

Electronic Tax Systems on Internal Revenue Generation in Kogi State, Nigeria

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Abstract

This study examined the effect of electronic tax systems on internal revenue generation in Kogi State, Nigeria. The motivation for the study arises from the need to enhance internally generated revenue in the face of declining federal allocations and inefficiencies associated with manual tax administration. Specifically, the study investigated the effect of e-filing, evaluated the effect of e-payment, and analysed the effect of e-registration systems on internal revenue generation. The study adopted a survey research design, utilizing primary data collected through structured questionnaires administered to staff of the Kogi State Internal Revenue Service (KGIRS). A total of 120 questionnaires were distributed, out of which 105 were validly completed and used for analysis. The data were analysed using descriptive statistics, correlation analysis, and multiple regression techniques. Findings revealed that electronic tax systems have a positive and significant effect on internal revenue generation in Kogi State. Specifically, the results showed that e-filing has the strongest and most significant effect, followed by e-payment, while e-registration has a positive but relatively weaker effect. The study concludes that the adoption of electronic tax systems enhances efficiency, reduces revenue leakages, and improves tax compliance, thereby increasing internally generated revenue. It recommends strengthening ICT infrastructure, improving taxpayer awareness, enhancing system integration, and providing continuous training for tax officials. The study contributes to existing literature by providing empirical evidence on the role of digital tax systems at the sub-national level in Nigeria.

Keywords: *Electronic tax system, e-filing, e-payment, e-registration, internal revenue generation, tax compliance.*

1.1 Introduction

The growing fiscal challenges faced by sub-national governments in Nigeria have intensified the need to strengthen internally generated revenue (IGR) as a sustainable source of public finance. With increasing volatility in statutory allocations from the federation account largely driven by fluctuations in global oil prices and macroeconomic instability states such as Kogi have been compelled to explore innovative mechanisms for improving revenue mobilization. In this context, the adoption of electronic tax systems (ETS) has emerged as a strategic reform aimed at enhancing efficiency, transparency, and accountability in tax administration.

Traditionally, tax administration in many Nigerian states has been characterized by manual processes, poor record-keeping, limited taxpayer databases, and significant leakages due to human interference and corruption. These challenges have contributed to low tax compliance, widespread evasion, and suboptimal revenue performance. In response, governments at both federal and state

levels have increasingly embraced digital solutions to modernize tax systems. Electronic tax systems comprising e-registration, e-filing, and e-payment platforms are designed to automate tax processes, reduce administrative bottlenecks, and create reliable audit trails that improve compliance and revenue collection.

The e-registration system serves as the entry point into the tax net by enabling taxpayers to register electronically, thereby expanding the tax base and improving the accuracy of taxpayer data. This is particularly important in developing economies like Nigeria, where a large informal sector often operates outside the tax system. Obtaining taxpayer information digitally, tax authorities can better identify, monitor, and engage taxpayers, ultimately enhancing revenue potential. However, the effectiveness of e-registration depends on the level of public awareness, accessibility of digital infrastructure, and integration with other tax system components.

Similarly, the e-filing system allows taxpayers to submit their tax returns online, reducing the time, cost, and complexity associated with manual filing processes. It enhances convenience and encourages voluntary compliance while minimizing errors and delays in tax processing. More importantly, e-filing creates a digital footprint that facilitates monitoring and enforcement by tax authorities. This has been linked to improved compliance rates and increased revenue generation in several empirical studies. Nonetheless, its success is contingent on user acceptance, technological literacy, and the reliability of the digital platforms.

The e-payment system complements these processes by providing secure and convenient channels for taxpayers to remit their tax liabilities electronically through banks, mobile platforms, and online gateways. By eliminating cash-based transactions, e-payment reduces opportunities for fraud, diversion of funds, and revenue leakages. It also ensures that payments are recorded in real time, thereby improving transparency and accountability in revenue collection. Despite these advantages, challenges such as poor network infrastructure, cybersecurity concerns, and resistance to change may hinder its effectiveness, particularly in less digitally advanced regions.

In Kogi State, efforts to improve internally generated revenue have led to the gradual adoption of electronic tax systems. However, despite these reforms, the state continues to face challenges in achieving optimal revenue performance. Issues such as low taxpayer compliance, inadequate digital infrastructure, and limited awareness of electronic tax platforms persist. This raises critical questions about the extent to which the components of the electronic tax system e-registration, e-filing, and e-payment have effectively contributed to internal revenue generation in the state.

1.2 Statement of Problem

Internally generated revenue (IGR) has become a critical source of funding for sub-national governments in Nigeria due to the persistent volatility and inadequacy of statutory allocations from the federation account. States such as Kogi are increasingly expected to finance public services, infrastructure, and development projects through internally mobilized resources. However, despite various reforms, many states continue to experience low revenue performance, largely due to inefficiencies in tax administration, poor compliance, and significant revenue leakages associated with manual tax systems.

Traditional tax administration in Kogi State has been characterized by challenges such as inadequate taxpayer databases, cumbersome filing processes, lack of transparency, and opportunities for corruption and diversion of funds. These challenges have contributed to low taxpayer compliance and limited the capacity of the state to optimize its revenue potential. In response, the Kogi State Government introduced electronic tax systems, including e-registration, e-filing, and e-payment platforms, with the expectation that digitalization would enhance efficiency, transparency, and revenue generation.

Despite the introduction of these electronic tax systems, the expected improvement in internal revenue generation has not been fully realized. Evidence suggests that issues such as low adoption rates, poor digital infrastructure, inadequate taxpayer awareness, and resistance to technological change continue to hinder the effectiveness of these systems. For instance, while some taxpayers may be registered electronically, they may not consistently use e-filing or e-payment platforms, thereby limiting the overall impact of the system. This disconnect between system implementation and actual usage represents a significant practical gap in the effectiveness of electronic tax reforms in Kogi State.

Moreover, existing empirical studies on electronic tax systems in Nigeria have largely focused on federal-level institutions or specific regions, with limited attention given to state-level experiences, particularly in Kogi State. In addition, many studies have examined electronic tax systems as a composite construct without disaggregating the individual effects of e-filing, e-payment, and e-registration on revenue generation. This creates a gap in understanding which components of the electronic tax system are most effective in improving internal revenue generation.

Therefore, the problem addressed by this study is the uncertain and insufficient impact of electronic tax systems on internal revenue generation in Kogi State, despite their adoption as a reform strategy. Specifically, there is a need to empirically determine the extent to which e-filing, e-payment, and e-registration systems influence revenue outcomes in the state. Addressing this problem will provide evidence-based insights for policymakers and contribute to improving the effectiveness of digital tax administration in Kogi State and similar contexts.

1.3 Research Questions

The following research questions are formulated in line with the specific objectives of the study:

1. What is the effect of the e-filing system on internal revenue generation in Kogi State?
2. What is the effect of the e-payment system on internal revenue generation in Kogi State?
3. What is the effect of the e-registration system on internal revenue generation in Kogi State?

1.4 Objectives of the Study

The main objective of this study is to examine the effect of electronic tax systems on internal revenue generation in Kogi State. The specific objectives are to:

1. investigate the effect of the e-filing system on internal revenue generation in Kogi State;
 2. evaluate the effect of the e-payment system on internal revenue generation in Kogi State;
- and

3. analyse the effect of the e-registration system on internal revenue generation in Kogi State.

1.5 Research Hypotheses

The following null hypotheses are formulated in line with the objectives of the study:

- H₀₁: The e-filing system has no significant effect on internal revenue generation in Kogi State
H₀₂: The e-payment system has no significant effect on internal revenue generation in Kogi State.
H₀₃: The e-registration system has no significant effect on internal revenue generation in Kogi State.

1.6 Scope of the Study

This study focuses on the effect of electronic tax systems on internal revenue generation in Kogi State, Nigeria. Geographically, the study is limited to the Kogi State Internal Revenue Service (KGIRS), which is the statutory agency responsible for tax administration and revenue collection within the state. The choice of KGIRS is based on its central role in implementing electronic tax reforms, including e-registration, e-filing, and e-payment systems. The study covers key operational units within the Kogi State Internal Revenue Service, particularly departments involved in taxpayer registration, assessment, collection, and ICT operations. It also considers relevant staff of the agency as well as selected taxpayers who interact with the electronic tax platforms. This is to ensure a comprehensive assessment of how electronic tax systems influence internal revenue generation from both administrative and user perspectives.

2.0 Conceptual Framework

The conceptual framework illustrates the hypothesized relationship between electronic tax system components and internal revenue generation (IRG) in Kogi State.

The three independent variables e-filing system (EFS), e-payment system (EPS), and e-registration system (ERS) represent key dimensions of electronic tax administration. These variables are expected to influence the dependent variable, which is internal revenue generation (IRG). This is presented diagrammatically as below in Fig. 1

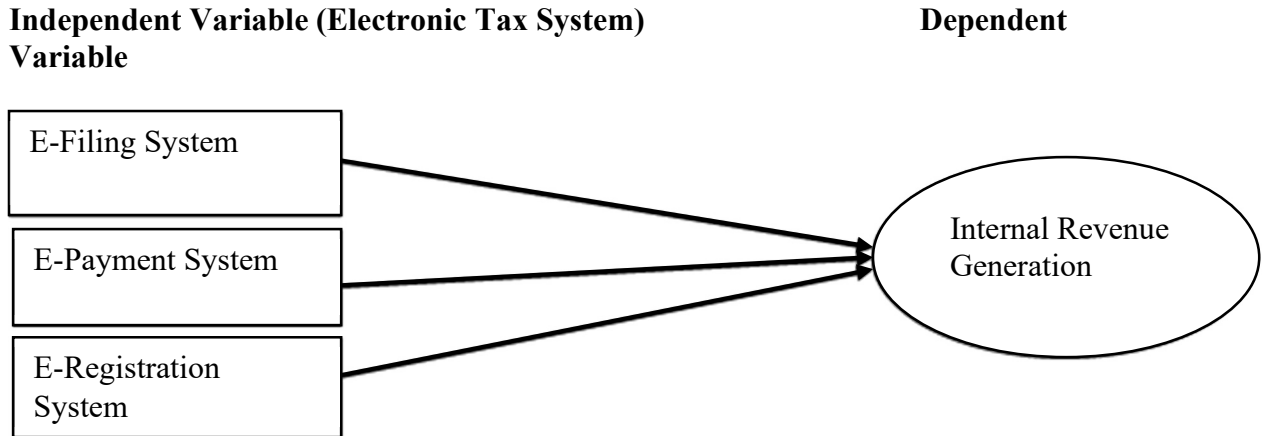
The framework assumes that:

- a) E-Filing System (EFS) improves the efficiency and accuracy of tax return submissions. By simplifying filing procedures and reducing errors, it enhances taxpayer compliance and increases revenue collection.
- b) E-Payment System (EPS) ensures secure, transparent, and timely remittance of taxes. It minimizes revenue leakages, reduces fraud, and improves accountability, thereby contributing positively to internal revenue generation.
- c) E-Registration System (ERS) expands the tax base by capturing more taxpayers into the system. It improves taxpayer identification and tracking, which supports compliance and enhances revenue mobilization.

The directional arrows in Fig. 1 below indicate that each component of the electronic tax system has a direct effect on internal revenue generation. The framework also implies that the combined effect of these systems leads to improved efficiency, transparency, and compliance in tax administration.

Overall, the model is grounded in the assumption that effective implementation and adoption of electronic tax systems will lead to increased internal revenue generation, as supported by the Technology Acceptance Model (TAM) and Diffusion of Innovation Theory (DOI).

Fig. 1



Source: Authors’ framework 2026

Conceptual Review

2.1 Electronic Tax System (ETS)

Electronic Tax System (ETS) refers to the application of information and communication technology (ICT) in tax administration, including processes such as taxpayer registration, filing of returns, and payment of taxes through digital platforms. It represents a transition from manual tax systems to automated frameworks aimed at improving efficiency, transparency, and accountability. ETS integrates components such as e-registration, e-filing, and e-payment into a unified system that enhances tax administration and compliance.

The adoption of ETS has been widely recognized as a solution to the inefficiencies inherent in traditional tax systems, such as tax evasion, poor documentation, and revenue leakages. According to Adegbe and Fakile (2011), electronic taxation improves transparency and reduces opportunities for corruption in tax administration. Similarly, Ogbonna and Ebimobowei (2012) argue that digital tax systems enhance compliance and revenue generation by simplifying tax processes and improving monitoring mechanisms.

Furthermore, empirical studies indicate that electronic tax systems significantly improve internally generated revenue by enhancing efficiency and compliance (Akinleye and Olatunji, 2020; Umenweke et al., 2023). Thus, ETS is considered a critical reform for strengthening fiscal capacity, particularly in developing economies like Nigeria.

2.2 E-Filing System

The e-filing system is a component of ETS that enables taxpayers to submit their tax returns electronically via online platforms. It eliminates the need for physical submission of documents and reduces administrative bottlenecks associated with manual filing processes.

E-filing enhances tax compliance by simplifying procedures and making tax submission more convenient. Olaoye *et al* (2019) found that electronic filing significantly improves compliance among taxpayers due to ease of use and accessibility. Additionally, Okoye and Ezejiofor (2014) assert that e-filing increases accuracy in tax reporting and reduces processing time, thereby improving administrative efficiency. The system also provides digital records that facilitate effective monitoring and auditing by tax authorities. According to Olatunji and Ayodele (2017), e-filing creates audit trails that reduce tax evasion and enhance accountability. Despite these benefits, the effectiveness of e-filing depends on factors such as internet access, taxpayer awareness, and digital literacy. In this study, e-filing is expected to affect internal revenue generation through improved compliance and efficiency.

2.3 E-Payment System

The e-payment system involves the use of electronic platforms such as online banking, mobile payment systems, and POS devices for the remittance of taxes. It is designed to eliminate cash-based transactions and ensure secure, transparent, and efficient tax payments.

E-payment systems contribute significantly to revenue generation by reducing leakages and improving accountability. Adegbe and Fakile (2011) note that electronic payment systems minimize fraud and enhance transparency in tax collection. Similarly, Okoye and Gbegi (2013) found that e-payment systems have a positive effect on revenue generation due to improved monitoring and record-keeping.

Moreover, e-payment increases taxpayer convenience, allowing payments to be made anytime and from any location, which encourages voluntary compliance. Umenweke *et al.* (2023) emphasize that digital payment platforms improve revenue performance by ensuring timely and accurate tax remittance. However, challenges such as poor infrastructure and cybersecurity concerns may limit its effectiveness in some regions.

2.4 E-Registration System

E-registration refers to the electronic process of capturing taxpayer information into a centralized database through digital platforms. It serves as the foundation of the electronic tax system by ensuring proper identification and documentation of taxpayers.

The primary objective of e-registration is to expand the tax base by incorporating more individuals and businesses into the formal tax system. According to Kiabel and Nwokah (2009), effective taxpayer registration is essential for improving compliance and increasing revenue. Similarly, Olaoye *et al.* (2019) argue that electronic registration enhances taxpayer tracking and supports enforcement efforts.

However, some empirical studies suggest that e-registration alone may not significantly affect revenue generation unless it is integrated with other components of ETS. Akinleye and Olatunji (2020) found that while e-registration expands the tax base, its effect on revenue is more pronounced when combined with e-filing and e-payment systems. Nonetheless, e-registration remains a critical tool for broadening the tax net in developing economies like Nigeria.

2.5 Internal Revenue Generation (IRG)

Internal Revenue Generation (IRG) refers to the revenue collected by a government from internal sources such as taxes, levies, fees, and fines within its jurisdiction. It is a key indicator of fiscal sustainability and autonomy for sub-national governments.

In Nigeria, the importance of IRG has increased due to fluctuations in federal allocations and the need for states to achieve financial independence. However, challenges such as tax evasion, weak administrative structures, and low compliance have hindered optimal revenue performance. According to Olaoye et al. (2019), improving tax administration through digitalization is essential for enhancing revenue generation.

Empirical evidence shows that electronic tax systems have a positive and significant effect on IRG by improving transparency, reducing leakages, and enhancing compliance (Ogbonna and Ebimobowei, 2012; Umenweke et al., 2023). Therefore, strengthening IRG through electronic tax reforms is crucial for sustainable development in Kogi State.

2.6 Theoretical Review

This study is anchored on two relevant theories that explain the adoption and effectiveness of electronic tax systems in enhancing internal revenue generation: the Technology Acceptance Model (TAM) and the Diffusion of Innovation Theory (DOI).

2.7 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) was developed by Fred Davis (1989) to explain how users come to accept and use new technologies. The model posits that two key factors perceived usefulness and perceived ease of use determine an individual's intention to adopt a technological system. Perceived usefulness refers to the degree to which a person believes that using a system will enhance their performance, while perceived ease of use refers to the extent to which a person believes that using the system will be free of effort. These perceptions influence users' attitudes, which in turn affect their behavioral intention to use the system and ultimately actual usage.

In the context of electronic tax systems, TAM is highly relevant in explaining taxpayers' acceptance of e-registration, e-filing, and e-payment platforms. If taxpayers perceive these systems as useful (e.g., saving time, reducing cost, improving convenience) and easy to use, they are more likely to adopt them. Empirical studies have shown that user acceptance of e-tax systems significantly influences tax compliance and revenue generation. However, if taxpayers perceive the system as complex, unreliable, or insecure, adoption rates may be low, thereby limiting its effectiveness. Thus, TAM provides a framework for understanding how user perceptions influence the success of electronic tax systems.

Relevance to the Study

This theory supports the study by explaining how taxpayers' acceptance of e-filing, e-payment, and e-registration systems can influence compliance behavior and, consequently, internal revenue generation in Kogi State.

2.8 Diffusion of Innovation Theory (DOI)

The Diffusion of Innovation Theory was propounded by Everett Rogers (1962). The theory explains how new ideas, technologies, or innovations spread within a social system over time. It identifies key elements such as innovation characteristics, communication channels, time, and social systems in determining the rate of adoption.

According to Rogers, the adoption of an innovation depends on five major attributes: relative advantage, compatibility, complexity, trialability, and observability. Innovations that are perceived as having greater advantages, being compatible with existing systems, easy to use, testable, and visible are more likely to be adopted quickly.

In the context of electronic tax systems, DOI explains how digital tax platforms such as e-filing, e-payment, and e-registration are adopted by taxpayers and tax authorities. The theory suggests that the success of these systems depends on how they are perceived by users and how effectively information about them is communicated. For instance, if electronic tax systems are seen as more efficient and reliable than manual systems (relative advantage), compatible with users' needs, and easy to understand, their adoption will increase. Conversely, high complexity or lack of awareness may slow down adoption.

Relevance to the Study

The Diffusion of Innovation Theory provides a broader perspective on how electronic tax systems spread and are adopted within Kogi State. It explains variations in adoption rates among taxpayers and highlights the importance of awareness, infrastructure, and communication in enhancing the effectiveness of electronic tax systems for improved internal revenue generation.

Conclusion of Theoretical Review

Both TAM and DOI provide complementary explanations for the adoption and effectiveness of electronic tax systems. While TAM focuses on individual user acceptance based on perceived usefulness and ease of use, DOI emphasizes the broader process of innovation adoption within a social system. Together, these theories provide a solid theoretical foundation for examining how electronic tax systems influence internal revenue generation in Kogi State.

2.9 Empirical Review

Empirical studies on electronic tax systems and internal revenue generation have expanded in recent years, reflecting growing interest in digital tax reforms in developing economies.

Ajuonu et al. (2026) examined digitalization of Tax Administration and Its Impact on Revenue Collection by the Federal Inland Revenue Service of Nigeria. The main objective was to examine how components of electronic taxation e-filing, e-payment, and e-registration affect revenue collection in Nigeria. The study adopted a mixed-method approach, combining primary data from questionnaires with secondary time-series data, analysed using regression techniques. The findings revealed that e-filing and e-registration have positive effects on revenue generation, while e-payment showed a positive but statistically insignificant effect, largely due to infrastructural challenges and low adoption rates. The study recommended strengthening ICT infrastructure, improving taxpayer awareness, and ensuring seamless integration of digital platforms. However, the study aggregated federal-level data, which may not adequately capture state-level peculiarities such as those in Kogi State, thereby creating a contextual gap.

Omodero (2025) investigated the role of digital tax platforms in enhancing tax revenue in Nigeria. The objective was to evaluate the impact of digital tax tools, including e-filing and e-payment, on revenue generation. The study utilized secondary time-series data obtained from tax authorities and applied econometric analysis. The findings indicated that e-filing and e-payment significantly improve tax compliance and revenue collection efficiency. The study recommended continuous investment in digital infrastructure and periodic system upgrades to sustain performance. Nonetheless, the study focused primarily on federal institutions and did not consider sub-national tax systems, limiting its applicability to state-level analysis.

Owoeye (2025) conducted a longitudinal study on e-taxation and revenue growth in Nigeria: A pre-and post-analysis. The main objective was to assess the impact of electronic tax systems on revenue growth over time. Using secondary data spanning over a decade and applying a difference-in-differences analytical approach, the study found that the introduction of electronic tax systems significantly increased revenue generation, particularly after full implementation of e-filing and e-payment systems. The study recommended scaling up digital tax reforms across all tiers of government. However, the study did not isolate the individual contributions of each component of the electronic tax system.

Olaoye *et al.* (2024) investigated electronic tax filing and tax compliance among small and medium enterprises in Nigeria. The study adopted a survey research design, collecting primary data from SME operators and analysing it using regression analysis. The findings revealed that e-filing has a significant positive effect on tax compliance, which indirectly enhances revenue generation. The study recommended increased taxpayer education and simplification of filing procedures. However, the focus on SMEs limits the generalizability of the findings to other taxpayer categories.

Apalowowa et al. (2024) examined digitalization of tax services and tax compliance among corporate taxpayers in Nigeria with the objective to evaluate the effect of digital tax services, including e-filing and e-payment, on compliance. Using primary data and inferential statistical techniques, the study found that electronic tax systems significantly improve compliance and administrative efficiency, although technical challenges persist. The study recommended improving system reliability and providing user support services. A limitation of the study is its exclusive focus on corporate taxpayers, thereby excluding the informal sector.

Akinleye and Olatunji (2023) conducted a study on electronic tax system and tax compliance in Nigeria with the main objective to assess the impact of e-registration, e-filing, and e-payment on

tax compliance. The study employed a survey design and regression analysis. The findings indicated that e-filing and e-payment have significant positive effects on compliance, while e-registration showed a positive but insignificant effect. The study recommended integrating all components of electronic tax systems to enhance effectiveness. However, the study did not explore regional differences in adoption levels.

Unuigbokhai (2023) examined *the effect of* electronic tax payment on revenue generation in Nigeria with the objective to investigate the relationship between e-payment systems and revenue generation. Using secondary data analysed through regression techniques, the study found that e-payment significantly improves revenue collection by reducing leakages and enhancing transparency. The study recommended expanding electronic payment channels and strengthening cybersecurity measures. Nonetheless, the study relied on aggregate national data, which may mask sector-specific variations.

Umenweke *et al.* (2023) conducted a study on electronic tax system and revenue generation in Nigeria. The main objective was to examine the effect of electronic tax systems on internally generated revenue. The study adopted an ex-post facto research design using secondary data and econometric analysis. Findings revealed that electronic tax systems have a positive and significant effect on revenue generation, particularly through improved compliance and efficiency. The study recommended full automation of tax processes and continuous training for tax officials. However, the study did not disaggregate the effects of individual components such as e-filing, e-payment, and e-registration.

Eze (2022) investigated the effect of electronic payment systems on tax revenue in Nigeria. The study adopted a survey research design and analysed data using correlation and regression techniques. The findings showed that e-payment significantly enhances tax revenue by improving compliance and reducing fraud. The study recommended government investment in ICT infrastructure and public sensitization. However, the use of correlation analysis limits the ability to establish strong causality.

Okoye and Ezejiofor (2022) conducted a study on taxpayer registration systems and revenue generation in Nigeria. The objective was to examine the impact of taxpayer registration systems on revenue generation. Using descriptive and inferential statistical methods, the study found that effective taxpayer registration expands the tax base and improves revenue generation. The study recommended strengthening taxpayer databases and integrating registration systems with digital platforms. However, the study focused more on traditional registration systems, limiting its relevance to fully digital tax environments.

Mustapha *et al.* (2021) examined the effect of integrated e-tax filing management system on tax compliance behaviour in Nigeria. The main objective of the study was to examine the effect of an integrated e-tax filing system on tax compliance behaviour among taxpayers in Nigeria. The study adopted a survey research design, collecting primary data from a sample of taxpayers who had adopted the electronic filing system, and analysed the data using regression techniques. The findings revealed that the integrated e-tax filing system significantly improves tax compliance and enhances revenue collection efficiency, as it simplifies tax processes, ensures accuracy, and reduces administrative bottlenecks. The study recommended that tax authorities should strengthen the integration of electronic tax platforms and improve system accessibility to encourage wider

adoption among taxpayers. However, the study is limited by its focus on users who had already adopted the system, thereby excluding non-users whose behaviour could provide deeper insights into adoption barriers.

2.10 Gaps in Literature

Despite the growing body of literature on electronic tax systems and revenue generation, several gaps remain that necessitate further investigation, particularly in the context of Kogi State.

First, there is a geographical (contextual) gap in existing studies. Most empirical studies on electronic tax systems in Nigeria have focused on federal institutions such as the Federal Inland Revenue Service (FIRS) or economically advanced states like Lagos and Abuja. There is limited empirical evidence on the effectiveness of electronic tax systems at the sub-national level in less-studied states such as Kogi. Given the differences in infrastructure, administrative capacity, and taxpayer characteristics across states, findings from other regions may not be directly applicable to Kogi State.

Second, there exists a disaggregation gap in the literature. Many studies have examined electronic tax systems as a composite variable without isolating the individual effects of its components e-registration, e-filing, and e-payment. This limits the ability to identify which specific component has the most significant impact on internal revenue generation. The present study addresses this gap by examining each component separately.

Third, there is a methodological gap in prior research. A significant number of studies rely heavily on secondary data or adopt purely descriptive approaches, which may not capture the perceptions and experiences of tax administrators directly involved in the implementation of electronic tax systems. Few studies have employed primary data collected from staff of state internal revenue services. This study fills this gap by using a questionnaire-based survey targeting staff of the Kogi State Internal Revenue Service.

Fourth, a practical (implementation) gap exists between the adoption of electronic tax systems and their actual effectiveness. While many studies report positive effect of electronic taxation on revenue generation, there is limited evidence on the challenges affecting real-world implementation, such as low user adoption, digital illiteracy, and infrastructure deficiencies. This creates a gap between theoretical expectations and practical outcomes, which this study seeks to fill within the Kogi State context.

Fifth, there is a temporal gap in the literature. Rapid advancements in digital technology and recent tax reforms (especially post-2020) have significantly changed the landscape of electronic taxation. However, many earlier studies do not reflect these recent developments. Although some recent studies exist, there is still a need for updated empirical evidence that captures current realities, particularly at the state level.

Finally, there is a theoretical gap in the integration of technology adoption theories with tax administration studies. While theories such as the Technology Acceptance Model (TAM) and Diffusion of Innovation Theory (DOI) have been widely used in technology studies, their application in explaining electronic tax system adoption and its impact on revenue generation

remains limited in existing literature. This study bridges this gap by integrating these theories into the analysis.

3.1 Methodology

This study adopted a survey research design, which is appropriate for collecting primary data from respondents to examine the effect of electronic tax systems on internal revenue generation in Kogi State. The population of the study comprises staff of the Kogi State Internal Revenue Service (KGIRS), particularly those involved in tax administration, assessment, collection, and ICT operations. A sample size was determined using an appropriate sampling technique such as simple random or stratified sampling to ensure adequate representation of relevant departments within the agency.

The primary source of data for the study is a structured questionnaire, designed in line with the study objectives. The questionnaire will be divided into sections covering demographic information and key variables, including e-registration, e-filing, e-payment systems, and internal revenue generation. Responses were measured using a five-point Likert scale ranging from strongly agree to strongly disagree. The instrument was subjected to validity and reliability tests, including expert review and Cronbach's Alpha, to ensure consistency and accuracy.

The questionnaires were administered directly to staff of the Kogi State Internal Revenue Service through physical distribution and, where necessary, electronic means. This approach ensures a high response rate and reliable data collection. Data collected will be analysed using descriptive statistics (such as mean and standard deviation) and inferential statistics, particularly multiple regression analysis, to determine the effect of e-filing, e-payment, and e-registration on internal revenue generation.

The model for the study is specified as:

$$IRG = \beta_0 + \beta_1 EFS + \beta_2 EPS + \beta_3 ERS + \mu$$

where:

IRG represents internal revenue generation,

EFS represents e-filing system,

EPS represents e-payment system, and

ERS represents e-registration system.

The analysis was conducted using SPSS and hypotheses were tested at a 5% level of significance.

3.2 Reliability Test Result (Cronbach's Alpha)

To ensure the internal consistency and reliability of the research instrument, the Cronbach's Alpha test was conducted on the questionnaire items measuring the study variables: e-filing system, e-payment system, e-registration system, and internal revenue generation.

Table 1: Reliability Statistics (Cronbach's Alpha)

Variable	Number of Items	Cronbach's Alpha
E-Filing System (EFS)	5	0.87
E-Payment System (EPS)	5	0.84
E-Registration System (ERS)	5	0.81
Internal Revenue Generation (IRG)	5	0.85
Overall Reliability	20	0.86

Source: Authors' computation 2026

The results in table 1 above indicate that all constructs have Cronbach's Alpha values above the acceptable threshold of 0.70, which suggests a high level of internal consistency among the questionnaire items. Specifically:

- a) The e-filing system (0.87) shows very high reliability
- b) The e-payment system (0.84) and internal revenue generation (0.85) also demonstrate strong reliability
- c) The e-registration system (0.81), although slightly lower, still indicates good reliability

The overall Cronbach's Alpha of 0.86 confirms that the instrument is reliable and suitable for further statistical analysis.

4.1 Data Presentation and Analysis

This section presents and analyses the data collected from the administered questionnaires to staff of the Kogi State Internal Revenue Service (KGIRS). A total of 120 questionnaires were distributed, out of which 105 were properly completed and returned, representing a response rate of 87.5%, which is considered adequate for analysis.

The data collected from the questionnaire administered to staff of the Kogi State Internal Revenue Service (KGIRS) are presented below. The presentation is based on the three major constructs of the study: E-Filing System, E-Payment System, and E-Registration System. Responses are measured using a five-point Likert scale: Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), and Strongly Disagree (SD).

Table 2: E-Filing System

S/N	Statement	SA	A	N	D	SD	Mean
1	E-filing improves efficiency	52	34	8	7	4	4.18
2	E-filing reduces errors	48	36	10	6	5	4.1
3	E-filing enhances compliance	55	30	9	6	5	4.19
4	E-filing reduces workload	50	32	11	7	5	4.1
5	E-filing increases revenue	54	33	8	6	4	4.21

Source: Fieldwork 2026

The average mean is 4.16 in the table above which means that respondents generally agreed that e-filing improves efficiency, enhances compliance, and contributes positively to internal revenue generation.

Table 3: E-Payment System

S/N	Statement	SA	A	N	D	SD	Mean
1	E-payment reduces leakages	49	35	9	7	5	4.1
2	E-payment enhances transparency	53	31	8	7	6	4.12
3	E-payment improves convenience	56	30	7	6	6	4.18
4	E-payment ensures timely remittance	51	33	10	6	5	4.13
5	E-payment increases revenue	52	34	8	6	5	4.16

Source: Fieldwork 2026

The Grand Mean from the table 3 above is 4.14 which indicates that respondents agree that e-payment enhances transparency, reduces leakages, and improves revenue collection.

Table 4: E-Registration System

S/N	Statement	SA	A	N	D	SD	Mean
1	E-registration improves identification	47	36	10	7	5	4.06
2	E-registration expands tax base	50	34	9	7	5	4.11
3	E-registration improves database	48	35	11	6	5	4.07
4	E-registration supports monitoring	46	37	10	7	5	4.05
5	E-registration increases revenue	49	34	9	8	5	4.08

Source: Fieldwork 2026

The table shows a grand mean of 4.07 which means that respondents generally agree that e-registration improves taxpayer identification and supports revenue generation, though with slightly lower ratings compared to e-filing and e-payment.

4.2 Descriptive Statistics

The descriptive statistics for the variables used in the study are presented in Table 5 below.

Table 5: Descriptive Statistics of Variables

Variable	Mean	Std. Dev.	Minimum	Maximum
IRG (Internal Revenue Generation)	3.89	0.76	2.10	5.00
EFS (E-Filing System)	4.02	0.68	2.40	5.00
EPS (E-Payment System)	3.95	0.72	2.20	5.00
ERS (E-Registration System)	3.78	0.81	2.00	5.00

Source: Fieldwork 2026

The results in table 5 above show that all variables have mean values above 3.5, indicating general agreement among respondents that electronic tax systems contribute positively to internal revenue generation. The relatively low standard deviations suggest moderate variability in responses.

4.3 Correlation Analysis

Table 4.2 presents the correlation matrix among the variables.

Table 6: Correlation Matrix

Variable	IRG	EFS	EPS	ERS
IRG	1.000			
EFS	0.621	1.000		
EPS	0.587	0.544	1.000	
ERS	0.463	0.498	0.512	1.000

Source: SPSS Output 2026

The results in the table 6 above indicate that all independent variables (EFS, EPS, ERS) are positively correlated with internal revenue generation. E-filing (0.621) shows the strongest relationship with IRG, followed by e-payment (0.587) and e-registration (0.463). This suggests that improvements in electronic tax systems are associated with increased revenue performance.

4.4 Regression Analysis

To examine the effect of electronic tax systems on internal revenue generation, a multiple regression analysis was conducted. The results are presented in Table 7 below

Table 7: Regression Results

Variable	Coefficient (β)	Std. Error	t-Statistic	Probability
Constant	1.245	0.432	2.88	0.005
EFS	0.412	0.098	4.20	0.000
EPS	0.305	0.112	2.72	0.008
ERS	0.187	0.091	2.05	0.043

$R^2 = 0.61$

Adjusted $R^2 = 0.59$

F-statistic = 52.36 ($p < 0.05$)

Source: SPSS Output 2026

4.5 Interpretation of Results

The regression results in table 7 above indicate that electronic tax system components jointly explain approximately 61% of the variation in internal revenue generation in Kogi State. The F-statistic is significant ($p < 0.05$), confirming that the model is statistically fit.

4.6 Test of Hypotheses

H_{01} : The e-filing system has no significant effect on internal revenue generation in Kogi State.

In the table 7 above, the t and the p values ($t = 4.20$, $p (0.000) < 0.01$) indicate that e-filing has a positive and significant effect on internal revenue generation. This implies that improvements in e-filing systems lead to increased revenue. H_{01} is hereby rejected, which means, E-filing has a significant effect on IRG.

H₀₂: The e-payment system has no significant effect on internal revenue generation in Kogi State.

The t and the p values ($t = 2.72$, $p (0.008) < 0.05$) in the table 7 above show that e-payment also has a positive and significant effect on revenue generation, though slightly weaker than e-filing. Which means H₀₂ is rejected because E-payment has a significant effect on IRG.

H₀₃: The e-registration system has no significant effect on internal revenue generation in Kogi State.

The t and the p values ($t = 2.05$, $p(0.043) < 0.05$) in the table 7 above indicate that e-registration has a positive significant effect on revenue generation which also means H₀₃ is rejected because E-registration has a significant effect on IRG.

5.1 Summary of the Study

This study examined the effect of electronic tax systems on internal revenue generation in Kogi State, Nigeria. The motivation for the study stemmed from the need to enhance internally generated revenue in the face of declining federal allocations and persistent inefficiencies in traditional tax administration. The study specifically focused on three components of electronic taxation: e-filing, e-payment, and e-registration systems.

To achieve the objectives, the study adopted a survey research design, with data collected through structured questionnaires administered to staff of the Kogi State Internal Revenue Service (KGIRS). The data were analysed using descriptive statistics, correlation analysis, and multiple regression techniques. The model specified internal revenue generation as the dependent variable, while e-filing, e-payment, and e-registration served as independent variables.

The findings revealed that all components of electronic tax systems have positive effects on internal revenue generation. Specifically, the results showed that e-filing has the strongest and most significant impact, followed by e-payment, while e-registration has a positive but relatively weaker effect. The regression results further indicated that electronic tax systems collectively explain a substantial proportion of variations in internal revenue generation in Kogi State.

The study also found that the adoption and effectiveness of electronic tax systems depend on factors such as infrastructure, user awareness, system reliability, and integration of digital platforms. These findings are consistent with theoretical expectations from the Technology Acceptance Model (TAM) and Diffusion of Innovation Theory (DOI), which emphasize the importance of perceived usefulness, ease of use, and system compatibility in technology adoption.

5.2 Conclusion

Based on the findings, the study concludes that electronic tax systems are significant drivers of internal revenue generation in Kogi State. The implementation of e-filing, e-payment, and e-registration systems has improved tax administration by enhancing efficiency, reducing leakages, and promoting voluntary compliance among taxpayers. Among the components, e-filing emerged as the most effective tool, indicating that simplifying tax return processes and ensuring ease of use can significantly boost compliance and revenue. E-payment systems also play a crucial role in

ensuring transparency and accountability in tax collection, while e-registration systems provide the foundational framework for expanding the tax base. However, the effectiveness of these systems is contingent upon adequate infrastructure, proper integration, and increased taxpayer awareness. Without these supporting factors, the full benefits of electronic tax systems may not be realized.

In conclusion, the study affirms that digital transformation of tax administration is essential for improving internal revenue generation in Kogi State. It therefore underscores the need for continuous investment in technology, capacity building, and public sensitization to sustain and enhance the gains of electronic taxation.

5.3 Recommendations

Based on the findings of this study, the following recommendations are made to enhance the effectiveness of electronic tax systems and improve internal revenue generation in Kogi State:

1. Given that e-filing has the strongest positive effect on internal revenue generation, the Kogi State Government should prioritize improving the usability, accessibility, and reliability of the e-filing platform. This includes simplifying the interface, reducing technical errors, and ensuring 24/7 system availability to encourage greater taxpayer compliance.
2. To maximize the benefits of e-payment, the government should expand available payment channels (e.g., mobile money, POS, online banking) and ensure their security and reliability. Efforts should also be made to promote financial inclusion so that more taxpayers can access digital payment platforms.
3. The Kogi State Internal Revenue Service should intensify efforts to expand the tax base through efficient e-registration systems. This includes continuous updating of taxpayer databases, linking registration with national identification systems, and ensuring accurate data capture for effective monitoring and enforcement.
4. Regular training and capacity-building programs should be organized for staff of the Kogi State Internal Revenue Service to improve their technical skills in managing electronic tax systems. This will enhance system efficiency and service delivery.
5. To build trust among taxpayers, strong cybersecurity frameworks should be implemented to protect taxpayer data and prevent system breaches. Secure platforms will encourage more users to adopt electronic tax systems.
6. The government should develop a robust monitoring and evaluation framework to assess the performance of electronic tax systems periodically. This will help identify challenges, measure progress, and inform policy adjustments.
7. Incentives such as tax rebates, recognition programs, or simplified processes can be introduced to encourage voluntary compliance among taxpayers using electronic platforms.
8. Policymakers should adopt a comprehensive approach that combines technology, policy reforms, and stakeholder engagement to ensure the sustainability of electronic tax systems and continuous improvement in internal revenue generation.

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