (IGR) has constituted an important source of financing for government activities because it provides states with resources generated within their own jurisdictions. Sulaiman (2022) defined internally generated revenue as the revenue generated by federal, state, and local governments within their respective spheres of influence. In Rivers State, the importance of IGR has been heightened by changing economic conditions, fiscal pressures, and the need to sustain government programmes and public services. Although Rivers State has historically derived substantial revenue from petroleum activities, dependence on oil revenue has exposed public finance to fluctuations in international oil prices. Appah (2022) noted that oil revenue had accounted for more than 70% of state income during certain periods, thereby creating considerable exposure to external economic shocks. The rebasing of Nigeria's Gross Domestic Product (GDP) in 2014 positioned the country as Africa's largest economy at the time, but the statistical adjustment did not eliminate underlying fiscal weaknesses. Declining tax revenue relative to GDP, weak non-oil tax contributions, and continued dependence on transfers from the Federation Account continued to present challenges to fiscal sustainability. Falayi (2023) observed that transfers from the Federation Account could constitute as much as 80% of the budgetary resources of some states. Such dependence demonstrated the importance of strengthening internally generated revenue systems as a means of improving fiscal capacity and reducing vulnerability to fluctuations in federally distributed revenue. The instability of crude oil prices further illustrated this challenge. Crude oil prices fluctuated from \$61.14 per barrel in December 2019 to \$48.52 in December 2020, increased to \$80.51 in December 2022, and declined again to \$71.79 in December 2023. These fluctuations affected the fiscal environment within which states operated and had implications for infrastructure development, government expenditure, and social service delivery in oil-producing states such as Rivers State (Falayi, 2023).

Against this background, the strengthening of IGR administration became an important component of fiscal and administrative reform. Nto (2016) conceptualised IGR as revenue generated independently by state or federal governments, while Oti and Odey (2017) extended the concept to revenues generated by all tiers of government. Asimiyu and Kizito (2014) argued that economic development in Nigeria depended substantially on the capacity of states to generate revenue internally to supplement allocations received from the Federation Account. IGR therefore provided an important fiscal mechanism through which states could strengthen their financial autonomy and sustain public programmes. In an economy that remained significantly influenced by oil revenue, effective IGR mobilisation could serve as a buffer against fluctuations in international oil prices and contribute to the continuity of government activities.

The increasing importance of revenue administration coincided with the growing adoption of information and communication technologies in public administration. Since the late 1990s, public-sector reform efforts increasingly incorporated ICT as a platform for communicating with citizens and businesses and delivering public services. This development became widely associated with the concept of e-governance (Ashaye & Irani, 2014). E-governance involved the application of ICT to government operations, administrative processes, communication, and service delivery. Although the adoption of e-governance remained an evolving process in Nigeria and other developing countries, the increasing digitisation of social, commercial, financial, and administrative activities made ICT increasingly important to public-sector management. The expansion of digital technologies across areas of social interaction, business transactions, financial services, entertainment, and public administration demonstrated the growing relevance of electronic systems to contemporary governance. In developed and industrialised societies, ICT had become integrated into several aspects of social and economic life, while developing countries increasingly adopted similar technologies to improve administrative processes and public service delivery (Ashaye & Irani, 2014). In Nigeria, the development of e-governance was supported by institutional initiatives aimed at promoting ICT adoption and digital transformation. Olatokun (2006) noted the role of the National Information Technology Development Agency (NITDA) in promoting ICT development and partnerships with the private sector as part of efforts to make ICT a driver of sustainable national development and competitiveness.

The application of e-governance to revenue administration offered particular opportunities for strengthening public accountability. Digital systems could facilitate electronic payment, taxpayer identification, automated record keeping, electronic filing, transaction monitoring, and real-time access to revenue information. These capabilities could reduce dependence on paper-based documentation and minimise the number of intermediaries involved in revenue collection and remittance. More importantly, digital records could provide traceable transaction histories that could support monitoring, verification, auditing, and accountability. Consequently, the adoption of electronic revenue systems could contribute to the development of a more transparent and accountable revenue administration structure.

Prior to the adoption of more extensive digital reforms, the traditional revenue administration system within the Rivers State Internal Revenue Service (RSIRS) was characterised by multiple administrative layers through which financial transactions, approvals, documentation, and revenue remittances were processed. Revenue collected through field offices and tax stations could pass through several administrative levels, including local tax offices, zonal offices, departmental heads, and the central RSIRS treasury. Such procedures involved manual documentation, physical verification, and administrative approval at different stages. The structure could contribute to delays in revenue remittance and create opportunities for errors, revenue leakages, and inappropriate handling of public funds. Davies, Nsiegbe, and Elike (2023) similarly demonstrated that bureaucratic structures within

public institutions in Rivers State could affect service delivery where administrative processes were not appropriately restructured.

The introduction of e-governance changed the manner in which revenue transactions were processed and recorded. Under the reformed digital system, taxpayers could make payments electronically through the RSIRS e-tax payment platform, while digital receipts could be generated and transaction information automatically recorded in central databases. The automation of revenue transactions reduced the dependence on manual documentation and provided a digital trail through which transactions could be traced and verified. Similarly, electronic records could support the processing of internal financial transactions and administrative claims using verified information rather than relying exclusively on paper-based requests. These changes demonstrated the potential of e-governance to improve efficiency, transparency, and accountability within revenue administration.

Core digital tools such as e-TaxPay, the Tax Identification Number (TIN) registration system, the Integrated Tax Administration System (ITAS), and the e-filing portal represented important components of this transformation. E-TaxPay facilitated electronic payment and digital documentation of tax transactions. The TIN registration system supported the identification and management of taxpayers through a structured digital database. ITAS provided an integrated mechanism for managing tax administration processes, while the e-filing portal enabled taxpayers to submit returns electronically. Collectively, these systems provided mechanisms for improving the accuracy of revenue records, reducing manual intervention, facilitating monitoring, and strengthening transparency in revenue administration.

The relationship between technology and accountability, however, extended beyond the mere availability of digital platforms. Although e-governance could automate transactions and establish electronic audit trails, the effectiveness of these systems also depended on institutional capacity, ethical standards, enforcement mechanisms, staff competence, and organisational commitment. Onya and Nsiegebe (2025) argued that weaknesses in Nigeria's anti-corruption institutions could be understood not only in terms of structural or technological deficiencies but also in relation to institutional morality and enforcement culture. This perspective suggested that digital reforms within revenue administration needed to be supported by appropriate institutional values and enforcement mechanisms if improvements in accountability were to be sustained. Technology could therefore provide the infrastructure for transparency and monitoring, but institutional actors remained responsible for ensuring that the systems were properly implemented and utilised.

The importance of institutional capacity was also relevant to the adoption and utilisation of digital revenue systems. The effectiveness of e-governance could be constrained by inadequate ICT infrastructure, unstable electricity and internet connectivity, insufficient technical skills, resistance to organisational change, and inadequate training and technical support. Such challenges could affect the ability of staff to use electronic platforms effectively and could limit the extent to which digital systems translated into measurable accountability outcomes. Consequently, evaluating e-governance within RSIRS required consideration not only of the existence of digital technologies but also of their practical application to revenue administration and accountability processes.

The Rivers State Internal Revenue Service had, since 2015, undertaken digital reforms involving electronic tax payment platforms, taxpayer identification systems, integrated tax administration processes, electronic filing, and digital monitoring mechanisms. These initiatives were intended to improve revenue administration, strengthen compliance, reduce revenue leakages, improve record management, and promote greater transparency. The adoption of these technologies represented an important shift from predominantly manual revenue administration towards more automated and data-driven processes. Nevertheless, the

extent to which these core e-governance tools had translated into improved public accountability within RSIRS required empirical examination.

Against this background, the study examined the impact of core e-governance tools, comprising e-TaxPay, the Tax Identification Number (TIN) registration system, the Integrated Tax Administration System (ITAS), and the e-filing portal, on public accountability in the Rivers State Internal Revenue Service (RSIRS) between 2015 and 2025. Accordingly, the study sought to examine the impact of these core e-governance tools on public accountability in RSIRS. Flowing directly from the foregoing the study raised the research question of what impact does e-TaxPay, the TIN registration system, ITAS, and the e-filing portal have on public accountability in the Service. The study tested the hypothesis that these core e-governance tools have no significant impact on public accountability in RSIRS, against the alternative that they have a significant impact.

Theoretical Review

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), developed by Davis (1989), is one of the most influential frameworks for explaining and predicting user acceptance of information systems. It was adapted from the Theory of Reasoned Action (TRA) formulated by Fishbein and Ajzen (1975), but specifically tailored to the context of technology adoption. The model posits that an individual's decision to accept and use a particular technology is primarily determined by two core constructs: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). According to Davis (1987), TAM was developed to answer two fundamental research questions:

1. Why do individuals accept or reject a particular information technology?
2. What impact do system design features have on user acceptance and actual use?

These questions are directly relevant to understanding how RSIRS employees perceive, adopt, and utilize e-governance platforms for revenue collection, taxpayer management, and accountability processes. The TAM specifies causal relationships between system design features, users' perceptions, attitudes, and actual usage behaviour, emphasizing four core constructs: Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Attitude Toward Using, and Actual System Use. Davis (1987, p.10) defines perceived usefulness as "the degree to which an individual believes that using a particular system would enhance his or her job performance." In this study, perceived usefulness refers to the extent to which RSIRS staff believe that using e-governance tools, such as e-tax filing, e-payment, e-records management, and e-monitoring systems, enhances their efficiency, accuracy, and accountability in revenue administration. Research consistently demonstrates that perceived usefulness is a strong predictor of technology adoption. Davis (1987) found it to be 50% more influential than ease of use in determining actual system utilization. When revenue officers and administrative staff perceive that e-governance technologies improve the timeliness of revenue processing, minimize manual errors, and increase transparency, they are more inclined to accept and adopt these systems in their daily operations.

Perceived ease of use is defined as "the degree to which an individual believes that using a particular system would be free of physical and mental effort" (Davis, 1987, p.12). This construct implies that when systems are user-friendly and intuitive, users are more likely to adopt them. For RSIRS staff with varying levels of digital literacy, ease of use plays a critical role in determining whether they will embrace e-governance technologies. If an e-tax portal or payment interface is perceived as simple to navigate, staff and taxpayers alike will be more likely to use it consistently. Davis (1987) also emphasized that ease of use not only directly influences behavioural intention but also indirectly affects perceived usefulness. When

systems are easy to operate, users perceive them as more useful since they enable them to complete tasks efficiently and reallocate time to other productive activities.

Together, Perceived Usefulness and Perceived Ease of Use influence users' Attitude Toward Using the system, which subsequently shapes their Behavioural Intention to Use, leading to Actual System Use. Importantly, TAM proposes that perceived ease of use also has a direct causal influence on perceived usefulness, meaning that if a system is easy to use, individuals are more likely to perceive it as beneficial to their job performance. Drawing on Fishbein and Ajzen's (1975) attitude theory, Davis (1987) defines attitude toward using as "the degree of evaluative affect that an individual associate with using a target system in his or her job." It represents users' positive or negative feelings toward employing a given technology. In the context of RSIRS, this refers to the extent to which staff develop favourable attitudes toward e-governance systems based on their perceptions of efficiency, transparency, and accountability. Positive attitudes toward the RSIRS electronic tax and payment systems are expected to lead to greater willingness to integrate these technologies into routine administrative and revenue operations.

This construct represents the dependent variable in the TAM framework and refers to the actual behaviour of using the technology. Davis (1987) identifies actual usage as the ultimate measure of user acceptance, determining the overall success or failure of a technological system. Within RSIRS, actual system use encompasses the degree to which employees and taxpayers utilize digital platforms for tasks such as tax payment, taxpayer registration, data processing, report generation, and revenue tracking between 2015 and 2025. The TAM posits specific causal relationships among these constructs. System design features act as external stimuli that directly affect users' perceptions of usefulness and ease of use. These perceptions shape their attitudes toward using the system, which then determine their behavioural intention and eventual usage. Additionally, perceived ease of use influences perceived usefulness, establishing an indirect pathway between usability and actual adoption. In his empirical validation, Davis (1987) found that TAM explained approximately 36% of the variance in usage behaviour, indicating strong explanatory power. His findings further showed that perceived usefulness was significantly more influential than ease of use in predicting technology adoption.

The origins of TAM in the Theory of Reasoned Action (TRA) are particularly relevant to understanding its behavioural underpinnings. TRA posits that an individual's behaviour is driven by behavioural intention, which in turn is influenced by two factors: attitude toward the behaviour and subjective norms (Fishbein & Ajzen, 1975). Building on this foundation, Davis (1985) modified the model by replacing the attitudinal components of TRA with the constructs of perceived usefulness and perceived ease of use, thereby focusing on user acceptance in technological contexts (Punnoose, 2012; Schepers & Wetzels, 2007). Subsequent research has validated TAM's predictive strength across diverse settings. The model asserts that the intention to use technology is the strongest determinant of actual usage behaviour, and that this intention is more directly influenced by perceived usefulness than by perceived ease of use (Teo, 2016; Tsai, 2011). In essence, even when users hold neutral or slightly negative attitudes toward technology, they are likely to adopt it if they believe it will significantly enhance their job performance.

The Technology Acceptance Model (TAM) is relevant to this study because it helps explain the behavioural and perceptual factors that influence the use of e-governance systems in the Rivers State Internal Revenue Service (RSIRS). The model shows that users' acceptance of technology depends mainly on two perceptions, perceived usefulness and perceived ease of use. In the case of RSIRS, perceived usefulness refers to how much staff and taxpayers believe that e-governance platforms such as e-tax filing, e-payment, e-records management, and electronic monitoring improve revenue efficiency, reduce mistakes, and promote

transparency in tax administration. Perceived ease of use, on the other hand, refers to how simple and convenient these systems are for users with different levels of computer skills. When employees find the systems useful and easy to operate, they are more likely to adopt them in their daily work, leading to greater efficiency, accountability, and improved revenue management in Rivers State.

The model's emphasis on users' attitudes and intentions is also important to this study, which examines how perceptions of e-governance affect public accountability in RSIRS. The success of e-governance depends not only on the availability of digital tools but also on users' willingness to use them effectively. Staff members who believe that e-governance enhances transparency, reduces corruption, and ensures timely reporting are likely to develop positive attitudes toward these systems, which encourages responsible administrative behaviour. Thus, the Technology Acceptance Model helps explain differences in how e-governance tools are accepted and used in RSIRS and how this affects accountability and performance between 2015 and 2025. However, this study also recognizes TAM's limitations and the need for contextual adaptation. TAM was originally developed for organizational settings in developed countries and focuses primarily on individual adoption decisions. Applying it to a public sector revenue agency in a developing country context requires acknowledging additional factors that may influence e-governance acceptance and effectiveness: institutional corruption and trust deficits that affect user confidence in digital systems, power asymmetries between revenue officers and taxpayers that shape technology utilization patterns, infrastructural constraints (erratic electricity, limited internet connectivity) that affect system accessibility regardless of perceptions, political dynamics and leadership transitions that influence organizational commitment to e-governance, and the dual-user nature of revenue administration systems (both internal staff and external taxpayers must adopt for full effectiveness).

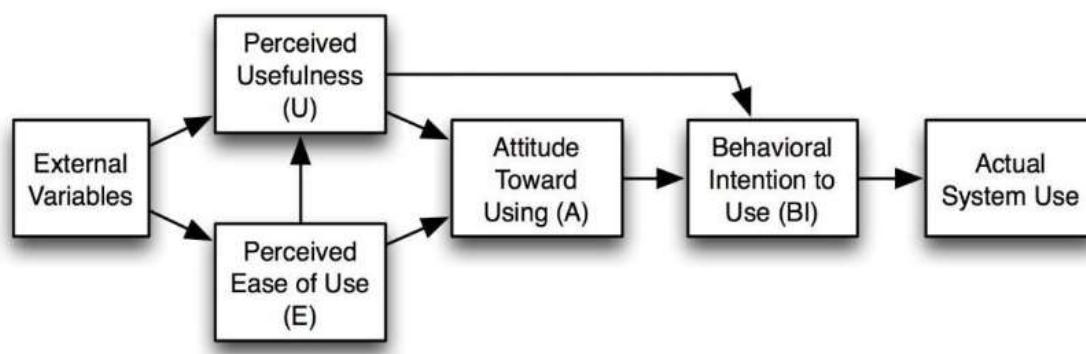


Fig 1: Technology Acceptance Model (Davis, 1987).

Source: (Davis, 1987).

E-governance, also referred to as electronic governance, broadly describes the application of information and communication technologies (ICT) in the processes and functions of government to enhance efficiency, transparency, accountability, and service delivery. The concept has been interpreted in various ways in extant literature, reflecting differences in scope, purpose, and implementation. Chatfield and Alhujran (2009) define e-governance as a rapidly emerging global phenomenon that uses ICT as a modern approach to public administration. Similarly, Naz (2009) describes it as the application of ICT to government processes to achieve Simple, Moral, Accountable, Responsive, and Transparent (SMART) governance. E-governance has been conceptualized by international institutions as a multidimensional framework that integrates technological innovation with administrative

reform and democratic engagement. UNESCO refers to e-governance as (Bannister & Connolly, 2012):

The public sector's use of information and communication technologies aims to improve information and service delivery, encourage citizen participation in the decision-making process and make the government more accountable, transparent and effective.

The UNESCO definition comprehensively characterizes e-governance as the utilization of ICT by the public sector to augment information and service delivery, promote citizen engagement in decision-making processes, and cultivate a government that is more accountable, transparent, and efficient. Additionally, the World Bank (2018) provides a competent definition of e-governance as follows:

E-Governance refers to the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions.

According to the World Bank (2018), these technologies improve service delivery, strengthen communication with stakeholders, and enhance access to information, which in turn promotes efficiency and citizen empowerment. E-governance has increasingly assumed a central role in contemporary governance systems, functioning as a critical driver of economic growth and institutional development. This study examines how the integration of digital technologies into governance processes enhances regulatory efficiency, transparency, and accessibility (Zayed, Edeh, Islam, Nitsenko, Dubovyk, & Doroshuk, 2022). Digitizing administrative procedures helps e-governance reduces bureaucratic delays, transaction costs, and informational asymmetries that traditionally constrain business operations. Consequently, the predictability of regulatory frameworks is improved, thereby creating a conducive environment for investment and commercial expansion. Empirical evidence indicates that streamlined online procedures contribute to a more competitive and investor-friendly economic climate (Zayed, Edeh, Islam, Nitsenko, Dubovyk, & Doroshuk, 2022).

Chatfield (2009) defines e-governance as the strategic application of information and communication technologies (ICTs), particularly internet-based platforms, to improve the delivery of government information and public services. According to this perspective, e-governance goes beyond the digitisation of existing administrative procedures by transforming the way governments interact with citizens, businesses, and other stakeholders. The emphasis is on creating a more efficient, transparent, and responsive public sector through the integration of digital technologies into governance processes (Chatfield, 2009). Chatfield argues that e-governance enables public institutions to automate service delivery, streamline administrative operations, reduce bureaucratic delays, and improve access to government services regardless of geographical location (Chatfield, 2009). This approach also promotes accountability by providing citizens with timely access to public information, facilitating electronic transactions, and enhancing the traceability of government activities. Using the example of Japan's e-Tax system, Chatfield demonstrates that effective e-governance initiatives can simplify tax administration, improve compliance, reduce administrative costs, and strengthen public confidence in government institutions through greater efficiency and transparency (Chatfield, 2009).

Nsiegbe and Ojekwu (2025) noted that E-governance emerged as a pivotal mechanism for facilitating administrative and other activities remotely, ensuring continuity, efficiency, and accountability in service delivery. E-governance, as a contemporary variant of governance, denotes the systematic integration of information and communication technologies (ICTs) into public sector operations with the aim of enhancing administrative efficiency, improving service delivery, and strengthening the overall quality of governance (Shukla, 2025). It reflects a clear departure from rigid, hierarchical, and unidirectional administrative structures toward more flexible, participatory, and interactive systems of public administration (Shukla, 2025). Within this paradigm, citizens are repositioned from passive recipients of government directives to active stakeholders who engage in continuous interaction and feedback with public institutions (Shukla, 2025). Conceptually, e-governance encompasses the digital encoding, processing, storage, retrieval, and dissemination of governance-related information in ways that facilitate the representation of societal interests, coordination of public actions, and efficient delivery of services (Chowdhury, 2024; Shibambu, 2024). This transformation underscores the centrality of transparency, accessibility, responsiveness, and inclusiveness as defining attributes of modern governance systems. It also aligns with broader public administration reforms that emphasize accountability, citizen-centric service delivery, and evidence-based decision-making.

E-governance operationalises these principles by integrating information and communication technologies (ICTs) into public administration processes in order to enhance transparency, accountability, and service delivery efficiency (Nwambuko et al., 2025). Through digital transformation of governance systems, it expands access to public information, constrains excessive bureaucratic discretion, and creates structured avenues for citizen participation in governmental decision-making processes (Nwambuko et al., 2025). In practical terms, e-governance platforms enable governments to disseminate information in a more timely, accessible, and cost-effective manner, while simultaneously allowing citizens to track, scrutinize, and evaluate public sector actions. This development strengthens institutional transparency and reinforces mechanisms of democratic oversight by reducing information asymmetry between the state and the public (Nwambuko et al., 2025).

According to Sunday (2014), e-governance refers to the utilization of information and communication technology (ICT) by government institutions and agencies to enhance accountability, promote public awareness, and strengthen transparency in the administration of governmental affairs. It constitutes a governance strategy through which state activities are made more accessible to the public by leveraging modern communication technologies. Within this perspective, it also interrogates the evolving relationships between public servants and the wider society, particularly in terms of how ICT-mediated interactions reshape administrative responsiveness, citizen engagement, and governance outcomes (Sunday, 2014). Onuigbo (2015) provides a more comprehensive conceptualisation of e-governance, describing it as the public sector's strategic application of information and communication technology (ICT) to enhance the delivery of information and public services. Within this framework, e-governance is also oriented toward strengthening citizen participation in governance processes, particularly in decision-making structures.

Danfulani (2013) conceptualizes e-governance as a multidimensional administrative arrangement that covers processes such as e-registration, e-taxation, e-mobilisation, e-service delivery, e-feedback mechanisms, e-policing, e-debate, and the examination of public financial statements. This categorisation highlights the expanding scope of digital tools across both administrative routines and participatory governance structures, reflecting the gradual digitisation of public sector operations. Bizzdesk Global Solutions (2013) describes E-IGR as a point-of-sale or pay-direct technological system designed for the electronic collection of taxes, duties, levies, fines, rates, licences, and related statutory payments. In practical terms,

this system strengthens accountability in revenue administration, improves the traceability of financial inflows, and supports more efficient monitoring of internally generated revenue across federal, state, and local government levels.

E-governance encompasses a wide range of digital processes and interactions that support the delivery of public services and the management of government functions. It includes online service delivery, electronic communication, and digital policy formulation and implementation (Bertot et al., 2018). These components illustrate that e-governance is more than the deployment of information technology within public institutions. Rather, it represents a comprehensive transformation of public administration through the integration of digital technologies into governance processes. By enabling governments to provide services electronically, communicate effectively with citizens and stakeholders, and formulate and implement policies using digital platforms, e-governance improves administrative efficiency, enhances transparency, and increases the accessibility of public services (Bertot *et al.*, 2018). These capabilities help reduce bureaucratic bottlenecks, minimise processing time and operational costs, and provide citizens with more convenient access to government services regardless of geographical location.

Method

The study adopted a descriptive survey research design to examine the adoption and use of e-governance technologies within the Rivers State Internal Revenue Service (RSIRS) and their implications for public accountability. The study was conducted in Rivers State, Nigeria, with particular focus on RSIRS operations in Port Harcourt. The target population comprised approximately 220 RSIRS staff working in departments directly involved in e-governance implementation and revenue administration, including Tax Administration, Compliance, ICT, Finance, and other relevant administrative units. A sample size of 142 respondents was determined using Taro Yamane's formula. Purposive sampling was used to select staff with direct involvement in e-governance activities, while simple random sampling was subsequently applied to give eligible staff equal opportunities for selection.

Primary data were obtained through a structured questionnaire administered to RSIRS staff, while secondary data were obtained from textbooks, academic journals, RSIRS reports, government policy documents, online publications, and official records. The questionnaire contained demographic and substantive sections covering e-governance dimensions, including e-tax filing, e-payment, e-records management, and e-monitoring systems, as well as public accountability indicators such as transparency, efficiency, responsiveness, and integrity. Responses were measured using a four-point Likert scale ranging from Strongly Agree to Strongly Disagree.

The instrument was subjected to face and content validation through review by the researcher's supervisor and three academic experts in Political Science at Rivers State University. Reliability was established through a pilot test involving 10 RSIRS staff who were excluded from the main study. Cronbach's Alpha was employed using SPSS version 25, and the coefficient obtained was equal to or greater than 0.70, indicating acceptable internal consistency. Data collected were coded, edited, and analysed using SPSS version 25. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarise responses, while Chi-Square (χ^2) was employed to examine associations between e-governance and public accountability. Hypotheses were tested at the 0.05 level of significance.

Table 1: Analysis of the distribution and Collection of Questionnaires

S/N	Respondent	Questionnaires Administered	Questionnaires Returned	Percentage of Returned Questionnaires (%)
1	Staff of the Rivers State Internal Revenue Service (RSIRS)	142	122	85.9
	Total	142	122	85.9

Source: Researchers field survey, 2026.

Table 1, presents the distribution and collection pattern of the questionnaires administered for this study. Out of the 142 copies distributed to respondents drawn from the Rivers State Internal Revenue Service, 122 copies were duly completed and retrieved, representing a return rate of 85.9 percent. The remaining 20 copies, accounting for 14.1 percent, were either not returned, improperly filled, or otherwise deemed unsuitable for analysis and were consequently excluded from the study. This return rate of 85.9 percent is considered high and adequate for the purpose of this study. According to established conventions in survey research, a response rate above 70 percent is generally regarded as excellent for analysis and generalisation of findings.

Data Analysis

Research Objective: Examine the impact of core e-governance tools (e-TaxPay, TIN registration system, ITAS, and the e-filing portal) on public accountability in RSIRS.

What is the impact of core e-governance tools (e-TaxPay, TIN registration, ITAS, and the e-filing portal) on public accountability in RSIRS?

Table 2: impact of core e-governance tools (e-TaxPay, TIN registration, ITAS, and the e-filing portal) on public accountability in RSIRS

2i. Electronic Tax Payment Platform (e-TaxPay)

Variables	SD	D	A	SA	ΣX	ΣFX	Mean	S. D
e-TaxPay has reduced delays in revenue remittance to RSIRS accounts.	8	15	58	41	122	376	3.08	0.77
e-TaxPay has improved the accuracy of tax payment records.	10	18	55	39	122	367	3.01	0.75
e-TaxPay has reduced opportunities for diversion of public funds.	14	27	52	29	122	340	2.79	0.70
e-TaxPay has increased taxpayer confidence in the revenue collection process.	9	20	57	36	122	364	2.98	0.75

2ii. Taxpayer Identification Number (TIN) Registration System

Variables	SD	D	A	SA	ΣX	ΣFX	Mean	S. D
The TIN registration system has improved the accuracy of the taxpayer database.	7	14	60	41	122	379	3.11	0.78
TIN registration has reduced duplication and tax evasion in Rivers State.	11	22	54	35	122	357	2.93	0.73
TIN registration has made it easier to track taxpayer compliance.	8	16	59	39	122	373	3.06	0.76
TIN registration has strengthened transparency in revenue administration.	9	19	56	38	122	367	3.01	0.75

2iii. Integrated Tax Administration System (ITAS)

ITAS has improved coordination across RSIRS departments.	10	21	57	34	122	359	2.94	0.74
ITAS has reduced manual errors in tax assessment and processing.	8	17	58	39	122	372	3.05	0.76
ITAS has enhanced real-time monitoring of revenue transactions.	9	18	56	39	122	369	3.02	0.76
ITAS has strengthened institutional accountability in RSIRS.	11	23	54	34	122	355	2.91	0.73

2iv. E-Filing Portal

The e-filing portal has simplified the process of tax return submission.	7	13	59	43	122	382	3.13	0.78
The e-filing portal has reduced direct contact between taxpayers and revenue officers.	9	17	54	42	122	373	3.06	0.76
The e-filing portal has improved record-keeping and retrieval at RSIRS.	8	15	58	41	122	376	3.08	0.77
The e-filing portal has increased transparency in self-assessment procedures.	10	19	55	38	122	365	2.99	0.75

Source: *Researcher's Field Survey, 2026*

Table 2 (i-iv) presents respondents' perceptions of the impact of core e-governance tools, namely e-TaxPay, the TIN registration system, ITAS, and the e-filing portal, on public accountability in RSIRS. Across all sixteen items spanning the four sub-constructs, mean scores ranged from 2.79 to 3.13, indicating moderate to strong agreement that these tools have collectively strengthened accountability in revenue administration, though with notable variation in the strength of that agreement across tools and items.

On e-TaxPay, respondents most strongly credited the platform with reducing delays in revenue remittance to RSIRS accounts (Mean = 3.08, RII = 0.77) and improving the accuracy of tax payment records (Mean = 3.01, RII = 0.75). The item indicating that e-TaxPay had reduced opportunities for diversion of public funds recorded the lowest mean in this sub-construct (Mean = 2.79, RII = 0.70), suggesting that while the platform has clearly improved timeliness and accuracy, respondents remain comparatively more cautious about its capacity to fully close discretionary risk points in the revenue cycle.

On the TIN registration system, the highest agreement was recorded for improved accuracy of the taxpayer database (Mean = 3.11, RII = 0.78), followed by ease of tracking taxpayer compliance (Mean = 3.06, RII = 0.76) and strengthened transparency in revenue administration (Mean = 3.01, RII = 0.75). The item on reduced duplication and tax evasion recorded the lowest mean within this sub-construct (Mean = 2.93, RII = 0.73), still above the scale midpoint but indicating that translating a cleaner taxpayer database into fully eliminated evasion remains a more gradual outcome. Notably, TIN registration recorded the highest single mean score of any sub-construct, positioning it as a foundational input on which the other digital tools depend for their effectiveness.

On ITAS, respondents most strongly agreed that the system had reduced manual errors in tax assessment and processing (Mean = 3.05, RII = 0.76) and enhanced real-time monitoring of revenue transactions (Mean = 3.02, RII = 0.76). The items on improved coordination across departments (Mean = 2.94, RII = 0.74) and strengthened institutional accountability (Mean = 2.91, RII = 0.73) recorded comparatively more moderate agreement, the lowest in this sub-

construct, suggesting that ITAS's perceived benefits are felt more strongly in day-to-day operational tasks than in reshaping the institution's broader accountability culture.

On the e-filing portal, the item indicating that the portal had simplified the process of tax return submission recorded the highest mean score across the entire table (Mean = 3.13, RII = 0.78). Respondents also strongly credited the portal with improving record-keeping and retrieval at RSIRS (Mean = 3.08, RII = 0.77) and reducing direct contact between taxpayers and revenue officers (Mean = 3.06, RII = 0.76), a finding with direct implications for limiting informal negotiation and bribery risk given the well-documented association between face-to-face contact and corruption vulnerability in tax administration. The item on increased transparency in self-assessment procedures recorded the lowest mean within this sub-construct (Mean = 2.99, RII = 0.75), though still comfortably above the midpoint.

Taken together, these findings indicate that all four core e-governance tools are perceived by RSIRS staff as making a meaningful, broadly positive contribution to public accountability, with the e-filing portal and TIN registration system producing the strongest individual item scores, and e-TaxPay's fund-diversion item and ITAS's institutional-accountability item representing the two most cautious responses in the entire table. This pattern foreshadows a recurring theme developed further in the hypothesis testing and discussion sections: core e-governance tools perform most strongly where they support observable, transactional tasks (simplifying filing, improving database accuracy, reducing delays) and comparatively less strongly where they are expected to reshape deeper institutional behaviours (eliminating discretion, strengthening institutional accountability culture).

Hypothesis: E-Governance Tools (e-TaxPay, TIN Registration, ITAS, and E-Filing Portal)

Table 3(a): One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
E-Governance Tools and Public Accountability	122	3.0094	0.7525	0.06813

Table 3(b): One-Sample Test (Test Value = 2.5)

	t	df	Sig. tailed)	(2- Mean Difference	95% Lower	CI 95% Upper	CI
Core E-Governance Tools and Public Accountability	7.470	121	.000	0.5094	0.3745	0.6443	

Decision: Since Sig. (.000) < .05 and the mean (3.01) is significantly above the neutral midpoint of 2.5, H_{01} is rejected. Core e-governance tools (e-TaxPay, TIN registration system, ITAS, and the e-filing portal) have a significant impact on public accountability in RSIRS.

Discussion: Table 3 presents the one-sample t-test results for the combined core e-governance tools construct. With a mean score of 3.01 against a test value of 2.5, respondents' average level of agreement sits well above the neutral midpoint, and the standard error of 0.068 indicates a reasonably tight spread of responses around that mean given the sample size of 122. The resulting t-value of 7.470 is far in excess of the critical t-value of 1.980 (df = 121, two-tailed, $\alpha = 0.05$), and the associated significance level of .000 confirms that this deviation from neutrality is not attributable to chance. The 95% confidence interval (0.3745 to 0.6443) does not cross zero, reinforcing that the true population mean difference is reliably positive rather than merely an artifact of this particular sample. Substantively, this result confirms what the descriptive findings in Table 3 already suggested: RSIRS staff do not merely tolerate e-TaxPay, TIN registration, ITAS, and the e-filing portal as procedural requirements, but

genuinely perceive them as making a meaningful, positive contribution to public accountability, sufficiently strong and consistent across 122 respondents to register as statistically significant at a stringent threshold.

Discussion of Findings

E-Governance Tools and Public Accountability in RSIRS

The findings from the first research objective reveal that core e-governance tools, e-TaxPay, the TIN registration system, ITAS, and the e-filing portal, have made a substantial and statistically significant contribution to public accountability in RSIRS, though this contribution has been uneven across the four sub-constructs. The one-sample t-test for H_{01} produced a mean of 3.01 against the neutral midpoint of 2.5 ($t = 7.470$, $df = 121$, $p = .000$), leading to the rejection of the null hypothesis and confirming that RSIRS staff perceive these tools, taken together, as making a genuine and statistically reliable contribution to accountability. This aggregate result, however, conceals meaningful variation at the level of individual tools worth unpacking against the theoretical frameworks guiding this study.

On **e-TaxPay**, the descriptive data in Table 2 showed respondents crediting the platform most strongly with reducing delays in revenue remittance (Mean = 3.08) and improving payment record accuracy (Mean = 3.01), while comparatively more caution was expressed toward its capacity to reduce fund diversion (Mean = 2.79, the lowest single item in the entire core-tools construct). From the perspective of the Technology Acceptance Model, this pattern is theoretically instructive: Davis (1987) argues that actual system use is ultimately the most concrete measure of technology acceptance, and the evidence here suggests that while staff have accepted e-TaxPay as useful for timeliness and accuracy, its capacity to reshape discretionary behaviour around fund diversion remains a work in progress. From the Diffusion of Innovations perspective, Rogers's (1983) concept of observability offers a compelling explanation: e-TaxPay is strongly credited with outcomes that are highly visible and easily measured (speed, accuracy), while being more cautiously credited with an outcome that is inherently less observable (the absence of diversion). This finding is consistent with Bisong et al. (2024), whose Cross River State study similarly found that digital revenue platforms produced their clearest, most immediately observable gains in the mechanical aspects of transaction processing, and with Okunogbe and Pouliquen (2022), who found that electronic tax filing reduced but did not eliminate opportunities for corrupt intermediation, gains that remained partial and dependent on how much manual handling persisted elsewhere in the system.

On the **TIN registration system**, the highest agreement was recorded for improved accuracy of the taxpayer database (Mean = 3.11), the single highest mean score across the entire core-tools construct, positioning TIN registration as a foundational input on which the other digital tools depend for their own effectiveness. This finding closely mirrors Lanre-Jimoh, Igbekoyi, and Fasanmi's (2024) study of e-tax registration in Lagos State, which found that the perceived quality of a registration system exerted a significant, positive influence on downstream taxpayer compliance, precisely the function TIN accuracy appears to serve for accountability-related work within RSIRS. The comparatively lower score on reduced duplication and tax evasion (Mean = 2.93) suggests, consistent with Olaoye, Olatunji, and AbdulRasheed's (2023) finding in Ekiti State, that registration accuracy translates into fully eliminated evasion only gradually.

On **ITAS**, respondents most strongly credited the system with reducing manual assessment errors (Mean = 3.05) and enabling real-time transaction monitoring (Mean = 3.02), while its contribution to strengthened institutional accountability recorded the lowest mean in this sub-construct (Mean = 2.91). This gap is consistent with the boundaries of TAM itself: Davis's (1987) constructs of perceived usefulness and perceived ease of use are defined at the level of

the individual user's job performance, not organisational culture, so it is unsurprising that staff readily credit ITAS with enhancing their own task performance (fewer errors, faster monitoring) while remaining more guarded about a diffuse, system-wide outcome like "institutional accountability" that no individual user directly experiences or controls. Read through Rogers's (1983) attribute of compatibility, the same gap can be explained differently: reducing manual errors is compatible with staff's existing motivation to perform their individual duties well, whereas strengthened institutional accountability implicates cross-departmental coordination and shared oversight standards, features of the existing administrative culture that ITAS has not yet fully reshaped. This pattern echoes Nwinyokpugi and Bestman's (2020) finding that e-governance tools significantly improved administrative efficiency in Rivers State's public sector without a commensurate claim to institutional culture change, and Chinelo's (2025) finding that e-information and e-procurement predicted public accountability in federal MDAs more strongly than the more operationally oriented e-payment and e-service delivery.

On the **e-filing portal**, the item on simplified tax return submission recorded the single highest mean score in the entire Table 2 (Mean = 3.13), and the item on reduced direct contact between taxpayers and revenue officers recorded a strong mean of 3.06, a finding with direct bearing on accountability given the well-documented association between face-to-face contact and bribery risk in tax administration. This finding lends strong empirical weight to TAM's claim that ease of use is a powerful predictor of both adoption and downstream institutional benefit, and is consistent with Mascagni, Nell, and Monkam's (2017) argument that reduced face-to-face contact is one of the most direct mechanisms through which digitisation curbs informal negotiation. It also aligns closely with the Abimaje and Bagaji (2026) Kogi State study, which, anchored on the same Technology Acceptance Model used in this study, similarly found that perceived usefulness and ease of use significantly influenced adoption of electronic registration and assessment tools. Notably, Musa and Koholga's (2026) Adamawa State findings present an instructive point of contrast rather than replication: their regression analysis found automated collection platforms exerting a stronger effect on IGR ($\beta = 0.788$) than electronic tax filing ($\beta = 0.164$), whereas RSIRS data shows the e-filing portal as the strongest individual performer among the four core tools. This divergence suggests that the relative strength of specific e-governance tools may be shaped by institutional context rather than following a fixed hierarchy across Nigerian revenue services.

Summary of Findings

Core e-governance tools and public accountability, the study found that e-TaxPay, the TIN registration system, ITAS, and the e-filing portal collectively exert a statistically significant, positive impact on public accountability in RSIRS (Mean = 3.01, $t = 7.470$, $df = 121$, $p < .05$). Among the four tools, the e-filing portal recorded the strongest individual performance, particularly in simplifying tax return submission (Mean = 3.13) and reducing direct contact between taxpayers and revenue officers (Mean = 3.06), while the TIN registration system recorded the strongest single item overall in improving the accuracy of the taxpayer database (Mean = 3.11). e-TaxPay was most strongly credited with reducing remittance delays, though its perceived effect on curbing fund diversion was comparatively modest (Mean = 2.79), the lowest item score among the core tools. ITAS was similarly strong on operational outcomes, such as reducing manual errors, but weaker on strengthening institutional accountability as a whole (Mean = 2.91).

Conclusion

This study was set out to examine the impact of e-governance on public accountability in the Rivers State Internal Revenue Service between 2015 and 2025. The findings demonstrate that

e-governance has been a genuinely transformative, though incomplete, force in RSIRS's revenue administration. Core taxpayer-facing tools, particularly the e-filing portal and the TIN registration system, have measurably strengthened transparency, reduced processing delays, improved record accuracy, and limited opportunities for informal negotiation between taxpayers and revenue officers. E-governance has also significantly improved the speed of service delivery and the volume of internally generated revenue collected by RSIRS over the period under review.

Recommendation

Strengthen RACU's digital monitoring capacity. Given that RACU tools recorded the weakest impact on public accountability of all e-governance constructs examined, the Rivers State Government and the RSIRS management should invest in more robust, staff-facing monitoring systems, including automated conduct audits, real-time flagging of anomalous transactions, and independent reporting channels, specifically designed to close the internal oversight gap rather than repurposing taxpayer-facing infrastructure for this purpose.

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