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DIGITALIZATION OF TAX ADMINISTRATION AS EMERGING GLOBAL BEST PRACTICE: AN ASSESSMENT OF DIGITALIZATION OF TAX ADMINISTRATION BY STATES IN NIGERIA

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Abstract

State governments in Nigeria are continuously facing serious budgetary financing challenges due to insufficient funds coming from the centre and apparent lack of commitment to raise taxes. However, to address the financial difficulty facing them, State governments in Nigeria have started digitalizing their tax administrations in 2009. Digitalization of tax administrations is found capable of broadening tax bases, easing assessment and collection of taxes for both tax payers and tax administrations and increases tax collections. The state governments have targeted to achieve online registration, filling, payment, and verification of payments and ability of taxpayers to raise complaints on all tax matters. Therefore, the aim of this paper is to assess the level of digitalization of tax administration by state governments in Nigeria and the impact of the digitalization on revenue generation over the years. While the envisioned levels of digitalization of tax administration are used as benchmark to assess the digitalization, statistics of tax collections from the National Bureau of Statistics are used to measure the impacts of the digitalization. Descriptive statistical tools of tables and charts are used to present collected data while Adaptability theory and public policy analytical framework guides the conduct of the study. Results from the study revealed that the state governments are increasingly digitalizing their tax administration which has been increasing their tax collections. The policy implications of these findings are that state governments should sustain their tax digitalization efforts which may be a panacea to tight financial difficulties they are continuously facing over the years.

Key Words: Digitalization, Tax Administration, State Governments, Global Best Practice, Adaptability Theory

1. Introduction

It is perhaps an undisputable fact that taxation is the main source of raising public finances for the provision of public goods and services in both olden and modern-day civilizations (Birungi & Colbourn, 2019; Jia, Li & Gao, 2019). Profits and income of corporate organizations and individuals within societies are the widely known sources of raising taxes by governments (Organization for Economic Cooperation and

Development, 2022a & b). However, the processes of realizing income by corporations and individuals are rapidly being digitized thereby making it difficult for tax authorities in ascertaining actual profits and income of corporations and individuals for tax purposes (Martinez-Vazquez, Sanz-Arcega & Tránchez-Martín, 2022). The fundamental role of tax administrations across the globe is to raise tax revenues according to existing tax laws. Therefore, an effective tax system is crucial for both developing and developed countries alike, since adequate revenue collection is an important determinant of economic growth (Cournède, & Fournier, 2017) and is highly connected to firms' performance (Dabla-Norris et al., 2017). Most importantly, an effective tax system is a decisive contributor to successful state-building in the context of developing countries, (Fjeldstad & Moore, 2007).

The Organization for Economic Cooperation and Development (OECD) is in the forefront of pushing for the digitalization of tax administrations globally and specifically in the bloc publishing annual reports on this since 2004 (OECD, 2021). These efforts by the bloc have resulted in significant improvements in digital services of tax administrations in the bloc 2004-2020 by means of increasing digital interactions with taxpayers (OECD, 2022c). Similarly, the efforts to digitalize tax administrations is also identified responsible for the collection of €12.10trillion taxes in 2020 and the bloc recorded average tax to Gross Domestic Product (GDP) ratio of 33.50% in 2020 which is higher than Asia and Pacific countries average of 19.10% and Africa's average of 16.60% (OECD, 2022d; 2022e). Thus, it is evident that increased digitalisation of tax administration has significantly increased the efficiency and effectiveness of tax administrations (OECD, 2020). Conversely, state governments in Nigeria as the second tier of governments, are persistently facing acute shortages of finances partly due to inadequate funds from federal monthly allocations and partly due to the failure of state governments to effectively tax businesses and citizens in their states (Mohammed, Ibrahim, Sallau, Gimba & Adam, 2022).

For instance, the average Internally Generated Revenue (IGR) of all the 36 states in 2017 is 21.43 percent of total collected revenues meaning that the states relied on federal allocations for 78.57 percent of their total revenue (National Bureau of Statistics, 2017). This apparent overdependence of the states and FCT on federal allocations is perhaps putting them in tight fiscal positions. This could be overcome if the states could resort to effective taxation of businesses and citizens in their states through digitalization of tax administration which could enable capturing more tax bases, ease assessments, enforcements and collections (OECD, 2020). The apparent goal of digitalization of tax administration by state governments is to ensure online registration of taxpayers, filling of tax returns, making payments, verify payments and making online complaints (Nigerian Governors Forum, 2012). This is representing a paradigm shift and a global best practice where the taxpayer and tax administration systems are interconnected, where compliance is automatic and seamless, and where traditional decision functions are done by technology (Asian Development Bank, 2022; OECD, 2020).

Therefore, the main aim of this study is to assess the level of digitalization of tax administration by state governments benchmarked on the set goals of state governments to achieve online registration, filling, payment, payment verification and complaint. Likewise, the study evaluates the impact of the achieved digitalization on IGR collections 2010-2021 and the percentage of average IGR contributions to total revenue collections 2016-2021. This study is of significance as it revealed the level of digitalization attained by SIRSs. This in turn reveals the impact of the digitalization on IGR collections by the states thereby revealing their capabilities of enhancing their revenue collections which on the overall may serve as solution to their tight financial problems. This introduction is section one of the study, section two is on literature review composed of conceptual and empirical reviews; section three is on methodology of conducting the study. Section four dwells on results and discussions of the study while section five is conclusions and recommendations of the study.

2. Literature Review

2.1 Conceptual Review

Establishment of State Board of Internal Revenue (SBIR) with an operational arm to be known as the State Internal Revenue Service (SIRS) in each state of the federation is consequent to the provision of Section 87(1) of the Personal Income Tax (PIT) Act 104 of 1993 as amended subsequently (Personal Income Tax Act, 1993). Part II of the taxes and levies (approved list for collection) Act No. 2 1998, specified eleven collectable taxes by SIRS. The taxes are personal income tax including Pay As You Earn and Direct assessment; withholding tax in respect of individuals; capital gains tax for individuals; stamp duties on instruments executed by individuals; pools betting, lotteries, gaming and casino taxes; road taxes; business registration fees; development levies for individuals; naming of street fees in the state capital; right of occupancy fees on lands owned by the state governments; and market taxes and levies (Taxes & Levies Act, 1998). State Internal Revenue Services (SIRSs) have been operating on manual bases until recently when they commenced digitalization of their operations commencing with issuance of electronic means of identifying taxpayers known as Unique Taxpayer Identification Number (UTIN) in 2009 (Nigerian Governors Forum, 2009). After going through processes of development, digitalization of tax administration was projected to be achieved in most of the states in 2013 (Nigerian Governors Forum, 2012).

Digitalization of Tax Administrations

State governments have envisaged digitalizing tax administration by SIRSs to make them be capable of offering online registration, filling, payment, payment verification and complaint services to taxpayers as depicted in Figure I.

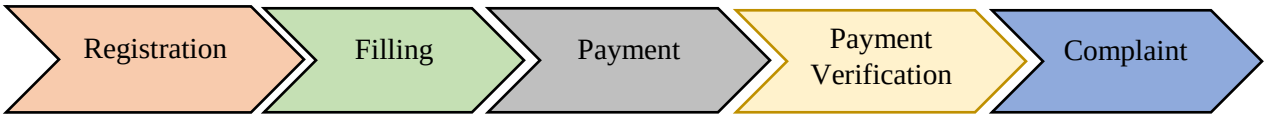

Figure 1: Stages of Digitalization of Tax Administration
Source: Developed from documents of Nigerian Governors Forum

i. Registration: This is the first step towards the efforts of digitalizing tax administration which is about availing taxpayers to make online registration either by themselves directly or at designated tax offices leveraging on modern technology;

ii. Filling: This entails leveraging on technology to enable taxpayers or their agents to submit tax returns online through user friendly means;

iii. Payment: This is about enabling taxpayers or their agents to make online payments of computed and agreed tax liabilities using varieties of online mode of payments. This is perhaps enabling easy payment of tax liabilities by taxpayers and serving as an efficient and effective means of tax collection by tax administrations;

iv. Payment Verfification: This is provided for in the digitalization processes of SIRSs which is about allowing the taxpayers the liberty to verify their payment by online printing of invoices, receipts or tax clearance certificates for paid taxes. Similarly, the revenue services should be able to verify taxes paid by taxpayers online to facilitate agreements on paid taxes between the taxpayers and tax adminstrations;

v. Complaint: In the event of dispute between the tax administration and taxpayers, there should be an online, speedy, user friendly, and cost- effective mechanism to allow taxpayers raise complaints and be attended to on the complaints. This is serving as an initiating position of dispute resolution between taxpayers and tax administrations . There are empirical studies on the impact of digitalization of tax administration on service delivery and revenue collections.

Martíneza, Arzozb and Arreguic (2022) measured the efficiency of 28 OECD countrues on tax collections 2004-2017. Data for the study are collected on total number of personnel working in tax offices, total technology expenditure/total corporate income, tax audit cost/collected net income, pre-tax salaries/total administrative costs, share of tax collection in Gross Domestic Products (GDP), and share of income and

corporate taxes in GDP. Collected data was analysed by means of data by means of Data Envelopment Analysis (DEA). This is followed by an exploration of how technical efficiency is affected by fiscal decentralization and tax structure variables. Results from the study revealed that Denmark, Norway, Sweden, Belgium and Poland were found the most technically efficient in their tax administration consequent to the digitalization of their tax administrations. On the overall, the study revealed positive and significant impact on the efficiency of tax collection due to digitalization of tax administrations.

Lhassan, Bedraoui and Akhannich (2022) analyze the impact of digital transformation on the satisfaction of users of public administration, particularly, tax administration. To achieve the aim of the study, a purposive sampling technique was used to distribute questionnaires to 375 respondents. The questionnaire covered perceived usefulness and user satisfaction of tax administration, perceived quality and user satisfaction of tax administration and website designand user satisfaction of tax administration. Collected data was statistically analysed by means of structural equation method via SMARTPLS software. Results from the study revealed significant positive relationship between digital transformation and the three variables of user satisfaction perceived ease of use, perceived usefulness, and website design. The result is indicating that digitalization of tax administration has brought satisfaction to users from the perspectives of the three tested variables.

Yusuf and Sanni (2022) investigated the impact of digitalization of tax administration on the performance of Kwara State Internal Revenue Service (KW-IRS). Specifically, the study examined the extent to which e-tax registration influences the performance of KW-IRS and also determined the impact e-tax payment on the performance of KW-IRS. The study employed a quantitative cross-sectional survey research design and used a random sampling technique to select 292 respondents from taxpayers and tax administrtor while PLS-SEM technique for quantitative data analysis was employed in analysing collected data. Findings from the study revealed that e-tax registration has significant positive influence on revenue performance, so also e-tax payment has significant positive impact on revenue performance. These are implying that e-tax registration and e-tax payment have significantly improved service delivery and revenue generation of KW-IRS.

Adegbie, Enerson, and Olaoye (2022) empirically investigated the relationship between electronic tax management system or simply digitalization of tax administrations and tax revenue collection efficiency in some selected states in South West, Nigeria for the period 2008–2020. To conduct the study, survey research method was employed in which 2,670 copies of structured questionnaires were distributed to respondents across the three selected three states of Lagos, Oyo and Ogun states to obtain qualitative data. Similarly, quantitative data on Internally Generated Revenue (IGR) of the selected states was obtained from National Bureau of Statistics (NBS) annual reports. Collected data was analyzed using descriptive and multiple regression inferential statistics while Technology Acceptance Model (TAM) underpined the study. Findings from the study revealed that electronic tax management system or digitalization of tax administrations in selected states have significant positive relationship with tax revenue collection efficiency.

Erin (2021) examined the effect of digitalization of tax administration on Micro, Small, and Medium Enterprises taxpayer's compliance cost. To conduct the study, primary data was collected through survey studies among 100 respondents from SMEs conducted in Jakarta as they are capable of providing information about the research subject. Likewise, primary data was collected through direct observations of interactions between SMEs on matters related to taxation. These collected primary data was analyzed using quantitative regression and descriptive tools of analyses. Results from the study revealed that digitization of tax administration has a significant effect on the compliance costs of taxpayers from Micro, Small and Medium enterprises studied. This means that digitalization of tax administration has reduced the compliance costs of these taxpayers thereby signifying enhanced service delivery to taxpayers.

Rotimi, Olugbenga, Adekunle and Adebola (2020) examined the impact of electronic tax administration on tax compliance and the resultant effect on tax revenue collections by Federal Inland Revenue Service (FIRS). To do this, secondary data on collected taxes by the FIRS pre-and post-digitalization was sourced from the FIRS. The pre-digitalization period is 2006-2012 while the post-digitalization period is 2013-2019 that is seven years pre and seven years post digitalization. Simple comparative analysis, descriptive statistics, and pairwise t-test were employed to analyze the secondary data to ascertain the existence of differences and or relationship between pre-and post-e-tax digitalization eras in Nigeria. Results from the study found strong relationship between digitalization of tax administration and tax compliance tax revenue which on the overall, indicated that the mean tax revenue collections post digitalization exceeds the mean tax revenue pre-digitalization.

3. Methodology

The main aim of this study is to assess the level of digitalization of tax administrations by state governments in Nigeria based on envisioned digitalization of tax administrations by state governments. Digitalization of tax administration by state government actually commenced in 2009 envisaged to cover all states in 2013 (Nigerian Governors Forum, 2009, 2013). Therefore, the population of this study is the entire 36 states of Nigeria and equally the entire population is the sample of the study (Glen, 2022). In assessing the level of digitalization attained by SIRSs, websites of the services are visited to cross-check the availability of online registration, filling, payments, verification of payments and complaint services offered by each SIRS. To evaluate the impact of the digitalization, IGR collections by the states are collected from NBS 2010 to 2021 that is three years before 2013 and nine years after the digitalization. The period 2010-2012 is included to give an idea of how the IGR collections were few years before the digitalization.

3.1 Research Design

Research design encompasses the strategy and analytical approaches towards integrating in a coherent and logical way the different constituents of the study to ensure that the research problem is thoroughly investigated (University of South Carolina, 2023). This research is designed as ex-post research as it examined the level of tax digitalization by SIRSs and the impact of the digitalization on IGR collections by the services 2013-2021.

3.2 Data and Sources

This study assessed the level of digitalization of tax administration by SIRSs in Nigeria 2013-2021 and the impact that the achieved levels of digitalization have on IGR collections by the states. The study uses mainly secondary data collected from two sources; first the websites of all the 36 SIRSs and the annual reports of National Bureau for Statistics (NBS) 2010-2021.

3.3 Method of Data Collection

The method of data collection for this study is by means of first, visiting the websites of all the 36 SIRSs to ascertain the availability and functioning of all the five levels of digitalization which the services envisaged to achieve. On finding a service on the websites of each of the services, its functioning is tested and its status is appropriately recorded as shown in Table I. Second; data is collected on the IGR of individual states from the annual reports of National Bureau for Statistics (NBS) 2010-2021 which are aggregated to arrive at annual IGR collections of all the states.

3.4 Method of Data Analysis

Collected data on levels of digitalization by SIRSs and IGR collections 2010-2021 were descriptively analyzed using descriptive statistical tools of Tables and Figures. On level of digitalization attained by each service, the number of states having functioning service of online registration, filling, payment, payment verification and complaint are ascertained. The number of states offering particular services are then descriptively described using percentages. On IGR collections, aggregated IGR collections by states are obtained 2010-2021 which are presented in Figure showing the trends of the collections.

3.5 Theoretical Frameworks

Adaptation which is derived from Latin word adaptatio is simply depicting the action of adapting or adjusting between two things (Simonet, 2010). Organizational Adaptation Theory (OAT) which focuses on organizations is about intentional decisions made by organizations involving taking observable actions to reduce the distance between organizations and their economic and institutional environments. Therefore, decisions by SIRSs to digitalize their tax administration could be explained by this theory. Public policy signifies laws, regulations, procedures and administrative actions of governments and institutions that affect the public (CDCP, 2015). Consequently, there is need to persistently undertake analysis of public policies (Bromley, 1990) which is about critical evaluation of established policy (Patton, 1987) which could be either of formative, process, outcome, or impact evaluations. Impact evaluation assesses the effectiveness of a policy in achieving its ultimate goals (Centre for Disease Control, 2022); this study, utilizes the lenses of OAT and public policy as frameworks that guides its conduct as depicted in Figure 2.

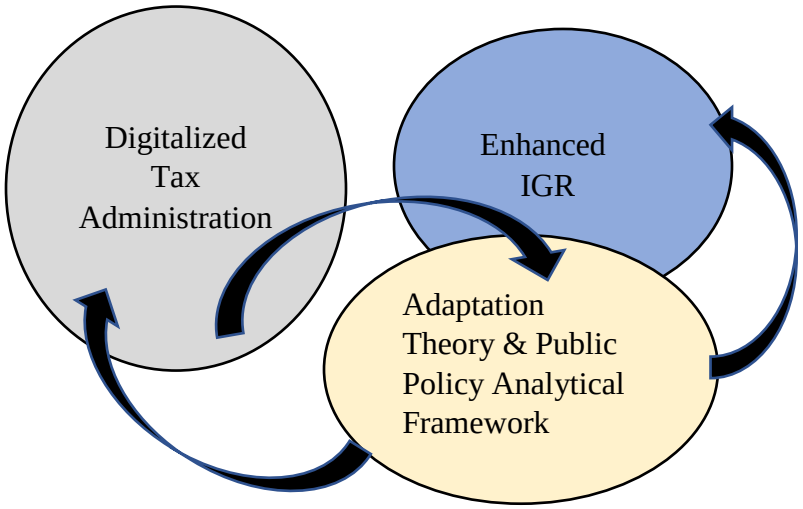

Figure 2 Theoretical Framework of the Study
Source: Developed from this Study

From Figure 2 Adaptation theory explained the adaptation of digitalization of tax administration by SIRSs being the prevailing global best practice of tax administrations. This is expected to broaden tax bases, ensure compliance and result into enhanced IGR collections. Public policy analytical framework explained that adaptation of digitalization of tax administration by sampled states as a public policy that has enhanced the IGR of the states.

4. Result and Discussions

This section discusses results obtained in the study based on literature, theory and practice confirming what is known about digitalization of tax administrations or bringing out new findings useful to knowledge in the area. Table I is on the levels of digitalization attained by states as obtained from their SIRSs.

Table I: Levels of Digitalization of Tax Administration by SIRSs 2013-2021

S/N	State	Registration	Filling	Payment	Payment Verification	Complaint
1	Abia	✓ *	X **	✓	✓	✓
2	Adamawa	X	X	X	X	✓
3	Akwa Ibom	✓	✓	✓	X	✓
4	Anambra	✓	✓	✓	X	✓
5	Bauchi	X	✓	✓	✓	✓
6	Bayelsa	✓	✓	✓	✓	✓
7	Benue	X	X	X	X	X
8	Borno	X	✓	✓	✓	✓
9	Cross River	✓	✓	✓	X	✓
10	Delta	✓	X	✓	✓.	✓
11	Ebonyi	✓	X	✓	X	✓
12	Edo	✓	✓	✓	✓	✓
13	Ekiti	✓	✓	✓	X	✓
14	Enugu	✓	X	✓	✓	✓
15	Gombe	✓	✓	✓	✓	✓
16	Imo	✓	✓	✓	X	✓
17	Jigawa	X	X	X	X	X
18	Kaduna	✓	✓	✓	✓	✓
19	Kano	✓	✓	✓	X	✓
20	Katsina	✓	✓	✓	✓	✓
21	Kebbi	✓	X	✓	✓	✓
22	Kogi	✓	X	✓	✓	✓
23	Kwara	✓	✓	✓	✓	✓
24	Lagos	✓	✓	✓	✓	✓
25	Nasarawa	✓	X	✓	✓	✓
26	Niger	✓	✓	✓	✓	✓
27	Ogun	✓	X	X	✓	✓
28	Ondo	✓	X	✓	✓	✓
29	Osun	✓	✓	✓	✓	✓
30	Oyo	✓	X	✓	✓	✓
31	Plateau	✓	X	✓	✓	✓
32	Rivers	✓	✓	✓	✓	✓
33	Sokoto	✓	X	✓	X	✓
34	Taraba	X	X	X	X	✓
35	Yobe	✓	X	✓	✓	✓
36	Zamfara	✓	✓	✓	✓	✓
Total		30	19	30	24	34

* This means that the Internal Revenue Service is offering the service
** The Internal Revenue Service is not offering the service

From Table I, 11 states representing 30.56% of the total 36 states are offering taxpayers or their agents the five online services of registration, filling, payment, payment verification and complaint mechanism. Total of 17 states or 47.22% of the 36 states are offering four out of the five services, 4 states or 11.11% of the 36 states are offering three out of the five online services to taxpayers or their agents. Total of 2 states or 5.55% of the 36 states are offering only one out of the five online services while another 2 states or 5.56% are not offering any of the five online services. Looking at the individual services, 30 states or 83.33% of the 36 states are offering the service of online registration of taxpayers; thus, 6 states or 16.67% are not offering this service to taxpayers or their agents. On online filling, 19 states or 52.78% of the 36 states are offering this service while 17 states or 47.22% are not offering this service. For the service of online payment of computed and agreed upon tax liabilities, 30 states or 83.33% are offering this service while 6 states representing 16.67% are not offering the service. The online service that offers taxpayers ability to verify payments is being rendered by 24 states representing 66.67% of the studied 36 states while 12 states representing 33.33% are not offering the service. The service of online complaints is offered by 34 states representing 94.44% of the 36 states implying that only 2 states or 5.56% of the 36 states are not offering this service.

Results indicating that only 11 or 30.56% provide full online services as planned, 17 states or 47.22% offering 4 services, 4 states or 11.11% offering 3 services, 2 states or 5.56% offering 1 service and another 2 or 5.55% offering none of the services are consistent with OECD (2021b) that reported digitalization of tax administrations in developing countries as being a long-term journey to be undertaken slowly. The results are also consistent with Estevão (2020) that contended digitalization of tax administrations in developing countries as comparable to moving a boulder to the top of a mountain and it is a long, arduous process on the overall. From the perspectives of theories adopted in this study, the level of digitalization so far achieved is an indication that tax administrations in states are adapting global best practice of digitalization of their services which is explained by adaptation theory. Similarly, digitalization of tax administrations is a policy formulation of the Nigerian Governors Forum; therefore, the level of digitalization achieved indicates implementation of this policy and this is better explained by policy analysis framework. In practice, technological advancement in Nigeria is low; thus, government agencies like SIRSs may not find it easy to access the needed technologies for digitalizing tax administrations. Nigeria's low technological advancement is consistent with United Nations Conference on Trade and Development on Technology and Innovation (UNCTAD, 2021). Tax administrations across the globe are being digitalized to ease compliance and enhance revenue generation; thus, Figure I is on trends of Internally Generated Revenue of the 36 states.

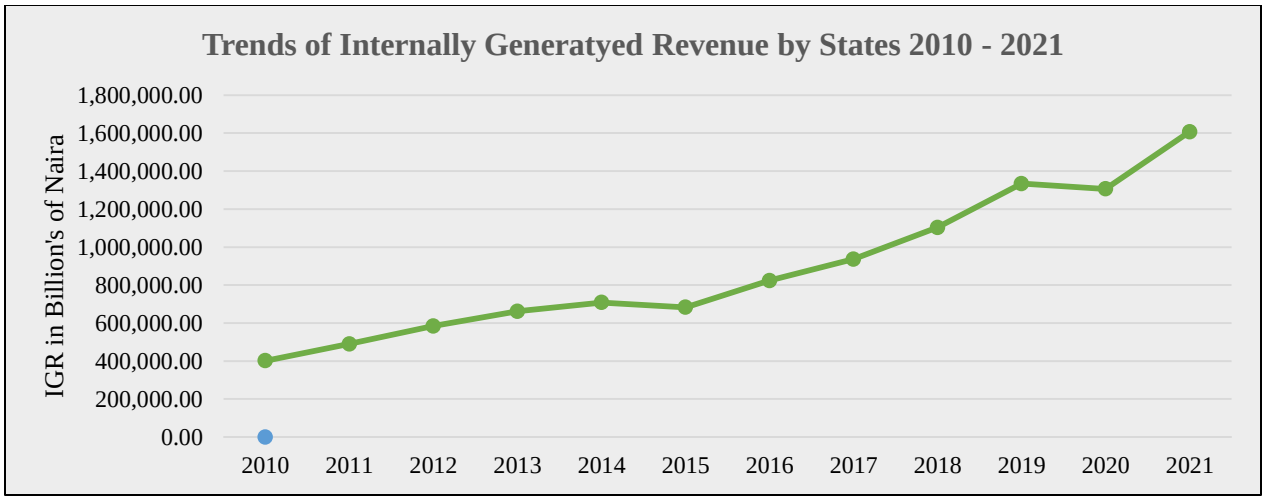

Figure 3: Trends of IGR by States 2010-2021
Source: This Study

From Figure 3, total IGR collected by the 36 states in 2013 when the digitalization was introduced was N662.05billion which is higher than 584.50billion, 490.40billion and 401.43billion collected in 2012, 2011 and 2010 respectively. Therefore, IGR collections in 2013 have shown significant improvements over collections from the three previous years' pre-digitalization. The IGR collections rise to 707.86billion in 2014 representing 6.47% increase over 2013 collections. Collected IGR in 2015 slightly fell down to 682.67billion depicting 3.69% decrease compared to 2014 collected IGR. In 2016, total collected IGR is 823.16billion indicating 17.07% increase in collected IGR in this year compared to previous year of 2015. Total collected IGR in 2017 is 936.47billion representing an increase of 12.10% over collected IGR in 2016. Collected IGR in 2018 is 1.10trillion which shows an increase of 15.13% compared to 2017. The IGR collected by states in 2019 is 1.33trillion showing an increase of 17.30% over 2018 collections. Collected IGR in 2020 slightly fell to 1.30trillion which represents 2.16% decrease compared to IGR collected in 2019. Total IGR collection in 2021 is 1.61trillion depicting 18.72% increase in collections compared to 2020.

Overall, the trends of IGR collections 2010-2021 could be adjudged as increasing although there are fluctuations in 2015 and 2020. This result indicating increasing tax revenue collections post-digitalization era is consistent with Martíneza, Arzozb and Arreguic (2022) that found positive and significant relationship between digitalization of tax administration and efficiency of tax collection in selected OECD countries. Likewise, the result is consistent with Yusuf and Sanni (2022) that empirically found positive relationship between e-tax registration which is an aspect of tax digitalization and tax revenue collection in Kwara state Nigeria. Using the lenses of theories underpinning the study, adapting the digitalization technology to such level that it is enhancing IGR collections is explained by adaptation theory. From the perspective of public policy analysis, digitalization of tax administration is meant to enhance compliance and tax revenue generation. The increasing trends in IGR collections 2013-2021 is implying that digitalization of tax administration is achieving the goals of enhancing tax compliance and tax revenue generation. In practice, the enhanced tax revenue means that the digitalization is accepted by Nigerian citizens willingly or otherwise and this has made the digitalization looking successful. The fluctuations in tax revenue in 2015 could be attributed to conduct of general elections in Nigeria which are always associated with decreased economic activities that affects taxable income (Akinyede, Worimegbe & Ayodele, 2022; Uzonwanne, Ezenekwe & Iregbenu, 2016).

5.Conclusions and Recommendations

Based on findings from this study that assessed digitalization of tax administrations by state governments in Nigeria being the emerging global best practice, it could be concluded that most (69.44%) of the SIRSs are yet to achieve the five online services envisaged. Similarly, it could be concluded that online complaint mechanism is the most provided online service by the SIRSs followed by registration and payment while online filling of tax returns is the least online service common to the services. Despite these apparent shortcomings, it could be contended that digitalization of tax administrations by SIRSs have enhanced IGR collections as the trends kept on growing with downward fluctuations in 2015 and 2019. However, fluctuations in these years are not as low as collections pre-digitalization; thus, it could be concluded that the digitalization has enhanced compliance and increased revenue collections. Consequently, the study recommends that state governments should pay attention to ensuring that SIRSs are capable of receiving online filling of tax returns by taxpayers which is a significant service towards compliance. Likewise, the study recommends that state governments should on the overall, pursue the digitalization of their tax administrations as this has proven capable of increasing their IGR.

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