REVIEWING TAX COLLECTION IN THE ELECTRONIC TAX REGIME IN NIGERIA

[1] Abuh Adah, *PhD* & [2] Jeremiah Johnson Ojochema Obera, *PhD*

[1] Department of Accounting, Faculty of Social and Management Sciences,
Air Force Institute of Technology (AFIT), Kaduna
[2] Department of Financial Studies, Faculty of Management Sciences,
National Open University of Nigeria (NOUN)

Correspondence Email: adahconsults@gmail.com

ABSTRACT
It is evident that the objective of tax is to raise realistic amount of money from the various tax payers by the government of a country in order to provide for the basic needs of its citizens at all times. Governments including Nigeria, device options with a view to continually improving tax collection. For this study, the option in question is the adoption and implementation of electronic system in tax collection in Nigeria with a view to improving tax collection. The focus of this study is therefore to assess whether the introduction of electronic tax system in Nigeria will produce high tax collection when it is compared with the manual system results. Paired t-test data analysis technique was used since it involved the comparison of pre and post electronic tax collections to determine for any significant difference. Following the expectation from the advent of electronic tax system, the actual secondary data extracted revealed a reduction in tax collection within the period of study. The result of non-oil tax revenues reveals a significant difference between pre and post e-tax. On the other hand, the result in respect of oil tax shows that there was a difference but it is not significant. Based on these findings, the study recommends that the FIRS should revisit this new system for i) reorientation and sensitization on regular basis until the tax payers are satisfied with new method; ii) implementation to be in phases following the responses from the tax payers directly or through consultants; and iii) FIRS must be ready and willing to listen and address relevant inputs and responses from the tax payers if the objectives of new system must be achieved.

Keywords: *Electronic tax system, FIRS, Nigeria, tax collection*

INTRODUCTION

Tax is a mandatory, but proportional financial contribution imposed by the governments on individuals, companies and other organizations' taxable incomes, profits, goods, services and other sources of income as may be deemed necessary by the governments for the purpose of providing the basics needs of their citizens taking into consideration the principles of taxation. It is evident that the objective of tax is to raise realistic budgeted amount of money from the various tax payers by the government of a country in order to provide for the basic needs of its citizens at all times. Base on this basic and constitutional demand by the citizens of a country like Nigeria, it becomes absolutely necessary to device options with a view to continually improving tax collection on that

option. For this study, the option in question is the adoption and implementation of electronic system in tax collection in Nigeria, and to compare the tax collection with the manual system over a time period.

Electronic tax collection is an aspect of digitization. Etim, Mfon and Patrick (2020) opined that digitization is for the transformation of national live and economy but it will come with public policy challenges and it doubtlessly has changed the nature of policy making as a result of the support of electronic tools and paraphernalia such as smart computer and accessories and other digital devices that pervades the economy in recent times that they have caused disruption away from the manual systems known before these present days. Raphael *et al*. (2020) stated that the matter of digitization noting electronic process has become heavily relied on and widely accepted as a result of its online ubiquitous presence globally. The compatibility of digitization of taxation for improved collection also afforded a reliable database of taxpayers which hitherto was a challenge though the extent of advantage of this database to the tax collecting agency may be difficult to ascertain.

Before commencement of the electronic tax, Nigeria had a formal structure for tax collection. However, the structure is expected to have been constantly overhauled to accommodate any technological inclusion and tax collection improvement. Besides, the structure had been variously accused by some researchers for i) fraught with maladministration to occasion overhauling (Adegbie, Folajimi &Akinyemi, 2020); ii) taxes were paid without evidence leading to obstruction of financial reporting; when a strategy to circumvent this absence of financial reporting was introduced, it also failed due to forgery (Adegieetal, 2020); iii) the level of compliance by Nigeria compared to other countries was abysmally low which was a justification for the abrupt migration from the manual system which was fraught with leakages in the collection process orchestrated by tax officers and taxpayers as a result of the face-to-face interface between the two which usually open up negotiation table (Oladele, Aribaba, Adediran & Babatunde, 2020).

Other problems of the manual system resulting from the earlier tax structure include iv) the absence of absolute records on each tax payers for decision making; v) absence of regular, updated and

required information on taxes collected and collectable; and vi) the challenges in tax collection manually may be responsible for the gaps that existed in the estimated revenue as against its collection (Mutia, 2011) as cited by Akpubi *et al.*, 2019).

Thus, the electronic tax system if adopted and implemented as necessary will provide adequate answers to the lapses highlighted in the preceding paragraphs. The expectation of this study is that with introduction of electronic system, there will be noticeable improvement in tax collection. In line with this expectation, Nisar (2013) argued that embracing the electronic taxation platform will be the better remedy for tax collection to close any gap that may arise from manual system. The focus of this study is therefore to assess whether the introduction of electronic tax system produced high tax collection when it is compared with the manual system results.

The objective of the study is to examine for any significant difference between the pre and post implementation of electronic tax system on tax collection in Nigeria. The specific objectives are to i) assess for any significant difference in the non-oil tax collection before and after the implementation of electronic tax system in the period of study; ii) identify any significant difference in the oil tax collection before and after the implementation of electronic tax system in the period; and iii) evaluate any significant difference in the total tax collection before and after the implementation of electronic tax system in the period under study. The respective null hypotheses are by implication and shall be tested accordingly in support of the objectives of the study.

The study covered a period of ten years from years 2011 to 2020. The researcher is of the view that five years (2011 to 2015) before the electronic tax system and five years (2016 to 2020) after such implementation will be sufficient for reasonable comparison of tax collection. Besides, the yearly data available is up year 2020 at the time of this study. The year 2015 is assumed in this study to be part of the pre electronic tax (e-tax) period to allow for fluctuations in transition to full implementation. Besides, the e-tax collection commenced in the second quarter of 2015; a period that could be described as a testing or parallel to provide for comments, observations and corrections to provide for adequate implementation.

CONCEPTUAL REVIEWS

Electronic Tax:

According to Adebayo and Idowu (2020), e-tax system is an innovation newly introduced in an already existing system while e-taxation is the process of assessing, collecting, and administering the taxation process through electronic media. In the words of E-taxation is one of the ways through which governments around the world utilize information and communication technologies to improve the delivery of public services and the dissemination of public administration information to the public. Umenweke and Ifediora (2016) opine that e-taxation is an automated process gradually phasing out the manual tax administration globally. It is achieved as taxpayers pay their taxes electronically quickly from the comfort of their homes, workplaces and other places where internet is available.

E-tax payment system is one of the ways through which governments globally make use of information and communication technologies to enhance the provision of public services and the circulation of public administration information to the society (Che-Azmi & Kamarulzaman, 2014). Wasao, (2014) describes electronic tax system as an online system or channel where taxpayers are able to have access or permit to the platform through the use of internet, in other to have access to all the services provided by the tax authority such as the registration for a tax identification number, electronic tax filing of tax returns.

Electronic tax system is a web enabled and secured application system that provides a fully-integrated and automated solution for administration of domestic taxes. It enables tax payers to register, returns filing, payment registration to allow for tax payments and status inquiries with real-time monitoring of accounts (Waweru, 2013). The electronic tax system provides education and information to tax payers through electronic registration, filing and payment. In general, the e-tax system is a comprehensive internet portal that can be accessed electronically and which provides tax payers with a safe self-service option package, a single point of information and action, and does not require intervention by tax administration personnel (Jimenez, Sionnaigh & Kamenov, 2013).

Electronic tax system forms part of the revenue collection reforms by FIRS whose main motive is enhancing tax collections and tax efficiency and thus, tax revenues have been increasing rapidly due to the country's rapid economic development accelerated by the new systems (Atika, 2012). It is a system for submitting tax documents and remitting tax due to the tax authority through internet or direct connection, usually without the need to submit any paper document. E-tax is an e-government application that allows for the administration and collection of tax (Chang & Hung, 2005).

Electronic tax system, therefore can be described as the electronic practice where any tax payer is allowed freely to process its tax matters at any time but within the defined time frame by the tax authority for such tax matters, eliminating all tax manual huddles, obtain immediate result and updating his relevant tax records accordingly.

EMPIRICAL LITERATURE REVIEW

Adebayo and Idowu (2020) examined the impact of electronic taxation and revenue generation effectiveness in the era of Treasury Single Account operations with a view to determining its trend and effects on Gross Domestic Production in Nigeria. Secondary data were extracted from Federal Inland Revenue Service (FIRS), Central Bank of Nigeria and Economic Reports from 2010 to 2019. The data were grouped into pre and post e-taxation which were compared using a pre post technique of analysis. The results revealed that before e-taxation, revenue generation was below average while the tax revenue significantly improved after the e-taxation.

Ajala and Adegbie (2020) investigated the effect of information technology on effective tax assessment in Nigeria. The study adopted survey research design with a population of 2,857-management and administrative staff of targeted respondents. Krejcie and Morgan' formula was used to determine the sample size of 641. Descriptive statistics and inferential statistics used for data analysis revealed that information technology had a positive statistical significant effect on effective tax assessment

Chijioke, Leonard, Bossco and Amaefule (2018) examined the impact of e-taxation on Nigeria's revenue and economic growth. Secondary data were extracted from the Statistical and Economic Reports on quarterly basis from second quarter 2013 to fourth quarter 2016. The data were grouped

into two that is, pre e-tax period and post e-tax period. Findings from the study revealed that the implementation of electronic taxation has not improved tax revenue, federally collected revenue and tax-to-GDP ratio in Nigeria.

Ofurum, Amaefule, Okanya, and Amaefule (2018) assessed the impact of e-taxation on Nigeria's revenue and economic growth with a pre-post e-taxation analysis. Secondary data were extracted to determine the pre-post technique called a paired sample t-test. The study found that the implementation of e-taxation has not improved tax revenue, federally collected revenue and tax-to-GDP ratio in Nigeria.

Olurankinse and Oladeji (2018) conducted a study on self-assessment, electronic-taxation payment system and revenue generation in Nigeria. The study was to assess how self-assessment tax system can enhance tax revenue and evaluate how e-taxation payment system can improve revenue generation. Data were collected through primary sources. The data was analysed using Pearson's product moment correlation coefficient and regression. The result found out that there was a significant relationship between compliance enforcement of tax payers in the payment of tax and revenue generation.

Olaoye and Atilola (2018) carried out an examination of the effect of e-tax payment on revenue generation in Nigeria. The study covered six years period to second quarter of 2018 with a pre and post e-tax grouping. The major data analysis technique used was the paired sampled t-test for the purpose comparing the means of the pre and post e-tax revenue generation. The findings revealed that there i) was insignificant positive difference between pre and post value added tax revenue ii) was a positive insignificant difference between pre and post company income tax revenue and iii) is a positive insignificant difference between pre and post capital gains tax revenue.

Allahverd, Alagoz, and Ortakapoz (2017) examined the effect of e-taxation system on tax revenue and cost in Turkey, the study used secondary data of the Turkish revenue authority, the data were examined in two groups as pre-electronic tax period and post-electronic tax period. Mann-Whitney

U Test was used to analyse the data. The result revealed that the transition to electronic tax system positively affected the tax revenues and reduced the cost per tax.

Maisiba and Atambo (2016) carried out a study in Rwanda and investigated the effect of electronic tax management system of tax collection. Both primary and secondary sources of data were used with their relevant tools. The result of the investigation discovered that e-tax payment contributes to timely tax payment and reduced operational costs.

Bett and Yudah (2017) examined the contribution of e-tax system as a strategy for revenue collection at Kenya Revenue Authority (KRA), Rift Valley Region, Kenya. The study employed correlational research design and primary data were collected from 76 respondents using a five-point Likert scale. Multiple-regression was used as inferential statistics to analyse the data and the result obtained showed that online tax payment registration, online tax return processing, online compliance and monitoring activities and electronic tax payments have a significant contribution on revenue collection at KRA.

Ifere and Eko (2014) examined the tax innovation, administration and revenue generation in Cross River State. The study employed qualitative research technique using a structured questionnaire to access data from the three senatorial districts in Cross River State. The study using an analytical statistics of descriptive and regression analysis found significant degree of inefficiency in the administration of taxes in Cross River State.

Okoye and Ezejiofor (2014) investigated the impact of e-taxation on revenue generation in Enugu state, Nigeria. The paper set to ascertain whether e-taxation can resolve the issue of tax evasion and prevent corrupt practice by tax officials. The study collected data from primary source and was analysed using Z-test statistics. The findings showed that e-taxation can enhance internally generated revenue and reduce the issue of tax evasion in state.

METHODOLOGY

The study examines whether or not there is a significant difference between the performance indicators of pre and post implementation of electronic system of tax collection in Nigeria.

Secondary data were extracted from the Tax Statistics / Report of the Federal Inland Revenue Service (FIRS) from years 2011 to 2020. From which the required figures of total tax, non-oil tax and oil tax were extracted. To achieve the specific objectives of the study that involved the comparison of pre and post electronic tax collections, the paired t-test was used in analysing the data. This indicated that there are two paired populations; the two populations in this study are before and after implementation of e-tax which are compared.

DATA PRESENTATION, RESULTS AND DISCUSSION

The data extracted from the Tax Statistics / Report – Federal Inland Revenue Service (FIRS)

from 2011 to 2020 for the purpose of this study is presented in table 1:

Table 1: Tax Statistics / Report of Tax Collected from 2011 to 2020 in Billion Naira

Year	Non-oil (₦)	Oil (₦)	Total (₦)
2011	715.44	3,070.59	3,786.03
2012	846.59	3,201.32	4,047.91
2013	998.44	2,666.37	3,664.81
2014	1,204.83	2,453.95	3,658.78
2015	1,408.43	1,289.96	2,698.39
Total	**5,173.73**	**12,682.19**	**17,855.92**
2016	1,124.72	1,157.81	2,282.53
2017	1,262.01	1,520.48	2,782.49
2018	1,444.71	2,467.58	3,912.29
2019	1,650.80	2,114.27	3,765.07
2020	1,533.12	1,516.99	3,050.11
Total	**7,015.36**	**8,777.13**	**15,792.49**

Source: *Tax Statistics / Report – FIRS*

From table 1, the total non-oil tax collected in Billion from 2011 to 2015 treated as pre amounted to ₦5,173.73 compared with the figure of ₦7,015.36 and from 2016 to 2020 representing the post e-tax collection. This revealed an increase of ₦1,841.63 in billion from a change over from manual system of tax collection to electronic method in respect of non-oil. On the other, there was a noticeable decrease between the pre and post e-tax collection of ₦3,905.06 billion in respect of oil tax between 2011 to 2015 and 2016 to 2020. That is to state that implementation of e-tax has

greatly reduced the amount of oil tax collection in the period. The overall effect is still a reduction of tax collection by ₦2,063.43b meaning that the impact of introducing e-tax has not been achieved within the period under study. However, this may improve in the long run as a result of FIRS policy that must be embraced whatever may be the responses of the tax payers.

Table 2: Paired t test output data: Non-Oil Tax

Paired t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Pre	5	1034.746	123.9446	277.1486	690.6205	1378.871
Post	5	1403.072	94.17901	210.5907	1141.589	1664.555
diff	5	-368.326	61.383	137.2566	-538.7525	-197.8994

mean(diff) = mean(Pre - Post) t = -6.0005
Ho: mean(diff) = 0 degrees of freedom = 4

Ha: mean(diff) < 0 Ha: mean(diff) != 0 Ha: mean(diff) > 0
Pr(T < t) = 0.0019 Pr(|T| > |t|) = 0.0039 Pr(T > t) = 0.9981

The table 2 shows the result of the paired t test of significant difference between the amount collected in respect of non-oil tax before and after the advent of electronic tax system. As observed in this table, the absolute value of the calculated t value (-6.0005) is greater than the t critical value (1.96) at 5% level of significance. This is an indication that the tax collected before and after the implementation of e-tax system is significantly different. From the mean scores, the amount after the new system was higher than before the new system. Therefore, the implied null hypothesis will not be accepted. These results are in line with the studies of Adebayo and Idowu (2020), Ajala and Adegbie (2020), Olurankinse and Oladeji (2018) and Allahverd, Alagoz and ortakapoz (2017) that examined the effect of electronic tax on revenue generation with significant differences between pre and post revenue collections. However, the results of the studies conducted by Chijioke, Leonard, Bossco and Amaefule (2018), Ofurum, Amaefule Okanya and Amaefule (2018) and

Olaoye and Atilola (2018) revealed insignificant differences position between the pre and post electronic tax system.

The justification for these results could be due to i) FIRS may want to prove the efficiency of the new tax regime by doubling its efforts to collect all due taxes and ii) Enforcement by the tax authority making it mandatory for the tax payers to comply or face stiff penalty.

Table 3: Paired t test output data: Oil Tax

The result in Table 3 represents the paired t test of oil tax between the pre (2011 to 2015) and post (2016 to 2020):

Paired t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Pre	5	2536.438	339.4688	759.0752	1593.922	3478.954
Post	5	1755.426	235.0669	525.6255	1102.776	2408.076
diff	5	781.012	426.6436	954.004	-403.5404	1965.564

mean(diff) = mean(Pre - Post) t = 1.8306
Ho: mean(diff) = 0 degrees of freedom = 4

Ha: mean(diff) < 0 Ha: mean(diff) != 0 Ha: mean(diff) > 0
Pr(T < t) = 0.9294 Pr(|T| > |t|) = 0.1411 Pr(T > t) = 0.0706

As revealed in table 3, the oil tax position after e-tax regime was not significant; the remark value is 0.1411, with the absolute figure of t value of 1.8306 which is greater than the t critical value (1.96) at 5% level of significant. The corresponding hypothesis will be accepted since there was no significant difference between the pre and post e-tax (however there was a difference only that it was not significant). On the other hand, the implementation of the new tax system has not improved the value of tax collection in the period under review instead the tax collected was reasonably low.

These results are in agreement with the studies conducted by Chijioke, Leonard, Bossco and Amaefule (2018), Ofurum, Amaefule Okanya and Amaefule (2018), Olaoye and Atilola (2018) and Okoye and Ezejiofor (2014) that revealed insignificant differences position between the pre and post electronic tax system. On the other hand the following studies carried out by Adebayo and Idowu (2020), Ajala and Adegbie (2020), Olurankinse and Oladeji (2018) and Allahverd, Alagoz and Ortakapoz (2017) had contrary results, meaning significant differences between the pre and post adoption of electronic tax system.

Reasons for the insignificant difference in tax collection in the new tax system may be due to i) tax payers' culture of transition to a new policy especially where it involves cash outflow; ii) fear of negative implication where for instance no parallel tests are carried out; iii) inefficient and possibly inappropriate means of sensitizing this policy or absence of relevant awareness of the proposed change before implementation on part of the tax payers; and iv) absence of recognizing the inputs or responses from the tax payers.

The table 4 reveals the paired t test of the total tax that is, non-oil and oil taxes between the pre (2011 to 2015) and post (2016 to 2020):

Table 4: Paired t test on Total Tax

```
. ttest Pre == Post

Paired t test
```

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Pre	5	3571.184	229.3071	512.7463	2934.525	4207.843
Post	5	3158.498	304.6787	681.2822	2312.574	4004.422
diff	5	412.6859	400.4062	895.3355	-699.0199	1524.392

```
    mean(diff) = mean(Pre - Post)                                 t =   1.0307
Ho: mean(diff) = 0                             degrees of freedom =        4

 Ha: mean(diff) < 0           Ha: mean(diff) != 0           Ha: mean(diff) > 0
 Pr(T < t) = 0.8195         Pr(|T| > |t|) = 0.3609          Pr(T > t) = 0.1805
```

Table 4 discloses the result of the test of significant difference in the total tax collection, that is, non-oil and oil taxes before and after the introduction of e-tax in Nigeria. It reveals an insignificant difference in the total tax collection before and after the regime. The difference in the mean score is 412.686 leading to insignificant level of 0.3609. The t value is 1.0307, which is greater than the t critical value (1.96) at 5% level of significance. This result is the combination of tables 2 and 3.

CONCLUSION AND RECOMMENDATIONS

The expectation is that with the advent of electronic tax system, the tax collection will be significantly improved. From the study there were improvements in the level of tax collected in respect of non-oil between the pre and post by ₦1,841.63b. However, there was reduction of ₦3,905.06b in respect of oil tax collection. On the overall, there was a reduction of ₦2,063.43b between pre and post introduction of e-tax system in Nigeria.

Using the paired t test for comparison of the pre and post introduction of e-tax, the result of non-oil tax reveals a significant difference between pre and post e-tax. This indicates that the advent of

e-tax has achieved its objective by recording higher movement in tax collection. On the other hand, the result in respect of oil tax shows that there was a difference but it is not significant. The result indicates no improvement in tax collection after the implementation of the e-tax system. Instead of increment, it was a high difference; therefore the objective of the new system is not necessary.

Based on these findings, the study recommended that the FIRS should revisit this new system for i) reorientation and sensitization on regular basis until the tax payers satisfied with new method; ii) implementation to be in phases following the responses from the tax payers and their consultants; and iii) FIRS must be ready and willing to listen and address relevant inputs and responses from the tax payers if the objectives of new system must be achieved.

REFERENCE

Adebayo, A. A. & Idowu, A. B. (2020). E-taxation and revenue generation effectiveness in developing economy – A case of Nigeria. *International Journal of Scientific & Engineering Research, 11(9).*

Ajala, M. O. O. & Adegbie, F. F. (2020). Effects of information technology on effective tax assessment in Nigeria. *Academic Journals, 12*(4) 126-134.

Allahverd, Alagoz, & Ortakapoz. (2017). Effect of e-taxation system on tax revenue and cost in Turkey. *European Journal of Social Sciences, 9*, 100-150.

Appah, E. & Oyadongha, J. K. (2011). The Challenges of Tax Mobilization and Management in Nigeria. *Journal of Business and Management*, 6(2):137-142.

Atika, J. (2012). Electronic Tax System Forms Part of the Revenue Collection Reforms by FIRS Whose Main Motive is Enhancing Tax Collections. *Research Journal of Business Management and Accounting*, *2*(1), 1-10.

Che-Azmi, A. A., & Kamarulzaman, Y. (2014). Adoption of tax E-filing: A conceptual paper. *African Journal of Business Management*, *10*(1), 599-603.

Chijioke, N. O., Leonard, I. A., Bossco, E. O., & Amaefule, H. C. (2018). Impact of E–Taxation on Nigeria's Revenue and Economic Growth: A Pre – Post Analysis, *International Journal of Finance and Accounting*, 7(2), 19-26.

Cobham, L. (2010). The electronic tax system and its effect on economic growth. *International Journal of Sciences Basic and Applied Research*, *22*(1), 81-95.

Institute of Chartered Accountants of Nigeria (2019). *Advanced taxation* (Study Pack), Nigeria, Lagos.

Ifere, E. & Eko, E. (2014). Tax innovation, administration and revenue generation in Nigeria: Case of Cross River State. International Journal of Economics and Management Engineering 8(5):1603-1609.

Maisiba, M. & Atambo, L. (2016). The Effects of Revenue System Modernization on Revenue Collection at Kenya revenue. *M.Sc., Research Project,* University of Nairobi.

Nasir. (2013). Implementing electronic tax fillings and payments in Malaysia. *Journal of Accounting and Economics*, *17*(2), 41-67.

Ofurum, C. N., Amaefule, L. I., Okonyà, B. E., &Amaefule, H. C. (2018). Impact of electronic taxation on Nigerian's revenue an economic growth: A pre-post analysis. *International Journal of Accounting. 7*(2), 19-26.

Okoye, P. V. C. & Ezejiofor, R. (2014). The Impact of E-Taxation on Revenue Generation in Enugu, Nigeria. *International Journal of Advanced Research, 2*(2), 449-458.

Ola, C. S. (2004). *Income tax law and practice in Nigeria.* Ibadan: Heinemann Educational Books

Olaoye, C. O. & Atilola, O. O. (2018). Effect of e-tax payment on revenue generation in Nigeria. *Journal of Accounting, Business and Finance Research, 4*(2) 56-65.

Umenweke, M. N., & Ifediora, E. S. (2016). The law and practice of electronic taxation in Nigeria: The gains and challenges. *NAUJIL*I. 101-112.

Wasao, D. (2014). The effect of online tax system on tax compliance among small taxpayers. *Msc, Research Project*, University of Nairobi.