

# EFFECT OF E-TAXATION ON REVENUE GENERATION IN NIGERIA A PRE-POST ANALYSIS

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## ABSTRACT

*The investigation analyzed the impact of e-tax assessment on income generation in Nigeria. The examination applied secondary data gotten from Federal Inland Revenue Service tax report and CBN Statistical release and Quarterly Economic Reports. These information were time arrangement information covers the period from first quarter of 2012 to second quarter of 2018 (that is, pre e-charge is from first quarter of 2012 to first quarter of 2015 while the post e-charge is from second quarter of 2015 to second quarter of 2018). The information gathered were broke down utilizing Ordinary Least Square Method. The outcomes show an idealistic huge impact of pre (before the starter of e-tax assessment) company income tax and value added tax on income generation in Nigeria and a contrary immaterial impact of post organization annual duty income and value added assessment income on revenue generation in Nigeria (after the appearance of e-tax collection) at 5% level of critical. This implies E-tax collection has not contributed decidedly to both company income tax revenue and value added tax revenue generation in Nigeria; though there is an unwanted immaterial impact of pre and post capital gain charge income on income generation in Nigeria at 5% level of noteworthy. This implies E-tax collection has not contributed decidedly to capital gain charge generation in Nigeria. The examination, along these lines among others prescribes that so as to amplify the foreseen positive impact of the activity, government through Federal Inland Revenue Services should work out modalities on the most proficient method to sharpen companies on the fundamentals of E-tax collection.*

**Keywords:** E-Taxation, Revenue Generation, Company Income Tax, Value Added Tax, Capital Gain Tax.

## INTRODUCTION

### Background to the Study

In emerging countries like Nigeria, electronic income collection has gained improved importance. About 30 years ago, the e-tax system was initiated globally (Cobham, 2010); and since then, e-tax system has come to be a common network, helping several tax payers across the universe annually. E-taxation is the electronic tax filing system. It requires taxpayers to pay their duties online from their individual or business bank accounts (FIRS, 2015). Okoye & Ezejiofor (2014) identified e-taxation as a tax system administration carried out online. They noted that because e-taxation is electronic tax filing system, the payment of e-tax can be made directly through bank account and via the use of ATM via debit card or credit card. While it is believed that the purpose of presenting e-taxation is to progress revenue generation in the system.

Revenue generation has remained a major concern for numerous nations comprising Nigeria (Okauru, 2011). This is on the grounds that revenue is the thing that the administration uses to convey open products for the individuals (IMF, 2010). It is the measure of cash that an organization really gets during a specific time (Ofurum et al., 2018). Government income is cash the government got. The incomes of the government are normal from bases, for example, charges charged on the benefits and flourishing develop of people and organizations and on the properties and offices made, fares and imports, non-assessable bases, for example, government-claimed organizations' benefits, national bank pay and capital receipts as outside credits and obligations from worldwide money related establishments (Ofurum et al., 2018). Government income is an important apparatus of the financial strategy of the government.

While it is believed that the intention of introducing E-taxation is to increase income collection in the system, though, there is a paucity of empirical evidence that has shown the degree to which the new technology has achieved this purpose on company income tax, value added tax and capital gain tax hence necessitating this research.

### **Statement of the Problems**

Poor contributions of tax revenues to total revenue collected in Nigeria are alarming (Okauru, 2011). African states such as Ghana, Tunisia, Morocco, and so on, have their tax incomes constituting important share of their entire revenue, Nigeria being the giant of Africa has an important low portion of tax-to-total revenue when likened with these nations (Ofurum et al., 2018). OECD (2014) exposed that in Ghana 73% of its total revenue was made from tax; in Tunisia, tax revenue accounted for 31.3% of her total revenue, while in Morocco, tax-to-total revenue ratio was 28.5%. Though, in Nigeria, tax-to-total revenue ratio was 5.2 percent in 2014 (Federal Inland Revenue Service, 2015, & CBN, 2016). Also obtainable archives displays that this figure has remained below 13% since 2001, and tax revenues has not accounted up to 50% of collected revenue of government since this period to date (Ofurum et al., 2018).

The E-tax was introduced with the chief aim of combating vices that were mainly associated with the collection of taxes like; Tax evasion, filing of wrong tax returns and claiming of undeserved tax refunds (Wamathu, 2014). Income resulting from taxes has remained very low and no physical growth really took place, hence the influence on the poor is not being felt. Inadequate tax workers, deceitful actions of tax collectors and absence of understanding of the significance to pay tax by tax payers are few of the difficulties of tax income (Afuberoh & Okoye, 2014).

Previous study by Onuiri et al. (2015) noted that the tax system in Nigeria is bounded by myriad of problems ranging from slight data available on the history of tax revenues or taxpayers owing to an absence of good archives keeping system (Federal Republic of Nigeria, 1997); the nonexistence of complete tax figures and a centralized archive for the current ones (Federal Republic of Nigeria, 2002); inadequate manpower and other essential capitals into redundant parts and job purposes (Ariyo, 1997); repetition of taxes and its bad influence on taxpayers a problem resulting from a clash in the administrations' fiscal accountability and its fiscal power (Odusola, 2002); and thoughtful efforts by taxpayers to evade taxes (Odusola, 2003). With the application of E-taxation, it is anticipated that after empirical investigation, E-taxation will increase revenue generation in Nigeria. While it is believed that the intention of introducing E-taxation is to increase income generation in the system, though, there is a paucity of empirical evidence that has shown the degree to which the new technology has achieved this purpose on company income tax, value added tax and capital gain tax, hence the need for this study.

## Objectives of the Study

The essential target of this examination is to investigate the influence of e-taxation on revenue generation in Nigeria. While the specific objectives include to:

1. Determine the effect of company income tax on revenue generation in Nigeria.
2. Examine the effect of value added tax on revenue generation in Nigeria.
3. Ascertain the effect of capital gain tax on revenue generation in Nigeria.

## Research Hypotheses

The following hypotheses were stated in null form

1. Company income tax has no significant effect on revenue generation in Nigeria.
2. Value added tax has no significant effect on revenue generation in Nigeria.
3. Capital gain tax has no significant effect on revenue generation in Nigeria.

## LITERATURE REVIEW

### Conceptual Framework

**E-Taxation:** E-taxation is the system of collection and administration of tax procedure through an electronic medium. It is an online network through which the taxpayers have license to the platform via the use of internet, in other to have entrée into the facilities provided by the tax expert such as the registration for a tax identification number, electronic tax filing of tax returns (Olaoye & Atilola, 2018; Wasao, 2014).

In the USA, electronic taxation system was hosted in 1986; while in Australia, it was hosted in 1987. Canada introduced the practice of E-tax collection in 1993, while other industrialized states such as Malaysia and Netherlands started the use of E-tax collection in 2009. In Africa, Uganda started the use of E-tax collection in 2009, while Egypt introduced it in 2013.

In Nigeria e-tax system was hosted in 2015 by the Federal Inland Revenue Service (FIRS) in combination with Nigeria Inter - Bank Settlement System (NIBSS) in order to maintain a close nearness with the international trades towards automated payments systems, for e-government (Olaoye & Atilola, 2018). E-tax system was also introduced to upsurge revenue generation in Nigeria and for stress-free and convenience for tax payers to be able to pay taxes from diverse locations and at various time (Olaoye & Atilola, 2018; Okunowo, 2015). The following taxes are paid online in Nigeria by Nigerian taxpayer: Company Income Tax (CIT), Value Added Tax (VAT), Capital gains Tax (CGT), and Petroleum Profits Tax (PPT). When these taxes are paid via the online platform, taxpayer can applied and processed online his/her tax clearance certificate without visiting the office of the tax authority (Olaoye & Atilola, 2018; Abdulrazaq, 2015).

### Company Income Tax (CIT)

This is also refers to corporate tax. Corporate tax is a direct tax enforced by government on the revenue of a company. Some nations enforce such taxes at the national level, and a related tax may be enforced at state or local levels. Babatunde (2016) defined company income tax as a tax on the incomes of incorporated entities in Nigeria. This tax also comprises the tax on the incomes of non-resident businesses carrying on business in Nigeria. It is paid by limited liability

companies inclusive of the public limited liability companies. It is therefore usually referred to as corporate tax. Company income taxes are charged on the incomes of business entities around the world (Andrew, Neville & Janet, 2012).

By law, Corporations are told to pay corporate duty in Nigeria dependent on the benefit. 30% is the sum charged on the benefit made in the first year of appraisal. Enterprises occupant in Nigeria is obligated for CIT on their general pay and non-inhabitant corporations are at risk just to CIT on their Nigerian-source pay.

### **Value Added Tax (VAT)**

Value Added Tax (VAT) is an assessment on utilization charged at each phase of the utilization chain and borne by the last customer of the item or administrations (Oraka et al., 2017). In Nigeria, VAT is required and gathered at a level pace of 5% from every individual in totally invoiced sum on all merchandise and ventures not excluded from paying VAT under Value Added Tax Act 1993, as corrected. Bird (2005) depicted Value added tax as a multi-organized expense that is collected on merchandise and ventures in every phase of creation. In Nigeria it was known as service tax before it was changed to value added tax. Here, the last burden of tax or the occurrence of tax falls on the consumer; and it is an indirect tax.

In a particular month, if the VAT collected for the government (output VAT) is more than the VAT paid to other persons (input VAT), the variance is be forwarded to the government on monthly basis, by the taxable person (Oraka et al., 2017; Federal Inland Revenue Services Information Circular No 9304). While if the improved is the situation, the citizen is qualified for a discount of the abundance VAT paid. All exports are zero evaluated for VAT, no VAT is payable on exports.

### **Capital Gain Tax**

Capital gain tax is an expense on benefit acknowledges on the offer of capital resource at a cost higher than the price tag. Jones (2003) characterized capital gain tax as an assessment on capital gains, the salary acknowledged on the offer of a non-stock resource that was more prominent than the sum acknowledged on the deal. The most widely recognized capital additions are acknowledged from the offer of government bonds valuable metals, and property. The rate varies with countries. Most countries subject individuals and companies to capital gains-taxes on their annual capital profit. In Nigeria, the amount charged is 10% of the profits from the sale of the qualifying assets (Ogbonna & Ebimobwei, 2012).

Calculation of capital gains charge is carry out by subtracting from the sum received or receivable from the cost of acquisition to the person realizing the chargeable gain plus expense incurred on the enhancement of expenditures incidental to the realization of the asset. Capital gain tax can have direct effect on operating profit of firms as it reduces the net operating profit which return on shareholder is based. Capital gain tax though charged on gains from the sales of capital asset is usually not consider as income from operation, can improve the net income of firms or reduces it (capital gain loss) in a particular year.

### **Revenue Generation**

Revenue generation is one of the greatest significant actions any business can involve in. It is defined as a process by which a business strategies how to market and sell its products or

services, in order to generate income. Government revenue is money government received. It is the quantity of cash that an organization really gets during a specific time (Ofurum et al., 2018). The incomes government got are from sources, for example, charges charged on the earnings and flourishing develop of people and organizations and on the properties and offices made, fares and imports, non-assessable sources, for example, government-claimed organizations' benefits, national bank salary and capital receipts as outside credits and obligations from global monetary foundations (Ofurum, et al., 2018).

Revenue generation is the processes of raising funds for the government. The chief basis of income generation for any government is via taxation. Samuel & Tyokoso (2014) assert that raising of revenue is traditional function of a tax system is the raising of the revenue necessary to meet government spending. This revenue is necessary to meet the spending which is either the provision of goods and amenities which associates of the community cannot deliver such as defence rule and instruction to the provision of goods and amenities which the central and state governments sense are better offered by itself such as health services and education.

In Nigeria, revenue generated is separated into oil proceeds and non-oil proceeds. While oil proceeds covers all income collected from oil and gas doings in the country, non-oil proceeds stares at any income received from sources other than oil and gas activities. While other states within and outside Africa section their incomes into tax and non-tax income, Nigeria favoured oil and non-oil owing to the fact that oil is the major revenue driver of the economy.

Olotu (2012) stated that taxation is now planting seed of transformation in numerous states of the federation of Nigeria. She stated that only previous month, Tell Magazine carried a cover story titled, “*The new cash cow*”. In that write up the magazine discloses how “more and more states across the country are now turning to taxation to shore up their revenue to finance serious infrastructural projects”. (Tell Magazine, April 30, 2012). Olotu (2012) declared that federations have seen their tax proceeds boosted in recent times and this has allowed the establishment of several life and public transforming ventures and packages leading to progressively more content populace. Olotu (2012) quoted monthly income upsurge from N275 million per month to over N1.6 billion per month, as is the situation in Edo State. She credited the cause mostly owing to upsurge in tax revenue.

## Theoretical Framework

**Ability-to-pay approach:** The ability-to-pay approach theory according to Akakpo (2009) as cited in Nnubia & Okolo (2018); Gatsi et al. (2013) is that, taxes are founded on taxpayers’ ability to pay; thus, there is no quid pro quo. This theory is presented by Arthur Cecil Pigou (Samuelson, 2012). It treats proceeds and expenses of government distinctly. This theory pointed out that, taxes paid are understood as a sacrifice by taxpayers, which advance the subjects of what the sacrifice of each taxpayer should be and how it should be measured. According to Akakpo (2009) as cited in Nnubia & Okolo (2018) the theory has the following principles:

- *Equal sacrifice:* The total loss of utility as a consequence of taxation should be equivalent for all taxpayers so that those who have enough money to pay higher taxes are made to pay higher than those who cannot afford (that is, the rich will be taxed more heavily than the poor)
- *Equal proportional sacrifice:* The relative loss of utility as a consequence of taxation should be equivalent for all taxpayers such that the payment of taxation should not deny anybody of what he/she would have beforehand sacrificed.

- *Equal marginal sacrifice*: The rapid loss of utility (as measured by the derivative of the utility function) as a consequence of taxation should be equivalent for all taxpayers. This therefore will involve the least collective sacrifice (the total sacrifice will be the least).

The present study appraises the result to measure whether the principles under the ability to pay theory is completely followed in the case of corporate taxation in Nigeria.

## Studies

Ofurum et al. (2018) analyzed the effect of e-tax collection on Nigeria's income and monetary development utilizing pre-post strategy called combined example t-test. The examination applied secondary data from FIRS and CBN Statistical Bulletin on quarterly premise from second quarter 2013 to final quarter 2016. The investigation uncovered that the use of e-tax assessment has not better tax income, revenue generation and tax-to-GDP proportion in Nigeria. Though, Revenue Generation and Tax-to-GDP ratio meaningfully diminished after e-taxation was applied. Also, Tax Revenue diminished after the application but the mean variance was not statistically important.

Olurankinse & Oladeji (2018) examined self-assessment, e-tax payment systems and revenue generation in Nigeria applying respondents drawn from 30 tax executives from 30 registered firms in Rivers State of Nigeria. Using Pearson's product moment correlation coefficient statistical tool and the regression analysis study revealed an optimistic and important association amid self-assessment and e-tax payment systems and income collection.

Olaoye & Atilola (2018) examined the influence of e-tax payment on income generation in Nigeria using trend analysis, descriptive statistics of mean and standard deviation, paired sampled t-test. The study applied secondary data from the first quarter of 2012 to the 2<sup>nd</sup> quarter of 2018. The investigation discovered that e-tax payment has an optimistic unimportant consequence on value added tax proceeds in Nigeria. Secondly, it was also exposed that e-tax payment has an optimistic unimportant consequence on company income tax proceeds in Nigeria. Finally, it also exposed that e-tax payment has an optimistic unimportant influence on capital Gain tax revenue in Nigeria with t-statistics and p-value of 1.218 and 0.247 respectively.

Allahverd et al. (2017) analysed the influence of e-tax assessment framework on charge income and cost in Turkey utilizing Mann-Whitney U Test. They applied secondary data from the Turkish revenue authority, from pre-electronic duty time of 1993-2004 to post-electronic expense time of 2005-2016. The investigation uncovered that the changeover to the e-charge framework unquestionably influenced the tax revenues and diminished the expense per charge.

Monica et al. (2017) spreading descriptive and inferential insights, explored the impacts of e-charge framework on tax generation capability in local taxes department of Kenya Revenue Authority (KRA). The data applied was primary data. The study exposed that most tax payers intensely decided that they were able to completely access and operate e-Tax system. Employee competence was an important predictor of the tax generation proficiency with the results as ( $t = -2.243, P = .154 > 5\%$ ).

Ojong et al. (2016) examined the influence of tax revenue on the Nigerian economy utilizing Ordinary least square of numerous regression models. The secondary data applied were acquired from CBN Statistical Bulletin and mined by means of work area review strategy. The investigation uncovered that there is an important association among oil benefit charge and the growth of the Nigeria economy. It likewise found that there is no important link among organization personal duty and the development of the Nigeria economy.

Barati & Bakhshayesh (2015) inspected electronic expense framework and the difficulties confronting kermansah territory citizens in Iran using Spearman correlation coefficient. The researcher applied primary data obtained from questionnaires administered to resident of kermansah province. The study exposed that technical and infrastructural variables (95/0), social influence (90/0), the expected effort (51/0), legal issues(40/0), expected performance(32/0), information access (18/0) and perceived risk(11/0) are factors of significance and more effect on the affecting factors for the acceptance of electronic tax, respectively.

Enejo & Gabriel (2014) inspected the observational relationship among tax collection and income generation in Nigeria utilizing a study examination plan. The investigation applied both primary and auxiliary information. The examination devoted on all staff of Federal Inland Revenue Service Abuja FCT office, the States Board of Internal Revenue in Kogi State, Delta State, Ondo State, Niger State, Ebonyi State and Abuja FCT was picked by the agent to supplant Taraba State. For the auxiliary information, Internally Generated Revenue by the six Geo-Political Zones, charges created by Federal Inland Revenue Service, Abuja FCT, and the state's GPD were produced from 2002 to 2011. Regression investigation was utilized. The investigation uncovered that tax collection has a noteworthy impact on income generation, tax assessment has an important effect on Gross Domestic Product (GDP) and tax evasion and tax avoidance have an important effect on revenue generation in Nigeria.

Oriakhi & Ahuru (2014) assessed the link between revenue generation and particular tax income collection sources, for example, custom and Excise Duties (CED), value added tax (VAT), oil benefit charge (petroleum profit tax - PPT), organization income tax utilizing progressed econometric examination, for example, regression, co-integration, error correction modelling and pairwise granger causality tests. Secondary data were gathered from 1981 – 2011. The study accomplishes that the numerous revenue taxes were statistically important and have optimistic association with revenue generated. The Granger causality displays that custom and excise Duties and value-added Tax granger causes revenue generation.

Afubero & Okoye (2014) examined the influence of tax collection on revenue generation in Nigeria, regarding FCT and some named states in the nation utilizing regression investigation figured with the guide of SPSS form 17.0. The agent applied auxiliary and essential wellsprings of information. The examination uncovered among others that, tax collection has a noteworthy impact to income generation and tax assessment has an important effect on Gross Domestic Product (GDP).

Lai (2008) analyzed the effect of e-filing on revenue generation in Malaysia using a survey investigation design, the study applied regression analysis. The investigation utilized both essential and auxiliary wellsprings of information. The investigation uncovered that tax collection has a noteworthy effect on income generation, tax collection has an important impact on Gross Domestic Product (GDP) and tax evasion and tax avoidance have a noteworthy effect on income generation in Malaysia.

## METHODOLOGY

This investigation applied ex-post facto (quasi-experimental) research design. The ex-post facto configuration was applied on the premise that it doesn't offer the investigation an opportunity to control the factors for the most part since they have recently occurred and can't be affected. Among the various kinds of Quasi-test plans the Pre-Post (contrast in time) structure was viewed as proper for the investigation. It computes the impact of a treatment (i.e., an explanatory variable or an independent variable) on an outcome (i.e., a response variable or

dependent variable) by likening the average variation over time in the outcome variable for the treatment group, likened to the average variation over time for the group. This method best suit the reason for this exploration as the examiner isolated the pay made through assessment into two, in light of the time electronic tax collection was applied in Nigeria.

The investigation applied secondary data gotten from Federal Inland Revenue Service charge report and CBN Statistical release and Quarterly Economic Reports. These information were time arrangement information covers the period from first quarter of 2012 to second quarter of 2018 (that is, pre e-charge is from first quarter of 2012 to first quarter of 2015 though the post e-charge is from second quarter of 2015 to second quarter of 2018).

In analysing the data gathered, regressions model was employed to determine the empirical association between dependent and explanatory variables. The suitability of this technique can be vindicated from the point that each variable was grouped into two explanations (before e-taxation application and after e-taxation application).

### **Model Specification & Operationalization of Dependent & Independent Variables**

The model applied was adopted from the work of Ojong, Ogar and Oka (2016) and modified to suite this study.

The model of Ojong, Ogar and Oka (2016) are as follows:

$$\text{GDP} = F(\text{PPT}, \text{CIT}, \text{NOR}) \dots\dots\dots\text{I}$$

Obtaining the OLS model from the above expression,

$$\text{They had: } \text{GDP} = a_0 + a_1\text{PPT} + a_2\text{CIT} + a_3\text{NOR} + e_t \dots\dots\dots\text{II}$$

Where: GDP = Gross Domestic Product

PPT = Petroleum Profit Tax

CIT = Company Income Tax

NOR = Non-oil Revenue

$a_1 - a_3$  = Regression Parameters

$e_t$  = Stochastic error

The model for this investigation is prefaced on the principle objective and tied down on the sub-objective. The functional relationship between e-taxation and revenue generation of Nigeria are expressed thus:

$$\text{FCR} = F(\text{CIT}, \text{VAT}, \text{CGT}) \dots\dots\dots\text{III}$$

Obtaining the OLS model from the above expression, we had:

$$\text{FCR} = \beta_0 + \beta_1\text{CIT} + \beta_2\text{VAT} + \beta_3\text{CGT} + \eta \dots\dots\dots\text{IV}$$

Where:

FCR = Federally Collected Revenue

CIT = Company Income Tax

VAT = Value Added tax

CGT = Capital gain tax

$\eta$  = Error term

$\beta_0$  = Intercept

$\beta_1 - \beta_3$  = the independent variable co-efficient



## PRESENTATION/ANALYSIS OF DATA

The factors utilized in this investigation as determined in the model details are revenue generation (proxied by governmental gathered income - FCR), company income tax (CIT), value added tax (VAT) and capital gain tax (CGT). The assessment was upheld utilizing regression of Ordinary Least Square (OLS) strategy, through the assistance of E-view 8.1. The rundown of the examination result and its comparing understandings of the impact of e-tax assessment on income generation in Nigeria follow the presentation of data.

### Trend Data Analysis of the Variables

| PERIODS | FCR                    | CIT      | VAT      | CGT      |
|---------|------------------------|----------|----------|----------|
|         | <b>Pre E-Taxation</b>  |          |          |          |
| 2012-Q1 | 1172.470               | 116.5074 | 175.8575 | 0.587800 |
| 2012-Q2 | 1267.230               | 289.0813 | 178.9823 | 2.769400 |
| 2012-Q3 | 1366.060               | 254.4492 | 170.6901 | 4.160100 |
| 2012-Q4 | 1201.860               | 156.4812 | 185.0252 | 1.399300 |
| 2013-Q1 | 1206.730               | 154.2939 | 192.1964 | 0.166700 |
| 2013-Q2 | 1436.510               | 400.6694 | 180.6144 | 16.78340 |
| 2013-Q3 | 2748.740               | 240.7724 | 207.0707 | 0.139500 |
| 2013-Q4 | 2204.550               | 167.8149 | 222.8020 | 2.566300 |
| 2014-Q1 | 2495.740               | 174.1639 | 212.3853 | 0.783800 |
| 2014-Q2 | 2613.300               | 556.2703 | 197.2551 | 0.290400 |
| 2014-Q3 | 2783.460               | 273.1290 | 211.3232 | 1.519100 |
| 2014-Q4 | 2210.810               | 176.8439 | 201.2417 | 0.056500 |
| 2015-Q1 | 2055.640               | 160.9244 | 193.3893 | 0.248600 |
|         | <b>Post E-Taxation</b> |          |          |          |
| 2015-Q2 | 1397.200               | 501.6561 | 64.99220 | 10.27960 |
| 2015-Q3 | 1911.710               | 65.28760 | 56.39900 | 0.263400 |
| 2015-Q4 | 1547.960               | 265.3192 | 183.4499 | 0.299500 |
| 2016-Q1 | 1276.380               | 166.0176 | 198.7343 | 0.228000 |
| 2016-Q2 | 1118.560               | 305.3955 | 197.7765 | 72.59310 |
| 2016-Q3 | 1848.520               | 297.3369 | 207.2140 | 24.18880 |
| 2016-Q4 | 1434.480               | 164.7873 | 224.4740 | 2.393500 |
| 2017-Q1 | 778.1935               | 152.4191 | 221.3805 | 0.110600 |
| 2017-Q2 | 1004.180               | 364.2424 | 246.3033 | 0.825800 |
| 2017-Q3 | 1115.330               | 384.9345 | 250.5607 | 1.844900 |
| 2017-Q4 | 1130.250               | 313.4608 | 254.1039 | 0.399000 |
| 2018-Q1 | 1173.610               | 203.6832 | 269.7938 | 0.318000 |
| 2018-Q2 | 1334.300               | 471.5832 | 266.7317 | 6.166300 |

*Source: Federal Inland Revenue Service Quarterly Report from Q1 of 2012 to Q2 of 2018*

**Table 2**  
**DESCRIPTIVE STATISTICS OF PRE ADOPTION OF E-TAXATION**  
**OVER 1ST QUARTER OF 2012 TO 1ST QUARTER OF 2015**

| VARIABLES    | FCR      | CIT      | VAT      | CGT      |
|--------------|----------|----------|----------|----------|
| Mean         | 1904.854 | 240.1078 | 194.5256 | 2.420838 |
| Median       | 2055.640 | 176.8439 | 193.3893 | 0.783800 |
| Maximum      | 2783.460 | 556.2703 | 222.8020 | 16.78340 |
| Minimum      | 1172.470 | 116.5074 | 170.6901 | 0.056500 |
| Std. Dev.    | 643.9119 | 122.1049 | 15.96699 | 4.495188 |
| Skewness     | 0.097847 | 1.495023 | 0.169944 | 2.768486 |
| Kurtosis     | 1.345074 | 4.508445 | 1.938594 | 9.443009 |
|              |          |          |          |          |
| Jarque-Bera  | 1.504249 | 6.075214 | 0.672807 | 39.09231 |
| Probability  | 0.471364 | 0.047949 | 0.714335 | 0.000000 |
|              |          |          |          |          |
| Sum          | 24763.10 | 3121.401 | 2528.833 | 31.47090 |
| Sum Sq. Dev. | 4975471. | 178915.4 | 3059.337 | 242.4806 |
|              |          |          |          |          |
| Observations | 13       | 13       | 13       | 13       |

Tables 1 & 2 above shows the mean (average) for each variable, their maximum values, minimum values, standard deviation. The result provides some insight into the nature of the effect pre e-taxation on revenue generation in Nigeria.

Right off the bat, it was seen that over the period under audit, the pre e-tax assessment have positive average income generation (FCR) of 1904.854. The mean of organization income tax is 240.1078; this additionally implies the income generation has a constructive organization annual expense in the period under investigation. The table likewise uncovers that a positive average estimation of 194.5256 and 2.420838 for value added tax (VAT) and capital gain tax (CGT). These qualities imply that inside the period under survey, the pre e-taxation meet up 1904.854 on the average within the period under review. The maximum value of company income tax is 556.2703 and its minimum value is 116.5074. The maximum value of value added tax is 222.8020 and its minimum value is 170.6901, and maximum value for capital gain tax is 16.78340 and its minimum value is 0.056500. The large differences between the maximum and minimum value shows that the data used for the study are homogeneous.

**Table 3**  
**DESCRIPTIVE STATISTIC OF POST ADOPTION OF E-TAXATION OVER 2ND**  
**QUARTER OF 2015 TO 2ND QUARTER OF 2018**

| Variables    | FCR      | CIT      | VAT       | CGT      |
|--------------|----------|----------|-----------|----------|
| Mean         | 1313.129 | 281.2403 | 203.2241  | 9.223885 |
| Median       | 1276.380 | 297.3369 | 221.3805  | 0.825800 |
| Maximum      | 1911.710 | 501.6561 | 269.7938  | 72.59310 |
| Minimum      | 778.1935 | 65.28760 | 56.39900  | 0.110600 |
| Std. Dev.    | 320.8294 | 129.3164 | 68.95271  | 20.21305 |
| Skewness     | 0.464178 | 0.142580 | -1.304348 | 2.648504 |
| Kurtosis     | 2.635592 | 2.157827 | 3.520000  | 8.774530 |
| Jarque-Bera  | 0.538762 | 0.428227 | 3.832670  | 33.26022 |
| Probability  | 0.763852 | 0.807257 | 0.147145  | 0.000000 |
| Sum          | 17070.67 | 3656.123 | 2641.914  | 119.9105 |
| Sum Sq. Dev. | 1235178. | 200672.7 | 57053.72  | 4902.807 |
|              |          |          |           |          |
| Observations | 13       | 13       | 13        | 13       |

Table 3 above shows the mean (average) for each variable, their maximum values, minimum values, standard deviation. The result provides some insight into the nature of the effect post e-taxation on revenue generation in Nigeria. Firstly, it was observed that over the period under review, the post e-taxation have positive average revenue generation (FCR) of 1313.129. The mean of company income tax (CIT) is 281.2403; this also means that the revenue generation has an optimistic company income tax in the period under study. The Table 4 also discloses that a positive average value of 203.2241 and 9.223885 for value added tax (VAT) and capital gain tax (CGT). These values mean that within the period under review, the post e-taxation meet up 1313.129 on the average within the period under review. The maximum value of company income tax is 501.6561 and its minimum value is 65.28760. The maximum value of value added tax is 269.7938 and its minimum value is 56.39900, and maximum value for capital gain tax is 72.59310 and its minimum value is 0.110600. The large variances between the maximum and minimum value indicates that the data used for the study are homogeneous.

| <b>Variables</b> | <b>FCR</b> | <b>CIT</b> | <b>VAT</b> | <b>CGT</b> |
|------------------|------------|------------|------------|------------|
| FCR              | 1.000000   |            |            |            |
| CIT              | 0.272072   | 1.000000   |            |            |
| VAT              | 0.085952   | -0.092570  | 1.000000   |            |
| CGT              | -0.300946  | 0.389833   | -0.331612  | 1.000000   |

The connection framework is to check for multi-collinearity and to investigate the relationship between each logical variable and the needy variable. The Table 4 above shows that revenue generation (FCR) has positive association with company income tax (0.272072) and value added tax (0.085952), and negative association capital gain tax (-0.300946). Company income tax has a strong adverse link with value added tax (-0.092570) and positive association capital gain tax (0.389833). Value added tax also has an undesirable relationship with capital gain tax (-0.331612). In checking for multi-collinearity, the examination witnessed that no two logical variables were perfectly correlated.

| <b>Variables</b> | <b>FCR</b> | <b>CIT</b> | <b>VAT</b> | <b>CGT</b> |
|------------------|------------|------------|------------|------------|
| FCR              | 1.000000   |            |            |            |
| CIT              | -0.178237  | 1.000000   |            |            |
| VAT              | -0.556928  | 0.133073   | 1.000000   |            |
| CGT              | -0.005983  | 0.173736   | -0.069159  | 1.000000   |

The connection framework is to check for multi-collinearity and to investigate the relationship between each logical variable and the needy variable. The Table 5 above shows that revenue generation (FCR) has undesirable link with company income tax (-0.178237), value added tax (-0.556928), and capital gain tax (-0.005983). Company income tax has positive association with value added tax (0.133073) and capital gain tax (0.173736). Value added tax has an adverse connotation with capital gain tax (-0.069159). In checking for multi-collinearity, the study witnessed that no two logical variables were perfectly correlated.

## Test of hypotheses and Discussion of Results

### Discussion of Pre E-taxation model regression results

Table 6 below shows the result for OLS regression test result on pre e-taxation adoption over 1<sup>st</sup> quarter of 2012 to 1<sup>st</sup> quarter of 2015 period.

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.    |
|--------------------|-------------|-----------------------|-------------|----------|
| C                  | -4647.73    | 1255.591              | -3.70163    | 0.0049*  |
| CIT                | 2.244329    | 0.845481              | 2.654499    | 0.0263** |
| VAT                | 31.2883     | 6.311266              | 4.957532    | 0.0008*  |
| CGT                | -30.0204    | 24.23914              | -1.23851    | 0.2469   |
| R-squared          | 0.804161    | Mean dependent var    |             | 1904.854 |
| Adjusted R-squared | 0.738881    | S.D. dependent var    |             | 643.9119 |
| S.E. of regression | 329.0375    | Akaike info criterion |             | 14.67788 |
| Sum squared resid  | 974391.2    | Schwarz criterion     |             | 14.85171 |
| Log likelihood     | -91.4062    | Hannan-Quinn criter.  |             | 14.64215 |
| F-statistic        | 12.31871    | Durbin-Watson stat    |             | 2.297017 |
| Prob(F-statistic)  | 0.001543    |                       |             |          |

Source: Author 2020

Note: \* 1% and \*\* 5% level of significance

In testing for the cause-effect between the dependent and independent variables in pre e-taxation model (revenue generation), we reported regression analysis. In Table 6, we presented OLS regression estimation techniques. The result revealed difference in their coefficients magnitude, signs and number of significant variables.

In addition to the above, the specific finding from each explanatory variable from the effect of pre e-taxation regression model is provided as follows:

**Company Income Tax (CIT):** based on the coefficient value of 2.244329, t-value of 2.654499 and a p-value of 0.0263 for company income tax. Organization personal assessment seems to have a hopeful impact on income generation and was factually significant at 5% since its p-esteem was under 0.05. The coefficient esteem which uncovers the level of variety brought about by the individual independent variable to the dependent shows a positive estimation of 2.244329, this uncovers organization annual duty emphatically impacts the income generation in Nigeria. The t-estimation of 2.654499 presents that organization annual assessment optimistically affects income generation in Nigeria. The likelihood estimation of 0.0263 demonstrates that the effect of organization annual assessment on income generation in Nigeria, is measurably critical at 5%.

This outcome thusly, recommends that we ought to acknowledge substitute speculation, which expressed that company income tax has noteworthy impact on income generation in Nigeria. This implies increment in organization personal duty shows higher income generation in Nigeria. With hopeful impact on income generation in Nigeria, it fit in with apriori desire.

This finding was in variance with the outcomes of Olaoye & Atilola (2018) which found an unimportant variance between pre and post company income tax revenue with t-value and p-value stated to be 0.833 and 0.421 respectively; and also the work of Ojong, Ogar and Oka (2016) which exposed that there is no important association between company income tax and the growth of the Nigeria economy. The examination was in accordance with the finding of Afuberoh and Okoye (2014) which found that tax assessment has an important effect on income generation at 0.05 critical levels.

**Value Added Tax (VAT):** in light of the coefficient estimation of 31.28830, t-estimation of 4.957532 and a p-estimation of 0.0008 for value added tax. Value added charge seems to optimistically affect income generation and was factually noteworthy at 1% since its p-esteem was under 0.001. The coefficient esteem which uncovers the level of variety brought about by the individual autonomous variable to the dependent shows a positive estimation of 31.28830, this uncovers value added tax positively impacts the income generation in Nigeria. The t-estimation of 4.957532 shows that value added tax optimistically affects income generation in Nigeria. The likelihood estimation of 0.0008 demonstrates that the effect of value added tax on income generation in Nigeria, is factually huge at 1%.

This outcome hence, proposes that we ought to acknowledge exchange speculation, which expressed that value added tax has noteworthy influence on income generation in Nigeria. This implies increment in value added tax shows higher income generation in Nigeria. With optimistic influence on revenue generation in Nigeria, it conforms to apriori desire.

This finding was in variance with the outcomes of Olaoye and Atilola (2018) which found an unimportant alteration between pre and post value added tax revenue with t-value and p-value of 0.520 and 0.612 respectively; and was also in line with the finding of Afuberoh and Okoye (2014) which found that taxation has an important influence on revenue generation at 0.05 significant levels.

**Capital Gain Tax (CGT):** based on the coefficient value of -30.02036, t-value of -1.238508 and a p-value of 0.2469 for capital gain tax. Capital gain charge seems to negatively affect income generation and was factually inconsequential at both 5% and 10% separately, since its p-esteem was more prominent than 0.05 and 0.1 individually. The coefficient esteem which uncovers the level of variety brought about by the individual autonomous variable to the dependent shows a negative estimation of -30.02036, this uncovers capital gain charge contrarily impacts the income generation in Nigeria. The t-estimation of -1.238508 shows that capital gain charge negatively affects income generation in Nigeria. The likelihood estimation of 0.2469 demonstrates that the effect of capital gain charge on income generation in Nigeria, is measurably irrelevant at 10%.

This outcome hence, recommends that we ought to acknowledge null hypothesis, which expressed that capital gain charge has unimportant impact on income generation in Nigeria. This implies decline in capital gain charge demonstrates lower income generation in Nigeria. With negative effect on income generation in Nigeria, it fit in with apriori desire.

This finding was in accordance with the aftereffects of Olaoye and Atilola (2018) which found unimportant variance between pre and post capital Gain tax revenue with t-value and p-value of 1.218 and 0.247 reported to be respectively; and was also in variance with the finding of Afuberoh and Okoye (2014) which found that taxation has an important influence on revenue generation at 0.05 significant levels.

### Discussion of Post E-taxation model regression results

Table 7 below shows the result for OLS regression test result on post e-taxation adoption over 2<sup>nd</sup> quarter of 2015 to 2<sup>nd</sup> quarter of 2018 period.

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.     |
|--------------------|-------------|-----------------------|-------------|-----------|
| C                  | 1903.124    | 316.9999              | 6.003547    | 0.0002*   |
| CIT                | -0.25092    | 0.699201              | -0.35887    | 0.728     |
| VAT                | -2.53711    | 1.294464              | -1.95997    | 0.0816*** |
| CGT                | -0.41463    | 4.444114              | -0.0933     | 0.9277    |
| R-squared          | 0.321862    | Mean dependent var    |             | 1313.129  |
| Adjusted R-squared | 0.095817    | S.D. dependent var    |             | 320.8294  |
| S.E. of regression | 305.0721    | Akaike info criterion |             | 14.52663  |
| Sum squared resid  | 837620.8    | Schwarz criterion     |             | 14.70046  |
| Log likelihood     | -90.4231    | Hannan-Quinn criter.  |             | 14.4909   |
| F-statistic        | 1.423882    | Durbin-Watson stat    |             | 1.859837  |
| Prob(F-statistic)  | 0.298751    |                       |             |           |

Source: Author 2020

Note: \* 1%, \*\* 5% and \*\*\* 10% level of significance

In testing for the cause-effect between the dependent and independent variables in post e-taxation model (revenue generation), we reported regression analysis. In Table 7, we presented OLS regression estimation techniques. The result revealed difference in their coefficients magnitude, signs and number of significant variables.

In addition to the above, the specific finding from each explanatory variable from the effect of post e-taxation regression model is provided as follows:

**Company Income Tax (CIT):** based on the coefficient value of -0.250919, t-value of -0.358865 and a p-value of 0.7280 for company income tax. Organization annual duty seems to negatively affect income generation and was measurably unimportant at 10% since its p-esteem was more noteworthy than 0.1. The coefficient esteem which uncovers the level of variety brought about by the individual autonomous variable to the dependent shows a negative estimation of - 0.250919, this uncovers organization annual duty contrarily impacts the income generation in Nigeria. The t-estimation of -0.358865 showcases that organization annual assessment negatively affects income generation in Nigeria. The likelihood estimation of 0.7280 shows that the impact of organization personal duty on income generation in Nigeria, is factually immaterial at 10%.

This outcome thusly, proposes that we ought to acknowledge null hypothesis, which expressed that organization income tax has immaterial impact on income generation in Nigeria. This implies decline in organization personal assessment demonstrates lower income generation in Nigeria. With negative effect on income generation in Nigeria, it fit in with apriori desire.

This finding was in accordance with the consequences of Olaoye & Atilola (2018) which found an insignificant change among pre and post organization personal expense income with t-worth and p-esteem expressed to be 0.833 and 0.421 individually; and furthermore crafted by Ojong, et al. (2016) which uncovered that there is no important association between organization

annual assessment and the development of the Nigeria economy. The examination was in fluctuation with the finding of Afuberoh & Okoye (2014) which found that tax assessment has a noteworthy influence on income generation at 0.05 noteworthy levels.

**Value Added Tax (VAT):** based on the coefficient value of -2.537111, t-value of -1.959970 and a p-value of 0.0816 for company income tax. Value added charge seems to impact income generation and was measurably critical at 10% since its p-esteem was under 0.1. The coefficient esteem which uncovers the level of variety brought about by the individual autonomous variable to the dependent shows a positive estimation of - 2.537111, this uncovers esteem included duty contrarily impacts the income generation in Nigeria. The t-estimation of -1.959970 shows that value added tax negatively affects income generation in Nigeria. The likelihood estimation of 0.0816 shows that the influence of value added charge on income generation in Nigeria, is measurably huge at 10%.

This outcome accordingly, recommends that we ought to acknowledge alternate hypothesis, which expressed that value added tax has noteworthy impact on income generation in Nigeria. This implies decline in value added tax shows lower income generation in Nigeria. With negative effect on income generation in Nigeria, it fit in with apriori desire.

This finding was in fluctuation with the consequences of Olaoye & Atilola (2018) which found an unimportant variance between pre and post company income tax revenue with t-value and p-value stated to be 0.833 and 0.421 respectively; and was also in line with the finding of Afuberoh & Okoye (2014) which found that taxation has an important influence on revenue generation at 0.05 significant levels.

**Capital Gain Tax (CGT):** Based on the coefficient value of -0.414629, t-value of -0.093298 and a p-value of 0.9277 for capital gain tax. Capital gain charge seems to negatively affect income generation and was factually irrelevant at 10%, since its p-esteem was more noteworthy than 0.1. The coefficient esteem which uncovers the level of variety brought about by the individual free factor to the dependent shows a negative estimation of -0.414629, this uncovers capital addition charge contrarily impacts the income age in Nigeria. The t-estimation of -0.093298 shows that capital gain charge negatively affects income generation in Nigeria. The likelihood estimation of 0.9277 shows that the impact of capital gain charge on income generation in Nigeria, is factually irrelevant at 10%.

This outcome accordingly, proposes that we ought to acknowledge null hypothesis, which expressed that capital gain charge has irrelevant impact on income generation in Nigeria. This implies decline in capital gain charge demonstrates lower income generation in Nigeria. With negative effect on income generation in Nigeria, it fit in with apriori desire.

This finding was in accordance with the aftereffects of Olaoye and Atilola (2018) which found an unimportant variance between pre and post company income tax revenue with t-value and p-value stated to be 0.833 and 0.421 respectively; and was also in variance with the finding of Afuberoh and Okoye (2014) which found that taxation has an important influence on revenue generation at 0.05 significant levels.

| <b>Result</b>             | <b>Pre-electronic tax regression</b> |                    |                | <b>Post-electronic tax regression</b> |                    |                |
|---------------------------|--------------------------------------|--------------------|----------------|---------------------------------------|--------------------|----------------|
|                           | <b>coefficient</b>                   | <b>t-statistic</b> | <b>p-value</b> | <b>coefficient</b>                    | <b>t-statistic</b> | <b>p-value</b> |
| <b>C</b>                  | -4647.730<br>[0.0049]                | {-3.701628}        |                | 1903.124<br>[0.0002]                  | {6.003547}         |                |
| <b>CIT</b>                | 2.244329<br>[0.0263]                 | {2.654499}         |                | -0.250919<br>[0.7280]                 | {-0.358865}        |                |
| <b>VAT</b>                | 31.28830                             | {4.957532}         | [0.0008]       | -2.537111<br>[0.0816]                 | {-1.959970}        |                |
| <b>CGT</b>                | -30.02036<br>[0.2469]                | {-1.238508}        |                | -0.414629<br>[0.9277]                 | {-0.093298}        |                |
| <b>R-squared</b>          |                                      | 0.804161           |                |                                       | 0.321862           |                |
| <b>Adjusted R-squared</b> |                                      | 0.738881           |                |                                       | 0.095817           |                |
| <b>F-statistic</b>        |                                      | 12.31871           |                |                                       | 1.423882           |                |
| <b>Prob(F-statistic)</b>  |                                      | 0.001543           |                |                                       | 0.298751           |                |
| <b>Durbin-Watson stat</b> |                                      | 2.297017           |                |                                       | 1.859837           |                |

Source: Author (2020)

The Table 8 above shows that comparative values of the effect of e-taxation on revenue generation in Nigeria. From the result, the study observed that for Pre-electronic tax the R.sq 0.804161 and R-sq(adj) 0.738881, while for Post-electronic tax the R.sq 0.321862 and R-sq(adj) 0.095817. This value indicates that electronic tax has more influence in pre adoption than in post adoption. E-tax assessment can clarify about 80% of the variety in the Pre-electronic duty on income generation in Nigeria, however can clarify about 32% variety of the Post-electronic expense on income generation in Nigeria. The likelihood of the f-statistics esteem for both Pre and Post-electronic duty demonstrate that the model utilized for the investigation was measurably noteworthy at 1% and irrelevant at 10% levels for Pre and Post-electronic assessment individually. The Durbin Watson for both model uncovers the missing of autocorrelation in both model utilized for the investigation.

## CONCLUSIONS

Literature affirmed that over the years tax compliance levels remain low and tax collections are underneath the goals set by most revenue collection authorities. The introduction of e-tax systems in most nations across the universe, emerging nations like Nigeria, still face the tests of low tax compliance and tax administration. It was contended that e-tax systems are fast substituting paper-based tax reporting systems. Promising countless rewards over the old-style method of hard copy tax filing, these systems promise quicker processing, lower cost and amplified efficiency. This was the premise on which this examination was directed to assess the impact of E-tax assessment on income generation in Nigeria. In view of the result of the examination completed, it was inferred that:

1. There is an idealistic noteworthy impact of pre (before the presentation of e-tax assessment) company income tax revenue on income generation in Nigeria and an antagonistic immaterial impact of post organization annual duty income on income generation in Nigeria (after the appearance of e-tax collection) at 5% level of critical. This implies E-tax collection has not contributed emphatically to organization income tax generation in Nigeria.
2. There is a hopeful critical impact of pre value added tax revenue on income generation in Nigeria and a negative unimportant impact of post value added tax revenue on income generation in Nigeria at 5% level



of critical. This implies E-tax assessment has not contributed emphatically to value added tax generation in Nigeria.

3. There is a bothersome irrelevant impact of pre and post capital gain charge income on income generation in Nigeria at 5% level of noteworthy. This implies E-tax assessment has not contributed decidedly to capital gain tax generation in Nigeria.

Dissimilar to the negative impact of e-tax collection on post (after the appearance of e-tax collection) organization income tax revenue, value added tax income and capital gain charge income, e-tax collection has decidedly added to the generation of pre (before the presentation of e-tax assessment) organization personal duty income and value added tax income in Nigeria and the commitment is factually critical at 5% levels.

## RECOMMENDATIONS

The accompanying proposals were made in accordance with the discoveries of the examination:

1. So as to amplify the foreseen positive impact of the activity, government through Federal Inland Revenue Services should work out modalities on the best way to sharpen partnerships on the basics of E-tax collection.
2. Government by means of Federal Inland Revenue Services must give useful, respectable, greatness and available site for one and all. Government ought to make versatile adaptation of electronic assessment entrance so as to build the appropriation rate by citizens as cell phones are in effect continuously utilized.
3. Government by means of Federal Inland Revenue Services ought to guarantee that the arrangements of the laws which manage defaulters are executed. That is, ensuring that the defaulters are brought to book and managed in like manner.

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