

# Electronic taxation and improved tax compliance: The case of tax evasion and avoidance in Enugu state, Nigeria

**Egbara, Edward A. (PhD)**

Department of Public Administration and Local Government, University of Nigeria, Nsukka

**Asomba, Ifeyinwa U.**

Department of Public Administration, Enugu State University of Science and Technology, Nigeria.

**Ofoedu, Henry I. (PhD)**

Department of Public Administration and Local Government, University of Nigeria, Nsukka. Corresponding email: ikechukwuhenry20@gmail.com

## ABSTRACT

This study examined the issue of e-taxation and improved tax compliance: the case of tax evasion and avoidance in Enugu State, Nigeria. The study focused on two specific objectives. It examined how e-taxation has reduced tax evasion in Nigeria; and how e-taxation has helped in stemming the issue of tax avoidance in Enugu State of Nigeria. The study adopted an ex-post facto research design. Analysis conducted in the study made use of secondary quantitative data collated from the Federal Inland Revenue Services (FIRS), National Bureau of Statistics (NBS) and Enugu State Internal Revenue Service (ESIRS). The study revealed that e-taxation has significantly reduced tax evasion by increasing revenue generated in Nigeria. The study discloses higher mean value for tax revenue after the adoption of e-taxation when compared with the mean value before the adoption of the e-taxation system. It also revealed that e-taxation has significantly helped in stemming the issue of tax avoidance by increasing revenue generated in Enugu State of Nigeria. The analysis of the data indicated higher mean value for tax revenue after the adoption of e-taxation in Enugu State when compared with the mean value before the adoption of the e-taxation system. The study made some vital recommendations which include the need for FIRS to create an electronic tax payment system mobile App which will serve as a means of creating more awareness and simplification of the e-tax system in the country. It was concluded in this study that the e-taxation system commands high tax compliance than the manual system era in Nigeria.

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## 1. INTRODUCTION

Over the years, tax revenue has remained one of the major sources of revenue to governments at all levels. Governments, through revenue so 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. Studies reaffirmed 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 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). 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). 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. 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.

## 1.1 Statement of the Problem

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 (FGN) 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. In an FIRS press release, it was reported that approximately twelve (12) billion 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, Oketa, Odom, Nwambe, & Nweke, 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.

## 1.2 Objectives of the Study

The broad objective of this study is to ascertain whether electronic taxation has improved tax compliance in Nigeria. Specifically the study sought to:

- Examine how e-taxation has reduced tax evasion in Nigeria.
- Ascertain how e-taxation has helped in stemming the issue of tax avoidance in Enugu State of Nigeria.

## 1.3 Hypotheses

The study was guided by the following hypotheses:

- E-taxation has not significantly reduced tax evasion by increasing revenue generated in Nigeria.
- E-taxation has not significantly helped in stemming the issue of tax avoidance by increasing revenue generated in Enugu State of Nigeria.

## 2. REVIEW OF RELATED LITERATURE

### 2.1 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 can be a noun or verb, it is usually 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).

#### 2.1.1 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 (Akpabi & 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). The available e-services according to Newman & Eghosa (2019) are explained below:

- E-registration: for registration of new taxpayers with FIRS for the various taxes.<sup>31</sup> With this service, taxpayers do not need to visit any tax office to register for tax purposes. All they need to do is to visit the FIRS website and register;
- E-stamp duty: for 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;
- E-tax payment: for 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;
- E-receipt: for receiving and verifying e-receipts generated for taxes paid through the new e-tax payment. With this you receive instant notification acknowledging your payment of tax;
- E-filing: 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;
- Electronic tax clearance certificates (e-TCC): this platform will 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.

#### 2.1.2 Tax Compliance

Verboon & Dijk (2017) viewed tax compliance as 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 & 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 Organisation 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. Wenzel (2004) cited in Akpabi & Igbekoyi (2019) states 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 Akpabi & 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.

### 2.1.3 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 as 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.

### 2.2 Empirical Review

Ofurum, Amaefule, Okanyan & Amaefule (2018) evaluated the impact of e-taxation on Nigeria's revenue and economic growth: a pre-post analysis. They used secondary data to determine a pre-post technique called a paired sample t-test. They found that the implementation of e-taxation has not improved tax revenue, federally collected revenue and tax-to-GDP ratio in Nigeria. They recommended that the federal government through the FIRS should conduct more enlightening seminars in all the 36 states in the country to increase the knowledge on the use of all electronic services on their platform. Eke & Alohan (2022) studied the impact of e-taxation on tax administration in Nigeria. The study employed primary data. The population for the study consisted of taxpayers, tax professionals, chartered accountants, tax administrators from the Federal Inland Revenue Service Benin and Auchi branches. The sample size selected for the study was 399 using stratified random sampling technique. Data were collected with the aid of a structured questionnaire. The study was carried out using descriptive statistics, correlation analysis and panel regression to analyse the variables using SPSS 23. The result of the analyses showed that (1) e-taxation exhibits negative impact (-0.032) on Ease of Paying Taxes and not statistically significant ( $p=0.221$ ) at 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 5% level, meaning that e-taxation has helped to achieve a 12.9% reduction in the processing time of tax returns and assessment.

A similar study by Oladele, Aribaba & Adekunle (2020) on e-tax administration and tax compliance among corporate taxpayers in Nigeria, employed quantitative research design using existing data sourced from the Federal Inland Revenue Service (FIRS). Data were tax revenue posted seven years before and after the adoption of e-tax administration by the FIRS in 2013. Data so sourced were analyzed using descriptive statistics and pairwise t-test to ascertain if a difference exists and or relationship between pre-and post-e-tax revenue. The study found a strong connection between the electronic tax system and tax compliance (tax revenue) as shown by the pairwise test ( $p\text{-value of } 0.012 < 0.05$ ). Also, the mean tax revenue during post-and pre-e-tax of (4466828.5714 > 3051200.0000); and an average annual variation in overall tax revenue of N1.4trillion compared with pre-electronic tax period demonstrated a significant difference. With these, the study affirmed that a strong association exists between electronic taxation and tax compliance. Alade (2018) carried a study on e-taxation adoption and revenue generation in Nigeria. The study 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. Nwamgbebu, Oketa, Odom, Nwambe, & Nweke (2019) conducted a study on electronic tax system as a panacea for tax revenue leakages in Nigeria. The study adopted content analysis in analyzing text books, journals, newspapers and other essential materials that were used to obtain the needed information for the study. Extensive review of the literature 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 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.

A related study by Akpubi & Igbekoyi (2019) examined electronic taxation and tax compliance among some selected fast food restaurants in Lagos state, Nigeria (tax payers perspective). 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 consists of nine hundred and fifty (950) small and medium scale enterprises in Lagos state in the fast food restaurants sub sector. Data collected were analysed using descriptive statistics, structural equation model analysis and regression. Analysis of the study revealed that level of awareness (LOA) showed significant positive relationship with tax compliance ( $\beta = 0.276$ ;  $t = 2.689$ ;  $p = 0.008$ ). It was also revealed that perceived ease of use (PEU) ( $\beta = 0.249$ ;  $t = 2.331$ ;  $p = 0.022$ ) has a positive effect on tax compliance but was statically non-significant. The tax compliance cost (TCC) ( $\beta = -0.289$ ;  $t = -2.568$ ;  $p = 0.012$ ) 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.

### 2.3 Theoretical Review

#### 2.3.1 Technology Acceptance Model (TAM)

Technology Acceptance Model was developed by Fred Davis in 1986. This is an information systems model that shows how users come to accept and use a new technology. The assumption of this model is that the acceptability of an information system is determined by two factors; the perceived usefulness (PU) and perceived ease of use (PEOU). Perceived usefulness is the extent to which a person believes that using a particular system would enhance his/her job performance, while PEOU is the degree to which a person believes that using a particular system would be free from extra efforts (Alade, 2018). The relevance of the model to this study is based on the assumption of its perceived usefulness which provided the basis for the adoption and implementation of electronic tax system by FIRS in Nigeria to improve compliance and enhance tax revenue generation.

#### 2.3.2 Expediency Theory of Taxation (ETA)

The second theory (expediency theory of taxation) was also reviewed since the first model did not touch any concept in taxation. This theory was propounded by Buehler in 1936. The theory stated that every tax revenue collection system must pass the test of practicability which must be the major consideration when government is choosing a revenue collection system. The assumption of this theory is that the economic and social objectives of the government should be treated as irrelevant, since it is useless to have a tax which cannot be lived and collected efficiently. The theory is relevant to this study in that electronic tax system is expected by FIRS to enhance revenue collection by creating an enabling technological environment that facilitate compliance that boost revenue collection efficiency in Nigeria.

### 3. METHODOLOGY

The study adopted ex post facto research design. Ex post facto design is a quasi-experimental study examining how an independent variable, present prior to the study, affects a dependent variable. It adopted expo facto research design because the study aimed at obtaining important information on the status of specific phenomenon after some naturally occurring treatment without any manipulation of the situation. 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, compared to the average change over time for the control group. Analysis conducted in the study made use of secondary data collated from the Federal Inland Revenue Services (FIRS), National Bureau of Statistics (NBS) and Enugu State Internal Revenue Service (ESIRS). Also primary data were generated through interview from a few opinion leaders in the society using a purposive sampling technique to complement secondary data. The study period was on annual bases and the period for pre-e-taxation covered 6 years, spanning from 2009 to 2014 while the period for post e-taxation covered 6 years, spanning from the 2016 to 2021. That is data of tax revenue of six years before and six years after the e-tax system was adopted from the Federal Inland Revenue Services (FIRS), National Bureau of Statistics (NBS) and Enugu State Internal Revenue Service (ESIRS).

### 3.1 Method of data Analysis

In view of the fact that this study relied heavily on secondary quantitative data, simple comparative analysis with descriptive statistics were employed to analyze the secondary data so obtained to ascertain if there is difference and or relationship between pre-and post-e-tax eras in Nigeria. The hypotheses were tested with paired sampled t-text (pairwise t-test). For any hypothesis testing with t-test, if t-calculated is greater than t-critical value (t-table), Null hypothesis is rejected.

## 4. DATA PRESENTATION AND ANALYSIS

This section embodies two sub-themes based on our guiding hypotheses. The emphasis of our data presentation is on the two hypotheses posed for the study and is based on quantitative data from Federal Inland Revenue Service (FIRS and Central Bank of Nigeria Statistical Bulletin.

**Hypothesis One:** E-taxation has not significantly reduced tax evasion by increasing revenue generated in Nigeria. The data used to analyze the hypothesis one was collected from Federal Inland Revenue Service (FIRS) National Tax Statistics from 2007-2012 for pre-electronic taxation and 2017-2022 for post-electronic taxation system. The table below presents the tax revenue during pre- and post e-tax system eras in Nigeria within the period under review.

**Table 1.** Pre- and Post E-tax System Tax Revenue in Nigeria

Pre-e-tax Years	Post-e-tax Revenue (X) (₦billion)	Post-e-tax Years	Post-e-tax Revenue (Y) (₦billion)	Differences (X - Y)	% Rise in Tax Revenue
2014	4,805.6420	2021	6,402.7100	1,597.0860	5.5
2013	4,714.5603	2020	4,952.2245	237.6642	0.8
2012	5,007.6528	2019	5,261.9163	254.2635	0.9
2011	4,628.4757	2018	5,320.8914	692.4157	2.4
2010	2,839.3130	2017	4,027.9452	1,188.6342	4.0
2009	2,197.6237	2016	3,307.4614	1,109.8177	3.8
Total	24,193.2675		29,273.1488	5,079.8813	17.4
Average	4,032.2112		4,878.8581	846.6469	

Sources: Federal Inland Revenue Service (FIRS) Tax Statistics/Report, 2016 & 2022

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, six years pre-electronic eras and six years post electronic eras were considered. As such, six years before the e-tax system, we posted tax revenue of ₦24,193.7billion and an average tax income of ₦4,032.2billion. Furthermore, the six years of post e-taxation recorded total tax proceeds of ₦29,273.1billion with mean of ₦4,878.9billion. This shows total variation of ₦5,079.9billion and mean positive annual variation in tax revenue of ₦846.6billion. The amount is huge and enormous. This is a clear indication that the e-taxation has significantly reduced tax evasion by increasing revenue generated in Nigeria.

**Test of Hypothesis One:** E-taxation has not significantly reduced tax evasion by increasing revenue generated in Nigeria.

**Table 2.** t-test showing the difference in tax revenue before and after the adoption of the e-tax system in Nigeria to affirm whether the e-taxation has not significantly reduced tax evasion by increasing revenue generated in Nigeria

Tax Revenue	N	Mean (X)	Std. Dev.	t-value	p-value	Decision
Pre e-tax system	6	4032.2113	795.3672	3.552	0.012	Significance
Post e-tax system	6	4878.8581	988.5153			

Source: Research Report 2023

Table 2 above discloses higher mean value for tax revenue after the adoption of e-taxation when compared with the mean value before the adoption of the e-taxation system (4878.8581 > 4032.2113) in Nigeria tax administration. Besides, the table shows a significance difference exist in the mean score of tax revenue before and after e-system adoption in Nigeria (t-value of 3.552 > p-value of 0.012 @ 0.05 significance level). Thus, the null hypothesis is rejected. Therefore the statistical test affirmed that e-taxation has not significantly reduced tax evasion by increasing revenue generated in Nigeria.

**Hypothesis Two:** E-taxation has not significantly helped in stemming the issue of tax avoidance by increasing revenue generated in Enugu State of Nigeria. The data used to analyze the second hypothesis was from Enugu State Internal Revenue service (ESIRS) Tax Report from 2007-2012 for pre-electronic taxation and 2017-2022 for post-electronic taxation system. The table below presents the tax revenue during pre- and post e-tax system eras in Enugu State within the period under review.

**Table 3.** Pre- and Post E-tax System Tax Revenue in Enugu State

Pre-e-tax Years	Post-e-tax Revenue (X) (₦billion)	Post-e-tax Years	Post-e-tax Revenue (Y) (₦billion)	Differences (X - Y)	% Rise in Tax Revenue
2014	6,532.1383	2021	15,705.1996	9,173.0612	11.1
2013	5,034.6721	2020	13,457.9121	8,423.2400	10.1
2012	4,694.7862	2019	21,869.6123	17,174.8261	20.6
2011	3,001.7395	2018	12,531.0448	9,529.3052	11.4
2010	3,812.3049	2017	12,012.1620	8,199.8570	9.8
2009	2,569.7220	2016	7,741.6021	5,171.8800	6.2
Total	25,645.3633		83,317.5330	57,672.1697	69.2
Average	4,274.2272		13,886.2555	9,612.0282	

Sources: National Bureau of Statistics (NBS) and Enugu State Internal Revenue service (ESIRS) as Compiled by the Researcher 2023

Table 3 above indicated that the pre-electronic taxation period has been compared with that of post electronic taxation period using internally generated tax revenue of Enugu State to ascertain how e-taxation has heled in stemming the issue of tax avoidance in Nigeria. In doing so, as earlier said, six years pre-electronic eras and six years post electronic eras were considered. As such, six years before the e-tax system, we posted tax revenue of ₦25,645,363,367.00 and an average tax income of ₦4,274,227,227.80 a internally generated tax revenue in Enugu State. Furthermore, the six years of post e-taxation recorded total tax proceeds of ₦83,317,533,085.00 with mean of ₦13,886,255,514.00. This shows total variation of ₦57,672,169,718.00 and mean positive annual variation in tax revenue of ₦9,612,028,286.20. The amount is massive and enormous. This is a clear indication that e-taxation has significantly helped in stemming the issue of tax avoidance by increasing revenue generated in Enugu State of Nigeria.

**Test of Hypothesis Two:** E-taxation has not significantly helped in stemming the issue of tax avoidance by increasing revenue generated in Enugu State of Nigeria.

**Table 4.** t-test showing the difference in tax revenue before and after the adoption of the e-tax system in Enugu State to affirm whether the e-taxation has not significantly helped in stemming the issue of tax avoidance by increasing revenue generated in Enugu State of Nigeria

Tax Revenue	N	Mean (X)	Std. Dev.	t-value	p-value	Decision
Pre e-tax system	6	4,274,227,227.80	65,377.5743	3.820	0.023	Significance
Post e-tax system	6	13,886,255,514.00	117,839.9572			

Source: Research Report 2023

Table 4 above divulges higher mean value for tax revenue after the adoption of e-taxation when compared with the mean value before the adoption of the e-taxation system (13,886,255,514.00 > 4,274,227,227.80) in Enugu State internally generated tax revenue. Besides, the table shows a significance difference remains in the mean score of tax revenue before and after e-system adoption in the state (t-value of 3.820 > p-value of 0.023 @ 0.05 significance level). Thus, the null hypothesis is rejected here. Therefore the statistical test affirmed that e-taxation has significantly helped in stemming the issue of tax avoidance by increasing revenue generated in Enugu State of Nigeria.

## 5. DISCUSSION OF THE RESULTS

The result in hypothesis one revealed that e-taxation has significantly reduced tax evasion by increasing revenue generated in Nigeria. The study discloses higher mean value for tax revenue after the

adoption of e-taxation when compared with the mean value before the adoption of the e-taxation system (4878.8581>4032.2113) in Nigeria tax administration. Besides, the study shows a significance difference exist in the mean score of tax revenue before and after e-system adoption in Nigeria (t-value is 3.552 & p-value of 0.012<0.05 significance level). This is a clear indication that e-taxation has improved compliance by reducing tax evasion in Nigeria. The result is in agreement with the finding of Oladele, Aribaba & Adekunle (2020) who found a strong positive connection between the electronic tax system and tax compliance (tax revenue). The study also in line with the finding of Akpubi & Igbekoyi (2019) who their analysis of the study revealed that level of awareness (LOA) showed significant positive relationship with tax compliance ( $\beta = 0.276$ ;  $t = 2.689$ ;  $p = 0.008$ ). It was also revealed that perceived ease of use (PEU) ( $\beta = 0.249$ ;  $t = 2.331$ ;  $p = 0.022$ ) has a positive effect on tax compliance but varied with the present finding here because shows that perceived ease of use (PEU) was statically non-significant. The finding of Akpubi & Igbekoyi (2019) is in disagreement with the current finding when it revealed that the tax compliance cost (TCC) ( $\beta = -0.289$ ;  $t = -2.568$ ;  $p = 0.012$ ) 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 result in hypothesis two revealed that e-taxation has significantly helped in stemming the issue of tax avoidance by increasing revenue generated in Enugu State of Nigeria. The analysis of the data divulges higher mean value for tax revenue after the adoption of e-taxation system compared with the mean value before the adoption of the e-taxation system (13,886,255,514.00>4,274,227,227.80) in Enugu State internally generated tax revenue. As well, the study shows that a significance difference remains in the mean score of tax revenue before and after e-taxation system was adopted in the state (t-value is 3.820 & p-value of 0.023<0.05 significance level). This is a clear evidence that e-taxation has improved compliance by mitigating tax avoidance at the state level. The second finding is in agreement with the findings of Nwamgbegu, Oketa, Odom, Nwambe, & Nweke (2019) who their study 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 is not in agreement with that of Alade (2018) who the analysis 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.

## 6. CONCLUSION

This study examined whether the e-taxation has improved compliance in Nigeria. The tax compliance was decomposed in to tax evasion and tax avoidance to test the effect of the e-taxation on both variables. The study has compared post e-taxation administration era and pre-e-taxation period with the aid of simple comparative analysis and descriptive statistics both at the state and national level. While the data from FIRS was used to analyze the effect on tax evasion, the data from Enugu State Internal Revenue Service (ESIRS) was used to analyze the effect on tax avoidance. The electronic tax administration period recorded improved tax compliance as evinced in the significant increase of overall tax revenue both at the federal level and state level (Enugu State). From all indications, the adoption of the e-tax system led to a remarkable positive variation in tax income in Nigeria. Nevertheless, the e-tax system pulled higher tax returns compared with previous periods both at federal and state level is a clear indication that tax evasion and avoidance have reduced. It is also evidence that the e-taxation system enhances easy tax payment, tax filing and assessment. Although tax compliance in Nigeria remains abysmally low when compared with other countries of the world, it is proven in this study that the e-taxation system commands high tax compliance than the manual system era in Nigeria.

### 6.1 RECOMMENDATIONS

Flowing from the findings and conclusion, this study, therefore made the following recommendations:

- The FIRS should create an electronic tax payment system mobile App which will serve as a means of creating more awareness and simplification of the tax system in the country.
- The electronic tax payment system should be spread to other tax authorities especially to States Internal Revenue Services (SIRS) that have not fully embraced e-taxation.
- Tax authorities should make the e-tax system more friendly attractive; the services should always also further work on the Information Communication Technology architecture/infrastructure for easy access and flexibility to encourage taxpayers as well as enhancing robust operations.
- Lastly, security measures should be regularly put in place to prevent hackers and other disasters inherent in ICT based environment.

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