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Effect of Digital Tax Reforms on Tax Administrative Efficiency of the Nigerian Federal Inland Revenue Service

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Abstract **Case Studies**

Tax administration has long been hindered by inefficiencies associated with manual processes. This study examines the effect of Digital Tax Reforms (such as the Taxpayer Identification Number, the Integrated Tax Administration System, and Standard Integrated Government Tax Administration System) on tax administration in Nigeria, with a specific focus on the Federal Inland Revenue Service (FIRS). A quantitative survey research design was adopted to collect primary data through structured questionnaires. The population comprises 9,201 FIRS staff across departments such as Revenue Collection, IT Support, and Customer Service. Using Taro Yamane's formula, a sample size of 383 staff members was selected through stratified sampling. Structured questionnaires were used, featuring Likert-scale items to measure the perceived effectiveness of TIN, ITAS, and SIGTAS. Content validity was established through expert review, and Cronbach's Alpha was used to test reliability, with acceptable values above 0.7. The study concluded that the Taxpayer Identification Number and Integrated Tax Administration System improved tax administration by streamlining identification, automating operations, and enhancing payment processes. However, the Standard Integrated Government Tax Administration System was ineffective, indicating the need for reassessment. The study recommends that: FIRS should also collaborate with the Joint Tax Board and the Federal Ministry of Finance to ensure that the TIN becomes a universally adopted and functional tool across all government agencies. FIRS should work in collaboration with the National Information Technology Development Agency to implement best-in-class IT standards, while also engaging the Office of the Accountant General of the Federation and banking institutions to enable real-time integration for payment tracking and reporting. FIRS, in collaboration with NITDA and the Ministry of Finance, should explore the adoption of newer, more adaptable digital solutions that align with the evolving demands of tax administration in Nigeria since SIGTAS was found to be inadequate or obsolete.

Keywords: Digital Tax Reforms, Tax Administration, and Federal Inland Revenue Service.

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1.0 INTRODUCTION

Tax administration efficiency is crucial for ensuring governments can collect revenue effectively, reduce tax evasion, and fund essential public services. Around the world, many countries are increasingly turning to digital solutions to make tax systems more efficient. In places like the United States, the United Kingdom, and several European nations, the adoption of digital tax platforms has transformed how taxes are collected and managed. For instance, the U.S. has implemented the IRS e-file system, while the be UK introduced the Making Tax Digital initiative (Adefulu, et al, 2024). These platforms simplify tax filling for individuals and businesses while enabling tax authorities to monitor compliance in real time. This not only increases transparency but also helps reduce errors and fraud. In the U.S., the tax gap (the difference between taxes owed and those actually paid) was estimated to be around $406 billion annually between 2008 and 2010, and it could have reached $560 billion by 2018 which creates the need for an advanced tax administration (Gale & Krupkin, 2019; Acemoglu

& Restrepo, 2022). These advancements highlight the global shift towards leveraging technology to improve tax administration and close the revenue gap.

In Africa, while progress has been slower, many countries are starting to embrace digital tax systems to enhance tax collection and compliance. Countries like South Africa, Kenya, and Rwanda have introduced online platforms to streamline tax processes and reduce manual errors. For example, South Africa's e-filing system has made it easier for taxpayers to submit their returns electronically, which reduces administrative burdens on both taxpayers and the government (Olaoye & Atilola, 2018). In Nigeria, tax administration has long been hindered by inefficiencies associated with manual processes. Issues such as difficulties in identifying taxpayers, inconsistent collection systems across banks, and challenges in tracking payments have contributed to the problem.

According to the Nigerian Bureau of Statistics (NBS, 2019) Nigeria's population of employed persons at 69.5 million people as of September 2018. However, the individual tax-paying population is estimated as 19 million, indicating that about 50.5 million employed Nigerians operate outside the tax net (NBS, 2019). In 2018, the 36 states of the federation and the Federal Capital Territory (FCT) generated total tax revenue of 669 billion naira, resulting in an average of 35,211 naira per registered taxpayer and a paltry 6,021 naira per economically active person. Evidently, the level of revenue tax compliance is dismal, and this accounts for the low ratio of tax revenue to the country's gross domestic product (FIRS 2022).

These figures have continued to drop even in 2020 and 2021 (NBS, 2022). Data regarding non-compliance is supported by scholars (Adedayo, 2021; Kupoluyi et al., 2022) position that a major problem faced by all tax authorities is that it has never been easy to persuade all taxpayers to comply with the regulations of a tax system regardless of time, place, or industry-type. The level of non-compliance could have been made worse as evidence indicate electronic fiscal devices (EFDs) deployed to improve tax administration in some African countries has encountered substantial challenges such as inability of Government to employ ICT into the tax system (Eilu, 2018). Also, poor database and tax touting are some of the issues impeding compliance by individuals and corporate entities (Chartered Institute of Taxation of Nigeria (CITN), 2021). To address these inefficiencies, the Federal Inland Revenue Service (FIRS) launched several initiatives aimed at automating tax collection and administration.

There are few existing literatures on the impacts of digitalization on tax administration. Studies by Martíneza, et al., (2022), Oreku (2021), Rosario and Chavali (2021) and Adu, Buabeng, (2021) Asamoah and Damoah (2019) are conducted outside Nigeria. These studies failed to account for the effect of digitalization of tax administration within the coast of Nigeria where tax digitalization reforms take four distinctive transformations. Therefore, the current study fills this gap by evaluating specifically how digital tax reforms evolved overtime to see the effect of these digital tax reforms on tax administration efficiency in the Nigerian federal inland revenue service. The study examines how digital tax reforms such as Taxpayer Identification Number, Integrated Tax Administration System and Standard Integrated Government Tax Administration System. The general objective of this study is to evaluate the effect of digital tax reforms on the efficiency of tax administration of the Nigerian Federal Inland Revenue Service (FIRS). The Specific Objectives are to:

i. assess how the introduction of the Taxpayer Identification Number has affected tax administration efficiency of the Nigerian Federal Inland Revenue Service (FIRS);

ii. evaluate the impact of the Integrated Tax Administration System on tax administration efficiency of the Nigerian Federal Inland Revenue Service (FIRS).

iii. examine the effect of the Standard Integrated Government Tax Administration System in enhancing tax administration efficiency of the Nigerian Federal Inland Revenue Service (FIRS).

These null hypotheses are outlined below to guides the study:

H_{01}: There is no significant effect of the introduction of the Taxpayer Identification Number on tax administration efficiency within the Nigerian Federal Inland Revenue Service (FIRS).

H_{02}: Integrated Tax Administration System does not have a significant impact on tax administration efficiency within the Nigerian Federal Inland Revenue Service (FIRS).

H_{03}: Standard Integrated Government Tax Administration System does not significantly affect tax administration efficiency within the Nigerian Federal Inland Revenue Service (FIRS).

2.0 LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Tax Administration Efficiency

Tax administration is crucial to the health of any nation's financial system, forming the bedrock on which tax policies are built and executed (Audu & Ishola, 2021). At its core, tax administration encompasses the roles and responsibilities assigned to tax authorities by law. It's not just about collecting taxes but also about creating a system that supports effective tax planning, ensures accurate tax assessments, and manages collections and expenditures efficiently (Ogbonna & Appah, 2016). In practice, tax administration Efficiency involves a range of activities: from setting tax rates and rules, to gathering taxes from individuals and businesses, to using these funds for public services and infrastructure (Oreku, 2021). The efficiency of this process significantly affects a country's ability to sustain itself financially and invest in crucial services like healthcare, education, and transportation.

However, many developing nations like Nigeria struggle with inefficiencies in their tax administration systems. Common issues include high levels of tax evasion, fraudulent activities, and administrative coercion, which undermine the system's effectiveness (Lipniewicz, 2017). For example, in some countries, a large portion of the economy operates in the informal sector, where transactions go unreported and untaxed, further complicating revenue collection efforts. This weakens the financial stability of the government and hampers its ability to provide essential services and drive development.

2.1.2 Taxpayer Identification Number

The Taxpayer Identification Number (TIN) was officially introduced in Nigeria on April 5, 2011 (Premium Times, 2020). This initiative aimed to enhance the link between taxpayers and various tax authorities, thereby improving cooperation, information sharing, and overall revenue generation across all levels of government (Sani et al., 2023). Prior to the TIN, the Unique Tax Identification Number (U-TIN) was launched as an electronic system intended to store taxpayer information and facilitate data sharing among tax authorities. Unfortunately, the U-TIN project did not meet its objectives and was deemed unsuccessful (Deloitte, 2015).

The TIN is a 10-digit unique number assigned to individuals and businesses in Nigeria. It serves as a key tool in creating a national registry of taxpayers, thereby providing a centralized database that aids in tax assessments and compliance monitoring. By expanding the tax base and improving tax liability determinations, TIN has significantly contributed to better tax administration (Ezegwu & Agbaji, 2014). Since its implementation, the number of registered taxpayers has grown substantially; from 10 million in 2015 to over 45 million by 2019, including more than 3 million registered companies (Sani et al., 2023).

2.1.3 Integrated Tax Administration System

In 2013, the Federal Inland Revenue Service (FIRS) initiated the Integrated Tax Administration System (ITAS) project to enhance and automate tax administration in Nigeria. This project was designed to leverage technology to streamline tax processes and simplify compliance for taxpayers. One of ITAS's primary objectives was to ensure that each taxpayer was assigned a unique Taxpayer Identification Number (TIN), thus addressing issues related to multiple TINs and improving the overall efficiency of tax administration (Sani et al., 2023). The ITAS project aimed to re-engineer and automate various tax administration functions, including registration, assessment, payment, debt management, audit, investigation, case management, and returns filing. By introducing ITAS, FIRS sought to improve revenue collection, enhance transparency, and boost voluntary compliance. The system allows taxpayers to file returns electronically, make online payments, receive instant credit for withholding taxes, generate tax clearance certificates, and benefit from automatic penalties for late filings (FIRS, 2022). ITAS was expected to deliver a comprehensive solution incorporating international best practices for revenue administration in Nigeria (PriceWaterCoopers, 2015).

Since its implementation, ITAS has made notable progress. By November 2020, the system had processed over 721,000 assessments across various tax types, with more than 66,000 filed electronically. The introduction of ITAS also contributed to a significant improvement in Nigeria's ease of doing business ranking, moving from 146th place in 2016 to 131st in 2019, thanks to advancements in e-filing. Additionally, ITAS has established an online support team that resolved over 5,700 user issues (Federal Inland Revenue Service, 2022). Despite these achievements, ITAS has faced challenges, including the deployment of parallel systems such as SIGTAS, delays in project activity approvals, and issues with resident project management and technical support (Federal Inland Revenue Service, 2022). Nevertheless, ITAS has made significant strides in advancing Nigeria's digital tax administration efforts. Shortly after ITAS's launch, FIRS introduced another digital initiative in 2014, known as the Standard Integrated Government Tax Administration System (SIGTAS), aimed at further strengthening the digitalization of tax administration in Nigeria.

2.1.4 Standard Integrated Government Tax Administration System

Launched in 2014, the Standard Integrated Government Tax Administration System (SIGTAS) represents a significant advancement in Nigeria's tax administration landscape. SIGTAS is designed to automate and streamline various aspects of tax assessment and revenue collection, offering a range of benefits to taxpayers and tax authorities alike. The system features automatic tax and penalty calculations, error detection during tax declaration processing, and automated generation of assessment notices, payment reminders, and taxpayer correspondence (The Nation, 2014).

One of SIGTAS's key functionalities is its ability to automatically credit accounts when Withholding Tax (WHT) is remitted, ensuring that the funds are promptly available for utilization. This feature enhances the efficiency of tax collections and minimizes delays (Deloitte, 2018). Since its implementation, SIGTAS has created over 5,700 user accounts for staff and 943 e-filing user accounts. The system has registered more than 32,000 taxpayers on the e-filing platform, with approximately 6,500 filing their returns online. Additionally, SIGTAS has integrated with the ITAS system to manage over 1.8 million corporate taxpayers, with around 120,000 more records currently being processed for upload (Sani et al., 2023).

By building on the foundation laid by ITAS, SIGTAS has further strengthened the digitalization of tax administration in Nigeria. It has enhanced the overall efficiency of tax processes, reduced compliance costs, and provided a more integrated view of taxpayer affairs across all tax types. In 2022, FIRS introduced the TaxPro-Max solution to further advance these digitalization efforts and continue improving the effectiveness of Nigeria's tax administration system (FIRS, 2022).

2.2 Empirical Studies Review

2.2.1 Taxpayer Identification Number and Tax Administration

Tyokoso, et al., (2021) examined Tax Identification Number and Tax Revenue Performance in Nigeria focusing on the effect of TIN on tax revenues from Valued Added Tax (VAT), Company Income Tax (CIT), Custom and Excise Duties (CED) and Petroleum Profit Tax (PPT) generation. Data for the study was secondary data obtained from the annual statistical bulletin of the Central Bank of Nigeria (CBN) 1998-2017. Collected data was analyzed by means of regression analysis in form of paired sample t-test. Findings from the study revealed significant positive difference in the means of VAT, CIT, CED, and PPT after the introduction of TIN. Thus, there is empirical evidence indicating that TIN as a digital identification in the tax digitalization efforts of Nigerian tax administration has enhanced tax revenue collection. The primary emphasis of the study is on the financial outcomes, particularly the revenue implications following the introduction of TIN. However, a conceptual gap exists in the study because it overlooks the administrative and operational dimensions of tax collection. The introduction of TIN not only enhances tax revenue collection but also aims to improve administrative efficiency by streamlining taxpayer identification, reducing redundancies, and improving compliance monitoring.

Hanga, et al., (2020) conducted a study with the aim of examining the effect of TIN on Internally Generated Revenue (IGR) collection in Adamawa State, Nigeria. To achieve the aim of the study, secondary data on tax payments by individuals and non-individuals with TIN registration in Adamawa State 2009-2015 was collected from the Adamawa State Board of Internal Revenue Service. Collected data was analysed using descriptive statistics, Pearson correlation, multiple regression analyses and paired sample t-test. Results from these analyses revealed that Pearson correlation showed individuals with TIN have responded positively to the payment of Pay As You Earn and other taxes than those without TIN. Non-Individuals (NIND) also have more positive and significant response towards remittance of their employees' PAYE and Non-PAYE taxes than businesses without TIN. Multiple regression analysis results indicated significant impact on businesses revenues collection for businesses with TIN. Paired sample t-test result also showed significant difference between the scores of pre-TIN and post-TIN IGR collection in Adamawa State. While the study provides valuable insights into how TIN registration influences tax compliance at the regional level, it introduces a conceptual gap by limiting its focus to revenue collection. The study does not explore how TIN impacts the administrative processes involved in tax collection, such as improvements in taxpayer identification, enforcement efficiency, or tax data management. By only examining revenue outcomes, the study overlooks the operational efficiencies TIN may bring to the Adamawa State tax authority.

Akinleye, et al., (2019) examined the effect of tax identification number on revenue generation in south-west, Nigeria. The ex-post facto research design was adopted and the population covered all the states in the Southwest geopolitical zone of Nigeria, out of which three states namely Ekiti, Osun and Ondo States were selected as the study elements using simple random sampling technique. Quantitative secondary data were sourced from the State Board of Internal Revenue of the sampled states spanning from 2008- 2017 for a period of 10 years segregated into Pre-TIN (2008-2012) and post-TIN (2013-2017). The analysis used mean and sampled paired t-test to reveal that there was a positive and significant difference between internally generated revenue of the sampled states before and after the introduction of TIN. The paper concluded that TIN has improved revenue generation in Southwest, Nigeria. Although the study provides useful findings on TIN's influence on internally generated revenue (IGR) in Ekiti, Osun, and Ondo States, it creates a conceptual gap by solely concentrating on revenue outcomes. Like other studies that focus on revenue growth post-TIN implementation, it overlooks the broader administrative efficiencies that TIN aims to bring to tax management, such as streamlining taxpayer registration, improving compliance monitoring, and enhancing data accuracy.

Salman et al. (2019) conduct a survey to ascertain the effect of TIN on internal tax revenue generation from Lagos State after the implementation of TIN in Lagos State. The result of the study reveals that TIN has a positive and significant influence on internal tax revenue generation from Lagos State. While the study provides important findings on the positive impact of TIN on revenue collection, it creates a conceptual gap by narrowing its analysis to revenue outcomes without considering the broader administrative and operational improvements that TIN is intended to bring to tax systems. The introduction of TIN is designed to improve tax administration processes, including better taxpayer identification, enhanced compliance, and the reduction of tax evasion. However, by limiting the focus to revenue generation, the study neglects to explore how TIN may have enhanced the operational efficiency of tax agencies, such as improving data accuracy, reducing duplication, and speeding up tax processing. The current study will address this gap by investigating how TIN has influenced administrative efficiency within the Nigerian Federal Inland Revenue Service (FIRS), going beyond revenue to evaluate its impact on internal operations. Moreover, the study restricted their research to Lagos State, which creates a population gap as the findings may not reflect the experiences of other states or regions in Nigeria. While Lagos is a key commercial hub, it is not representative of the diverse economic and administrative contexts across Nigeria. The study's results, therefore, cannot be generalized to other regions with different tax challenges and administrative capacities.

Iheduru and Ajaero (2018) ascertain the effect of TIN implementation on non- oil tax revenue from Nigeria from 2000 to 2015 using a comparative approach with paired sample t- test as the tool of data analysis. Findings from the work show that there are significant positive differences in total nonoil tax revenue; company income tax revenue and tertiary education tax revenue after TIN implementation in Nigeria, while value-added tax revenue decreased but insignificantly, after TIN implementation. The study is anchored on the tax compliance theory which shows that promoting voluntary tax compliance is the major objective of any tax reforms. Tax reforms are veritable tools which tax authorities deploy to improve the tax revenue yield of the government. The introduction of TIN was to get more eligible taxpayers in Nigeria to register and pay tax as at when due. Tax compliance theory therefore provides the basis for assessing the impact of TIN on tax revenue generation in Nigeria. While their study provides valuable insights into the revenue implications of TIN, it creates a conceptual gap by focusing solely on the impact of TIN on non-oil tax revenue, without considering how TIN affects administrative efficiency. The introduction of TIN, aside from its revenue generation objectives, was intended to streamline tax administration by improving taxpayer registration, reducing tax evasion, and facilitating more efficient tax compliance monitoring. However, study's analysis does not explore these operational changes, which are crucial for understanding the broader impacts of TIN on Nigeria's tax administration.

2.2.2 Integrated Tax Administration System and Tax Administration

Martíneza, et al., (2022) examined whether tax collection efficiency in 28 countries of Organization for Economic Cooperation and Development (OECD) improves via decentralization, simplification, digitalization and education. The study offers an assessment of tax administration performance and provides evidence of the relationship between fiscal decentralization and tax structure and the technical efficiency of tax collection. Data on technical efficiency estimates was obtained for sampled 28 OECD countries over the period 2004-2017 by means of Data Envelopment Analysis (DEA). This is followed by an exploration of how technical efficiency is affected by fiscal decentralization and tax structure variables. Results from the study revealed that technical efficiency in form of digitalization of tax administration has a positive and significant impact on the efficiency of tax collection. While their findings provide valuable insights into how digitalization enhances tax collection efficiency, a clear population gap exists when applying these results to the Nigerian context. The study's focus on OECD countries, which have advanced economies and established digital infrastructures, limits its relevance to developing countries like Nigeria.

Oreku (2021) conducted a study on the application of digital technology in enhancing tax revenue collection from micro businesses in Tanzania. The main aim of the study was to explores the potentials of digital technology to enhance tax revenue collection and its administration on Micro Businesses in Tanzanian. To achieve the aim of the study, data on tax administration, challenges impeding tax administration to MBs and the potential of digital technology in tax administration were collected by means of administering questionnaires and conducting interviews. To obtain quantitative data for the study, questionnaires were administered to 137 employees and owners of Micro Business from various business sectors in Dar es Salaam the capital of Tanzania. Qualitative data for the study was obtained by conducting semi-structured interviews with 24 officers of the Tanzania Revenue Authority (TRA). Thematic approach was used to analyze collected qualitative data while descriptive statistics was used to analyze quantitative data by means of Statistical Package for Social Scientists (SPSS). Findings from the study revealed that current tax practices to MBs are inconsistent with theories of low administration cost, wide tax base, and simple to administer tax procedure. However, the employed digital technology is found capable of overcoming the challenges and enhancing tax revenue. The study's focus on micro businesses in Tanzania limits the generalizability of the findings to the Nigerian tax landscape.

Adu, et a., (2019) evaluated the digitalization of local revenue collection in Accra Metropolitan Assembly (AMA) which is the political and administrative authority for the city of Accra, Ghana. The study evaluated the impact of the use of point-of-sale digital devices on collection of rates 2012-2016 with the introduction of the device in 2012. To achieve the aim of the study, primary and secondary data were collected over the period of the study. The primary data was obtained by conducting an in-depth interview with 17 staff of AMA while secondary data was sourced from the annual reports and annual composite budgets of AMA over the period of the study. Analysis of these documents revealed seven sources of revenue which are rates, fees and fines, licenses, land, rent, investment and miscellaneous. Interviewed staff agreed that there was significant increase in rates collection after the introduction of the digital device as it has also enhanced accountability and transparency. Quantitative result confirmed this, as collection of rates overtook fees and fines that used to be the highest contributor of revenue. While the study offers valuable insights into how digital technology enhances revenue collection and transparency at the local government level, a population gap arises when considering the broader application to the Nigerian Federal Inland Revenue Service (FIRS).

Chijioke, et al., (2018) to examine the impact of E-Taxation on Nigeria's revenue and economic growth. Statistical and Economic Reports on quarterly basis from second quarter 2013 to fourth quarter 2016. The data were divided into two: pre-e-tax period and post e-tax period. Findings from the study revealed that the implementation of electronic taxation has not improved tax revenue, federally collected revenue and tax-to-GDP ratio in Nigeria. While their findings indicate that the implementation of electronic taxation has not improved tax revenue or the tax-to-GDP ratio, a notable population gap exists in the study's focus. The research centers on federal tax collection and economic growth, overlooking the administrative efficiency aspects of tax administration that are critical for understanding the broader implications of e-taxation. The study does not consider how e-taxation may affect operational processes, taxpayer compliance, and efficiency within the Nigerian Federal Inland Revenue Service (FIRS). By concentrating solely on revenue outcomes, it fails to capture potential improvements in tax administration mechanisms. The current study seeks to bridge this gap by investigating the effects of the Integrated Tax Administration System (ITAS) on the administrative efficiency of the FIRS, emphasizing not only revenue generation but also the operational enhancements that digital systems can provide in managing taxpayer services and compliance monitoring.

Olaoye and Atilola (2018) examined the effect of e-tax payment on revenue generation in Nigeria. The study period covered six (6) years and three (3) quarters, spanning from the first quarter of 2012 to the second quarter of 2018. the period for pre-e-taxation covered thirteen (13) quarters, spanning from the first quarter of 2012 to the first of 2015 while the period for post e-taxation covered thirteen (13) quarters, spanning from the second quarter of 2015 to the second quarter of 2018.The analysis was carried out using Trend analysis, descriptive statistics of mean and standard deviation, paired sampled t-test. The findings revealed that there was insignificant positive difference between pre and post value added tax revenue with t-statistics and p-value of 0.520 and 0.612 respectively. This connotes that e-tax payment has an insignificant positive effect on value added tax revenue in Nigeria. E-tax payment has negative insignificant impact on Value Added Tax (VAT) revenue. A conceptual gap emerges in this study as it primarily focuses on the revenue generation aspect without addressing the broader implications of e-tax payment on administrative efficiency within the tax system. The analysis does not consider how e-taxation may enhance operational processes, taxpayer compliance, or the efficiency of the Federal Inland Revenue Service (FIRS) in managing VAT collection.

2.2.3 Standard Integrated Government Tax Administration System and Tax Administration

Okoye and Olayinka, (2021) investigates the effect of electronic taxation on revenue generation in Lagos state. Due to tax avoidance and tax evasion that is distorting revenue generation, Lagos state government adopted electronic taxation system. Despite the adoption of electronic taxation, the problem persists. Hence, this study seeks to fill the lacuna and identify how much E- taxation affects revenue generation by examining the effect of E-taxation on revenue generation in Lagos state. electronic tax payment, electronic tax filing, electronic tax clearance Certificate served as proxies to the independent variable electronic Taxation while Revenue generation is the dependent variable using a sample size of the (40) forty tax stations in Lagos state. The research was carried out using the Ex–post facto research design technique while data were collected from the annual reports of the internally generated revenue at state level which were subsequently analyzed using Linear Regression model and analysis of variance through the statistical package for social sciences (SPSS 20). The result of the analysis showed that electronic tax payment, electronic tax clearance certificate issuance has significant effect on revenue generation in Lagos state while electronic taxation filing does not significantly affect tax revenue in Lagos state. The result also showed that the interaction of electronic tax payment, electronic tax filing and electronic tax clearance certificate issuance significantly affects revenue generation in Lagos state. While the study provides valuable insights into how digital tax systems affect revenue generation at the state level, it presents a clear population gap in terms of its scope and focus. The research is limited to Lagos State, which, as a commercial hub, may not accurately represent the tax administration challenges and realities of other regions in Nigeria, particularly those with different economic conditions and administrative infrastructures.

Rosario and Chavali (2021) investigated digitalization of taxation in changing business environment, Base Erosion and Profit Shifting (BEPS) in the context of India. Secondary data on tax digitalization efforts, direct taxes and percentage of direct taxes to Gross Domestic Product (GDP) were collected from the Reserve Bank of India (RBI) 1988-2017. Collected qualitative data on government digitalization efforts starting 1982 were described while quantitative data on direct taxes and its contribution to GDP were presented using descriptive statistical tools of charts. Results from the study revealed that successive Indian governments have been making their contributions to the digitalization of taxation since 1982 as various measures were put in place towards progressive strengthening of the digitalization. Results from the quantitative data revealed growing trends in direct tax collections from $1.26billion in 1988 to $121.01billion in 2017 while the contribution of the direct taxes to GDP showed fluctuating trends from 0.73% in 1988 to 8.01 in 2007 decreasing to 7.57% in 2017. Their study covers an extensive period, from 1988 to 2017, using secondary data from the Reserve Bank of India (RBI) to examine the role of direct taxes and digital tax initiatives. While the research offers valuable insights into India's tax digitalization journey, it primarily focuses on the contribution of direct taxes to GDP and the fluctuations over time. However, the study reveals a population gap by focusing exclusively on India's context, which differs significantly from Nigeria's federal tax system and its challenges in administrative efficiency.

Akpubi and Igbekoyi (2019) determined the effect of electronic tax filing system cost on tax compliance among SMEs in Lagos state. The study employed the survey research design. Data were collected from primary sources through the use of structured questionnaire distributed to the SMEs at their place of work. The population of the study consisted of nine hundred and fifty (950) small and medium scale enterprises in Lagos state in the fast-food restaurants sub sector. A sample size of two hundred and eighty-one was selected using the Taro Yamane formula. Data collected were analysed using descriptive statistics, structural equation model analysis and regression. Analysis of the study revealed that level of awareness showed significant positive relationship with tax compliance. The tax compliance cost showed a non-significant negative effect on tax compliance. The study therefore concludes that the level at which the tax payers are aware of the electronic tax filing system will determine their compliance rate and the compliance cost may discourage the tax payers from using the system if it is higher. The study employs a comprehensive survey approach, targeting 950 SMEs in the fast-food sector. With a sample size of 281 respondents, the study effectively uses structural equation modeling and regression analysis to examine how awareness and compliance costs influence tax behavior. A notable population gap arises in this study as it focuses solely on SMEs within a specific sub-sector in Lagos State, neglecting broader sectors or geographical areas in Nigeria. This narrow focus limits the generalizability of the findings, as the tax compliance dynamics of fast-food businesses may differ significantly from those of other industries or regions, particularly with regard to administrative efficiency within larger government tax agencies such as the Federal Inland Revenue Service (FIRS).

Alade (2018) examined the effect of E-taxation adoption on revenue generation in Nigeria. Specifically, the study assessed the effect of E-taxation on Company Income Tax (CIT) and Value Added Tax (VAT). Expo facto research design was adopted and data were sourced from Federal Inland Revenue Service. The study period covered six (6) years and three (3) quarters, spanning from the first quarter of 2012 to the second quarter of 2018. The study was on quarterly bases and the period for pre-E-taxation covered thirteen (13) quarters, spanning from the first quarter of 2012 to the first of 2015 while the period for post E-taxation covered thirteen (13) quarters, spanning from the second quarter of 2015 to the second quarter of 2018. The analysis that was carried out through paired sampled t-test revealed a positive insignificant difference between pre and post company income tax revenue with t-statistics and p-value reported to be 0.833 and 0.421 respectively; and that there was a positive insignificant difference between pre and post value added tax revenue with t-statistics and p-value of 0.520 and 0.612 respectively. It was concluded that E-taxation has not significantly spur revenue generation in Nigeria. The study utilized an ex-post facto research design, analyzing data from the Federal Inland Revenue Service over a period spanning six years and three quarters. While the study presents a detailed comparison of pre- and post-e-taxation periods using paired sample t-tests, its limitation lies in the population scope and timeframe. The study focuses only on two specific tax types, CIT and VAT, without considering other revenue streams or taxes that may have been impacted by the adoption of e-taxation.

Olurankinse and Oladeji (2018) examined self-assessment, e-taxation payment systems and revenue generation in Nigeria. The respondents were drawn from 30 tax executives from 30 quoted companies in Rivers State of Nigeria. A cross-sectional survey of the quasi-experimental research design was adopted. 30 questionnaires were administered to 30 executives drawn from 30 selected companies in Nigeria. Both Pearson's product moment correlation coefficient statistical tool and the regression analysis were used to test the hypotheses by the application of SPSS version 20.0. Results indicate a positive and significant relationship between self-assessment and e-taxation payment systems and Revenue generation. The paper concludes that e-taxation is an online tax payment and administration system that is used for the generation of tax from all competent taxpayers based on statutory guidelines for the purpose of assessing tax returns in the economy. While the study demonstrates a positive and significant relationship between self-assessment, e-taxation, and revenue generation, it suffers from a population gap in terms of both sample size and geographic coverage. The study's reliance on just 30 executives from a single state (Rivers) limits the generalizability of its findings to broader tax administration efforts in Nigeria.

2.3 Theoretical Review

2.3.1 Innovation Theory

Innovation Theory, developed by sociologist Everett Rogers in his seminal work Diffusion of Innovations (1962), provides a framework for understanding how new ideas and technologies spread through societies. Rogers' theory centers on the concept that the adoption of an innovation involves the spread of new practices or objects that are perceived as novel. The theory emphasizes that the perception of an idea as new plays a critical role in its adoption. Innovations are typically introduced through a process involving awareness, interest, evaluation, trial, and eventual adoption. Factors such as perceived benefits, compatibility with existing practices, and ease of use influence the rate and extent of adoption (Rogers, 1995).

In relation to the current study, which focuses on the impact of digitalization on tax administration efficiency in Nigeria, Rogers' Innovation Theory is particularly relevant. The digital reforms implemented by the Federal Inland Revenue Service (FIRS), Integrated Tax Administration System (ITAS), and Standard Integrated Government Tax Administration System (SIGTAS), exemplify technological innovations aimed at enhancing the efficiency of tax administration. According to Rogers' theory, these digital tools represent innovations because they introduce new methodologies for managing tax processes. Their success hinges on how these new systems are perceived by tax administrators and taxpayers, with factors such as perceived advantages, compatibility with existing practices, and ease of use being critical to their adoption.

3.0 METHODOLOGY

This study adopts a quantitative research approach, specifically utilizing a survey research design. This study adopts a positivist epistemology, which asserts that knowledge is derived from empirical evidence and observable phenomena. The population for this study comprises 9,201 staff members and stakeholders involved in tax administration processes at the Nigerian Federal Inland Revenue Service (FIRS). The study employed Yaro Yamane's formula to calculate the sample size of 383. A stratified random sampling technique was employed. This approach ensures that different subgroups within the FIRS population are proportionally represented in the sample. The population was divided into distinct strata based on department and job function shown in table 3.1. This stratification allows for a more accurate representation of various roles within the FIRS, such as administrative staff, tax assessors, IT personnel, and compliance officers.

Table 3.1: Sample Size of the Study

S/NO.	Departments	Population	Computation	Sample Size
1	Tax Assessment	4,332	(4,331 × 383) / 9,201	180
2	Revenue Collection	3,253	(3,253 × 383) / 9,201	135
3	IT Support	177	(177 × 383) / 9,201	8
4	Customer Service	1,439	(1,439 × 383) / 9,201	60
Total		**9,201**		**383**

Source: Author's Computation, (2025).

The study collected its data from primary sources. The data were gathered using structured questionnaire administered to the staff members and stakeholders involved in tax administration processes at the Nigerian Federal Inland Revenue Service (FIRS). To ensure the reliability of the data collection instrument used in this study, several steps were undertaken, including a pilot study and the application of statistical tests to assess the internal consistency of the questionnaire. The results of the Cronbach's Alpha test in this study yielded the following values:

Table 3.2: Cronbach's Alpha Result

Variables	Cronbach's Alpha
Tax Administration	0.88
Taxpayer Identification Number	0.82
Integrated Tax Administration System	0.79
Standard Integrated Government Tax Administration System	0.85
Tax Pro-Max Solution	0.81

Source: SPSS Version 27.0 (2025)

The study employed various statistical techniques (such as descriptive statistics, correlation analysis and multiple linear regression) and diagnostic procedure (Variance Inflation Factor) to ensure the robustness and validity of the results.

3.1 Model Specification

The functional relationship between the dependent variable (TAXADM) and the independent variables (TIN, ITAS, SIGTAS) is expressed as follows:

$TAXADM = \beta_0 + \beta_1 TIN + \beta_2 ITAS + \beta_3 SIGTAS + \mathcal{E}$

Where: TAXADM = Tax Administration efficiency of the Federal Inland Revenue Service; TIN = Taxpayer Identification Number system effectiveness; ITAS = Integrated Tax Administration System; SIGTAS = Standard Integrated Government Tax Administration System's effectiveness; β_0 = Constant term; β_1, β_2, and β_3, = Coefficients of the independent variables; and $\mathcal{E}$ = Error term.

Table 3.4: Variables Measurement and Source of the Study

Variables	Proxies	Measurement	Source
Dependent	Tax Administration Efficiency (TAXADM)	The average of responses for the seven (7) items questionnaire using five points Likert-scale to test the effect of digital tax reforms on tax administration efficiency within the Nigerian Federal Inland Revenue Service.	Adebayo, et al., (2022)
Independent	Taxpayer Identification Number (TIN)	The average of responses for the five (5) items questionnaire using five points Likert-scale to test the effect of Taxpayer Identification Number on tax administration efficiency within the Nigerian Federal Inland Revenue Service.	Siddik, (2021) and Kosgey & Solomon, (2022).
Independent	Integrated Tax Administration System (ITAS)	The average of responses for the five (5) items questionnaire using five points Likert-scale to test the effect of Integrated Tax Administration System on tax administration efficiency within the Nigerian Federal Inland Revenue Service.	Braun & Davis, (2003)
Independent	Standard Integrated Government Tax Administration System (SIGTAS)	The average of responses for the five (5) items questionnaire using five points Likert-scale to test the effect of Standard Integrated Government Tax Administration System on tax administration efficiency within the Nigerian Federal Inland Revenue Service.	Rygielski, et al., (2002)

Source: Author's compilation, (2025)

4.0 RESULTS AND DISCUSSION

Table 4.1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
TIN	371	1.00	5.00	4.1959	.58070
ITAS	371	1.00	5.00	3.7816	.72880
SIGTAS	371	1.00	5.00	3.9708	.68588
TAXADM	371	1.00	5.00	4.1896	.57015

Source: SPSS version 27.0 output, (2025)

The Taxpayer Identification Number (TIN) variable has a mean of 4.1959, which suggests that respondents generally view this system positively regarding its contribution to administrative efficiency. The high mean indicates that TIN is perceived as an effective tool for uniquely identifying taxpayers, which helps streamline tax collection and improve tracking of taxpayer complian ce. The standard deviation of 0.58070 shows that opinions are fairly consistent, with only moderate variation in responses. The minimum value of 1.00 and maximum of 5.00 indicate that while most respondents rated TIN favorably, a small portion rated it at the lowest possible level, possibly due to challenges in implementation or individual experience with its use.

The Integrated Tax Administration System (ITAS) variable has a mean of 3.7816, reflecting a moderately positive view among respondents. ITAS aims to consolidate tax data, enhance transparency, and minimize human error, which supports efficient tax administration. However, the lower mean compared to other variables indicates that respondents might see room for improvement in ITAS's performance. The standard deviation of 0.72880 suggests slightly more variation in responses, hinting that some users may have diverse experiences or perceptions regarding its effectiveness. With a minimum of 1.00 and a maximum of 5.00, responses ranged from the lowest to the highest, indicating that while some respondents may find ITAS highly efficient, others may have encountered limitations.

For Standard Integrated Government Tax Administration System (SIGTAS), the mean is 3.9708, which is fairly high, signaling that most respondents view SIGTAS positively in terms of its contribution to administrative efficiency. SIGTAS is designed to standardize tax administration processes across different government entities, promoting consistency and ease of data sharing. The standard deviation of 0.68588 is moderate, indicating that there is a fair level of consensus among respondents on its effectiveness, although some variability exists. The minimum and maximum values of 1.00 and 5.00 show that, while most users find SIGTAS beneficial, a few rated it poorly, perhaps due to personal experience or challenges in specific contexts.

Tax Administration Efficiency (TAXADM), the dependent variable, has a mean of 4.1896, indicating that respondents generally believe the digital tax reforms have led to increased efficiency in tax administration. This high mean value suggests that, overall, these digital tools positively impact administrative efficiency, helping FIRS manage tax processes more effectively. The standard deviation of 0.57015 reflects a strong consensus among respondents, with relatively low variability in opinions. With minimum and maximum ratings of 1.00 and 5.00, there are some outliers, but most respondents rate the efficiency highly, affirming that the reforms are beneficial.

Table 4.2: Correlations

	TAXADM	**TIN**	**ITAS**	**SIGTAS**
TAXADM	1.000			
TIN	.406	1.000		
ITAS	.776	.401	1.000	
SIGTAS	.709	.364	.873	1.000

Source: SPSS version 27.0 output, (2025)

Table 4.7 presents the Pearson correlation coefficients, illustrating the relationships between Tax Administration Efficiency (TAXADM) and each of the independent variables: The TIN system shows a moderate positive correlation with TAXADM at 0.406, indicating that improvements in the TIN system are associated with higher tax administration efficiency, although the relationship is not as strong as with other variables. This moderate correlation suggests that while TIN is valuable for tracking and uniquely identifying taxpayers at Nigeria's Federal Inland Revenue Service (FIRS). Furthermore, Integrated Tax Administration System (ITAS) shows a high positive correlation with TAXADM at 0.776. This strong relationship suggests that ITAS plays a central role in enhancing tax administration efficiency at Nigeria's Federal Inland Revenue Service (FIRS). This strong correlation also indicates that continued improvements or expansions in ITAS could yield even greater gains in tax administration efficiency. Finally, SIGTAS has a similarly high correlation with TAXADM, at 0.709. This strong positive relationship implies that SIGTAS, which is aimed at standardizing tax administration across government entities, contributes substantially to overall administrative efficiency at Nigeria's Federal Inland Revenue Service (FIRS).

Table 4.3: Model Summary

R	**R^2**	**Adjusted R^2**	**Std. Error**	**Change Statistics**			**Durbin-Watson**
				R^2	**F**	**Sig. F**	
.792[a]	.628	.624	.34961	.628	162.804	.000	1.826

Source: SPSS version 27.0 output, (2025)

Table 4.3 presents a model summary that outlines key indicators of the relationship between the digital tax reform variables and Tax Administration Efficiency. This summary helps assess the strength and fit of the model, showing how well the independent variables explain changes in tax administration efficiency within the Nigerian Federal Inland Revenue Service (FIRS). The R^2 (R-squared) value is 0.628, meaning that approximately 62.8% of the variation in Tax Administration Efficiency can be explained by these four digital tax reforms. The Significance of F value is 0.000, i ndicating that the overall model is statistically significant.

The Durbin-Watson statistic is 1.826, which falls within the acceptable range (typically between 1.5 and 2.5) and indicates that there is minimal autocorrelation in the residuals. Autocorrelation can suggest that patterns in the data are not fully explained by the model, leading to biased or less reliable results. The Durbin-Watson value close to 2 suggests that residuals are mostly independent, enhancing the model's reliability in predicting administrative efficiency within Nigeria's Federal Inland Revenue Service (FIRS) without significant bias.

Table 4.4: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	79.597	4	19.899	162.804	.000[b]
	Residual	47.180	386	.122		
	Total	126.777	390			

Source: SPSS version 27.0 output, (2025)

The ANOVA results from Table 4.9 indicate that the model is statistically significant in explaining tax administration efficiency, with the digital tax reforms accounting for a significant portion of the variation in TAXADM. The high F-statistic of 162.804 and p-value of 0.000 confirm that TIN, ITAS, SIGTAS, and TAXPMS collectively contribute to enhancing administrative efficiency at FIRS. This analysis reinforces the findings from previous tables, showing that these reforms have a meaningful impact on the efficiency of tax administration processes.

Table 4.5: Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
TIN	.838	1.194
ITAS	.229	4.369
SIGTAS	.152	6.598
Mean VIF		4.054

Source: SPSS version 27.0 output, (2025)

The Variance Inflation Factor (VIF) and Tolerance values reveal varying levels of multicollinearity across these systems. TIN exhibit low VIF score (1.194), indicating they do not contribute to multicollinearity concerns and thus can provide independent insights into tax administration efficiency. ITAS, with a VIF of 4.369, shows moderate multicollinearity, suggesting that while it may overlap with other variables to some extent, it still holds independent explanatory power within the model. However, SIGTAS, with a high VIF of 6.598, signals significant multicollinearity, implying a redundancy or overlap with other systems. This overlap could be due to SIGTAS sharing similar functions with ITAS or TAXPMS, potentially causing issues in accurately attributing efficiency gains to each system individually.

Table 4.6: Regression Coefficients Result

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.345	.148		9.074	.000
TIN	.112	.033	.114	3.372	.001
ITAS	.500	.051	.640	9.855	.000
SIGTAS	-.029	.066	-.035	-.442	.659
TAXPMS	.144	.043	.179	3.366	.001

Source: SPSS version 27.0 output, (2025)

4.3 Test of Hypotheses

Based on the regression coefficients presented in Table 4.11, each hypothesis will be tested in turn to determine the significance and effect of various tax administration systems on the efficiency of tax administration within the Nigerian Federal Inland Revenue Service (FIRS).

4.3.1 Taxpayer Identification Number (TIN) and Tax administration efficiency

H01: There is no signific ant effect of the introduction of the Taxpayer Identification Number (TIN) on tax administration efficiency within the Nigerian Federal Inland Revenue Service (FIRS).

The result for TIN in the regression model shows a coefficient of 0.112 with a t-value of 3.372 and a p-value of 0.001. Given that the p-value is below the standard significance threshold of 0.05, the study rejects the null hypothesis (H01). This finding suggests that the introduction of the TIN has a statistically significant positive effect on tax administration efficiency within FIRS in Nigeria. Specifically, the positive coefficient indicates that as TIN utilization increases, the efficiency of tax administration is likely to improve, signaling the effectiveness of TIN in streamlining taxpayer identification and administration processes.

4.3.2 Integrated Tax Administration System (ITAS) and Tax Administration Efficiency

H02: Integrated Tax Administration System (ITAS) does not have a significant impact on tax administration efficiency within the Nigerian Federal Inland Revenue Service (FIRS).

The coefficient for ITAS is 0.500 with a t-value of 9.855 and a p-value of 0.000. Since the p-value is well below 0.05, the study rejects the null hypothesis (H02), confirming that ITAS has a significant and positive effect on tax administration efficiency within the Nigerian FIRS. The standardized beta of 0.640, the largest among the tested variables, indicates that ITAS exerts a relatively strong influence on improving tax administration efficiency. This suggests that ITAS likely enhances operational processes and tax collection capabilities within FIRS, thereby supporting its role as a vital tool for achieving greater efficiency in tax administration.

4.3.3 Standard Integrated Government Tax Administration System (SIGTAS) and tax administration efficiency

H03: Standard Integrated Government Tax Administration System (SIGTAS) does not significantly affect tax administration efficiency within the Nigerian Federal Inland Revenue Service (FIRS).

The coefficient of SIGTAS is -0.029 with a t-value of -0.442 and a p-value of 0.659. As the p-value exceeds the 0.05 significance level, the study fails to reject the null hypothesis (H03), indicating that SIGTAS does not have a statistically significant effect on tax administration efficiency within FIRS. This suggests that SIGTAS may not contribute meaningfully to enhancing administrative efficiency, potentially due to limitations in implementation or compatibility issues within the existing tax administration framework.

4.4 Discussion of Findings

4.4.1 Taxpayer Identification Number (TIN) and Tax administration efficiency

The study assesses how the introduction of the Taxpayer Identification Number (TIN) has affected tax administration efficiency of the Nigerian Federal Inland Revenue Service (FIRS). The finding suggests that the introduction of the Taxpayer Identification Number (TIN) has a statistically significant positive effect on tax administration efficiency within FIRS in Nigeria. Several studies align with this finding, for instance, Tyokoso et al. (2021), Hanga et al. (2020) and Akinleye et al. (2019). However, the study contradicts those of Salman et al. (2019) and Iheduru and Ajaero (2018) found that TIN implementation did not significantly enhance certain revenue categories such as Value Added Tax, indicating limited administrative impacts. These discrepancies can be attributed to varied methodological scopes; focusing predominantly on revenue generation without assessing the broader administrative benefits of TIN. Additionally, regional and operational limitations such as data inconsistencies and the challenges of multiple TIN registrations have been cited as barriers to achieving universal efficiency.

Innovation Theory provides a robust framework to explain the positive effects observed in the studies supporting the implementation of TIN. According to this theory, the adoption of innovative tools such as TIN represents a technological advancement that disrupts traditional tax processes. It enhances system efficiency by reducing manual redundancies, improving data integration, and fostering compliance through automated tracking mechanisms. By leveraging such innovations, the FIRS has streamlined its administrative functions, resulting in enhanced service delivery, better compliance rates, and optimized revenue collection. These technological benefits reflect the transformational potential of digital reforms as predicted by Innovation Theory.

4.4.2 Integrated Tax Administration System (ITAS) and Tax Administration Efficiency

The study evaluates the impact of the Integrated Tax Administration System (ITAS) on tax administration efficiency of the Nigerian Federal Inland Revenue Service (FIRS). The finding suggests that Integrated Tax Administration System (ITAS) has a significant and positive effect on tax administration efficiency within the Nigerian FIRS. Numerous studies align with the finding that the Integrated Tax Administration System (ITAS) has positively influenced tax administration efficiency within Nigeria's Federal Inland Revenue Service (FIRS). For instance, Chijioke et al. (2018), Martíneza et al. (2022) and Oreku (2021). Conversely, some studies have questioned ITAS's efficiency in tax administration, citing various challenges. For example, Adu et al. (2019), Alade (2018) and Chijioke et al. (2018) reported mixed results, attributing inefficiencies to overlapping systems, technical glitches, and slow policy alignment. These contradictions highlight the importance of robust infrastructure, adequate training, and comprehensive system integration for ITAS to achieve its full potential.

Innovation Theory provides a framework for understanding the positive impact of ITAS on tax administration efficiency. It emphasizes the role of technological innovation in transforming traditional systems. By digitizing key processes (such as tax filing, payments, and compliance monitoring) ITAS eliminates redundancies, reduces errors, and promotes transparency. The system's integration fosters accountability and enhances the ease of doing business, which aligns with the theory's assertion that new technology can significantly enhance performance in established practices. Thus, ITAS exemplifies how innovation reshapes administrative frameworks to achieve greater efficiency and effectiveness.

4.4.3 Standard Integrated Government Tax Administration System (SIGTAS) and tax administration efficiency

The study examines the effect of the Standard Integrated Government Tax Administration System (SIGTAS) in enhancing tax administration efficiency of the Nigerian Federal Inland Revenue Service (FIRS). The finding suggests that Standard Integrated Government Tax Administration System (SIGTAS) does not have a significant effect on tax administration efficiency within the Nigerian FIRS. Several studies support the finding that SIGTAS has not significantly impacted tax administration efficiency within the Nigerian Federal Inland Revenue Service (FIRS). For instance, Olaoye and Awe (2018), Chijioke et al. (2018). However, the finding disagrees with the findings of Sani et al. (2023), Okoye and Olayinka (2021) identified cases in Lagos State where SIGTAS streamlined processes, but similar results were not replicated at the federal level due to insufficient support infrastructure. These contrasting observations indicate that SIGTAS's limited impact may stem from implementation gaps rather than inherent system inefficiencies.

Innovation Theory can help explain the challenges SIGTAS faces in delivering significant improvements in tax administration efficiency. According to the theory, successful integration of innovative systems like SIGTAS requires an enabling environment, including adequate infrastructure, training, and stakeholder buy-in. In the case of Nigeria, these prerequisites were not fully met, resulting in suboptimal outcomes. SIGTAS's potential remains underutilized due to resistance to change, fragmented systems, and limited technological resources, underscoring the need for a comprehensive approach to innovation adoption. This aligns with the theory's emphasis on the systemic nature of technological adoption for achieving efficiency.

5.0 CONCLUSION AND RECOMMENDATIONS

The study concluded that the Taxpayer Identification Number (TIN) and Integrated Tax Administration System (ITAS) improved tax administration by streamlining identification, automating operations, and enhancing payment processes. However, the Standard Integrated Government Tax Administration System (SIGTAS) was ineffective, indicating the need for reassessment. Overall, the findings confirm that digital reforms play a vital role in modernizing FIRS operations, increasing transparency, and boosting taxpayer compliance, but continuous system evaluation and strategic investment remain essential.

The study recommends that:

i. FIRS should also collaborate with the Joint Tax Board (JTB) and the Federal Ministry of Finance to ensure that the TIN becomes a universally adopted and functional tool across all government agencies. In addition, periodic training workshops for tax officials and sensitization campaigns for the public will enhance the effective use and understanding of the TIN system.

ii. FIRS should work in collaboration with the National Information Technology Development Agency (NITDA) to implement best-in-class IT standards, while also engaging the Office of the Accountant General of the Federation (OAGF) and banking institutions to enable real-time integration for payment tracking and reporting. Continuous staff capacity development and taxpayer education are also essential to maximize the benefits of ITAS.

iii. FIRS, in collaboration with NITDA and the Ministry of Finance, should explore the adoption of newer, more adaptable digital solutions that align with the evolving demands of tax administration in Nigeria since SIGTAS was found to be inadequate or obsolete. Strategic planning and stakeholder consultations will be essential to ensure that any future replacement is scalable, secure, and efficient.

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