

# INFORMATION TECHNOLOGY APPLICATION AND EFFECTIVE TAX ADMINISTRATION IN BAYELSA STATE, NIGERIA

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## ABSTRACT

*The study examined Information Technology (IT) application and effective tax administration in Bayelsa State Board of Internal Revenue, Yenagoa, Nigeria. The study adopted a descriptive research design. A total of 70 tax officers were surveyed using an online questionnaire, but only 65 representing 93% of them responded. Data were analyzed with frequency counts, and percentages, while Statistical Package for Social Sciences (SPSS) version 23 was used as the test statistic. The study found that a significant relationship exists between information technology application and effective tax administration in Bayelsa State Board of Internal Revenue. The study concludes that effective tax administration is achieved through the adoption of information technology; as it improves tax administration processes, reduces human errors and processing time, increases voluntary tax compliance, and reduces corrupt practices. The study recommends that the Bayelsa State Board of Internal Revenue should create more awareness on the existence of e-taxation so that taxpayers can easily pay their taxes at the comfort of their homes.*

**Keywords:** Bayelsa State board of internal revenue, e-taxation, information technology, tax administration

## INTRODUCTION

Taxation has remained one of the major sources of revenue for governments at all levels over the years. Through the revenue generated, they provide adequate and desirable infrastructures, and meet other expenses of government. The development of any nation largely depends on the amount of revenue generated by the governments for the provision of social and economic infrastructure. Thus, effective and efficient collection of tax is essential, if countries are to meet

the tipping point for development and growth of 12.75 percent of GDP (Gaspar, Jaramillo, and Wingender, 2016). Taxation is undeniably a powerful tool for national growth. Tax policies can and do stimulate economic growth and job creation through their impact on investment and capital formation in the economy, in addition to being a major source of revenue for the government (Dike, 2014).

Generally, taxes are levied by the government on income, consumption, and production of goods and services. McLure (2015) defined taxation as a mandatory financial charge or some other type of levy imposed upon a taxpayer (an individual or other legal entity) by a government, to fund various public expenditures. However, to effectively achieve the goal of taxation, these taxes ought to be properly administered. Tax administration is defined as the processes that include the management, conduct, direction, and regulation of the execution and application of necessary tax revenue statutes, laws, and conventions (Ganyam, Ivungu, & Anongo 2019). Tax administration plays an important role in tax revenue of any country. The goal of tax administration is to ensure that the government generates more revenue from taxes. As a result, tax administration encompasses all principles, strategies, and methods used by government to plan, collect, account for, control, and coordinate the collection of taxes (Azende & Ganyam, 2020).

However, before the introduction of electronic taxation (e-taxation), tax administration faced a slew of issues, including errors, inconsistencies, difficulties in filing and collection. To improve effectiveness and efficiency in tax administration, most tax authorities in industrialized countries implemented e-taxation systems to interface with the taxpaying public in tax administration and compliance settings (Dowe, 2008). E-taxation is defined as the administration of a tax system that is carried out online or via the Internet (Okoye & Ezejiofor, 2014). The goal of e-taxation is to replace inefficient, paper-based systems with collaborative, process-driven, and secure online delivery systems (Arya, 2012). It allows taxpayers to access every service provided by tax authorities over the Internet, including registration of personal identity numbers, filing of tax returns, and application for compliance certificate. Tax administrators have used technology to improve tax operations in order to extend tax bases and cushion tax evasion, resulting in higher tax collection (Maina, 2018).

In many countries around the world, such as Malaysia, Japan, South Korea, Zambia, India, and South Africa, e-taxation has played a critical role (Perrou, 2018). It has made a significant contribution to these countries' success stories, as well as bringing about a revolution in tax revenue and tax administration (OECD, 2015). E-taxation is widely regarded as a springboard for long-term economic growth as well as cross-border tax administration and management. Apart from increasing per capita income and tax revenue, digitalization and tax administration have also created job opportunities, encouraged import substitution, foreign direct investment, and multi-national corporations' effectiveness and efficient use of local and international tax laws synchronization (Leyira, Chukwuma, & Umobong 2017).

Taxation has been in place in Nigeria for a long time. Taxes were collected manually in Nigeria prior to the development and adoption of e-taxation. The manual system came with several drawbacks. Collusion between revenue authorities and taxpayers, tax evasion, inaccuracies resulting from manual computations, and inadequate administration of taxpayers' databases are only a few of the difficulties (Ayodeji, 2017). According to Leyira *et al.* (2017), one of the issues with tax administration is the multiplicity of taxes, particularly in developing countries. This is a

prevalent problem in Nigeria, where there is no clear tax authority between the three levels of government, resulting in multiple tax collections from the federal, state, and local governments. In Nigeria, the Federal Inland Revenue Service (FIRS) is in charge of federal tax system, while the State Board of Internal Revenue Service is in charge of tax systems in the various states, and the Local Government Revenue Committees (LGRC) is in charge of tax management at the local government level (Kiabel & Nwokah, 2009; Okauru, 2012).

However, in 2015, the e-taxation system was launched in Nigeria in order to strengthen the tax system and ensure proper tax management (Ofurum, Amaefule, Okonya, & Amaefule 2018). The e-taxation system was implemented to automate all essential activities, including tax registration, payment, assessment, monitoring, tax audit and investigation, and return submission. The implementation of e-taxation in Nigeria has resulted in increased tax revenue, and decreased collection costs (FIRS, 2018). It has also improved the efficiency and effectiveness of tax collection and administration (Olatunji & Ayodele, 2017; Umaru, Nasiru, & Yusuf 2019). It has decreased the need for human intervention in tax payments and eliminated the prospect of tax officials working with fraudulent taxpayers to dodge taxes (Schneier, 2016). E-taxation has also improved tax administration, increased revenue, and increased transparency.

According to Newman and Ekhaton (2019), one difficulty with e-taxation in Nigeria is that only the Federal Inland Revenue Service (FIRS), which is the federal tax body, has fully automated its processes. Except for a few states such as Lagos State, Gombe, Nassarawa, and Ogun, many state revenue offices still use manual tax processes (Animasaun, 2016; Soetan, 2017; Stephen, 2018). This condition makes it difficult for tax officials at the federal, state, and local levels to work together effectively to avoid double taxation. To establish the essential synergy with the FIRS, all states and local government revenue bodies must automate their procedures. This has the advantage of improving Nigeria's ranking on the ease of doing business index since investors will find it simple to meet their tax responsibilities to the federal, state, and local governments.

The Bayelsa State Board of Internal Revenue is the body in charge of the responsibility of assessing, collecting, and accounting for taxes in the State. The proper use of e-taxation system will improve tax administration by allowing for more accurate, reliable, and timely data processing. Taxpayers are keen to explore how they can smoothly conduct their tax affairs, given the time and speed of information technology, even from the comfort of their own homes. As a result, only a few studies investigating information technology use and tax administration in Bayelsa State have been conducted. This study joins the discourse by empirically analyzing the impact of information technology on tax administration in Bayelsa State of Nigeria.

### **LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT**

Several studies have been conducted on information technology adoption and effective tax administration. Some of the research in this area has yielded mixed results. Based on their conclusions, these researches can be divided into two groups. The first group of studies confirms that information technology boosts tax income and streamlines administrative processes. On the other hand, the second stream of research suggests that IT can result in a decrease in tax revenue or an increase in tax evasion. A review of some of these investigations is offered in this section.

The impact of e-taxation assessment framework on charge income and cost in Turkey was investigated by Allahverd, Alagoa, and Ortakapoz (2017). From the pre-electronic duty period of

1993-2004 to the post-electronic expense period of 2005-2016, they used secondary data from the Turkish revenue authority. The analysis discovered that the switch to e-charge system had a significant impact on tax collections and reduced the cost per charge. Similarly, a study by Koyuncu, Yilmaz, and Unver (2016) looked at the influence of ICT on tax income in 157 nations. It was discovered that ICT penetration has a considerable positive relationship with tax revenue. Relatedly, a study by Lai (2008) revealed that tax collection has a significant impact on income generation and GDP; and that tax evasion and tax avoidance have a significant impact on income generation in Malaysia.

Also, Roger (2021) observed that digital tax administration has reduced tax evasion and avoidance in Rwanda in the last three years; while Maina (2018) reports that online tax administration systems have increased revenue generation and resulted in notable success in filing returns, remitting payments, applying for tax refunds, lodging tax objections, applying for tax waivers, and requesting tax compliance certificates in Kenya. McCluskey, Franzsen, Kabinga, and Kasese (2018) confirmed, via a study of four African countries, that ICT increases tax income in African.

In the Nigerian context, Oladele *et al.* (2020) discovered a substantial link between electronic taxation and tax compliance; but opined that security measures should be implemented regularly to prevent hackers, malicious assaults, and other calamities that are common in ICT-based environments. Ajala and Adegbe (2020) in their study found that ICT had a strong positive impact on tax assessment. The study advised that government at various levels should create enabling tax legislation and eliminate the ambiguities and complexities existing tax rules.

Conversely, Audu and Ishola (2021) reports that ICT has no major impact on tax revenue generation in Nigeria. Also, Nwauzor (2021) examined the impact of e-taxation on Nigeria's revenue and economic growth from 2010 to 2019; and found that e-taxation has no substantial impact on federally collected revenue or tax-to-GDP in Nigeria. The study recommended that more knowledge of the existence of e-taxation as a method of dealing with tax concerns should be promoted. Similarly, Okafor, Nnubia, Chukwunwike, and Asogwa (2020) revealed that e-taxation has little impact on production of capital gains charges in Nigeria. Furthermore, Chijioke, Leonard, Bossco, and Henry (2018) found that, despite the deployment of e-taxation, tax revenue, as well as federally collected money and the tax-to-GDP ratio in Nigeria, has not improved; the study instead, showed the implementation of e-taxation resulted in decreased tax-to-GDP ratio. The impact of e-tax collection on Nigeria's revenue and monetary development was studied by Ofurum *et al.* (2018) also reported that e-taxation has had no impact on tax income, federally collected money, or the tax-to-GDP ratio in Nigeria. In view of the mixed reports by previous studies, the current study joins the discourse by examining the link between information technology and tax administration in Bayelsa State of Nigeria. The following null hypothesis provided direction for the study:

Ho<sub>1</sub>: There is no significant relationship between information technology application and effective taxadministration

## METHODOLOGY

The study focused on measuring the relationship between information technology application and effective tax administration in Bayelsa State of Nigeria. The study adopted a descriptive research design. The study collected data from 70 tax officers in Bayelsa Board of Internal

Revenue (BBIR). The instrument used to collect primary data was a structured questionnaire. 70 copies of e-questionnaire were sent the 70 tax officers. However, only 65 officers responded. The questionnaire was designed in the four-point Likert scale. Data were analyzed using frequencies and percentages; while the Statistical Package for Social Sciences (SPSS) version 23 served as the test statistic.

## RESULTS AND INTERPRETATION

**Table 1: Descriptive Statistics**

S/N	Impact of IT on Tax Administration	SA	A	D	SD	$\bar{x}$	S.D	Remark
1.	The use of IT has helped to increase the internally generated revenue of the state	29	31	2	3	3.3	0.75	Agree
2.	The use of IT has produced higher efficiency in tax Administration	25	32	4	4	3.2	0.81	Agree
3.	The use of IT has helped to provide readily accessible data for data officers	17	30	11	7	2.9	0.92	Agree
4.	The use of IT has helped to reduce tax avoidance and Evasion	13	24	15	13	2.6	1.03	Agree
5.	The use of IT has helped in reducing human error and processing time	10	31	15	9	2.6	0.90	Agree
6.	The use of IT has helped to block revenue leakages and corruption practices in the manual system	13	27	13	12	2.6	1.00	Agree
7.	The use of IT has helped in facilitating better decision making by tax officers	11	23	19	12	2.5	0.98	Agree
	<b>Grand Mean</b>					<b>2.8</b>	<b>0.91</b>	<b>Agree</b>

Table 1 shows the impacts of information technology on tax administration in Bayelsa State. Items 1-6 all have mean values that are above the criterion mean of (2.5), except item 7 which has a mean value of (2.5). More so, the grand mean (2.8) is greater than the criterion mean (2.5) This shows that use of information technology has a positive impact on tax administration in Bayelsa State.

**Table 2: Descriptive Statistics**

S/N	Effective Tax Administration	SA	A	D	SD	$\bar{x}$	S.D	Remark
1.	Tax administration has improved with the use of IT in tax administration	35	27	1	2	3.5	0.68	Agree
2.	IT application in taxadministration has reduced human errors and processing time	35	24	4	2	3.4	0.74	Agree
3.	Voluntary tax compliance has increased with the use of IT in tax administration	33	27	4	1	3.4	0.68	Agree
4.	Corruption practices have been reduced with the use of IT in tax administration	31	20	1 2	2	3.2	0.86	Agree
5.	Readily accessible data can be accessed with the use of IT in tax administration	26	30	7	2	3.2	0.76	Agree
6.	Better decisions can be made with the use of IT in tax administration	27	29	7	2	3.2	0.77	Agree
7.	Revenue generation has increased with the use of IT in tax administration	26	25	1 2	2	3.1	0.83	Agree
	<b>Grand Mean</b>					<b>3.3</b>	<b>0.76</b>	<b>Agree</b>

Table 2 shows the respondent's responses on effective tax administration through the use of IT. Items 1-7 have mean values above the criterion mean of (2.5). More so, the grand mean (3.3) is greater than the criterion mean (2.5). This shows that effective tax administration was achieved through the use of IT.

**Table 3: Correlation between information technology application and tax administration**

Variable	Mean	Std. Dev.	No.	R	P-Value	Remark
Information Technology Application	2.8	0.91				
Effective Tax Administration	3.3	0.76	65	0.955	0.001	Significant

$\alpha = 0.05$

Source: Output of data analyses on information technology application and tax administration. (2021).

Table 3 shows the relationship between information application and effective tax administration in Bayelsa State Board of Internal Revenue. The Table shows a very high positive correlation coefficient of 0.955 and a p-value of 0.001. Testing the hypothesis at 0.05, the p-value is less than the alpha value of 0.05. This means that the link between the variables is statistically significant. Thus, there is a significant relationship between information technology application and effective tax administration; and information technology can be used to enhance tax administration of the Bayelsa State Board of Internal Revenue.

### DISCUSSION OF FINDINGS

This study examined the nexus between information technology application and effective tax administration at the Bayelsa State Board of Internal Revenue. The study found that information technology had a very strong positive connection with tax administration. The results of the study suggest that increase in monthly internally generated revenue of the Bayelsa State Board of Internal Revenue can be attributed to the deployment of electronic collecting system. This result is consistent with the findings of Roger (2021) that the implementation of digital tax administration results in considerable increase in tax revenues. This means that successful tax administration can be achieved through the use of technology since it improves tax administration procedures, reduces human errors and processing time, increases voluntary tax compliance, and reduces corrupt practices. The findings of the current study align with that of Olatunji and Ayodele (2017) that information technology improves tax collection and administration productivity. Thus, information technology can be leveraged to improve tax administration. This position is consistent with that of Umaru *et al.* (2020) that information technology has a considerable impact on tax administration at the Adamawa State Board of Internal Revenue in Yola.

### CONCLUSION AND RECOMMENDATIONS

Information technology is helping to realign Nigeria's tax administration system. This study confirmed that the use of information technology has increased revenue generation of States and has orchestrated improved tax administration. The study concluded that the adoption of information technology enhances the effectiveness of tax administration of the Bayelsa State Board of Internal Revenue; and recommends that the Bayelsa State Board of Internal Revenue and indeed, all Nigerian tax agencies should leverage information technology to better their tax administration systems. These agencies should e-taxation modules that are user-friendly and compatible with mobile operating systems like Android, iOS, and Windows. In addition, security

measures should be implemented regularly to prevent hackers and other disasters that are common in IT-based organizations.

## REFERENCES

- Adegbite, T. A., Bojuwon, M., & Adegbite, A. F. (2019). The impact of ICT on taxation: Evidence from Oyo State. *Copernican Journal of Finance & Accounting*, 8(4), 7-25. <http://dx.doi.org/10.12775/CJFA.2019.015>
- Ajala, M. O., & Adegbie, F. F. (2020). Effects of information technology on effective tax assessment in Nigeria. *Journal of Accounting and Taxation*, 12(4), 126-134. Retrieved from: <https://doi.org/10.5897/JAT2020.0416>.
- Allahverd, M., Alagoz, A., & Ortakapoz, M. (2017). Effect of e-taxation system on tax revenue and cost in Turkey. *European Journal of Social Sciences*, 9, 100-150.
- Animasaun, R. (2016). Tax administration and revenue generation: A perspective of Ogun State Internal Revenue Service. *International Journal of Innovative Finance and Economics Research*, 5(1), 11-21.
- Arya, M. (2012). E-taxation: State & perspective" cited in H. I. Adebowale (Ed.). *E-taxation in Nigeria: Issues and challenges*. 1 T.L.J.N. 160, 162.
- Audu, S. I., & Ishola, K. (2021). Digital economy and tax administration in Nigeria. *Global Scientific Journals*, 9(9).
- Ayodeji, O. E. (2017). Impact of ICT on tax administration in Nigeria. *Computer Engineering and Intelligent Systems*, 5(8), 26-29.
- Azende, T., & Ganyam, A. I. (2020). Effect of tax administration on tax revenue of states in African countries: evidence from Nigeria. *International Journal of Business, Economics and Management*, 7(6), 401-410. <https://doi.org/10.18488/journal.62.2020.76.401.410>.
- Chijioke, N., Leonard, I., Bossco, E., & Henry, 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.
- Dike, M. (2014). An overview of the Nigerian tax system: Implications for foreign investors. Paper presented at the Nigerians in Diaspora Organization (NIDO). UK South Investment Conference.
- Dowe, D. E., (2008). E-filing and e-payments: The way forward, paper presented at Caribbean organization of tax administration (COTA) General Assembly, Belize City.
- Federal Inland Revenue Service (FIRS) (2018). It pays to pay your tax. Retrieved from: <http://www.firs.gov.ng>.
- Ganyam, A. I., Ivungu, J. A., & Anongo, E. T. (2019). Effect of tax administration on revenue generation in Nigeria: Evidence from Benue State Tax Administration (2015-2018). *International Journal of Economics, Commerce and Management*, 7(7), 394-414.
- Gaspar, V., Jaramillo, L. & Wingender, P. (2016). Tax capacity and growth: Is there a tipping point? IMF working paper 16/234.
- Kiabel, B., & Nwokah, N. (2009). Boosting revenue generation by state governments in Nigeria: The tax Consultants option revisited. *European Journal of Social Sciences*, 8(4), 532- 539.

- Koyuncu, C., Yilmaz, R., & Unver, M. (2016). Does ICT penetration enhance tax revenue? Panel evidence. *Anadolu University Journal of Social Science*, 71-80.
- Lai, M. L. (2008). Effect of e-filing on revenue generation in Malaysia. *Journal of Accounting Research*, 46(5), 1085-1142
- Leyira, C.M., Chukwuma, E. & Umobong, A.A. (2017). Tax system in Nigeria challenges and the way forward. *Research Journal of Finance and Accounting*, 3(5), 9-15.
- Maina, G. (2018). Impact of technology on tax administration in Kenya. Insights Newsletters. Retrieved from: <https://www.roedl.com/insights/impact-technology-tax-administration>.
- Maisiba, M., & Atambo, L. (2016). The effects of revenue system modernization on revenue collection at Kenya revenue. M.Sc., Research Project, University of Nairobi.
- McCluskey, W., Franzsen, R., Kabinga, M., & Kasese, C. (2018). The role of information communication technology to enhance property tax revenue in Africa: A tale of four cities in three countries. *ICTD Working Paper*, 88, 3-25.
- McLure, C. E. (2015). Taxation. Britannica. Retrieved from: <https://en.wikipedia.org/w/index.php?title=Britannica&redirect=no>
- Newman, U. R. & Ekhaton, E. O. (2019). Electronic taxation in Nigeria: challenges and prospects International Company and Commercial Law Review. Retrieved from: <https://www.researchgate.net/publication/330422913>
- Nwauzor, C. O. (2021). Automated taxation on Nigeria's revenue and economic development growth: Pre and post analysis. Retrieved from: <https://www.researchgate.net/publication/350640923>.
- Ofurum, C. N., Amaefule, L. I., Okonya, B. E., & 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.
- Okafor, G. O., Nnubia I. C., Chukwunwike, O. D. & Asogwa O. S. (2020). Effect of e-taxation on revenue generation in Nigeria: A pre-post analysis. *Academy of Entrepreneurship Journal*, 26(3), 1-19. Retrieved from: <https://www.researchgate.net/publication/350567865>.
- Okauru, I. (2012). Federal inland revenue service and taxation reforms in democratic Nigeria. Oxford: African Books Collective.
- 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.
- Oladele, R., Aribaba, F.O., Adediran, R.A., & Babatunde, A.D. (2020). E-tax administration and tax compliance among corporate taxpayers in Nigeria. *Accounting and Taxation Review*, 4(3), 93-101
- Olatunji, O. C., & Ayodele, K. B. (2017). Impact of information technology on tax administration in Southwest, Nigeria. *Global Journal of Management and Business Research*, 17(2).
- OECD (2015). E-government for better government. Paris.
- Perrou, K. (2018). The Ombudsman and the process of resolution of international tax disputes: Protecting the "invisible party" to the MAP. *World Tax Journal*, 1(1), 99-129.
- Roger, M. (2021). The impact of digital tax administration enhancing tax growth in developing countries: Evidence from Rwanda electronic filing and Payment. *International Journal of Academic Multidisciplinary Research*, 5(9), 93-98.



- Schlesinger, J. (2016). E-filing taxes? Watch out for fraud. Retrieved from: <https://www.cnbc.com/2016/02/26/e-filing-taxes-watch-out-for-fraud.html>.
- Schneier, B. (2016). Cybercrime as a tax on the Internet economy. Retrieved from <https://www.schneier.com/blog/archives/2016/09/cybercrime-as-a-1.html>.
- Soetan, T. (2017). Tax administration and tax revenue generation in Nigeria: Taxpayers perspective. *International Journal of Latest Engineering and Management Research*, 2(10), 38-47.
- Stephen, E. (2018). The impact of tax administration on revenue generation in Gombe State, Nigeria. *Scholedge International Journal of Management & Development*, 5(8), 86-95. Retrieved from: <https://doi.org/10.19085/journal.sijmd050801>.
- Umaru, A. F., Nasiru, M. & Yusuf, S. K. (2020). Information technology and tax administration in Adamawa State Board of Internal Revenue, Yola, Nigeria. *Dutse Journal of Economics and Development Studies*, 7(1), 13-22.