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## An Assessment of the Level of usage of Information and Communication Technology (ICT) in the General Election Administration in Nigeria

Ayoade, Olusola Bamidele

Department of Computer Science

Emmanuel Alayande College of Education, Oyo

Email: ayoadebamidele2014@yahoo.com

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### ABSTRACT

This study was carried out to assess the level of usage of ICT in the general election administration in Nigeria using three Local Government Councils in Oyo Township. A descriptive survey design was employed and adapted questionnaire was used to collect data from the respondents. The population of the study consists of all the peoples living within the three Local Government Councils in Oyo Township. An incidental random sampling technique was used to selecting two hundred (200) respondents from the population of the study and three research questions were formulated for the study. Out of the 200 questionnaires administered on the sample of the study, only 170 were returned. Data collected were analysed using both simple percentage, correlation coefficient and multiple regression analysis at 0.05 level of significant. The results of the study indicated that 82.3%, 78.8%, 65.3%, 56.5%, 55.9%, 49.5% and 34.7% of the respondents agreed that ICT are used for voter registration/education, communication between/among citizens, leaders and interest group, demand for better services, civic education, demand accountability and transparency in the conduct of public affair, electoral monitoring and offer e-services to citizens respectively. In addition the results showed that 77.1%, 74.7%, 73.5%, 14.1%, 21.2%, 33.5% and 45.3% of the respondents reported that the level of usage of ICT for voter registration, issuance of voter id, monitoring and evaluating electoral processes, nomination of candidate, delimitation and demarcation of electoral boundaries, conduct of polls and declaration of result respectively. Finally, the results indicated that both gender ( $\beta=.082$ ,  $P (.173>.005)$ ) and income ( $\beta=-.014$ ,  $P (.899>.005)$ ) do not significantly predicts the level of perception of the respondents to the use of ICT in election administration while category of respondent ( $\beta=.234$ ,  $P (.002<.005)$ ), age ( $\beta=.300$ ,  $P (.006<.005)$ ) and educational qualification ( $\beta=.291$ ,  $P (.001<.005)$ ) significantly predicts the level of perception of the respondents to the use of ICT in election administration. The study recommends that there must be regular training for INEC staff to improve their ICT skills or enable them acquire additional knowledge which enhance their ICT competence. INEC should ensure that ICTs are deployed in election administration to enhance and promote accountability, transparency and better services of election process.

**Keywords:** AFIS, Biometric systems, Election, GIS, Optical scanning

### INTRODUCTION

Globally, the development of ICTs has moved across different spectrums. From the traditional media of radio and television, the world has seen

technological innovations resulting in better means of getting tasks done (Odeyemi and Mosunmola, 2015). ICTs cover any product that will receive, store, manipulate or transmit information electronically in a digital form; for example, personal computers, digital television, email, robots, etc. (Afriyie, 2012). It encompasses all the uses of digital technology that already exist to help individuals, businesses and organisations use information. It also concerns the way these different uses can work with each other (Odeyemi and Mosunmola, 2015).

ICTs contribute to economic development and democratisation, including freedom of speech, the free flow of information, promotion of human rights and poverty reduction (Association for Progressive Communications, 2009). ICTs facilitate efficient administration, citizen services, transparency, accountability and formal political participation (e-governance), and also provide the means for social movements, activist groupings or minority groups to engage with these processes on a global level.

Election empowers the people to make choice of who they want to govern them within a timeframe. Therefore, election means recruitment of the representatives by the choice of voters (Nwagwu, 2016). Election is the major ingredient of democracy because there is no true democracy without elections. One function of elections is to provide a competitive platform for public offices and a credible means of holding the government responsible to the electorates (Nwangwu, 2016). Democracy involves the concept of competition for leadership. Democracy seems to imply a recognised method by which to conduct the competitive struggle, and that the electoral method is practically the only one available for communities of any size (Johari, 2009).

Election as an essential component of democratization process remains weak and undeveloped in the country with the biggest challenges of transparent voting system. Poor electoral system is a major cause of insalubrious political competition among power contenders and consequently leads to electoral violence (Le Van & Ukata, 2012). Election circle in Nigeria is characterized with numerous problems. Major among the problems include missing names of some registered voters, intimidation and disfranchisement of voters, multiple and under aged voting, snatching or destruction of ballot boxes, miscomputation and falsification of results (Alabi, 2009; Ogbaudu, 2011). Poor electoral system stimulates selection related violence with far

reaching consequences of eroding peoples' trust and confidence in democratic process (Alemika 2011).

A modern election administration, however, involves many processes and procedures. The enormity and complexity of modern electoral process and procedures require critical investments and application of ICT to electoral administration (Apentsui, Osman, Yahaya, Fuseini and Issah, 2015). Some basic elections technologies include office automation tools such as word processing and spread sheets. There are, however, more sophisticated tools, such as optical scanning, biometric systems and geographic information systems (GIS). These technological tools have been used in the compilation of the voters register, drawing constituencies and electoral boundaries, voter education, printing ballots, conducting voter education and publishing results of election (Osei, 2012).

The advent of ICT has also changed electoral process in several different ways. This includes political campaign, citizen participation, debates, news room discussion, conducting opinion polls, and enhancement of election administration (Apentsui *et al.*, 2015). ICT tools have been used in the compilation of the voters register, drawing constituencies and electoral boundaries, voter education, printing ballots, conducting voter education and publishing results of election (Osei, 2012).

The integration of ICT into the electoral process assist election administration to store and search huge amounts of data; easily identify multiple registration in voters registers, prevents voters from voting in more than one polling stations; prevent multiple voting; speed up the tabulation of results and expedite boundary delimitation exercises (Davis and Chelsea, 2010). Information and communication Technologies have potential to enhance citizen advocacy and engagement, and to increase government transparency and accountability. In many countries, ICT have been deployed to enhance communication and to improve access to important information.

Worryingly, many Nigerians do not participate in civic matters, thereby undermining efforts to promote transparency in the conduct of public affairs. Many never take part in any community activities or debates on governance, and a big number do not register to vote, or do not turn up to cast their ballot even when they are on the voters' roll. For instance, in

2015 general election, out of Nigeria's total population which is about 183 million, only 68,833,476 were registered to vote in the 2015 general election. Of the 68,833,476 registered voters in Nigeria, only 31,711,128 (46.07%) were accredited for the 2015 presidential election of 29,405,649 (42.72%) of votes was cast (NIGERIA CIVIL SOCIETY SITUATION ROOM, 2015).

Currently in Nigeria, Independent National Electoral Commission (INEC) use ICT with the aim of improving electoral process in their respective countries. Specifically, ICT is used at every stage of the electoral process. News Africa (2012) viewed that ICT can promote and instil confidence in the electoral system and reduce elections induced conflicts. Therefore, application of ICT to elections can increase administrative efficiency, reduce costs and enhance transparency.

INEC introduced various innovations through which it sought to curb irregularity and ensure credibility. Among the novel ideas introduced by INEC was Automated Finger Print System (AFIS), the device helped to identify and eliminate confirmed cases of multiple registration (Nwafor, 2015). INEC equally made use of ICTs platforms in enhancing effective flow of information, making broad use of its website, Facebook page and Twitter handle (Odeyemi and Monsunmola, 2015).

Most importantly, the introduction of Permanent Voters Card (PVC) and the electronic smart card reader to check the authenticity of the card and the owner is perhaps, the best ICT innovation used in the conduct of the 2015 general elections (Odeyemi and Monsunmola, 2015). For the first time in Nigeria, probably also in Africa, biometric technology was extensively used by the INEC in verifying the eligibility of voters at the election (Agbata Jnr, 2015). The card readers had utility in the sense that only the voter cards of actual registered voters could be used, removing the possibility of wholesale padding of voter figures and number of votes exceeding the number of registered and accredited voters (Odeyemi and Monsunmola, 2015). Also, the smart card readers were configured to work in specific areas, thereby reducing the tendency for multiple voting and rigging (Owen and Usman, 2015). It was equally possible for registered voters to track their status and PVC information through the INEC website.

Political parties and their candidates also used ICT platforms to garner support for their cause. Indeed, political actors realised the enormous power

of ICTs in general, and the internet in particular, optimising the platforms to advance their electoral fortunes (Ikhariale, 2015), thus, short documentaries and animations on YouTube, mini-online conferences, the use of Twitter hash tags, and sponsored posts on political and lifestyle blogs expanded the online space (Owen and Usman, 2015).

Several researches have been carried out on the use of ICT in election administration of specific country specifically, Ghana, Uganda and Nigeria. For instance, Apentsui *et al.*, (2016) examined evaluation of effective use of ICT in election administration in Northern Ghana Region. The findings of this research showed that the majority of the respondents were aware of the ICT policy of the electoral commission. However, the level of understanding of the staff on ICT policy was mixed (i.e. this range from being poor, average and excellent).

The findings of Nwagwu (2015) on Information and Communication Technology and administration of 2015 general election in Nigeria showed that introduction of ICT in administration of 2015 elections in Nigeria minimized electoral fraud; and the result also showed that INEC faced numerous challenges in the election. The study recommends future use of ICT in election administration in Nigeria to foster systemic stability and political development.

Finally, Kalemera, Nalwoga and Wakabi (2012) examined how ICT tools promoting citizen participation in Uganda. The findings of this research showed that there are numerous tools being used in promoting civic participation in Uganda (such as print media, televisions, radio, social media, web portals, e-forums, email, SMS campaigns, etc.), most of them was deployed during the run up of February 2011 elections. The findings also revealed that project sustainability, addressing unequal access to and use of technology, literacy levels and promoting awareness were among the factors founds to be important to the success of ICT for participation projects.

Despite the introduction of ICT in the election administration in Nigeria, electoral processes are still battled with a number of problems. The expectation that biometric card reader system used for the registration of voters and automated finger print system used to identify eligible voters would result into effectiveness and efficiency in the registration of voters

and processing of documents but this system failed in some polling units during the 2015 general election whereby many eligible voters are disenfranchised. The causes of such problems emanates from the way the ICT system was introduced, workers attitudes, lack of policy, inadequate skills of staff, and complexity of the system (Apentsui *et al.*, 2015).

With these persistent problems in elections administration in Nigeria, INEC may lose its reputable image. This, therefore, necessitated for immediate study to establish the reality of the matter. This study, therefore, seeks to assess the level of usage of ICT in election administration in Nigeria.

### **Objectives of the Study**

This study assessed the level of usage of information and communication technology in general election administration in Nigeria. Specifically, the study investigated:

- (i) purpose of using ICT in election administration in Nigeria;
- (ii) the level of usage of ICT in election administration in Nigeria;
- (iii) perception of citizens toward the use of ICT in election administration in Nigeria;

### **Research Questions**

- (i) What is the purpose of using ICT in election administration in Nigeria?
- (ii) What is the level of usage of ICT in election administration in Nigeria?
- (iii) Did the following demographic variables (i.e. category of respondent, gender, age, educational qualification and monthly income) predict the level of perception of the people towards the use of ICT in election administration in Nigeria?

### **METHODOLOGY**

The descriptive research design of the survey type was employed in the study. The population of the study consists of peoples living within the three local governments' area in Oyo Township (i.e. Atiba Local Government, Oyo West Local Government and Oyo East Local Government). An incidental random sampling technique was used to select two hundred (200) respondents from the population. The respondents are categorised as students, government/private workers, traders, and self-employer.

An adapted self- designed questionnaire was used to collect data. The questionnaire was tagged “An Assessment of level of ICT Usage in Election Administration in Nigeria”. The questionnaire was made up of three sections. Section A focused on demographic data which includes category of the respondent, gender, age, educational qualification and monthly income. Section B contained eleven items (11) on purpose of using ICT in election administration and the response mode are “SA”, “A”, “D” and “SD”. Section C of the questionnaire contained nine (9) items addressed level of usage of ICT in election administration and the response mode are “Very Great Extent (VG)”, “Great Extent (G)”, “Low Extent (L)” and “Very Low Extent (VL)”. The face and content validity of the questionnaires was ascertained by experts in Test and Measurement. A sample of twenty respondents was selected apart from the selected sample and the questionnaire was administered on them to carryout test-retest analysis. The reliability coefficient was calculated to be 0.76 using the correlation coefficient on the data collected. The instrument was administered personally by the researcher on the sample respondents. Only 170 copies of the completed questionnaire were retrieved from the sample respondents to give 85% return rate. Therefore, one hundred and seventy (170) questionnaires were used and analyse with Statistical Package for Social Sciences (SPSS) package 20.0. In this study, the statistical techniques adopted are simple percentage, frequency count, Pearson correlation coefficient, and regression analysis at 0.05 level of significant.

## RESULTS

Table 1 showed the demographic information of the respondents. The table indicates that 35.3% were students, 29.4% were government workers, 14.7% were private workers, 8.2% were traders while 12.4% were self-employed. In terms of gender, 54.1% were male and 45.9% were female; this shows that male was more represented than female participants. With regards to age of the participants, the table shows that older participants were more represented than the younger ones (i.e. 33.5% and 22.9% is more than 20.6% and 22.9%). Also, in terms of educational qualification of the respondents, 33.5% have SSCE, 11.2% have trade craft certificate, 18.8% have either NCE or OND, and 25.9% have either bachelor degree or HND while 5.3% have master degree and doctoral degree. Finally, 17.6% of the respondents have monthly income less than N5, 000, 25.3% have monthly income between the range of N5, 000 and N19, 000, 19.4% have monthly income between the range of N20, 000 and N34, 000, 15.9% have monthly income between the

range of ₦35, 000 and ₦49, 000 while 21.8% have monthly income between ₦50, 000 and above.

**Table 1: Demographic data of the respondents (n=170)**

Demographic	Frequency	Percentage
<b>Category of the Respondent</b>		
Students	60	35.3
Government Workers	50	29.4
Private Workers	25	14.7
Traders	14	8.2
Self-Employed	21	12.4
<b>Gender</b>		
Male	92	54.1
Female	78	45.9
<b>Age</b>		
18-25 years old	35	20.6
26-33 years old	39	22.9
34-41 years old	57	33.5
Above 41 years old	39	22.9
<b>Educational Qualification</b>		
SSCE	57	33.5
Trade Craft Certificate	19	11.2
NCE/OND	32	18.8
B.Sc/ B.Ed/B.A/HND	44	25.9
M.Sc/M.Ed/M.A	9	5.3
P.hD	9	5.3
<b>Monthly Income</b>		
Less than ₦5, 000	30	17.6
₦ 5, 000- <del>₦</del> 19, 000	43	25.3
<del>₦</del> 20, 000- <del>₦</del> 34, 000	33	19.4
<del>₦</del> 35, 000- N 49, 000	27	15.9
<del>₦</del> 50, 000 and Above	37	21.8

**Source:** Field Survey, 2017

**Research Question 1:** What is the purpose of using ICT in election administration in Nigeria?

The results in Table 2 showed that ICT was used majorly for voter registration/ education (82.3%), followed by communication between/ among citizens, leaders and interest groups (78.8%), encourage citizens to demand for better Services (65.3%) and follow-up on political debates and decisions (65.3%) while ICT tools are not usually used for both consult citizens on political or public issues (33.5%) and offer e-services to citizens (e.g. administration (download forms, registration etc.) 34.1%.



**Table 2: Purpose of using ICT in election administration in Nigeria (n=170)**

Items	Frequency & Percentage			
	SA	A	D	SD
Demand accountability and transparency in the conduct of public affairs	36 (21.2%)	59 (34.7%)	40 (23.5%)	35 (20.6%)
Encourage citizens to demand for better services	60 (35.3%)	51 (30.0)	44 (25.9%)	15 (8.8%)
Allow communication between/ among citizens, leaders and interest groups	90 (52.9%)	44 (25.9%)	16 (9.4%)	20 (11.8%)
Consult citizens on political or public issues	26 (15.3%)	31 (18.2%)	82 (48.2%)	31 (18.3%)
Follow-up on political debates and decisions	48 (28.2%)	63 (37.1%)	40 (23.5%)	19 (11.2%)
Electoral monitoring	29 (17.1%)	55 (32.4%)	52 (30.5%)	34 (20.0%)
Enable citizens' participation in debates	28 (16.5%)	68 (40.0%)	54 (31.7%)	20 (11.8%)
Civic education	42 (24.7%)	54 (31.8%)	33 (19.4%)	41 (24.1%)
Voter registration/ education	90 (52.9%)	50 (29.4%)	20 (11.8%)	10 (5.9%)
Promote youth political awareness	35 (20.6%)	71 (41.8%)	46 (27.1%)	18 (10.5%)
Offer e-services to citizens (e.g. Administration(download forms, registration etc.)	26 (15.3%)	33 (19.4%)	62 (36.5%)	49 (28.8%)

**Source:** Field Survey, 2017

**Research Question 2:** What is the level of usage of ICT in election administration in Nigeria?

The results in Table 3 indicated that the level of ICT usage was very high for voter registration (77.1%), issuance of voter ID (74.7%), monitoring and evaluating electoral processes (73.5%) and voter education (63.5%) while it was low for declaration of results (45.3%) and Communicating with stakeholders (48.8%). The results also showed that the level of ICT tools usage is very low for nomination of candidates (14.1%), delimitation and demarcation of electoral boundaries (21.2%) and conduct of polls (33.5%).

**Table 3: Level of usage of ICT in election process in Nigeria(n=170)**

Items	Frequency & Percentage			
	VG	G	L	VL
Voter education	51 (30.0%)	57 (33.5%)	33 (19.4%)	29 (17.1%)
Delimitation and demarcation of electoral boundaries	12 (7.1%)	24 (14.1%)	67 (39.4%)	67 (39.4%)
Voter registration	54 (31.8%)	77 (45.3)	24 (14.1%)	15 (8.8%)
Issuance of voter ID	74 (43.5%)	53 (31.2%)	25 (14.7%)	18 (10.6%)
Nomination of candidates	6(3.5%)	18 (10.6%)	59 (34.7%)	87 (51.2%)
Conduct of polls	26 (15.3%)	31 (18.2%)	61 (35.9%)	52 (30.6%)
Declaration of results	49 (28.8%)	28 (16.5%)	75 (44.1%)	18 (10.6%)
Communicating with stakeholders	16 (9.4%)	67 (39.4%)	55 (32.4%)	32 (18.8%)
Monitoring and evaluating electoral processes	51 (30.0%)	74 (43.5%)	24 (14.1%)	21 (12.4%)

**Source:** Field Survey, 2017

LEGEND
<b>VG: Very Great Extent</b>
<b>G: Great Extent</b>
<b>L: Low Extent</b>
<b>VL: Very Low Extent</b>

**Research Question 3:** Did the following demographic variables (i.e. category of respondents, gender, age, educational qualification and monthly income) predict the level Perception of the people towards the use of ICT in election administration in Nigeria?

The stepwise regression analysis results (Table 4) indicated that both gender ( $\beta=.082$ ,  $p>0.05$ ) and income ( $\beta= -.014$ ,  $p>0.05$ ) does not significantly predict the level of perception of the people towards the use of ICT in election administration in Nigeria. The model explains approximately 45% of the variance in the level of prediction of the peoples' perception towards the use of ICT in election administration in Nigeria (adjusted  $R^2=.446$ ).

The results also indicated that category of the respondent ICT ( $\beta=.234$ ,  $p<0.05$ ), age ( $\beta=.300$ ,  $p<0.05$ ) and educational qualifications ( $\beta=.291$ ,  $p<0.05$ ) predicts the level of prediction of the peoples' perception towards the use of

ICT in election administration in Nigeria. The F Value is equal to (28.160) and hence is significant at ( $p < 0.05$ ) and this assures that demographic variables (i.e. category of respondents, age and educational qualification) predicts level of perception of the people towards the use of ICT in election administration in Nigeria.

**Table 4: Regression Analysis to test level of perception of the people by the following demographic variables (category of respondents, gender, age and educational qualification) (n=170)**

Model	B	Std. Error	Beta	t	Sig. value
1	(Constant)	70.455	2.289	30.794	.000
Category of Respondents	1.744	.551	.234	3.165	.002
Gender	1.648	1.205	.082	1.367	.173
Age	2.864	1.038	.300	2.759	.006
Educational Qualification	1.918	.559	.291	3.431	.001
Monthly Income	-.079	.619	-.014	-.127	.899

  

R	R <sup>2</sup>	Adjusted R Square	Std. Error of the Estimate	F change	Sig. F change
.680	.462	.446	7.521	28.160	.000

**Source:** Field Survey, 2017

## DISCUSSION OF THE FINDINGS

The results from Table 2 showed that ICT was used purposely in election administration in Nigeria for voter registration/education with higher percentage of the respondents reported 82.3% follow by communication between/among citizens, leaders and interest groups (78.8%). The findings also indicated that 65.3% of the respondents reported that ICT are either use to demand for better services or follow-up on political debates and decisions. But this finding contradicted the findings of Kalemera, Nalwoga and Wakabi (2012) which founds that 73% of respondents agreed that ICT was used purposely in election administration in Uganda for either demand accountability and transparency in the conduct of public affairs on encourage citizens to demand for better services while 41% of the respondents agreed that ICT was used for voter registration/education. The implication of this results is that ICT was not adequately used by electorate

to demand accountability, transparency and better services from the electoral management body (i.e. INEC in case of Nigeria) thereby usage of ICT in election administration is still far apart from what is happening currently in some others developing countries in the world. Therefore, INEC should adequately deployed ICT to enhance and promote accountability, transparency and better services of the election process for the electorates so as to increase their trust and confidence on the mind of the electorates.

The findings in Table 3 showed that the level of ICT usage was very high for voters registration (77.1%) follow by issuance of voter id (74.7%), monitoring and evaluating electoral processes (73.5%). Meanwhile, it was very low for nomination of candidates (14.1%), delimitation and demarcation of electoral boundaries (21.2%), conduct of polls (33.5%) and declaration of results (45.3%). This finding contradicted the findings of Apentsui *et al.*, (2015) which finds that the level of ICT usage in Northern Ghana Region was very high for declaration of result (80%) while for others such as voter education (33%), voter registration or monitoring and evaluation of electoral processes (53%), issuance of voter id (56%) and conduct of polls (51%). The implication of this result is that the level of ICT usage in election administration is not effective compared with the ways it was used in other developing countries. Therefore, INEC should geared efforts towards making use of ICT for delimitation and demarcation of electoral boundaries; conduct of polls, declaration of the results and nomination of candidates.

Finally, the results in Table 4 showed that both gender and income does not significantly predicts the level of perception of the respondents towards the use of ICT in election administration in Nigeria. The implication of this result is that both male and female shows similar perception towards the usage of the ICT in election administration in Nigeria. This negate the initial impression of the people that female normally demonstrated technological phobia because high number of female students enrolled for science or technological oriented courses in Nigerians' higher institutions nowadays. Also, cost of accessing internet or mobile connectivity in Nigeria is low compared with what is happening in the years back when people usually have access to internet in cybercafé and numbers of available cybercafé in Nigeria is very low. But nowadays, mobile technologies such as smartphones, blackberry, android, ipad, etc. enable internet connectivity anywhere, anytime with affordable cost of procurement and access to

internet connectivity. Therefore, the income of the people may not affect their perceptions towards the use of ICT in election administration because many people now can easily afford the price of purchasing an android and airtime.

## CONCLUSION

From the study, it was found that ICT was not adequately used purposely to enable electorates demand for accountability, transparency and better services from the INEC which supposed to be the major concern in election administration. In addition, it was found that the level of ICT usage in election administration is not effective because of low patronage for delimitation and demarcation of electoral boundaries; conduct of polls, declaration of the results and nomination of candidates. However, it was found that both male and female perceived the usage of ICT in election administration in the same rate and the level of their income does not deterred their access to the usage of ICT.

## RECOMMENDATION

Based on the findings of this study, the following suggestions are hereby recommended:

- (i) Government should make access to both Internet and mobile connectivity ease and more affordable.
- (ii) Government should improve on the distribution of electricity power supply in the countries and provides adequate ICT facilities for the INEC.
- (iii) Government ministries and agencies at all levels including schools and institutions of higher learning should ensure effective incremental digitalization of its services delivery to enhance technology savvy among citizens (Ahmad, Bt Abdullah and Bt Arshad, 2015).
- (iv) INEC should ensure that ICTs are deployed in election administration to enhance and promote accountability, transparency and better services of election process.
- (v) There should be regular training for INEC staff to improve their ICT skills or enable them acquire additional knowledge which enhance their ICT competence.

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