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ABSTRACT
This study looked into the topic of e-taxation and enhanced tax compliance in Nigeria. The study aimed to achieve two particular goals. It investigated the impact of e-taxation on tax evasion in Nigeria, as well as the extent to which e-taxation has contributed to the reduction of tax avoidance in Nigeria. The study's analysis used secondary quantitative data from the Federal Inland Revenue Services (FIRS) and the National Bureau of Statistics (NBS). The study found that e-taxation had a considerable beneficial impact on tax evasion in Nigeria.
The study found that the mean value of tax revenue increased after the implementation of e-taxation when compared to the mean value before the adoption of the e-taxation system. It also indicated that e-taxation has greatly helped in curbing the issue of tax evasion in Nigeria.
The data analysis revealed a greater mean value for tax revenue following the implementation of e-taxation as compared to the mean value before the e-taxation system. The report provided numerous important recommendations, including the necessity for FIRS to develop an electronic tax payment system mobile App that will raise awareness and simplify the country's e-tax system. This study concluded that the e-taxation system in Nigeria achieves higher tax compliance than the manual approach.

Keywords: E-taxation, Tax Compliance, Tax Evasion, Tax Avoidance, Revenue Generation.

Introduction
The role of taxation is critical to any economy and its survival depends on its ability to generate sufficient revenue from various source of taxation for economic development. This means that the Government need to have an efficient tax administration that will bring about an effective revenue collection mechanism that works.
Oladele et al (2020) argued that over the years, tax revenue has remained one of the major sources of revenue to governments at all levels. Governments, through revenue collected, can meet expenses of governance and achieve economic growth through the delivery of adequate and desirable infrastructures. A robust tax system gives excellent opportunities to the government to generate more revenue needed in discharging its pressing obligations. Besides, an efficient tax system would present an effective means of mobilizing a nation’s internal resources while also lending itself as an avenue where an environment
conducive to the promotion of economic growth can be created (Maisiba & Atambo, 2016). Tax is imposed on a subject and any property that might be in one’s name and is described as a compulsory levy and used by the government to provide security, social amenities and create conditions for the economic well-being of the society (Awai & Oboh, 2020). On the other hand, tax compliance represents the degree of responsiveness of taxpayers to tax obligations. Oladele et al (2020) and Akpubi and Igbekoyi (2019) papers emphasized that there is a strong correlation between tax compliance and tax revenue. If that is the case, then enhancing tax compliance is of great importance to revenue authorities.

On the other hand, tax compliance represents the degree of responsiveness of taxpayers to tax obligations. Studies reaffirmed that there is a strong correlation between tax compliance and tax revenue (Organisation for Economic Co-Operation and Development, 2018; Oladele, Aribaba & Adekunle, 2020). If that is the case, then enhancing tax compliance is of great importance to revenue authorities. The primary goal of a revenue authority is to collect the taxes and duties payable in accordance with the law and to do this in such manner that will sustain confidence in the tax system and its administration. The actions of taxpayers whether due to ignorance, carelessness, recklessness, or deliberate evasion and avoidance as well as weaknesses in a tax administration mean that instances of failure to comply with the law are inevitable. Therefore, tax administration should have in place strategies and structures to ensure that non-compliance with tax law is kept to a minimum.

However, tax administration has continuously been fraught with a myriad of challenges ranging from fraudulent collection procedure, misappropriation of tax proceeds by fraudulent tax officials and tax evasion and avoidance by the taxpayers. Habitually, tax compliance is a major problem for many tax authorities, especially in Nigeria. Taxpayers will always look for means of reducing their tax liability either through tax evasion or tax avoidance. This may give rise to incorrect filling of their tax returns and loss of revenue to the government (Mohammed, Derashid, & Ibrahim 2016).

Most countries thrive more in tax revenue drives because they embrace electronic tax system (e-taxation) that enables taxpayers to pay tax, file return and receive an assessment from tax authorities without visiting tax offices. In many instances, it has been discovered that this has been one of the factors that contribute to higher tax compliance and receipts in countries such as Germany, United States of America, Malaysia and many other advanced countries. Nigerian government most notably with the dwindling oil revenue is not different. But, this great opportunity of e-taxation has not been exploited to the maximum by Nigerian governments even by some around the world (Oladele, Aribaba & Adekunle, 2020).

It is worthy of note that effective tax administration plays a vital role in the performance sitting government, the citizens standard of living and the overall economy. Taxes are the main source of revenue to the government as it assists in infrastructure development at all levels of government, and this is the reason for the existence of government. However, Ojo (2003) posits that tax is a tool for proper development in a country.

Despite all reforms and tax compliance and tax revenue improvement mechanisms deployed by various administration in Nigeria, tax compliance and tax revenue compare with her counterpart in the rest of the world has been abysmally low. This is slowing down the rate at which government provide physical infrastructure and social amenities best capable of enhancing rapid development (Ekoja & Saratu, 2021).

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The Federal Inland Revenue Service (FIRS) Introduced the Integrated Tax Administration System (ITAS) in 2015. The initiative was conceived to drive efficient tax administration through improved compliance. The State Internal Revenue Services (SIRS) are not left out as several SIRS adopted the e-tax platform to ease the process for filing annual employers’ tax returns form and payment of state taxes and levies such as business development levy and business premises etc. As such, this study tends to evaluate the efficacy of e-taxation as a veritable instrument for improving tax compliance as a precursor for alleviating tax evasion and avoidance in Nigeria.

They have been the call for tax reform comes amidst concerns over Nigeria’s fragmented and complex tax system, which poses challenges to compliance and revenue optimisation. By streamlining tax processes, enhancing transparency, and embracing digital transformation, Nigeria aims to unlock the full potential of its tax revenue and foster economic development.

As Nigeria seeks to navigate the complexities of the global economy, the adoption of technology and innovative approaches to tax administration will be instrumental in driving efficiency, promoting accountability, and ensuring the equitable distribution of tax burdens.

The Nigerian tax system has been faced so many challenges over the years which have brought about inefficiency, increase in administrative cost and consistent low tax yield. The amount of revenue to be derived from taxation in every nation is completely dependent on the tax system put in place. This probably influenced the decision of the Federal Government of Nigeria to set up a study group on the review of the Nigerian Tax System and Administration so as to optimize revenue from various tax sources. FIRS argued billions of naira traditionally vanishes into the pocket of individuals not to mention the problems of complexity of payment, unavailability of tax statistics and information, and also poor technological exposure on the part of both tax payers and tax authorities (Nwamgbebu et al 2019). Therefore, government introduced electronic taxation to make payment of taxes easy for tax payers, thus ensuring compliance.

Despite this measure taken by government, it is still unclear whether electronic taxation has helped to improve the tax compliance level among taxpayers in Nigeria. Undoubtedly, if electronic tax system is properly administered in Nigeria can be a lasting solution to the irregularities such as tax evasion and avoidance that is in practice in Nigeria tax system. It is in line with the above problem that this study was prompted to ascertain whether electronic taxation has helped to improve tax compliance level in Nigeria. Itsibor (2024) argued that in a bid to navigate Nigeria towards a more efficient and technologically advanced tax regime, the Chairman of the Federal Inland Revenue Service (FIRS), Zacch Adedeji has emphasised the urgent need to overhaul the country’s unwieldy tax composition.

The FIRS boss in the 154th meeting of the Joint Tax Board in Abuja, highlighted the critical role of a well-designed and managed tax system in not only generating revenue for the state but also in fostering investment, promoting social equity, and driving sustainable economic growth. Furthermore, he emphasized that “The simplification of our tax system, the need for coherence, harmony, and synergy, and the need to leverage technology in a 21st-century world are imperatives required to achieve our desired objectives”.

Olurounbi (2024) argued that Nigeria expects to significantly boost revenue collections this year as plans to overhaul its tax system start to pay dividends. The Federal Inland Revenue Service forecasts revenue to increase 57% in 2024 to 19.4 trillion naira ($20.3 billion), compared with 2023 financial year. That will comprise 9.96 trillion naira in tax revenue from oil and 9.45 trillion naira of non-oil revenue, according to the document.
Based on the above, the revenue generation potential of the FIRS will be put to the test and as a consequent, the agency should improve efficiency and tax compliance, including changing its organizational structure to be more taxpayer focused and further automate tax collection, according to the document. The agency will also “carry out internal reallocation from oil to non-oil, given that the budget oil revenue for 2024 was increased by 214 percent compared to 2023 actual, while non-oil was increased by only three percent”.

Those measures will add to others aimed at boosting revenue such as shifting more of the burden to wealthy citizens while cutting corporate taxes and introducing electronic invoicing of value added tax. President Bola Tinubu’s government is targeting revenue to help fund an ambitious reform program focused on accelerating growth in Africa’s most populous nation and lifting 100 million people out of poverty. A low tax take has forced the government to rely significantly on borrowing to meet its public spending needs, complicating efforts to rein in debt and fund infrastructure, education and health projects.

Furthermore, President Bola Tinubu instituted a presidential Fiscal Policy and Tax Reforms Committee. The main focus of the committee is to Streamlining multiple taxes in the informal sector and tackling unorthodox methods of collection. The committee engaged with the public on critical fiscal policy reforms and shared the plans of the governments, provide clarifications and address the areas of concern.

The chairman of the committee, Taiwo Oyedele argued that Nigeria have over 60 taxes, levies and charges across the 3 levels of government with state and local governments administering 46 taxes and levies, including road taxes, motor park levies, truck, canoe, wheelbarrow and cart fees etc. There are even more unauthorised taxes all disproportionately affecting small businesses including petty traders, hawkers, artisans, truckers, cart pushers, okada riders and other transporters. The associated costs are inevitably passed on to consumers, mostly low-income earners. The payers also have to contend with the unorthodox means of collection and harassment from untrained “revenue collectors” on highways, markets, streets etc while there is very little to show for the revenues collected.

The committee want to propose the repeal many of these burdensome taxes, harmonise the few that are justifiable, and digitise the collection process with multiple channels including USSD to drive efficiency, reduce leakages and promote accountability.

The committee argued that the reform is the fiscal space should have a social dimension. They argued that high quality personnel to drive the process of collections and compliance should be adopted to improve the revenue collection and leverage on technology for effective collection. These should offer more sustainable solution, avoiding social crises and providing relief to small businesses. The reforms stand a better chance of success when we find a win-win outcome for all stakeholders than those which seek to alienate others.

This paper research objective is to critically investigate the impact of E-taxation in Nigeria and how it has improved tax compliance and revenue collection for economic development.

The second section delves into the literature review, including concepts such as conceptual review, conceptual framework, theoretical review, and empirical review. Section three goes on the study's methodology. Section four covers statistical analysis, which includes data analysis and interpretation. Section five contains a summary, findings, and suggestions.

**Literature Review**

**Concept of Taxation**

Taxation is a term refers to when a taxing authority, usually a government, levies or imposes a financial obligation on its citizens or residents. Paying taxes to governments or officials has been a mainstay of
civilization since ancient times. Taxation applies to all types of involuntary levies, from income to capital gains to estate taxes. Though taxation referred to as an act; the resulting revenue is usually called taxes (Kagan, Scott & Kvilhaug, 2022).

Taxation is differentiated from other forms of payment, such as market exchanges, in that taxation does not require consent and is not directly tied to any services rendered. The government compels taxation through an implicit or explicit threat of force. Taxation is legally different than extortion or a protection racket because the imposing institution is a government, not private actors. Taxation is the means of raising money for governance purposes through contribution of both individuals and corporate bodies. Tax is collected by government mainly to finance public expenditure and to redistribute income among its citizens and thereby attaining economic development as required (Eke & Alohan, 2022).

Meaning and Evolution of Electronic Taxation in Nigeria

The electronic taxation (e-taxation) system can be described as the system of collecting taxes by the relevant authorities electronically from the taxpayers with the aid of internet service. It is an online policy which avails taxpayers the opportunity to access the service porters through the internet and see all the services offered by the tax administration like the registration for generating personal identification number, filing of returns and application for a compliance certificate (Oladele, Aribaba & Adekunle, 2020).

The Federal Inland Revenue Service (FIRS) introduced Integrated Tax Administration System (ITAS) in 2013 to improve tax administration in Nigeria and transform the tax compliance process away from the then manual system which was tedious and bureaucratic (Akpubi & Igbekoyi, 2019). The process of migrating to an electronic system commenced fully in 2015 with the Federal Inland Revenue Service (FIRS) in collaboration with Nigeria Inter-Bank Settlement System (NIBSS) introduced the following: e-Services; e-Registration, e-Payment, e-Filing, e-Receipt, e-Stamp Duty and e-Tax Clearance Certificate (e-TCC) (Oladele, Aribaba & Adekunle, 2020).

E-filing enables taxpayers to file their tax returns through the Federal Inland Revenue Service (FIRS) Integrated Tax Administration System (ITAS). E-payment now allows for payment of all Federal government taxes and levies through any of the following platforms; Nigeria Inter-Bank Settlement System (NIBSS), Remita and Interswitch. E-registration is created to register new taxpayers with the Inland or Internal Revenue Service for the various taxes. E-stamp duty is created if stamp duties need to be paid on qualifying documents. E-receipt now facilitates receiving and verifying e-receipts generated for taxes paid through the new e-payment. E-Tax Clearance Certificate (e-TCC) is the platform that enables taxpayers to apply for, receive and verify the authenticity of their electronic tax clearance certificate (e-TCC) (Deloitte, 2017).

Newman & Eghosa (2019) paper provided context to the process flow E-taxation in Nigeria. The process starts with the E-registration. This is when eligible tax payers visit FIRS website and register for the various tax services and as a consequent, they don’t need to physically visit any tax office. The E-stamp duty can also conducted. The payment of stamp duties on qualifying documents. This innovation will increase the ease of doing business in Nigeria. In the past, physical stamping was required to perform transactions that require stamping. With e-stamping, stamping can be done anywhere and at any time online. One area in which this innovation is very useful is when a new company is being incorporated at the Corporate Affairs Commission (CAC). From the CAC registration site, you can migrate to the FIRS e-service site and pay your stamp duties. Furthermore, E-tax payment can be done through the system.
The payment of all Federal Government taxes and levies through any of the following platforms Nigeria Inter-Bank Settlement (NIBSS), Remita and Interswitch. This brings payment of taxes to your doorstep as you can pay your taxes in the comfort of your home. In addition, E-receipt can easily be generated. Taxpayer can receive and verifying e-receipts generated for taxes paid through the new e-tax payment. With this service, taxpayers can receive instant notification acknowledging the payment of tax. The introduction of E-filing will increase revenue collection. This enables taxpayers to file their tax returns through the FIRS ITAS online. This is one of the most innovative aspects of the e-tax services. It is a mandatory requirement of the law to file tax returns. This platform obviates the need to visit any tax office to file tax returns as you can upload relevant documents and file your tax returns electronically. The taxpayer can easily obtain the Electronic tax clearance certificates (e-TCC). With the introduction of the election platform. This should enable taxpayers to apply for, receive and verify the authenticity of their e-TCC. Obtaining tax clearance certificates under the manual tax administration process is cumbersome.

**Tax Compliance**

Verboon and Dijk (2017) argued that tax compliance is the willingness of individuals to comply with relevant tax authorities by paying their taxes as at when due. Tax compliance can be defined as an ability of a tax liable body to submit accurate, complete and satisfactory returns in conformity with tax laws and regulations of the state to the authority for the purpose of tax assessment (Badara, 2012). Tax compliance is the degree to which a taxpayer complies or fails to comply with the tax rules of his country. Appah and Ebiringa (2022) noted that tax compliance can be defined by considering three distinct types of compliance such as payment compliance, which means timely payment of all obligations, filing compliance, which means the timely filing of any required return, and reporting compliance (the accurate reporting of income and of tax liability).

The Organization for Economic Cooperation and Development (2019) divided compliance into administrative compliance and technical compliance. Administrative compliance refers to complying with administrative rules of lodging and paying. This compliance can also be called reporting compliance or regulatory compliance. The technical compliance refers to complying with technical requirements of tax laws. Tax compliance can be achieved through the application of public relations, tax education, tax consultation and guidance and examination.

Akpubi and Igbekoyi (2019) emphasized that the interaction between the tax authority and the taxpayer creates a good relationship that impacts on the tax payer attitude. It was further asserted by Akpubi & Igbekoyi (2019) that the trust the taxpayers have in the state improves the positive attitude and commitment to paying taxes. The eventual effect is reflected through voluntary compliance by willingly reporting and filling tax returns and as well as paying the tax obligations as and when due. This invariably means that it is not only the tax system that can determine compliance, but also the proper utilization of the tax revenue by the government.

**Explaining the Concepts of Tax Evasion and Tax Avoidance**

Paying taxes is not one of the things we look forward to. It is not so easy to work very hard and then give a part of your income to the government. But it is the law and it requires that you pay as citizens. There are a number of benefits to paying taxes but people still try to cheat the government by not paying. Tax evasion and tax avoidance are two concepts that are similar and sometimes used interchangeably. This section explained the two concepts are they are used in tax administration.
Tax evasion is the intentional and illegal attempt to avoid the payment of tax imposition by individuals, businesses, or organizations. It is a deliberate attempt to not pay taxes at all or to pay less than required by trying to beat the system (Zahariev, 2021). Those caught evading taxes are generally subject to criminal charges and substantial penalties. Examples of tax evasion include: false declaration of income, assets, or profits, falsifying records, underpayment of taxes, deliberately keeping business off the books, exaggerating expenditure, etc.

Tax avoidance is the use of legal methods to reduce the amount of tax paid by a person, business, or organization. Here, people find ways to reduce tax liability and optimize their income through legal means. Tax avoidance involves taking advantage of the loopholes in the system. Since these loopholes are within the law, tax avoidance is not considered a crime. It is usually done through taking advantage of loopholes in the tax system without actually breaking tax law. It is also the legal utilization of the tax regime to one’s own advantage so as to reduce the amount of tax that is payable using means that are acceptable by the law (Bako, 2021). Examples of tax evasion include: increasing expenses in getting income, increasing the number of children, giving your assets to your children to avoid inheritance tax, investing in a retirement plan, donating to charity to claim deductions, etc.

**Challenges of Nigeria Tax System**

Despite taxation's promise as a dynamic tool for sustained national development, the Nigerian tax system has been unable to accomplish its objectives due to, among other challenges:

- Inadequate taxation frameworks for informal and high-network persons limit revenue and create injustice.
- Fragmented taxpayer databases and insufficient information interchange between tax agencies lead to revenue leakage.
- Overzealous government efforts to increase revenue have resulted in arbitrary regulatory actions.
- Lack of clarity on taxation powers has led to encroaching on one level’s authority by others.
- Taxpayers lack information on compliance requirements, leading to uncertainty and non-compliance.
- Poor accountability for tax revenue.
- Insufficient capacity has resulted in delegation of revenue officials' powers to third parties, complicating the tax system.
- Aggressive tax collection methods are used.
- Tax authorities fail to honour refund obligations to taxpayers.

**Taxation as a Tool for Economic Management and Development**

The role taxation plays in an economy is critical to any economic management development. This section will discuss the critical reasons for taxation in any economy.

**Revenue Generation**

Taxation is the principal source of revenue for the Nigerian government, financing critical public services such as healthcare, education, infrastructure, and social welfare programmes. Adequate income collection through taxation is vital for supporting government spending and encouraging socioeconomic growth (Owoeye, 2023)
Fiscal Stability
A well-functioning tax system promotes fiscal stability by generating a consistent source of income for government activities. Taxation promotes macroeconomic stability by lowering reliance on uncertain revenue sources, such as oil exports (Owoeye, 2023).

Resource Mobilization
Taxation promotes resource mobilisation by shifting financial resources from the private to the public sector. Taxation allows the government to seize a share of the economic surplus created by firms and people and direct it towards public investments and development programmes that benefit society as a whole (Owoeye, 2023)

Redistribution of Wealth
Taxation can assist to reduce income inequality and promote social fairness by transferring money from high-income people and companies to low-income families and marginalised groups. Progressive taxation policies, such as income and wealth taxes, can help to reduce the wealth disparity and promote inclusive growth (Owoeye, 2023)

Promotion of Investment and Entrepreneurship
Tax policy can encourage investment, entrepreneurship, and economic diversity in Nigeria. The government may stimulate private sector investment in vital areas such as agriculture, industry, and infrastructure by providing tax breaks, credits, deductions, and exemptions, therefore promoting economic development and job creation (Owoeye, 2023)

Enhancement of Governance and Accountability
Taxation creates a social compact between the government and its citizens, encouraging accountability, transparency, and good governance. When individuals and corporations contribute to tax revenues, they have a strong interest in holding the government responsible for how these resources are spent, resulting in better public service delivery and governance results (Owoeye, 2023)

Capacity Building and Institutional Development
Building a strong tax administration system helps to boost Nigeria's institutional capability and governance structure. Effective tax administration necessitates qualified individuals, cutting-edge technology, and transparent processes, all of which help to advance the country's institutional growth and governance reform initiatives (Owoeye, 2023)

In summary, taxation is critical to driving economic development in Nigeria by providing necessary revenue for government spending, promoting fiscal stability, mobilising resources, addressing income inequality, stimulating investment and entrepreneurship, improving governance and accountability, and building institutional capacity. A well-designed and successfully administered tax system is crucial to realising Nigeria's economic potential and accomplishing long-term development goals.

Theoretical Framework
This study used the Technology Acceptance Model (TAM) and the Expediency Theory of Taxation (ETA). Fred Davis established the Technology Acceptance Model in 1986. This is an information systems
model that depicts how consumers adopt and use new technologies. This model assumes that the acceptability of an information system is influenced by two factors: perceived utility (PU) and perceived ease of use (PEOU). Perceived usefulness is the amount to which a person feels that utilising a certain system would improve his or her work performance, whereas PEOU is the extent to which a person believes that using a specific system will require no additional effort (Alade, 2018).

The model's significance to this research is based on its perceived utility, which served as the foundation for FIRS's acceptance and deployment of an electronic tax system in Nigeria to increase compliance and tax revenue production. The second theory (the expediency theory of taxes) was also selected because the first model did not address any taxation concepts. Buehler proposed this hypothesis in 1936. The theory suggested that any tax revenue collecting system must satisfy the practicability test, which should be the primary consideration when the government selects a revenue collection system. This theory operates under the premise that the government's social and economic goals should be disregarded since it is pointless to impose taxes that are impossible to administer and collect. The idea is pertinent to this study because FIRS anticipates that the electronic tax system would improve revenue collection by fostering a technologically supportive environment that will encourage compliance and increase the effectiveness of revenue collection in Nigeria.

Empirical Review
Alade (2018) conducted a research on e-taxation uptake and revenue production in Nigeria. The study looked at the impact of E-taxation implementation on revenue collection in Nigeria. The study examined the impact of E-taxation on Company Income Tax (CIT) and Value Added Tax (VAT). The Expo facto research design was used, and data were obtained from the Federal Inland Revenue Service. The research period lasted six years and three quarters, from the first quarter of 2012 to the second quarter of 2018. The study was conducted on a quarterly basis, with the pre-E-taxation era encompassing thirteen (13) quarters from the first quarter of 2012 to the first of 2015, and the post-E-taxation period spanning thirteen (13) quarters, from the second quarter of 2015 to the second quarter of 2018. The paired sampled t-test analysis revealed a positive insignificant difference between pre and post company income tax revenue, with t-statistics and p-values of 0.833 and 0.421, respectively; and a positive insignificant difference between pre and post value added tax revenue, with t-statistics and p-values of 0.520 and 0.612, respectively. It was established that E-taxation did not considerably increase revenue generation in Nigeria.

Ofurum et al, (2018) conducted a pre-post analysis to determine the influence of e-taxation on Nigeria's revenue and economic growth. They used secondary data to develop a pre-post procedure known as a paired sample t-test. They discovered that the deployment of e-taxation did not increase tax revenue, federally collected money, or the tax-to-GDP ratio in Nigeria. They suggested that the federal government, through the FIRS, hold more informative seminars in all 36 states across the country to enhance awareness of the usage of all electronic services on their platform.

Furthermore, Akpubi and Igbekoyi (2019) investigated electronic taxation and tax compliance in certain chosen fast food businesses in Lagos state, Nigeria, from the standpoint of taxpayers. The study adopted a survey research design. Data were acquired from primary sources using standardised questionnaires sent to SMEs at their workplaces. The study's population comprises of nine hundred and fifty (950) small and medium-sized firms in Lagos state's fast food restaurant sub-sector. The acquired data was examined using descriptive statistics, structural equation modelling, and regression.
The study found a strong positive connection between level of awareness (LOA) and tax compliance (β = 0.276; t = 2.689; p = 0.008). The study found that perceived ease of use (PEU) (β = 0.249; t= 2.331; p= 0.022) has a favourable influence on tax compliance, however it was not statistically significant. The tax compliance cost (TCC) (β=-0.289; t=-2.568; p=0.012) had no significant negative impact on tax compliance. The study suggests that the amount of awareness of the electronic tax filing system determines their compliance rate, and that if the compliance cost is high, tax payers may be discouraged from utilising the system.

Nwamgbebu et al. (2019) performed research on the electronic tax system as a solution to tax revenue leakages in Nigeria. The study employed content analysis to analyse textbooks, journals, newspapers, and other important sources required to gather the necessary information for the study. An extensive analysis of the literature revealed that an electronic tax system overcomes the problems of low tax collection, a lack of tax statistics and record keeping, payment complexity, and high tax compliance costs. These findings suggest that implementing an electronic tax system is an intelligent way to achieve a tax administration system that provides for the collection and accountability of needed taxes at a reasonable cost.

Oladele, Aribaba, and Adekunle (2020) used a quantitative study approach to investigate e-tax administration and tax compliance among corporate taxpayers in Nigeria, using on existing data from the Federal Inland Revenue Service. Data included tax revenue submitted seven years before and after the FIRS implemented e-tax administration in 2013. The data were analysed using descriptive statistics and a paired t-test to see whether there is a difference and/or a link between pre- and post-e-tax revenues. The study demonstrated a substantial relationship between the electronic tax system and tax compliance (tax revenue), as evidenced by the paired test (p-value of 0.012<0.05). In addition, there was a considerable difference in mean tax revenue between the pre-electronic tax period and the post-electronic tax period (4466828.5714>3051200.0000), as well as an average yearly fluctuation in overall tax revenue of N1.4 trillion. With these, the study confirmed a substantial link between electronic taxation and tax compliance.

Eke and Alohan (2022) investigated the effects of e-taxation on tax administration in Nigeria. The study used primary data. The study's population included taxpayers, tax professionals, chartered accountants, and tax administrators from the Federal Inland Revenue Service's Benin and Auchi divisions. The study's sample size was 399, determined via stratified random sampling. Data were acquired using a standardised questionnaire. The variables were analysed using descriptive statistics, correlation analysis, and panel regression in SPSS 23. The results of the analyses showed that (1) e-taxation exhibits a negative impact (-0.032) on Ease of Paying Taxes and is not statistically significant (p=0.221) at the 5% level, meaning that e-taxation has not significantly made it easier to pay taxes in Nigeria; (2) e-taxation exhibits a negative impact (-0.129) on Processing time of Tax Returns and Assessment, and it is statistically significant (p= 0.013) at the 5% level, meaning that e-taxation has helped to achieve a 12.9% reduction.

Adefolake and Omodero (2022) paper examined the impact of tax income on Nigeria's economic development using time series data spanning the years 2000 through 2021. The study's particular purpose is to assess the impact of hydrocarbon taxes, corporate income taxes, and value-added taxes on Nigeria's economic development. The study makes use of secondary data sources, including the CBN statistics bulletin and the published Federal Inland Revenue Statement. The ex-post facto research design is applied in this study. The gathered data is analysed and evaluated for unit roots using the Augmented Dickey Fuller technique.
The research variables, which include GDP, PPT, CIT, and VAT, were shown to be stationary at first difference. Thus, a Johansen co-integration test is also performed, which demonstrates a long-term association. As a result, the study uses the Vector Error Correction Model to assess the impacts of PPT, CIT, and VAT on GDP. The data show that PPT and VAT have a positive and substantial influence on GDP. It also shows that CIT has a negative and considerable impact on GDP. Based on these results, the investigation recommends that government tax authorities conduct trainings and seminars for the Nigerian public and businesses on the importance and advantages of tax income to the economy. The tax authorities should also make an effort to encourage corporations to pay taxes in order to boost economic growth, which the companies are expected to benefit from as part of the government's social duties.

Agbo and George's (2022) paper investigated the influence of an online taxation system on economic development in Nigeria from 2005 to 2020. Data for the study were obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin, 2020. Multiple regression with the Ordinary Least Squares (OLS) approach was used to get numerical estimates of the co-efficients in various equations (Pre-Online and Post-Online Tax Regimes). The One Sample Test was used to quantify the impact of the pre-online and post-online taxation systems on economic development in Nigeria. The study's main findings revealed that pre-online tax revenue has a negative and non-significant effect on Nigerian economic growth, while post-online tax revenue has a positive and significant effect, and there is a significant difference between pre- and post-online tax revenue in Nigeria.

The study recommends that a strict penalty be imposed on any individual or corporate body who engages in any form of tax malpractice, regardless of state, if the positive impact of tax revenue on economic growth is to be maintained, and that the online-tax system be constantly reviewed in order to address emerging problems and evolve with the changing economic landscape and increased complexity of today's business environment.

Oyegun and Efangwu (2023) argued that revenue generation is critical to any economy. They paper investigated the impact of taxation and its contributions to economic growth using Nigeria as a case study. Based on a robust study, four hypotheses were examined. The secondary data extracted from the Central Bank of Nigeria Bulletin (CBN) and Federal Inland Revenue covering a period of 29 years from 1994 to 2022. An error correction model (ECM) and Granger causality approach (GCA) were used. According to the analysis, Customs and Excise Duty has a negative and minor short-term influence on Nigeria's GDP. Petroleum Profit Tax (PPT) has a negative short-term impact on Nigeria's GDP. However, both Value Added Tax (VAT) and Company Income Tax have a favourable and large short-term influence on Nigeria's GDP. The report advised that the government intensify efforts to boost tax revenue collection due to tax revenue's low contribution to GDP throughout the study period. This may be accomplished by closing all tax loopholes and bringing more potential taxpayers into the tax system (particularly the informal sector). If the favourable association between taxes and economic growth is to be maintained, every individual or corporate organisation that engages in any type of tax evasion should face severe penalties.

Ho, Tran and Nguyen (2023) paper used data from 29 developing nations with rapid economic development between 2000 and 2020, this study explores the influence of tax revenue on economic growth in the context of rising trade openness. This study also employs the Fixed Effect Model (FEM) and Generalised Least Squares (GLS) estimation techniques for panel data to examine the given hypotheses. The study's findings indicate that tax income has a favourable impact on overall economic growth. Furthermore, the study discovered that trade openness enhances the favourable association between tax
revenue and economic development, whereas excessive trade openness weakens it. Lastly, the paper identified substantial implications for developing nations in terms of increased tax collection and trade openness.

Research Methodology
According to Owoeye (2023), ex post facto design is a quasi-experimental research that investigates how an independent variable existent previous to the investigation influences a dependent variable. It used an expo-facto research design since the study's goal was to collect essential information on the state of a certain phenomena following some naturally occurring treatment that did not include any manipulation of the circumstance. A quasi-experimental study calculates the effect of a treatment (i.e., an explanatory variable or an independent variable) on an outcome (i.e., a response variable or dependent variable) by comparing the average change over time in the outcome variable for the treatment group to the average change over time for the control group (Owoeye, 2023). The study's analysis was based on secondary data gathered from the Central Bank of Nigeria, the Federal Inland Revenue Services (FIRS), and the National Bureau of Statistics. The research period was on an annual basis, with pre-e-taxation encompassing eight (8) years from 2008 to 2015 and post-e-taxation extending eight (8) years from 2016 to 2023. This is tax revenue statistics from eight years prior to and eight years after the e-tax system was implemented.

Method for Data Analysis
Given that this study depended extensively on secondary quantitative data, basic comparative analysis with descriptive statistics was used to analyse the secondary data acquired to see if there is a difference and/or association between the pre- and post-e-tax periods of Nigeria. The hypotheses were investigated using paired sample t-tests. If the t-calculated value exceeds the t-critical value (t-table), the null hypothesis is rejected. However, if the t-calculated value exceeds the t-critical value (t-table) the null hypothesis is rejected.

Presentation of Data and its Analysis
This section focuses on two sub-themes derived from our guiding hypotheses.

Hypothesis One: E-taxation has no discernible beneficial impact on tax evasion in Nigeria.
Based on the data obtained from from the Central Bank of Nigeria, the Federal Inland Revenue Services (FIRS), and the National Bureau of Statistics. The data presented showed pre-E-taxation years (2008-2015) and post-E-taxation revenue years 2016-2023.

The table below compares tax revenue in Nigeria before and after the implementation of the e-tax system throughout the relevant time period.

<table>
<thead>
<tr>
<th>Pre-E-Tax Years</th>
<th>Pre-E-Tax Years Amounts (N/Billions) (X)</th>
<th>Post-E-Tax Years</th>
<th>Post-E-Tax Years Amounts (N/Billions) (Y)</th>
<th>Rise in Tax Revenue (Y-X) (N/Billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>7866.60</td>
<td>2016</td>
<td>3,307.46</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>4844.60</td>
<td>2017</td>
<td>4,027.95</td>
<td></td>
</tr>
</tbody>
</table>
Table 1 above shows that the pre-electronic tax administration era has been compared with that of post electronic tax administration to ascertain the effect e-taxation on tax evasion in Nigeria. In doing so, as earlier said, eight (8) years pre-electronic eras and seven years post electronic eras were considered. As such, eight (8) years before the e-tax system, this paper posted tax revenue of ₦42,912.99 billion and with a mean of ₦6,130.43 billion. Furthermore, the eight years of post e-taxation recorded total tax proceeds of ₦51,810.30 billion with mean of ₦7,401.50 billion. This shows total variation of ₦8,879.51 billion and mean positive annual variation in tax revenue of ₦1,1271.07 billion. This is a clear indication that the e-taxation system has significant positive effect on tax evasion in Nigeria.

This paper further tests the relevancy of the following hypothesis

Test of Hypothesis 1: E-taxation has significant improvement in revenue collection in Nigeria.

The research of the view that the test statistic should be appropriate to test the validity of the statement.

Table 2: T-test Calculation for Pre- and Post E-tax System Tax Revenue in Nigeria

<table>
<thead>
<tr>
<th>Pre-E-Tax Year</th>
<th>Pre-E-Tax Year Amounts (N/Billion s) (X)</th>
<th>Diff (X-M)</th>
<th>Sq. Diff (X - M)^2</th>
<th>Post-E-Tax Year</th>
<th>Post-E-Tax Year Amounts (N/Billion s) (X)</th>
<th>Diff (X-M)</th>
<th>Sq. Diff (X - M)^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>7866.60</td>
<td>2502.48</td>
<td>6262387.38</td>
<td>2016</td>
<td>3,307.46</td>
<td>-3168.85</td>
<td>10041626.17</td>
</tr>
<tr>
<td>2009</td>
<td>4844.60</td>
<td>-519.52</td>
<td>269904.93</td>
<td>2017</td>
<td>4,027.95</td>
<td>-2448.36</td>
<td>5994478.93</td>
</tr>
<tr>
<td>2010</td>
<td>7303.70</td>
<td>1939.58</td>
<td>3761956.03</td>
<td>2018</td>
<td>5,320.89</td>
<td>-1155.42</td>
<td>1335001.15</td>
</tr>
<tr>
<td>2011</td>
<td>4,628.48</td>
<td>-735.64</td>
<td>541,171.73</td>
<td>2019</td>
<td>5,261.92</td>
<td>-1214.39</td>
<td>1474749.14</td>
</tr>
<tr>
<td>2012</td>
<td>5,007.65</td>
<td>-356.47</td>
<td>127,073.53</td>
<td>2020</td>
<td>4,952.22</td>
<td>-1524.09</td>
<td>2322857.95</td>
</tr>
<tr>
<td>2013</td>
<td>4,805.64</td>
<td>-558.48</td>
<td>311,904.10</td>
<td>2021</td>
<td>6,402.71</td>
<td>-73.6</td>
<td>5417.33</td>
</tr>
<tr>
<td>2014</td>
<td>4,714.56</td>
<td>-649.56</td>
<td>421,933.07</td>
<td>2022</td>
<td>10,179.35</td>
<td>3703.04</td>
<td>13712486.73</td>
</tr>
<tr>
<td>2015</td>
<td>3,741.76</td>
<td>-1,622.36</td>
<td>2,632,064.14</td>
<td>2023</td>
<td>12,358.00</td>
<td>5881.69</td>
<td>34594247.85</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>42912.99</strong></td>
<td><strong>M=5364.12</strong></td>
<td><strong>SS=14328394.90</strong></td>
<td></td>
<td><strong>51810.50</strong></td>
<td><strong>M=6476.31</strong></td>
<td><strong>SS=69480865.25</strong></td>
</tr>
</tbody>
</table>

Source: Computed by the Author (2024)

Difference Scores Calculations

**Treatment 1**

\[ N_1: 8 \]

\[ df_1 = N - 1 = 8 - 1 = 7 \]
\[ M_1:5364.12 \]
\[ SS_1:14328394.9 \]
\[ s^2_1 = SS_1/(N - 1) = 14328394.9/(8-1) = 2046913.56 \]

**Treatment 2**

\[ N_2:8 \]
\[ df_2 = N - 1=8-1=7 \]
\[ M_2:6476.31 \]
\[ SS_2:69480865.25 \]
\[ s^2_2 = SS_2/(N - 1) = 69480865.25/(8-1) = 9925837.89 \]

**T-value Calculation**

\[ s^2_p = \left( \frac{(df_1)(df_1 + df_2)}{df_1 + df_2} \right) \cdot s^2_1 + \left( \frac{(df_2)(df_2 + df_2)}{df_2 + df_2} \right) \cdot s^2_2 = \left( \frac{7}{14} \right) \cdot 2046913.56 + \left( \frac{7}{14} \right) \cdot 9925837.89 = 5986375.72 \]
\[ s^2_{M1} = s^2_p / N_1 = 5986375.72 / 8 = 748296.97 \]
\[ s^2_{M2} = s^2_p / N_2 = 5986375.72 / 8 = 748296.97 \]
\[ t = (M_1 - M_2) / \sqrt{(s^2_{M1} + s^2_{M2})} = -1112.19 / \sqrt{1496593.93} = -0.91 \]

**Significance Level:** @ 5%

**Decision:** The t-value is -0.90913. The p-value is 0.189333. The result is not significant at p < 0.05.

**T-Tabled Value**

The following step should be taken

**Step 1:** State the hypothesis

H0: E-taxation has significant improvement in revenue collection in Nigeria

H1: E-taxation has not significant improvement in revenue collection in Nigeria.

**Step 2:** Calculate the degree of freedom (df) – n-1

**Step 3:** Choose the significance level – 5%

**Step 4:** Determine the critical value of t in the t table.

Based on the t table, using a two-tailed test with df = 16-1= 15 and \( \alpha = 0.05 \) the critical value of t is 2.131.

**Decision rule:** if the t-calculated value exceeds the t-critical value (t-table), reject H0 and accept H1

If the t-critical value (t-table) exceeds the t-calculated value, accept H0 and reject H1

Since t-critical value (t-table) 2.131 is greater t-calculated value 0.90913 and as a consequent, this paper accepts H0 and reject H1. This implies that e-taxation has significant improvement in the revenue collection in Nigeria.

**Test of Hypothesis 2:**

The following hypothesis was investigated and analysed.

H0: E-taxation has significant positive effect on tax evasion/reducing tax avoidance in Nigeria.

H1: E-taxation has not provided any significant positive effect on tax evasion/reducing tax avoidance in Nigeria.

Using the above results, the followings procedure was adopted.

**Decision rule:** if the t-calculated value exceeds the t-critical value (t-table), rejects H0 and accept H1

If the t-critical value (t-table) exceeds the t-calculated value, accepts H0 and reject H1

Since t-critical value (t-table) 2.131 is greater t-calculated value 0.90913 and as a consequent, this paper accepts H0 and reject H1. This implies that e-taxation has significant positive effect on tax evasion in Nigeria and thus reduce tax avoidance.
Based on the above, this paper tested if there are no difference in tax revenue before and after the adoption of the E-Tax system to affirm whether the E-Taxation has significant positive impact on tax evasion/reducing tax avoidance in Nigeria. As a consequent of the results of the calculation and Table 2 above, the above statement is not significant. The implications of the statement are that there is significant difference with the application of E-Taxation before and after the adoption of electronic taxation on reduced tax evasion and tax avoidance in Nigeria. This is because the application of E-Tax has prevented tax evasion and tax avoidance in Nigeria and the introduction of advanced Technology in Tax Administration has improved revenue collections.

**Discussion of the Results**

The result of the hypothesis tested above revealed that e-taxation has significant improved revenue collection in Nigeria. This is evidenced from the pre-E-tax collection far less than post-E-tax collection (See Table 1 above). This clearly show the impact of the adoption of E-tax in Nigeria.

Furthermore, the paper provided a robust evidence that there is a clear indication that e-taxation has improved compliance by reducing tax evasion and tax avoidance in Nigeria. The result agrees with the finding of Oladele, Aribaba and Adekunle (2020) who found a strong connection between the electronic tax system and tax compliance (tax revenue). The study further confirms the findings of Akpubi and Igbekoyi (2019). In Akpubi and Igbekoyi (2019) paper, they argued that there is strong awareness of tax compliance and revenue collection. 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.

This is a clear evidence that e-taxation has improved compliance by mitigating tax avoidance in Nigeria Tax Adminstration. In addition to this above, this paper agrees with the findings of Nwamgbebu et al (2019) and Agbo and George (2022) who their studies showed that electronic tax system solves the problem of low tax collection, unavailability of tax statistics and poor record keeping, complex of payment and high cost of tax compliance. The implication of these findings according to the researchers is that an adoption of electronic tax system is an intelligent means of achieving a system of tax administration that allows for the collection and accountability of required taxes at a minimum cost and also closes the loopholes that encourage tax avoidance. This finding agrees with that of Alade (2018). Alade (2018) paper argued that the analysis revealed a positive insignificant difference between pre and post company income tax revenue and there was a positive insignificant difference between pre and post value added tax revenue.

**Conclusion**

This research investigated if e-taxation enhanced compliance in Nigeria. Tax compliance was divided into tax evasion and tax avoidance to determine the impact of e-taxation on both variables. Using basic comparative analysis and descriptive statistics, the study contrasted the post-e-tax administration era to the pre-e-taxation period. While FIRS/NBS data was used to analyse the impact on tax evasion, it was also utilised to analyse the impact on tax avoidance. The E-tax administration period saw greater tax compliance, as shown by a considerable rise in overall tax income at the Federal Government.

From all accounts, the implementation of the e-tax system resulted in a significant increase in tax revenue in Nigeria. Nonetheless, the e-tax system resulted in more tax returns than earlier eras in Nigeria, indicating that tax evasion and avoidance has decreased. It also demonstrates that the e-taxation system facilitates tax payment, filing, and assessment. Although tax compliance in Nigeria remains abysmally
low when compared to other nations across the world, this study demonstrates that the e-taxation method demands more tax compliance than the manual system in Nigeria.

**Recommendations**

Following the results and conclusions, this research offered the following recommendations:

1. The FIRS should develop a mobile app for electronic tax payments to raise awareness and simplify the country's tax system.
2. Extend the electronic tax payment system to other tax authorities, particularly State Internal Revenue Services (SIRS) that have not completely embraced e-taxation.
3. To motivate taxpayers and improve operations, tax authorities should make the e-tax system more user-friendly and improve the Information Communication Technology architecture/infrastructure.
4. Regularly implement security measures to prevent hacking and catastrophes in ICT-based environments.

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