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The impact of ICT on taxation:
evidence from Oyo State

Abstract: This study investigated the impact of ICT on revenue generated from tax in Oyo State. Primary data were collected through administered questionnaire from staff of Oyo State board of internal revenue service and other taxpayers. Three hundred and fifty (350) questionnaires were distributed and administered among the staff of state board of internal revenue service and tax payers out of which 300 was returned. Data were analyzed using descriptive statistics, chi- square, ANOVA and Multivariate Analy-

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sis of Variance and Covariance (MANOVA) to test the hypothesis formulated. It is concluded that ICT has positive significant and statistical impact on tax revenue generation in Oyo State. ICT is a highly effective tool which enhances taxation cash inflow in the state. It is suggested that government should lay much emphases on digital tax through good governance practices on ICT with a comprehensive accounting platform which would improve the productivity of assigned tax authorities in more accurate, effective, and accountable manner.

▪▪▪ INTRODUCTION

Taxation is well-defined as the obligation forced by government on individuals and private organizations on their income, property, transactions, and commodities for the mindset of raising revenue to implement and actualize government expenditure. Government expenditure like employment generation, economic growth, infrastructural facilities, development of neglected area, economic stability and price stability. Tax revenue can only be achieved through tax authority, SBIR and FIRS for the state (SG) and federal government (FG) respectively. These tax authorities have the imprimatur of federal government and state government respectively. Tax authorities as the representative of government has adopted electronic tax filing (e-tax filing) through Information and communication technologies (ICT) with dispositions that it increases the absolute delivery of essential and public services, and fiscal profundity without incurring expensive overheads costs.

Again, Governments and organizations worldwide are increasingly identifying the compulsion to facilitate access to community services through information exchange using ICT. The role ICT has been growing in the social and economic life in the 21st century. It is now a reality as demonstrated by developments from many countries that ICT contributes immensely to the GDP of a country and that ICT resulted to improvement to market competitiveness of a country's products, output and services (Uvaneswaran & Mellese, 2016). ICT can influence on governance positively and other facets of economy. It can meritoriously increase living standards, assist global economic integration, narrow the digital divide and expand management and biodiversity utilization. According to Adamu (2001), ICT has displayed important roles to national growth and development.

ICT effort can be perceived in many ways, including; reduced need for personnel, reduced costs of tax compliance, reduced collection and administrative

costs; saved time for taxpayers because of transparency in assessment, fast processing; collection, and related processes; reduced costs of communication; and prompt contact with information that ultimately leads to improvement in revenue collections and efficiency, including blockage of revenue loss.

The recent globalization of ICT has prompted companies, individuals, business organizations, and government parastatals to change from the manual method of communication to automated means. Tax administrators have taken the opportunities of the inception of ICT to enhance tax administration.

Globally, tax authorities are employing e-tax administration systems to relate with taxpayers in compliance settings, administration, tax collection, with the disposition to enhance efficiency, and effectiveness in administration of tax (Dowe, 2008). Planning for tax revenue generation can greatly be implemented by a system that jointly attribute data management capabilities and spatial such as geographical information systems which is ICT. Harrison and Nahashon (2015) discovered that level of tax compliance was not affected by online tax system while Otieno, Oginda, Obura, Aila, Ojera and Siringi (2013) stated that ICT had strong and positive relationship with revenue collection, and relationship existed among ICT, effectiveness and efficiency in revenue collection.

For many years, tax administration has been experience failure because of lack of certainty, poor motivation and enthusiasm of tax personnel, equity, convenience in Nigeria, and other factors are ineffective monitoring, improper planning, fraudulent practices, weak control, ill equipped and unqualified manpower and public dissuasion due to misappropriation of tax income by government (Ogbonna & Appah, 2012). Recently, to circumvent tax elusion and avoidance, government compelled all the private organization include individual to have their company registered through FIRS website. Emerging worldwide infrastructures such as Factual Accurate Complete Timely Project (FACT), Integrated System of Tax Administration and Taxpayer Identification Number (TIN) promptly encourage qualified taxpayers to fulfill tax righteousness online anytime and anywhere. Do these have effect on tax income in Oyo State? With regards to the above, none of the studies had ever carried out investigation on the effects of ICT on tax returns in Oyo State. This study surveyed and examined the ICT impact on tax returns in Oyo State.

Perception and benefits of adopting information technology in tax administration

ICT is defined as computer based tools adopted to work by people with the communication and information processing requests of an organization. It incorporates the network, computer software and hardware, and numerous other devices (photography, video, camera, audio, etc) that translate information text, sound, images, and motion into digital form. According to Mary and Cox (2007) electronic and computerized devices associated with human interactive materials permit the user to use them for numerous delivery of service and in addition to private use. ICT are devices, tools, and resources adopted to communicate, create, share manage, and circulate information. These include hardware such as modems, cell phones, computers, software like computer programs, applications in mobile phone, and networks such as Internet, wireless communications. These are principally concerned with processing, purpose of collecting, storing and relevant information transmitting to aid operations of management in an organizations (Adewoye & Olaoye, 2014). This clearly suggests that ICT encompasses the involvement of electronic tools and devices which need command and input to operate. This also fetches the advantages of delivery information through technological means. Collins (2005) defined ICT as equally a submission of applied science to commerce, technical method, industry, knowledge and skills.

The major motives for Nigeria to levy tax are to raise income disposition of financing infrastructure, education, social services such as defense, law and order, health, and second, to rise share of the national cake dispense to the poor; to boost investment; and to defend infant industries on local products via heavy taxes on needless imports. ICT enhances performance in revenue generation and administrations by reducing processing times and human error, providing available accessible data for tax personnel, encouraging voluntary compliance which invariably minimizing tax elusion and avoidance, and aiding strong decision making. The Nigeria tax administration has been computerized which also encompassed electronic processes and tailored made projects to focus specified areas in tax system like TIN Project is an automated tax identification to every taxable creature in Nigeria.

This project assisted the progress of Tax Database by connecting major stakeholders and all revenue authorities together in the country. Joint Tax Board overseen the project but financed by the state and Federal Government of Nigeria (FGN). The project –TIN- is a reliable and technological way that forcing every taxpayers in Nigeria into tax net. The registration of TIN captures all the assets, properties, biometric, and bio data, fingerprints details of the taxable persons to ensure maximum accuracy of uniqueness. Precautionary measures such as contact management and Disaster recovery centers are organized and make available to reduce project outright failure and interruption. It is made compulsory for any corporate entity, registered organizations, people and individual that intend to lunch vibrant operations like award of contract opening of bank account through TIN which absolutely reduce the occurrence of tax evasion.

- Project FACT is a unified electronic method of tax payment, tax registration, and accounting.
- ITAS (Integrated Tax Administration System) includes computerized Finance and Accounts Functions with Tax clearance, computerized Reengineering system, Management Business Process, Systems Development.

Dzidonu (2012) enumerated the imperative value of using ICT to succeed as include:

- There is an improvement in collection of tax amount by the authorities. Administrative monitoring, effective, productive and efficient tax service delivery, decline cost of administration, transactional costs and operational of public, provision of accessed information are improved at a cheap cost.
- Efficient digital tax system would increase the efficiency of Government-to-citizen (G2C) service. When the taxation activities are digitally born, it improves the chances of good governance as all the information regarding the tax compliances are obvious and accessible for the authorities.
- Henceforth the business principled practices on tax payment would proliferate as a result. It is explicated that tax digitalization would upsurge the accountability of both the tax payer and the government to be obliged to both pay the tax and to give an effective service.
- Nevertheless, this practice would pave way to upsurge the worth of the service exhibited by the authorities and likewise possibility of procla-

iming fresh practice would increase (Heeks, 2005). E-taxation is consi-
dered as the crucial tools in implementing e-government services.

- Importance of the IT usage is immeasurable regarding to taxation, some of the imperative benefits are; accelerate a reduction in the managing the overhead expenditure of government parastatals saddle with tax administration, immediate computation and preparation of tax liability with e-tax calculator, abridged cost of registration of taxpayers and prompt generation of TIN, reduced staff-taxpayers conspiracy in tax liability, reduced fraudulent activities of tax collectors as regards to non-transfer of tax acknowledged from taxpayers and upsurge government revenue because of drastically decrease in corrupt practices and expenses such as overhead, transactional, and administrative.

- The expected benefits of employing an ICT system include enhancements in productivity, enormous accurateness in information and improvement in profit performance, and (Adewoye, Ademola, Afolabi & Oyeleye, 2013). Productivity normally progressed in the State that espousing information technology (Adewoye & Olaoye, 2014).

By benefit of adopting ICT, tax revenue has recorded a stupendous achievements. ICT has contributed to the progress in taxation by swifting administrative processes, persistent increase of revenue, taxpayers monitoring including penalties and interests. It also enhanced data security, transparency processes, and efficiency, relief of staff from fruitless work, and possibility of exchange of data and electronic transfer with government and e-government (nongovernmental institutions). Ease communication with taxpayers, elevation of equity, preventive influence on corruption and bribery, and disablement of tax elusion and tax avoidance are visible and achieved with ICT. Abdallah (2004) signified that the stupendous amount of information can be stored in computer storage devices or published online and made reachable to anticipated users. ICT offers different formats to the hardcopy of printouts of the information which indicates cheaper, faster, and easy information storage. Hill (1999) proclaimed that ICT increases the extent of information communication including volume of information to be transmitted, the frequency, and distance over which communication transpires. Furthermore, ICT are extremely beneficial.

Mugisha (2001) confirmed that, the adoption of ICT augments timely entrance to precise and pertinent information, which is a requirement for good programming, planning, implementation including evaluation and monitoring which consolidated to the key factor in tax collection; Suluo (2003) showed

that, ICT usage has headed to augmented stage of organizational development. Crede and Mansell (1998) divulged two facts, first; ICT has the capability to upsurge productivity and establish additional cost effective output without change in inputs. Secondly, according to Crede and Mansell (1998), development of ICT applications usage for business modify the approaches to organizations function which ultimately expand services and products quality. This emphasized that new opportunities for tax revenue was blowout by the ICT usage in SBIR or FIRS such as new markets, new organization design, improved services, invented and innovated products are all emanated from ICT as innovative sources of revenue.

Tax jurisdiction and administration in Nigeria

The important step is to make rule, policies, and regulations with the disposition to achieve desired objectives or goals, and it is imperative thing is to actualize these rules, policies, and regulations. The bodies or agents saddled with implementation of tax policy responsibility in Nigeria is administrative organ. Effectiveness, efficiency and transparency are the prerequisite in establishing a tax administration structure for desired output. Kiabel and Nwokah (2009) pined out that in section 100 of the personal income tax (PIT) decree, 1993 and amended by decree No 18 provision decree 1998 the recognized tax authority in the country are Local Government (LG) Revenue Committee, SBIR and FIRS together with JSRC and JTB with their responsibilities as directed and showed by constitutional provision.

The federal constitution offered the FIRS exclusive authority to collect levies like corporate tax, PIT, excise duties, capital gains tax, value added tax, petroleum profit tax, custom duties (export duties and import duties), stamp duties, which are remitted into the federation account (education tax is excepted) for sharing among FG, SG, and LG in agreed ratio as spell out in the constitution. States are endowed with the authority to accumulate wealth through PIT (all taxable organization and individuals (individual or personnel in federal capital territory, armed forces personnel and state government lands owned in the urban areas are exempted), market levies and taxes where state finance is involved. Others are entertainment tax, naming of street, pools betting, survey fees, and additional betting taxes. The constitution bequeathed the LG the right to collect motor park dues, license (trading) kiosk and shops rate, tenement rates, domestic animal license, property tax, fees on slaughter slab, liquor

license, motor park levies, market tax, cattle tax, road and merriment closure levy, license fees for television and radio, charges for wrong parking, signboard and establishment permit fees, vehicle, radio license fees, religious places, advertisement authorization fee and, disposal and sewage fees, street naming (state capita is excluded) public convenience (Adeleke, 2011). Tax administration was established to confirm and verify tax policies and laws compliance. Tax administrators has recognized the administrative dimension of taxation for long in underdeveloped and developing countries precisely those engaging on tax policy (Alm, 1999).

Theoretical review

Unified theory of technology acceptance (UTAT) is well- defined as technology model articulated by Venkatesh which is embedded as User acceptance of information technology. It aimed to elucidate the intents of the user on the usage of a system, consequent usage attitude and revenue collection system. This theory is employed to classicalize acceptance and technology usage for revenue collection system in the county. The theory brought out effort expectancy; performance expectancy; facilitating conditions and social influence as the four constructed key. According to the theory, the direct determinants of usage behavior, attitude and intention are the first three while the fourth is the direct determinant of adopted behavior. This theory was postulated and established through a review and alliance of the constructed eight models that previous research had used to elucidate information on usage behavior (reasoned action theory, motivational model, technology acceptance model, planned behavior theory, a theory of combination of technology acceptance model and planned behavior, personal computer usage model, social cognitive and diffusion of innovative theory).

Considering the theory effectiveness on this research, taxation provides government with the funding compulsory needed to construct the infrastructure on which economic development and growth are depended; creates an enabling environment in which business is profitable and wealth is created; sharpen the procedure in which government activities are conducted, and plays a central and crucial tasks in mobilization of domestic resource as detailed in performance expectancy theory (Venkatesh, Morris, Davis & Davis, 2013). Agreeing to this theory, taxation shapes the region environment and thus promotes the nation economy, enhance investment and international trade through ICT. Dou-

ble taxation avoidance, efficient tax administration, and consistency and certainty of tax treatment are all important consideration for business which are easily accessed through ICT.

Empirical review

Olaoye and Kehinde (2017) examined the impact of IT on tax administration in south west in Nigeria. It precisely inspected the effect of IT on tax productivity and the relationship between IT on tax planning and implementation. Descriptive research was employed and questionnaire was used as instrument to generate data. Pearson product moment correlation (PPMC) and multiple regression were adopted to analyse generated data through questionnaire. The results divulged that IT through Online Tax Registration, Online Tax Remittance and Online Tax Filing has influence on tax productivity. This study only examined influence of ICT on tax administration in south west, the result and outcome in on south west not extended to Oyo State. However, the study was piloted in southwest of 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 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 influence on modernized Tax administration procedures and revenue collection in Taxpayer Department of Revenue Authority in Tanzania. ICT minimized operational costs; removed postal delay, plug 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 in-depth of the effectiveness of ICT on tax administration. Questionnaire and personal interview were engaged in the study and analyzed using descriptive analysis. 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 encouraging impact on tax administration. But the study was piloted in Nigeria without quantitative analysis and the range of the study is limited to 2013.

The empirical investigation on ICT influence on accounting practice (AP) was also discovered by Nwanyanwu (2016). Data were assembled from public and private sectors accountants through unstructured and structured ques-

tionnaire. Analyses were achieved by Pearson's product moment coefficient, descriptive statistics and multiple regression. Verdicts indicated that positive statistical, strong, and significant relationship existed between AP and ICT. Power investment is a precondition for organizations to exploit value of ICT. However, conducted study was on accounting practical but it was not conducted on taxation.

From the appraisal and assessment of extant works, the gaps identified are scope, methodology and conceptual gap. The scope of studies reviewed were limited to 2015 not extended to the current year. Also, no existing study has captured Oyo State in the investigation of the influence of ICT on tax return. This study is unique because it employed MANNOVA to discover the ICT influence on tax revenue in Oyo State.

THE RESEARCH METHODOLOGY AND THE COURSE OF THE RESEARCH PROCESS

Primary data were collected through homogeneous and structured questionnaire that were administered to staff of Oyo State board of internal revenue service (SBIR) and other taxpayers through random sampling. Three hundred and fifty (350) questionnaires were distributed among the respondents but 300 were returned. Ten (10) questionnaires was distributed in each of the fifteen ministries and eighty (80) was distributed in SBIR, while the remaining fifty (70) was distributed among taxpayers. The study employed five -point Likert scale. 1= strongly disagree (SD), 2= disagree (D), 3= undecided (N), 4= agree (A), and 5= strongly agree (SA). Data collected were scrutinized and analyzed engaging Chi-square, descriptive statistics, one way ANOVA and MANOVA to test the hypothesis formulated. Chi square is an important non-parametric test and as such no rigid assumptions are necessary in respect of the type of population. It is used as a test of goodness of fit and as a test of independence. Whereas ANOVA test for difference among the means of the population by examine the amount of variation within each of the sample, relative to the amount of variation between the samples. MANOVA is an extension of bivariate analysis of variance in which the ratio of among – group variance to within-group variance is calculated on a set of variable instead of single variable.

The formulae for chi-square used is

$$\chi^2 = \sum \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$$

where:

i = 1,

O_{ij} = observed frequency of the cell in ith row and jth column,

E_{ij} = expected frequency of the cell in ith row and jth column.

The degree of freedom = (r-1)(k-1)

where:

r = number of rows, k = number of columns (oi - ei),

i = constant value.

RESULTS AND DISCUSSION

Table 1. Distribution of responses on the effect of ICT on tax returns in Oyo State

S/N	Question	SA	A	N	D	SD	TOTAL
1	ICT usage has minimized errors in return processing and as-sessment	71 (23.7%)	179 (59.7%)	09 (3.0%)	28 (9.3%)	13 (4.3%)	300 (100%)
2	Taxpayer and Tax consultants (firms) prepare tax return employing computer to submit via Internet, and prompt com-putation and preparation of tax liability through e- tax calcula-tor enhance tax productivity	102 (34.0%)	140 (46.7%)	12 (4.0%)	25 (8.3%)	21 (7.0%)	300 (100%)
3	ICT minimize operational costs, tax compliance cost and maxi-mize revenue collection	95 (31.7%)	121 (40.3%)	17 (5.7%)	25 (8.3%)	42 (14.0%)	300 (100%)
4	ICT provides access to similar bodies around the globe where lessons learned improve the tax establishment and tax admini-stration in the state	130 (43.3%)	110 (36.7%)	00 (00%)	45 (15.0%)	15 (5.0%)	300 (100%)
5	ICT maintains consistent record keeping; timely access of such records, fast processing of return which together cut down postal delays and costs; curb cheating including plugging revenue loss	89 (29.7%)	152 (50.7%)	10 (3.3%)	19 (6.3%)	30 (10.0%)	300 (100%)
6	A remarkable increased in taxation revenue could be at-tributed to increased efficiency and improved performance which was traced to the adop-tion of ICT	121 (40.3%)	101 (33.7%)	09 (3.0%)	15 (5.0%)	54 (18.0%)	300 (100%)

Table 1. Distribution…

S/N	Question	SA	A	N	D	SD	TOTAL
7	There is no hidden place for tax evaders with ICT since every prospective taxpayers are apprehended by ICT	159 (53.0%)	76 (25.3%)	03 (1.0%)	45 (15.0%)	17 (5.7%)	300 (100%)
8	ICT accelerates a reduction in the managing the overhead expenditure of government parastatals saddle with tax administration	88 (29.3%)	125 (41.7%)	16 (5.3%)	35 (11.7%)	36 (12.0%)	300 (100%)
9	Taxpayers' responses is impressive because ICT encourages tax compliance in the state. It also increases the good governance practices in tax collection	37 (12.3%)	194 (64.7%)	25 (8.3%)	18 (6.0%)	26 (8.7%)	300 (100%)
10	Digital taxation is a highly and extremely effective device in implanting the government physical policies and it abridged cost of registering taxpayers with instantaneous generation of TIN	49 (16.3%)	159 (53.0%)	23 (7.7%)	27 (9.0%)	42 (14.0%)	300 (100%)
11	ICT contributes to fair, effective and efficient taxation and increase on revenue	140 (46.7%)	89 (29.7%)	10 (3.3%)	36 (12.0%)	25 (8.3%)	300 (100%)
12	It reduces staff-taxpayers collusion as regards tax liability, reduction in fraudulent activities of tax collectors in the aspect of non-remittance of tax received from tax payers and boost the revenue of government including reduction in expenses (administrative, overhead and transactional) and corrupt practices	121 (40.3%)	110 (36.7%)	09 (3.0%)	45 (15.0%)	15 (5.0%)	300 (100%)

N o t e : The bracket figures indicate the percentage and figures not bracket indicate frequency.

S o u r c e : authors' field survey (2019).

From table 1, 23.7% of the respondents agreed strongly that ICT usage has minimized errors in return processing and in assessment of taxation in Oyo State, 59.7% agree, 3.0% were not sure, 9.3% disagree, and 4.3% strongly disagree. This indicates that adoption of ICT usage in tax collection has minimized errors in return processing and in assessment of taxation in Oyo State.

Also, 34.0% of the respondents agreed strongly that Taxpayer and Tax consultants (firms) prepare tax return using computer to submit via Internet, and instant computation of tax liability from online tax calculator enhance tax productivity, 46.7% agree, 4.0% were not sure, 8.3% disagree and 7.0% strongly disagree. This indicates that Taxpayer and Tax consultants (firms) prepare tax return using computer to submit via Internet, and instant computation of tax liability from online tax calculator enhance tax productivity.

However, 31.7% of the respondents agreed strongly that ICT minimize operational costs, tax compliance cost and maximize revenue collection, 40.3% agree, 5.7% were not sure, 8.3% disagree and 14.1% strongly disagreed. This implies that ICT minimize operational costs, tax compliance cost and maximize revenue collection.

Furthermore, 43.3% of the respondents agreed strongly that ICT provides access to similar bodies around the globe where lessons learned improve the tax establishment and tax administration in the state, 36.7% agree, 0.0% not sure, 15.0% disagree and 5.0% strongly disagreed. This indicates that ICT provides access to similar bodies around the globe where lessons learned improve the tax establishment and tax administration in the state.

More so, 29.7% of the respondents agreed strongly that ICT maintains consistent record keeping; timely access of such records, fast processing of return which together cut down postal delays and costs; curb cheating including plugging revenue loss, 50.7% agree, 3.3% were not sure, 6.3% disagreed and 10.0% strongly disagreed. This implies that ICT maintains consistent record keeping; timely access of such records, fast processing of return which together cut down postal delays and costs; curb cheating including plugging revenue loss.

Moreover, 40.3% of the respondents agreed strongly that a remarkable increased in taxation revenue in the state could be attributed to increased efficiency and improved performance which was traced to the adoption of ICT, 33.7% agree, 3.0% were not sure, 5.0% disagree, and 18.0% strongly disagree. This indicates that a remarkable increased in taxation revenue could be attributed to increased efficiency and improved performance which was traced to the adoption of ICT.

In addition, 53.0% of the respondents agreed strongly that there is no hidden place for tax evaders with ICT since every prospective taxpayers are apprehended by ICT, 25.3% agree, 1.0% were not sure, 15.0% disagree, and 5.7% strongly disagree. This signposted that there is no hidden place for tax evaders with ICT since every prospective taxpayers are apprehended by ICT.

Results showed that 29.3% of the respondents agreed strongly that ICT accelerates a reduction in the managing the overhead expenditure of government parastatals saddle with tax administration, 41.7% agree, 5.3% were not sure, 11.7% disagree, and 12.0% disagreed strongly. This indicates that ICT accelerates a reduction in the managing the overhead expenditure of government parastatals saddle with tax administration.

It is also deduced that 12.3% of the respondents agreed strongly that taxpayers' responses is impressive because ICT encourages tax compliance in the state and increases the good governance practices in tax collection, 64.7% agree, 8.3% were not sure, 6.0% disagree, and 8.7% strongly disagree. This indicates that taxpayers' responses is impressive because ICT encourages tax compliance in the state and increases the good governance practices in tax collection.

In addition, 16.3% of the respondents agreed strongly that ICT is a highly effective tool in tax collection which ultimately reduces cost of registering taxpayers and instantly generate tax identification number for easily monitoring, 53.0% agree, 7.7% were not sure, 9.0% disagree, and 14.0% strongly disagree. This indicates that ICT is a highly effective tool in tax collection which ultimately reduces cost of registering taxpayers and instantly generate tax identification number for easily monitoring. Outcome of the analysis reported that 46.7% of the respondents strongly agree that ICT contributes to fair, effective and efficient taxation and increase on revenue, 29.7% agree, 3.3% were not sure, 12.0% disagree, and 8.3% strongly disagree. This indicates that ICT contributes to fair, effective and efficient taxation and increase on revenue.

Lastly, 31.6% of the respondents agreed strongly that ICT reduces staff-taxpayers collusion as regards tax liability, fraudulent activities of tax collectors in the aspect of non-remittance of tax received from taxpayers and boosts the revenue of government including reduction in expenses (administrative, overhead and transactional) and corrupt practices, 50.8% agree, 1.2% were not sure, 12.4% disagree, and 6.4% strongly disagree. This indicates that ICT reduces staff-taxpayers collusion as regards tax liability, fraudulent activities of tax collectors in the aspect of non-remittance of tax received from taxpayers and boosts the revenue of government including reduction in expenses (administrative, overhead and transactional) and corrupt practices.

Table 2. Analysis of the effect of ICT on tax returns in Oyo State

S/N	Relationship	Pearson chi-square	Pr(value)	Remark
1	Minimized errors	87.6278	0.000	Significant
2	Taxpayer and Tax consultants	50.0702	0.000	Significant
3	Minimize operational costs, tax compliance cost and maximize revenue collection	44.8689	0.000	Significant
4	Tax regime and tax administration	48.4426	0.000	Significant
5	Consistent record keeping	67.8751	0.000	Significant
6	Increased efficiency and performance	185.7998	0.000	Significant
7	Tax evasion and avoidance	255.4883	0.000	Significant
8	Overhead cost	169.6422	0.000	Significant
9	Good governance practices	132.5268	0.000	Significant
10	Effective and efficient taxation	141.265	0.000	Significant
11	Instant generation of tax identification number	227.9942	0.000	Significant
12	Fraudulent activities	270.1246	0.000	Significant
Mean	4.328125	4.234375	4.28125	4
	4.203125	4.21875	4.09375	4.140625
Standard deviation	.4732424	.4269563	.8631568	.2519763
	.4055053	.5764905	.2937848	.3503824

S o u r c e : authors' computations (2019) and output of STATA 12 based on questionnaire.

From table 2, in testing hypothesis, the minimum chi – square calculated is 44.8689 (x^2 – cal) is greater than chi – square tabulated 3.74 (x^2 – tab) which make outcomes to be extremely significant with Pr (value) equal to 0.000. Collectively, the null hypothesis is rejected. Therefore, ICT has significant impact on tax returns in Oyo State.

Table 3. One-Way ANOVA on significant impact of ICT on Tax revenue in Oyo State

Source	Sum of Square	Df	Mean Square	F	Sig	Remarks
Between groups	63.6122879	4	15.903072	20.13	.0000	**Rejected**
Within groups	233.054379	295	.99219621			
Total	296.666667	299				

S o u r c e: authors' computations (2019).

From table 3, it can be deduced that ICT has significant impact on Tax revenue in Oyo State. This reflected in the results: f (299) = 28.05, p =.0000. That is, significance value (.0000) was found to be less that the alpha value (0.05). Therefore, the hypothesis which stated that ICT has no significant impact on Tax revenue in Oyo State was rejected.

Table 4. The effect of ICT on Tax returns in Oyo State by MANOVA

Source	Statistic		Df	F(df1,	df2)	F	Prob>F
ICT	W	0.1187	5	55.0	1318.2	14.01	0.0000 a
	P	1.3914		55.0	1440.0	10.10	0.0000 a
	R	3.8661		55.0	1412.0	19.85	0.0000 a
	L	2.9706		11.0	288.0	77.77	0.0000 u
Residual			294	Number of obs = 300			
Total			299				

Dependent variable = Tax returns.

W = Wilks' lambda, P = Pillai's trace, R = Roy's largest root, L = Lawley- Hotelling trace, a = approximate, e = exact, u = upper bound on F.

S o u r c e: authors' computations (2019).

To confirm the significant effect of ICT on Tax returns in Oyo State by the outcome of Chi-square and ANOVA stated above, the multivariate analysis of variance and covariance (MANOVA) was also employed. From table 4 above, according to Wilks' lambda (W) statistic, 1% increases in ICT increases income tax by 0.11%. Also, with reference to Pillai's trace statistic, 1% increase in ICT increases income tax by 1.3%. More so, with the outcome of Lawley-Hotelling

trace (L) and Roy's largest root (R) statistic, 1% increases in ICT increases income tax by 3.8% and 2.9% respectively. The entire statistic outcomes suggest there is positive significant effect of ICT on income tax. This also supported by F statistic and probability of F (Prob>F) equal to 0.0000a. An increase in ICT brings positive change to income tax in Oyo State.

■■■ CONCLUSION AND RECOMMENDATION

This study investigated the impact of ICT on revenue generated from tax in Oyo State. Primary data were collected through administered questionnaire from staff of Oyo State board of internal revenue service and other taxpayers. Three hundred and fifty (350) questionnaires were distributed and administered among the staff of state board of internal revenue service and tax payers out of which 300 was returned. Data were analyzed using descriptive statistics, chi- square, ANOVA and Multivariate Analysis of Variance and Covariance (MANOVA) to test the hypothesis formulated. It is concluded that ICT has positive significant and statistical impact on tax revenue generation in Oyo State. Involvement of ICT in tax collection has improved the tax revenue generated in Oyo State. Increased revenue has proved that better administration was in place and this is only possible with the adoption of ICT. According to this study, ICT is a highly effective tool which enhances taxation cash inflow in the state. Also, plugging of all revenue loss, and expansion in efficiency and performance of tax revenue collections are achieved. Furthermore, the economic impact of implementing digital tax system is also considered favorable. It is worth to remember that, no matter the level of prosper the country is, if there is absence of good effective ICT in country, the revenue realized from taxation will only disappear in greedy stomachs and will not reflect in collections. It is suggested that government should lay much emphases on digital tax through good governance practices on ICT with a comprehensive accounting platform which would improve the productivity of assigned tax authorities in more accurate, effective, and accountable manner.

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