

## **EFFECT OF ICT ON REVENUE GENERATION IN NIGERIAN PUBLIC SERVICE: A STUDY OF FEDERAL INLAND REVENUE SERVICE AUCHI**

<sup>1</sup>**A. Jafaru**

<sup>2</sup>**S. M. Omodia**

<sup>3</sup>**F. Ogbeide**

<sup>1,2,3</sup>*Department of Political Science and*

*Public Administration,*

*Edo University, Iyamho, Nigeria*

<sup>3</sup>*Ogbeidefrederick@gmail.com*

### ***Abstract***

This study investigated the effect of Information and Communication Technology (ICT) on revenue generation in Nigerian public service with specific reference to the Federal Inland Revenue Service, Auchi. The specific objectives were to examine the influence of the application of ICT on efficiency, transparency, volume, and evidence of revenue payment generated by the Federal Inland Revenue Service (FIRS) in Auchi, Edo state. The study was a field survey and cross-sectional in nature for the year 2024. A total of twenty-seven (27) constituted the population and the same as the sample size due to the small size of the FIRS branch in Auchi. It employed a combination of qualitative research design, which includes a collection of information through a primary source like the administration of questionnaire and personal interview, and quantitative research, which includes the method of data analysis using the Friedman test because the questions were prepared in a ranked form and measured using an ordinal scale of measurement. The study showed that the application of ICT has a significant influence and positive relationship with efficiency, transparency and payment evidence of the revenue generated by the FIRS in Auchi, Edo state. State. On the other hand, the study revealed that there is no significant relationship between the application of ICT and the increase in volume of revenue generation in Auchi, Edo state. The study concluded that the human element behind the ICT and its application determines the attainment of efficiency, effectiveness, transparency and increase in revenue generation in Federal Inland Revenue Auchi, Edo State. Based on the above finding, the study recommended that a conducive enabling environment should be created for the application of ICT in the office and an atmosphere free of rancour should be made possible to create a good working relationship between the staff and taxpayers in the Auchi and its environs in order to enhance revenue by Federal Inland Revenue Service.

**Keywords:** ICT, Revenue Generation, Public Service Revenue Service

## **Introduction**

The emergence of the state and the consequent enthronement of government is to provide security and welfare to the citizens. The cardinal purpose of the state includes erecting and maintaining certain public works and institutions that will cater for the well-being of the subjects (Shaaperaa, 2012, citing Smith, 1937). In the effort to bring into reality this vital function of the state, the government, as the agent of the state and on behalf of the state, creates and operates public enterprises (Azelama, 2006). Public enterprises are government-owned and/or controlled entities which are engaged in sales and services, whose undertaking may have direct legal and corporate forms, such as departmental undertakings, public corporations and statutory agencies, established either by an act of parliament or join stock companies registered under the company law (Basu, 2005).

The origin of the involvement of the Nigerian government in the setting up of public enterprises can be placed within the context of Nigeria's colonial and post-colonial experiences. During colonial rule and after independence in 1960, it was discovered to be imperative that the government be involved in business activities as an enterprise to perform some business roles and secure economic independence and economic development for the nation. Thus, from inception, public enterprises were established through the instrumentality of the state power to fill an observed vacuum in the economic development of the country (Okeke, Onuorah & Okonkwo, 2016).

The Nigerian public service saddled with the responsibilities of welfare, security and order, requires revenue to effectively discharge these responsibilities. The significant role of revenue in the act of economic growth and development led to the establishment of the Federal Inland Revenue Service (FIRS) in the colonial administration, subjected to different reformation, eventually and statutorily secured its autonomy via the FIRS Establishment Act 13 of 2007 (FIRS, 2019). With the ICT transformation and its consequent e-governance and e-government, the adoption of ICT becomes inevitable in the course of revenue generation by FIRS. In effect, e-governance or electronic governance is the application of information and communication technology to the process of governance to bring about simple, moral, accountable, responsive and transparent (SMART) governance (Nnamdi, 2014).

This study views the situation of implementing ICT in revenue generation in the Nigerian public service. There has been a paradigm shift from the analogue method of revenue administration to the digital form, with almost everything done electronically. The intent, however, is to ascertain if the application of ICT in the administration of revenue generation in Nigeria's public service can lead to efficiency, effectiveness, and transparency. It is against this background that this study seeks to examine the impact of ICT on revenue generation in Nigerian public service with specific reference to the Federal Inland Revenue Service (FIRS), Auchi.

## **Statement of the Problem**

The Federal Inland Revenue Service was created in 1943 and, through transformation, became statutorily established in 2007 to generate revenue for the federal government. This service is executed through a process of control and administration of the different taxes, stamp duties, and levies, among others. The analogue and old methods of operation have been phased out. With the enactment of the National Information Technology Act 2007 and the consequent creation of the

National Information Technology Development Agency (NITDA) in 2011, all public sectors, including FIRS transactions, are now being done via ICT. It is reported that the FIRS has initiated several technology-based operations in these past few years, which have yielded improved tax collection and increased taxpayer confidence in the tax system, improved operations and reduced linkages (Okanu in Samumma & Agbodike, 2021). Why is there still inefficiency? Why is the target taxpayer still evading tax, and why is the level of transparency still low? To what extent does the application of ICT influence the volume of revenue generation by the Federal Inland Revenue Service in Auchi, Edo State? Does the application of ICT influence the evidence of payment in revenue generation by Federal Inland Revenue Service Auchi, Edo State? It is against this background that this study seeks to interrogate the impact of ICT on revenue generation in Nigerian public service with specific reference to the Federal Inland Revenue Service (FIRS) in Auchi.

### **Research Objectives**

The broad objective of this study is to examine the impact of ICT on revenue generation in Nigerian public service. The specific objectives of the study are to:

- i. To examine the influence of the application of ICT on efficiency in revenue generation by the Federal Inland Revenue Service Auchi, Edo State;
- ii. To determine the effect of application of ICT on the transparency of revenue generation by the Federal Inland Revenue Service, Auchi, Edo State
- iii. To assess the influence of the application of ICT on the volume of revenue generation by the Federal Inland Revenue Service in Auchi, Edo State.
- iv. To ascertain the influence of the application of ICT on evidence of payment in revenue generation by Federal Inland Revenue Service Auchi, Edo State.

### **Research Hypotheses**

The following are the hypotheses of the study stated in their null forms:

- H<sub>01</sub>: There is no significant relationship between the application of ICT and efficiency in revenue generation in federal inland revenue service, Auchi, Edo State.
- H<sub>02</sub>: There is no significant relationship between the application of ICT and transparency in revenue generation in federal inland revenue service, Auchi, Edo State.
- H<sub>03</sub>: There is no significant relationship between the application of ICT and volume in revenue generation in the Federal Inland Revenue Service, Auchi, Edo State
- H<sub>04</sub>: There is no significant relationship between the application of ICT and evidence of payment of revenue generation by the Federal Inland Revenue Service, Auchi, Edo State

### **Conceptual Clarification**

#### **Information Communication Technology**

Information communication technology (ICT) has been conceptualized by different authors from their respective perspectives. It is seen by Olasanmi, Ayoola and Kareem (2012) as computer systems, telecommunication, networks and multi-media applications that enhance knowledge for the execution of a given task, which entails skills and processes necessary for carrying out activities in a given context. Mary and Cox (2007) see information communication technology as electronic and computerized devices associated with human interactive materials that permit the

user to utilize them for numerous deliveries of service and in addition to private use, according to Adewoye and Olaoye (2014). Information technologies are tools, devices, and resources used to communicate, create, manage, and share information. They include hardware (computers, modems, and mobile phones), software (computer programs, mobile phone applications), networks (wireless communications, Internet). They are basically concerned with the purpose of collecting, processing, storing and transmitting relevant information to support the management operations in any organizations. It is a system that provides historical information on the current status and projected information, all appropriately summarized for those having institutions or forms (Adigbole & Olaoye, 2013).

The application of ICT to the process of governance, information dissemination and service delivery in the public sector activities is the current reality across the globe. E-governance is the public sector's use of information and communication technologies to improve information and service delivery, encouraging citizen participation in the decision-making process and making government more accountable, transparent and effective ([www.unesco.org](http://www.unesco.org)). In effect, e-governance or electronic governance is the application of information and communication technology to the process of governance to bring about simple, moral, accountable, responsive and transparent (SMART) governance (Nnamdi, 2014).

Like any nation in the global community, Nigeria is determined to achieve a standard where ICT becomes the primary mode for communicating and carrying out transactions in all spheres of life. Amegavi, Bawole, and Buabeng (2018) observed that Nigeria has employed various techniques to boost its ICT sector, thereby making Nigeria's telecommunication and ICT sector the fastest-growing market in the African continent. They further opined that the country needs to introduce e-governance in all spheres of society to ensure the efficiency of public services and the free flow of information from one sector to another. For this reason, the federal government declared ICT as a main concern for national sustainable development, leading to a policy for Information Technology being formulated in 2001 (Oni, Okunoye & Mbarika, 2016).

The Nigerian government took some noticeable steps to put the country on track in the area of ICT development and utilization in governance (Omeire & Omeire 2014). The adoption of the National Policy on Information Technology paved the way for e-governance in Nigeria. However, it was in 2007, that the National Information Technology Development Act of 2007 was later enacted by the National Assembly. The enabling legislation established the National Information Technology Development Agency (NITDA), the primary agency saddled with the responsibility of planning, formulating, developing and promoting the use of ICTs in Nigeria (Olatokun & Adebayo, 2012). It suffices to say that ICT is a systematic connection and interaction of computer systems (hardware and software), as well as an internet connection for data processing and storage, information dissemination, and service delivery.

### **Revenue Generation**

The term revenue has been defined by various authors in different ways. Ahmed (2010) sees revenue as all amounts of money received by a government from external sources, for example, those originating from 'outside the government' net of refunds, sale of investment, proceeds from issuance of debt, agency or private trust transaction and intra-governmental transfers. Obiechina

(2010) posited that the financial earnings of the government include the bulk of its revenue and this is related to monies mobilized or generated in the economy. Ilyas and Siddiqi (2010) stated that public revenue consists of taxes and revenue from administrative activities, which include fines, fees, gifts and grants. These can be classified into two categories, namely tax and non-tax. Ihendinihu, Ebieri, and Ibanichuka (2014) stated that government revenue is of two types: oil and non-oil. Oil is the main source of revenue accrued to the federation account. This includes revenue from crude oil and gas exports, receipt from petroleum profit tax and royalties, and revenue from domestic crude oil sales. Non-oil revenue is revenue which is not associated with oil. According to Chaudhry and Munir (2010), these include custom and excise duties, company tax, capital gain tax, value-added tax, fines and penalties, surplus from public enterprises, levies, grants, gifts and borrowed funds for deficit financing. According to Goodrich (2003), generation is a noun word derived from the verb 'generate'. It refers to bringing into existence or the creation of a phenomenon. Therefore, revenue generation, to suit the study, is the bringing of revenue into existence. In other words, the production or creation of revenue. From the foregoing, it can be pointed out that revenue is the amount of funds an organization/government can raise at a particular time for task execution. Revenue generation is the act and process through which revenue can be created or raised.

### **Nigerian Public Service**

The Nigeria Public Service, Marshal and Murtala (2015) citing the constitution of the Federal Republic of Nigeria, described as encompassing the civil service (Ministerial departments), statutory corporations or parastatals, judiciary, legislature, educational institutions, financial, wholly or principally owned by the government at the State, Local and Federal levels, Nigeria Police, Armed Forces and other organizations in which the Federal or state governments owned controlling share or interest. In Nigeria, the Country's government bureaucracy is the public service. This is because the government, at whatever level, enunciates and implements its policies, programs, and projects through the instrumentality of public service. Most public services are service-oriented. Therefore, the public service is the entire service sector in the public sphere as opposed to the private sector services. In other words, it is the governmental service at the three levels of governance. The functions of public service include the implementation and enforcement of economic and social-political policies of the current government; Designing and implementing public service; Raising revenue for the government; Ensuring managerial, political and financial accountability; Serving the people; Monitoring and evaluating the performance of organizations (Public, private or non – governmental) that are rendering service on behalf of the government; Driving all development initiatives; Delivering quality public service (such as education, electricity, water and transportation). Public service is fundamental to the overall efforts towards nation-building (Marshal & Murtala, 2015).

### **Information Communication Technology and Revenue Generation**

The adoption of ICT in revenue administration has recorded tremendous achievements. ICT has led to a swift improvement in the administrative processes by reducing the man-to-man interaction and the process of filling out papers. It also enhanced data sharing and security, transparency of the process, and efficiency. Dzidonu (2012) itemized the benefits of using information technology to manage the operations and delivery of public sector institutions, including improvement in administrative efficiency, effectiveness and productivity, improvement in service delivery, and



reduction in administrative, operational and transactional costs. It also facilitates the provision of access to information at a reduced cost.

The adoption of information and communication technology in the administration of revenue generation cannot be overemphasized; it however has its pitfalls if not properly applied. Oseni (2015) opined that the use of ICT can be catastrophic if carelessly employed by both the taxpayers and the tax administrators, as scammers and hackers of the internet facilities can utilize the ignorance or the lax security of the system. The adoption of IT facilities in administering taxation can lead to an indifferent attitude on the payment of taxes, garbage-in-garbage-out, that is, the imputation of wrong figures that will lead to wrong calculation of tax liability by online tax calculator, poor internet facility, poor electricity to the power host server, high cost of maintenance of ICT facilities, lack of technical know-how by tax administering agencies, high level of illiteracy among lower income earners that characterized the population.

### **Empirical Review**

Olaoye and Kehinde (2017) examined the impact of IT on tax administration in south-west Nigeria. It precisely inspected the effect of IT on tax productivity and the relationship between IT and tax planning and implementation. Descriptive research was employed, and questionnaire was used as an instrument to generate data. Pearson product-moment correlation (PPMC) and multiple regression were adopted to analyse generated data through questionnaires. The results revealed that IT through Online Tax Registration, Online Tax Remittance, and Online Tax Filing influences tax productivity. This study only examined the influence of ICT on tax administration in the southwest; the result and outcome are on the Southwest with the exclusion of Oyo State. However, the study was piloted in Southwest Nigeria, and the findings cannot be generalized in wider perspectives.

Yuda (2013) examined the use of ICT's influence on modernized Tax administration procedures and revenue collection in the Taxpayer Department of Revenue Authority in Tanzania. The ICT was introduced in 2001 in the department for expediting maintenance and well-timed access to records. The study output, after descriptive research was employed, showed that ICT had an influence on modernized Tax administration procedures and revenue collection in the Taxpayer Department of Revenue Authority in Tanzania. ICT minimized operational costs; removed postal delays, plugged loss in revenue and curbed cheating.

The effect of ICT on Tax Administration in Nigeria was also analyzed by Efunboade (2014). The study went into depth about the effectiveness of ICT on tax administration. Questionnaires and personal interviews were engaged in the study and analyzed using descriptive analysis. Seventeen (17) discoveries of the research revealed the degree of utility of ICT to a tax administration's core tasks in Nigeria but failed to comment on other key variables such as ICT skills and infrastructures. The output showed that ICT had an encouraging impact on tax administration. However, the study was piloted in Nigeria without quantitative analysis, and the study's range is limited to 2013.

The empirical investigation of ICT's influence on accounting practice (AP) was also conducted by Nwanyanwu (2016). Data were assembled from public and private sector accountants through unstructured and structured questionnaires. Analyses were achieved using Pearson's product-moment coefficient, descriptive statistics, and multiple regression. Verdicts indicated that a

positive statistical, strong, and significant relationship existed between AP and ICT. Power investment is a precondition for organizations to exploit the value of ICT. The study was conducted on practical accounting, but it was not conducted on taxation.

Umar, Bappi and James (2023) examined the effect of Information and Communication Technology (ICT) on revenue generation in Gombe State Internal Revenue Service. It specifically investigated if the application of ICT increased the efficiency of revenue collection. A survey research design was employed, in which information was gathered through the administration of questionnaires from a sample of respondents. Data were analysed using average mean score, while the hypotheses were tested using Analysis of Variance (ANOVA) with the aid of Statistical Package for Social Sciences (SPSS). The findings of the study revealed an increase in the mean with the availability of ICT infrastructure and an increase in revenue collection and that there is a moderate positive relationship between ICT availability and revenue generation in Gombe State Internal Revenue Service. The study recommended, among others, that the Gombe State Board of Internal Revenue should ensure an improved ICT infrastructure. This study was, however, conducted on state internal revenue generation, where the scope and field are different from that of federal internally generated revenue.

Ajala and Adegbe (2020) investigated the effect of information technology on effective tax assessment in Nigeria. It was a field survey research design, and questionnaire was the main instrument. Descriptive statistics and inferential statistics used for data analysis revealed that information technology had a positive, statistically significant effect on effective tax assessment. The study recommended that the government should provide enabling tax laws and simplify the ambiguities and complexities in some of the existing tax laws to facilitate effective tax assessment in Nigeria.

Olatunji and Ayodele (2019) examined the impact of information technology on tax administration in Southwest Nigeria. The study employed a descriptive research design and questionnaire as main instrument used to gather data while the statistical tools were multiple regression and pearson product moment correlation. The study revealed that information technology (Online Tax Filing-OTF, Online Tax Registration-OTR and Online Tax Remittance-OTRE) affect tax productivity, there is relationship between OTF, OTR and OTRE on Tax Implementation –TAXIMP.

Chinyere, Sabina and Chimaobi (2021) investigated the effect of Information and Communication Technology (ICT) on corporate performance using Zenith Bank Nigeria Plc and United Bank of Africa Plc. Data were obtained from annual financial statements published by the bank from 2010 - 2016. Corporate performance via analyses of Return on Equity, Return on Asset and Earnings per Share. The ordinary least square regression technique, with the aid of the statistical package for social sciences (SPSS), was adopted for the analyses. Findings show that ICT has a very weak (low) effect on corporate performance measured with return on equity, almost no effect at all on corporate performance measured with return on assets, and a positive effect on corporate performance measured with earnings per share. They recommend that there is a need for the bank management team to prioritize the ICT needs of the bank to avoid unnecessary investment in ICT gadgets in order to attain efficiency in the ICT operations of the bank. Also, staff training and development are paramount to enable the effective and efficient utilization of ICT resources.

Furthermore, the government should rise up to its duty to provide an enabling environment for the thriving of businesses.

Given the foregoing empirical review, it was discovered that the area of focus was mainly on tax administration, which is just an aspect of revenue generation. Accounting practice is also an aspect of the revenue administration process. When the efficiency of ICT application in revenue generation was investigated, it was focused on the state, which has a different field of operation and is restricted to the state Internal Revenue Service. The application of ICT on corporate performance is in the private sector, which is in the opposite direction in terms of goals and objectives. From the review, the gap discovered is to investigate the effect of ICT application in revenue generation at the federal level public sector, specifically in the areas of effectiveness, efficiency, transparency, and increase in the volume of revenue generation. In relation to the attitude of the personnel who are saddled with the task of ICT application

### **Theoretical Framework**

The New Public Management (NPM) theory was propounded by Christopher Hood, who first used the phrase new public management in 1989 to describe the very similar administrative doctrines that were used in the United States, Australia, Canada, New Zealand and the United Kingdom in the 1970s and 1980s, though with a different focus (O'Flynn 2013). Also, in his article, 'Public Management for all Season', published in 1991. Through this, he sought to describe trends that he and others had seen occurring in recent administrative reforms initiated across many Organisations for Economic Cooperation and Development (OECD) countries. Some of the key figures associated with the development of NPM include David Osborne and Ted Gaebler in their book *Reinventing Government* in 1992 by Christopher Pollitt, who has written extensively on NPM and its applications in various countries. These scholars, along with others, have contributed to the development of NPM theory (Mustapha & Ogbeide, 2024).

As a doctrine, the new public management identifies the failures and inadequacies of public sector performance over time and locates the problem as lying in the nature and processes of public sector activity and public administration, centralised bureaucracies, waste, inefficiency in resource use and inadequate mechanisms of accountability. In response, advocate the implementation of private sector techniques and values in the public sector along with the delivery of public service through market processes. Its emphasis is on frugality, efficiency and effectiveness through its market orientation and customer-client services outlook.

The new public management has gained wide acceptance in both theory and practice globally since the 1980s. Many international organizations and governments have embraced the NPM as the framework or paradigm through which governments are modernized and the public sector re-engineered to strengthen the linkages between governments and the processes both in government and civil Society. NPM is relevant to this study because of its advocacy for the use of information technology and its emphasis on efficiency and effectiveness in terms of processes and objectives. There is a connection between the study and the theory. Federal Inland Revenue Service is one of the government enterprises that imbibed the use of ICT when the e-governance transformation was affected across the Nigerian public sector. The application of ICT to attain efficiency, effectiveness, improved output, and transparency can be critical. NPM prescribed



extensive use of information technology's advantage through the establishment of e-governance and e-government as one of the principles that will lead to efficiency and effectiveness. Applying NPM theory to the study can help to verify if the application of ICT in revenue generation at the federal inland revenue service, Auchi, Edo State, can ultimately result in efficiency, effectiveness, transparency and increase in the volume of revenue generation. If the study reveals positive perceptions of ICT tools, policymakers can leverage this information to develop strategies for broader adoption. On the other hand, if challenges are identified, the findings can guide targeted interventions to address specific issues. This, in turn, influences the behaviour of the government in adopting the system and putting it to use.

### **Methodology**

The study is a field survey and cross-sectional in nature for the year 2024. The population of this study is twenty-seven (27) members of staff of the Federal Inland Revenue Service (FIRS) in Auchi Edo State. The staff comprised nine (9) senior staff and eighteen (18) junior staff. The entire population of the study was used as the sample size due to the small size of the population. This study utilised both primary and secondary sources of data collection. This involved qualitative desk analysis and the personal administration of a well-structured, close-ended questionnaire to the staff of the Federal Inland Revenue Service. The questions relating to the research questions, specific objectives and hypotheses were asked in Likert scale form of strongly agree (5), Agree (4), Neutral (3), Disagree (2) and strongly disagree (1) and measured using the ordinal measurement. The study employed descriptive statistics like frequency, simple percentage, mean and standard deviation, while inferential statistics such as the Friedman test, for the purpose of testing the hypotheses formulated. The analysis was executed with the aid of a statistical package for social sciences (SPSS version 22). The Friedman test is stated as:

$$M = 12Nk(k+1)R2i - 3N(k+1)$$

Where

M = Friedman test

k = number of columns

n = number of rolls

Ri = sum of the ranks

### **Data Analysis and Interpretation of Results**

This section examines issues relating to the specific objectives, tests hypotheses and discussion of findings.

**Table 1: Application of ICT and efficiency in revenue generation in Auchi, Edo state**

S/N	Statement Questions	Respondent					Descriptive Statistic	
		Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)	Mean	Std deviation
1	With ICT driven approach my organization can collect revenue from taxpayers without delay.	16 (59.3)	11 (40.7)	-	-	-	4.59	0.501
2	ICT application in my organisation facilitates sending of messages to taxpayers regularly.	10 (37.0)	17 (63.0)	-	-	-	4.37	0.492
3	ICT application enhances my organization on quick service delivery	13 (48.2)	9 (33.3)	2 (7.4)	-	3 (11.1)	3.37	1.269
<b>Overall mean index</b>							<b>4.11</b>	<b>0.754</b>

Source: Researcher's Field Survey (2024)

Highly utilized assumed mean=3.0

Table 2 shows respondents' perceptions on issues relating to ICT application and efficiency in revenue generation in Auchi, Edo state. It was observed that the entire 27 (100%) respondents with a calculated mean value of 4.59, which was higher than the bench (assumed mean) value of 3.0 and standard deviation of 0.541 suggested that the respondents were of the agreed perceptions that with ICT driven approach their organization can collect revenue from taxpayers without delay.

It was also deduced that the 27(100%) respondents which indicated calculated mean value of 4.32 at minimal standard deviation of 0.707 and bench mark assumed mean value of 3.0, indicating that all the respondents were of the agreed assertion that ICT application in their organisation facilitates sending of messages to tax payers regularly.

Similarly, a total of 22(81.5%) respondents were of agreed perceptions, 2 (7.4%) respondents were neutral, while a total of 3 (11.1%) respondents were of disagreed perceptions, thereby

resulting in the calculated mean of 3.79, which is higher than the benchmark mean (assumed mean) value of 3.0 and standard deviation of 1.269, suggesting that majority of the respondents were of the agreed perceptions that ICT application enhances the organization on quick service delivery.

The overall mean value of 4.11 which is greater than standard deviation of 0.754 suggested that majority of the respondents were of the agreed notion that ICT application in their organization can enhance efficiency in revenue generation in Auchi, Edo state.

**Table 2 : Application of ICT and transparency in revenue generation in Auchi, Edo state**

S/ N	Statement Questions	Respondent					Descriptive Statistic	
		Strongl y Agree (%)	Agre e (%)	Neutra l (%)	Disagre e (%)	Strongl y Disagre e (%)	Mea n	Std deviatio n
4	With ICT infrastructure in my organization, all revenue collection are digitalized to enhance integrity	13 (48.2)	12 (44.4)	1 (3.7)	-	1 (3.7)	4.35	0.893
5	With ICT introduction in my organization all payments by tax payers are automated in order to enhance credibility	15 (55.6)	8 (29.6)	1 (3.7)	2 (7.4)	1 (3.7)	4.48	0.893
6	ICT driven approach in my organization fosters transparent remittance of revenue collected to designated federal government account	9 (33.3)	12 (44.4)	4 14.8	1 (3.7)	1 (3.7)	4.00	1.000
							4.28	0.929

Source: Researcher's Field Survey (2024)

Highly utilized assumed mean=3.0

Table 3 shows respondents' opinions on issues relating to ICT application and transparency in revenue generation in Auchi, Edo state. A total of 25 (92.6%) respondents were the agreed perceptions, 1(3.7) was neutral, while 1(3.7%) was of strongly disagreed, thereby resulting in the calculated mean value of 4.35, which was greater than the bench (assumed mean) value of 3.0 and standard deviation of 0.893 indicating that most of the respondents were of the agreed assertion that with ICT infrastructure in their organization, all revenue collection are digitalized to enhance

integrity. It was also observed that 23(85.3%) respondents were of the agreed opinion that with ICT introduction in their organization, all payments by taxpayers are automated in order to enhance credibility, 1(3.7%) respondents were neutral, while 3 (12.1%) respondents were of the disagreed opinion. The calculated mean value to 4.32 compared with a minimal standard deviation of 0.707 and a benchmark assumed mean value of 3.0, further implying that most of the respondents were of the agreed perception that with ICT introduction in their organization all payments by taxpayers are automated in order to enhance credibility.

In addition, a total of 21(77.7%) respondents were of agreed opinion, 4(14.8%) respondents were neutral, while a total of 2 (7.4%) respondents were of the disagreed perceptions, thereby resulting in the calculated mean of 4.00 which is higher than the benchmark mean (assumed mean) value of 3.0 and standard deviation of 1.000, suggesting that majority of the respondents were of the agreed perceptions that ICT driven approach in their organization can foster transparent remittance of revenue collected to designated federal government account.

The overall mean value of 4.28 which is greater than standard deviation of 0.929 suggested that majority of the respondents were of the agreed perception that ICT application can enhance transparency in revenue generation in Auchi, Edo state.

**Table: 3 Application of ICT and increase in volume of revenue generation in Auchi, Edo state**

S/N	Statement Question	Respondent					Descriptive Statistic	
		Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)	Mean	Standard Deviation
7	With adoption of ICT in my organization has helped in reduction of tax avoidance and evasion in the locality	10 (37.0)	14 (51.9)	-	1 (3.7)	2 (7.4)	4.07	1.107
8	Introduction of ICT has assisted in increasing and capturing more tax payers.	7 (25.9)	18 (66.7)	1 (3.7)	-	1 (3.7)	4.11	0.801
9	ICT adoption in my organization has assisted in regular increase in revenue generation to government.	8 (29.6)	16 (59.3)	2 (7.4)	1 (3.7)	-	4.15	0.718
<b>Overall mean index</b>							<b>4.11</b>	<b>0.875</b>

Source: Researcher's Field Survey (2024)

Highly utilized assumed mean=3.0

Table 3 reveals respondents' opinions on issues relating to the application of ICT and the increase in volume of revenue generation in Auchi, Edo state. It deduced that a total of 24 (88.9%) respondents were of the agreed perceptions, while 3(11.1%) was of the strongly disagree thereby resulting in the calculated mean value of 4.07 which was higher than the bench (assumed mean) value of 3.0 and standard deviation of 1.107 indicating that most of the respondents were of the agreed opinion that with adoption of ICT in their organization has helped in reduction of tax avoidance and evasion by taxpayers in the locality.

Similarly, a total of 25 (92.6%) respondents were of the agreed opinion that the introduction of ICT has assisted in increasing and capturing more taxpayers, 1(3.7%) respondent was neutral, while 1 (12.1%) respondent was of the disagreed opinion. The calculated mean value to 4.11 compared with a minimal standard deviation of 0.801 and benchmark assumed mean value of 3.0, further indicating that most of the respondents were of the agreed perceptions that with the introduction of ICT has assisted in increasing and capturing more taxpayers in the area.

In addition, a total of 21(77.7%) respondents were of agreed opinion, 4(14.8%) respondents were neutral, while a total of 2(7.4%) respondents were of the disagreed perceptions, thereby resulting in the calculated mean value of 4.00 which is higher than the benchmark mean (assumed mean) value of 3.0 and standard deviation of 1.000, suggesting that majority of the respondents were of the agreed perceptions that ICT adoption in my organization has assisted in regular increase in revenue generation to government.

The overall mean value of 4.11 which is greater than standard deviation of 0.875 suggested that majority of the respondents were of the agreed perception that application of ICT can enhance increase in volume and amount of revenue generation in Auchi, Edo state.

**Table 4: Application of ICT and evidence of payment of revenue in Auchi, Edo state**

S/N	Statement Question	Respondent					Descriptive Statistic	
		Stron gly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)	Mean	Standard Deviation
10	With help of ICT in my organization, tax payers can get tax identification number (TIN) to promote revenue collection	7 (25.9)	18 (66.7)	1 (3.7)	-	1 (3.7)	4.11	0.801
11	With ICT in my organization, tax payers can	11 (40.7)	11 (40.7)	4 (14.8)	-	1 (3.7)	4.15	0.949



	tax clearance certificate immediate after payment of levies and tax.							
12	ICT adoption in my organization fosters update about tax payer's transactions assessment.	10 (37.0)	15 (55.6)	-	-	2 (7.4)	4.15	1.027
<b>Overall mean index</b>							<b>4.137</b>	<b>0.926</b>

Source: Field Survey, 2024

Highly utilized assumed mean=3.0

Table 5 reveals respondents' opinions on issues relating to ICT application and evidence of payment of revenue in Auchi, Edo state. It was deduced that a total of 25 (82.6%) respondents were of the agreed opinion, 1(3.7%) respondent was neutral, while 1(3.7%) was of the strongly disagree thereby resulting to the calculated mean value of 4.11 which is higher than the benchmark (assumed mean) value of 3.0 and standard deviation of 1.107 implying that most of the respondents were of the agreed opinion that with adoption of ICT in their organization has helped in reduction of tax avoidance and evasion by taxpayers in the locality.

In the same vein, a total of 22(81.4%) respondents were of the agreed opinion that with the introduction of ICT has assisted in increasing and capturing more taxpayers, 1(3.7%) respondent was neutral, while 1 (12.1%) respondent was of the disagreed opinion. The calculated mean value of 4.15 compared with minimal standard deviation of 0.949 and benchmark assumed mean value of 3.0, further indicated that most of the respondents were of the agreed perceptions that the introduction of ICT has assisted in increasing and capturing more taxpayers in the area.

Besides, a total of 25(92.6%) respondents were of agreed perceptions while a total of 2 (7.4%) respondents were of the disagreed perceptions, thereby resulting to the calculated mean value of 4.15 which is greater than the benchmark mean (assumed mean) value of 3.0 and standard deviation of 1.027, indicating that most of the respondents were of the agreed perceptions that ICT adoption in their organization has assisted in a regular increase in revenue generation to government.

The overall mean value of 4.137, which is greater than the standard deviation of 0.926 suggested that the majority of the respondents were of the agreed perception that ICT applications facilitate evidence of payment of revenue in Auchi, Edo state.

### **Hypotheses Testing**

Hypotheses formulated previously in part 1 which is the introduction part are tested in this Part 4. This decision rule is to accept hypothesis formulated if the calculated if the calculated Friedman test [Chi-square ( $X^2$ )] probability value is greater than the Friedman test critical probability value at 0.05 (5%) significance level (95% confidence), otherwise, we reject it. However, the choice of

the Friedman test is that the questions were prepared in rank form and measured in ordinal form scale

### **Hypothesis One**

H<sub>01</sub>: There is no significant relationship between the application of ICT and efficiency in revenue generation in the Federal Inland Revenue Service, Auchi, Edo State.

Test statistic: The statistical tool employed is Friedman Test, as indicated in Table 6.

**Table 6: Friedman Test Statistics**

N	27
Chi-Square	7.107
Df	2
Asymp. Sig.	.029

. Friedman Test

### **Decision**

Since the calculated Friedman test (Chi-square) value of 7.107 at p-value of 0.029 is less than the critical probability value of 0.05(5%) level of significance, we therefore reject the hypothesis formulated because it is statistically significant. This implies that there is significant relationship between the application of ICT and efficiency in revenue generation in Federal Inland Revenue Service, Auchi, Edo State. The implication is that ICT is a strong enhancing factor of efficiency in revenue generation in Auchi, Edo state

### **Hypothesis Two**

H<sub>02</sub>: There is no significant relationship between the ICT application and transparency in revenue generation in the Federal Inland Revenue Service, Auchi, Edo State.

Test statistic: The statistical tool employed is Friedman Test, as indicated in Table 7.

**Table 7: Friedman Test Statistics<sup>a</sup>**

N	27
Chi-Square	6.030
Df	2
Asymp. Sig.	.049

a. Friedman Test

### **Decision**

Since the calculated Friedman test (Chi-square) value of 6.030 at p-value of 0.049 is less than the critical probability value of 0.05(5%) level of significance, we therefore reject the hypothesis formulated because it is statistically significant. This suggests that there is significant relationship between the ICT application and transparency in revenue generation in the Federal Inland

Revenue Service, Auchi, Edo State. The implication is that ICT application is a critical influencing factor of transparency in revenue generation in Auchi, Edo state

### **Hypothesis Three**

H0<sub>3</sub>: There is no significant relationship between the application of ICT and increase in volume of revenue generation in Auchi, Edo state

Test statistic: The statistical tool employed is Friedman Test as indicated in Table 8.

**Table 8: Friedman Test Statistics<sup>a</sup>**

N	27
Chi-Square	1.636
Df	2
Asymp. Sig.	.441

Source: Researcher (2024) a. Friedman Test

### **Decision**

Following the calculated Friedman test (Chi-square) value of 1.636 at p-value of 0.441 is more than the critical probability value of 0.05(5%) level of significance, we therefore accept the hypothesis formulated because it is statistically insignificant. This suggests that there is significant relationship between the H0<sub>3</sub>: There is no significant relationship between the application of ICT and increase in volume of revenue generation in Auchi, Edo state. The implication is that ICT application is a weak enhancing factor of increase in volume of revenue generation in Auchi, Edo state

### **Hypothesis Four**

H0<sub>4</sub>: There is no significant relationship between the application of ICT and evidence of payment of revenue in Auchi, Edo state

Test statistic: The statistical tool employed is Friedman Test as indicated in Table 8.

**Table 8: Friedman Test Statistics<sup>a</sup>**

N	27
Chi-Square	2.893
Df	2
Asymp. Sig.	.030

a. Friedman Test

### **Decision**

Based on the calculated Friedman test (Chi-square) value of 2.893 at p-value of 0.030, which is less than the Friedman critical probability value of 0.05(5%) level of significance, we therefore reject the hypothesis formulated because the result is statistically significant. This suggests that there is significant relationship between the application of ICT and evidence of payment of revenue in

Auchi, Edo state. The implication is that ICT application is a strong influencing factor of evidence of payment of revenue in Auchi, Edo state.

### **Discussion of Findings**

The findings of this study are discussed as follows:

First, the study observed that majority of the respondents was of the agreed notion that the application of ICT in their organization can enhance efficiency in revenue generation by the Federal Inland Revenue Service in Auchi, Edo state. Some staff interviewed as regards the application of ICT and efficiency and effectiveness in revenue generation posited that it has assisted in improving their performance in terms of reduction of delay by bridging the time spent on work, improved productivity and enhancement of quick service delivery to the taxpayers. The hypothesis tested showed that there is significant positive relationship between the application of ICT and efficiency in revenue generation by the Federal Inland Revenue Service, Auchi, Edo State. The implication is that the application of ICT is a strong enhancing factor of efficiency in revenue generation. The finding is in tandem with Olaoye and Kehinde (2017) that the application of ICT leads to online Revenue administration and consequently improved Revenue generation. The study is also in agreement with Yuda (2013), that ICT had an influence on modernized tax administration and revenue generation in the area of minimizing operational costs, removal of postal delays, and plugging revenue linkages.

Second, it is deduced from the questionnaire analysed that most of the respondents were of the agreed perception that the application of ICT can enhance transparency in revenue generation in Auchi, Edo state. The interviewees also demonstrated that the application of ICT can help to foster transparency, credibility and accountability in revenue generation by the FIRS since all processes about the taxpayers and transactions are transmitted online. The hypothesis tested showed that there is a significant positive relationship between the application of ICT and transparency in revenue generation by the Federal Inland Revenue Service, Auchi, Edo State. The implication is that ICT application is a critical factor influencing transparency in revenue generation. The finding corroborated with Nwayanwu (2016), who claimed that ICT can only influence trust and transparency, but the human elements' manipulative tendencies undermine such effectiveness.

Third, it was revealed that respondents were of the agreed perception that the application of ICT can enhance the increase in volume and amount of revenue generation by the FIRS in Auchi, Edo state. Some of the interviewees also noted that the adoption of ICT can assist in sending messages through the Internet, WhatsApp and various network providers like short messages (SMS) of updates and reminders to taxpayers about their tax, which can eventually help to improve the amount of tax revenue. The hypothesis tested showed that the application of ICT has no significant influence but has a positive relationship with an increase in the volume of revenue generation in Auchi, Edo state. The implication is that the application of ICT is a weak enhancing factor of increase in the volume of revenue generation in Auchi, Edo state. Also, Olatunji and Ayodele (2019) revealed that information technology by way of Online Tax Filing (OTF), Online Tax Registration-(OTR) and Online Tax Remittance-(OTRE) affects tax productivity.

Lastly, it was observed that most of the respondents had the agreed perception that the application of ICT could facilitate evidence of payment of revenue in Auchi, Edo state. In the same vein, most of the staff interviewed posited that on payment of the required tax, the taxpayer can easily get its tax clearance certificate as evidence of its payment as it is forwarded to its email or on request. In addition, the hypothesis tested indicated that the application of ICT has a significant impact and a positive relationship with evidence of revenue payment in Auchi, Edo state. The implication is that the application of ICT is a strong influencing factor of evidence of payment of revenue in Auchi, Edo state. The finding supported Ajala and Adegbe (2020), who revealed that information technology had a positive statistically significant effect on effective tax assessment. Similarly, the application of ICT helps in filing as the filing incorporates the process of registration, tax preparation, tax filing and tax payment, which are crucial in revenue generation.

### **Conclusion**

This study, with its consequent outcome, has revealed that the application of ICT in revenue generation can lead to job ease and improvement in workers' productivity. It is not a yardstick for increments in the volume of revenue. The study also shows that there could be a reduction in the linkage of revenue in the process of its generation; it does not bring about an absolute blockage. The system can still be manipulated, especially through a conspiracy by some insincere personnel. The payment of tax and levies is borne out of the will to do so or coerced by the requirement of evidence of such payment for a benefit or advantage.

### **Recommendations**

It has been revealed that ICT can enable a better working atmosphere and improve workers' productivity. To bring about efficiency, effectiveness and transparency in the administration of revenue generation, the following recommendations be applied,

- i. Favourable conditions for the taxable and levy-paying entities to thrive and flourish.
- ii. Frequent and effective monitoring and inspection of such entities to coerce compliance will also result in efficiency as the effort and drivers of revenue will become less expensive.
- iii. The government should create a situation in which the very existence of levies and tax-paying entities will to a very large extent be dependent on evidence of compliance or payment of tax and levies.
- iv. Financially the staff of the Federal Inland Revenue Service should be very committed to their duty with sincerity through utmost application of the principle of informality in their conduct.



## References

- Abdulahi, M.S., Shehu, U.R. & Usman, B.M. (2019). Impact of information communication technology on organizational productivity in the Nigeria banking industry: Empirical evidence. *Noble International Journal of Business and Management Research*, 3(1), 1 – 9.
- Adewoye, J. O. & Olaoeye, C. O. (2014). Usage of information technology to enhance professional Productivity among accountants in Ekiti State. *International Journal of Accounting and Financial Management Research*, 4(2), 7 – 18.
- Adigbole, E.A & Olaoye, C.O. (2013). The application of information technology on administrative efficiency in Nigeria Universities. A case study of five selected Universities in Ekiti state. *Research Journal of Management*, 1(1), 1 – 16.
- Ahmed, Q. M. (2010). Determinants of tax buoyancy: Empirical evidence from developing countries. *Europeans Journal of Social Sciences*, 13(3), 45-92
- Ajala M. O. O. & Adegbe F. F. (2020). Effects of information technology on effective tax assessment in Nigeria. *Journal of Accounting and Taxation*, 12(4), 126-134.
- Amegavi, G.B., Bawole, J.N., & Buabeng, T. (2018). The dynamics of e-government enactment in a developing country public sector organization: Evidence from Ghana. *International Journal of Electronic Governance*, 10(1), 74-92.
- Aucoin, P. (1995). The new public management: Canada in comparative perspective, Canada: The Institute for Research on Public Policy (IRPP)
- Azelama, J.U. (2006). *Globalization and Nigerian Public Parastatals*. Benin City: everblessed publishers.
- Basu, P. K. (2005). "Reinventing Public Enterprises and Their Management as the Engine of Development and Growth" in *Public Enterprises: Unresolved Challenges and New Opportunities*, New York: United Nations.
- Charbonneau, M. (2012). New Public Management," in L. Côté and J.-F. Savard (eds.), *Encyclopedic Dictionary of Public Administration*. Retrieved online at [www.dictionnaire.enap.com](http://www.dictionnaire.enap.com) (Assessed 12/6/2024)
- Chaudhry, S. I. and Munir, F. 2010. Determinants of low tax revenue in Pakistan. *Pakistan Journal of Social Sciences*, 30(2), 439-452
- Chinyere, A. J., Sabina, E. A. & Chimaobi, I. (2021). Effect of information and communication technology on corporate performance: A study of selected quoted banks. *International journal of social sciences and human research*, 4, 12<sup>th</sup> December 3880 – 3892
- Dunleavy, P. & Hood, C.C. (1994). From Old Public Administration to New Public Management. *Public Money and Management*, 14(2), 9-16.
- Dzidonu, C.K. (2012). Using Information and Communication Technology (ICT) in Managing National Resources. Paper Presented at the 7th Internal Audit Forum, Accra.
- Efunboade, A.O. (2014). Impact of ICT on tax administration in Nigeria. *Computer Engineering and Intelligent Systems*, 5(8), 26-29.
- Federal Government of Nigeria (1999). 1999 Constitution of the Federal Republic of Nigeria (as Amended), Abuja: Author.
- Federal Inland Revenue Service, (2019). National extractive industry transparency initiative. Presidency.
- Goodrich, C. A. (Ed.). (2003). Merriam-Webster's Collegiate Dictionary (11<sup>th</sup> ed) (2003). USA, Marriam-Webster Inc.

- Hood, C. C. & Jackson, M. W. (1991). New public management: A recipe for disaster. A paper presented to department of government seminar on "New Dimension in Understanding Civil Disaster Management". The university of Sydney. [https://www.researchgate.net/publication/257644865\\_The\\_New\\_Public\\_Management\\_A\\_Recipe\\_for\\_Disaster](https://www.researchgate.net/publication/257644865_The_New_Public_Management_A_Recipe_for_Disaster)
- Ihendinihu, J. U., Ebieri, J. and Ibanichuka, A. 2014. Assessment of the long-run equilibrium relationship between tax revenue and economic growth in Nigeria: 1986 to 2012. *The SIJ Transactions on Industrial, Financial and Business Management*, 2(2).
- Ilyas, M.& Siddiqi, M. W. (2010). The impact of revenue gap on economic growth: A case study of Pakistan. *International Journal of Human and Social Sciences*, 5(11), 12 – 35.
- Kettl, D. F. (2000). *The Global Public Management Revolution*, Washington D.C.: Brookings Institution Press.
- Marshal, J.B. & Muritala, A.M. (2015). Public service in Nigeria: An overview of functions and code of conduct. *Global Journal of Politics and Law Research*, 3(1), 61 – 69.
- Mary, W., & Cox, M. (2007). *Information and Communication Technology Inside the Black Box: Assessment for learning in the ICT classroom*. Granada: Learning Publishers.
- Mustapha, A. I. & Ogbeide, F. (2024). The new public management paradigm: Principles and practices in P. O. Oviasuyi, E. J. Ofanson, O. Osumah & E. Okorodudu (Ed). *Issues in humanities, politics, management and development in Nigeria: A festschrift for Friday Ebose Iyoha* (pp, 253 – 275), Ekpoma.
- Nnamdi, H.S. (2014). *E-government and E-governance: Trends, progress and challenges*. Lagos: Rally Height Publications.
- Nwanyanwu, L.A. (2016). Information and Communication Technology (ICT) and Accounting Practice in Nigeria: An Empirical Investigation. *International Journal of Management Studies*, 3(1), 47-63.
- Obiechina, M. E. 2010. Analysis of revenue generation as a tool for socio-economic and infrastructural development in Nigeria. *Bullion Publication of Central Bank of Nigeria*, 34(4).
- Ogbeide, U. (2011). *Statistical techniques for social and management sciences*. Lagos: Amfitop Books.
- Okeke, M.N., Onuorah, A.N. & Okonkwo, G.I. (2016). Managing the challenges of public enterprises in Nigeria and the privatization option. *Kuwait Chapter of Arabian Journal of Business and Management Review*, 5(11), 45 – 54.
- Olaoye, C.O., & Kehinde, B.A. (2017). Impact of Information Technology on Tax Administration in Southwest, Nigeria. *Archives of Business Research*, 5(9), 139-150.
- Olasanmi, O.O., Ayoola, T., & Kareem, M.T. (2012). Evaluation of ICT use among women entrepreneurs in the Nigerian government industry. *International Journal of Management and Business Studies*, 3(2): 43-54.
- Olatokun, W. M., & B. M., Adebayo. (2012). Assessing e-government implementation in Ekiti State, Nigeria. *Journal of Emerging Trends in Computing and Information Sciences*, 3(4), 497–505.
- Omeire, E. & Omerie, C. (2014). New wine in old wineskin: An exploration of major constraints to e-government implementation in Nigeria. *European Scientific Journal*, 10(14), 481–487.

- Oni A., Okunoye, A., & Mbarika, V. (2016). Evaluation of e-government implementation: The case of state government websites in Nigeria. *The Electronic Journal of eGovernment*, 14(1), 48-59.
- O'Flynn, J. (2013). From New Public Management to Public Value: Paradigmatic Change and Managerial Implications. *Australian Journal of Public Administration*, 66 (3) 353-366
- Osborne, D. & T. Gaebler (1992). *Reinventing government: How the entrepreneurial spirit is transforming the public sector*, Reading (MA), Addison-Wesley.
- Oseni, M. (2015). Sustenance of Tax Administration by Information and Communications Technology in Nigeria. *Archives of Business Research*, 4(1), 47-54.
- Promberger, K. & Rauskala, M. I. (2003). New public management introduction from the UK perspective, working paper.
- Sahlin-Andersson, K. (2001). National, international and transnational constructions of New Public Management (pp. 43–72). In T. Christensen and P. Lægreid (eds.), *New Public Management: The transformation of ideas and practice*. Aldershot, UK: Ashgate
- Siddiquee, N. A. (2006). Public sector reforms in Malaysia: Recent initiatives and experiences. *International Journal of Public Sector Management*, 19(4), 339-356.
- Simonet, D. (2011). The new public management theory and the reform of European health care systems: An international comparative perspective. *International Journal of Public Administration*, 34, 815 – 826.
- Smith, A. (1937). *An Inquiry into the Nature and Causes of the Wealth of Nations*. New York: The Modern Library
- Siddiquee, N. A. (2006). Public sector reforms in Malaysia: Recent initiatives and experiences. *International Journal of Public Sector Management*, 19 (4), 339-356
- Sumuma, Z.S. & Agbodike, F.C. (2021). Effect of E-governance on service delivery in Joint Admission and Matriculation Board (JAMB) (2014-2019). *Gombe Journal of Administration and Management*, 4(1), 158 – 169.
- Umar, M., Bappi, U. & James, C. (2023). The effect of information communication technology (ICT) on revenue generation in Gombe State internal revenue service. *AKSU Journal of Administration and Corporate Governance*, 3 (3) 22 - 34
- Unesco (n.d). United Nations for Scientific and Educational Control. ([www.unesco.org](http://www.unesco.org)).
- Wangwe, F.N. (2010). *Enhancing professionalization of human resource management in the public service in Africa*. In capacity building workshop for public sector human resource managers in Africa. Benin: Yomleks Publishers.
- Wheelwright, S. C. & Clark, K. B. (1992). *Revolutionizing product development: quantum leaps in speed, efficiency, and quality*. New York: Free Press.
- Yuda, J.C. (2013). The impact of ICT on Taxation: the case of Large Taxpayer Department of Tanzania Revenue Authority. *Developing Country Studies*, 3(2), 91-100.