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Electoral Process and Technology in Nigeria: Trends, issues, benefits and challenges

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ABSTRACT

This paper examined the influence of technology on the conduct of election in Nigeria with a view to identifying the trends, issues, benefits and challenges of these technologies. Both primary and secondary sources of data were used. The Primary source of data was participant observation while secondary sources included the use of text books, journals and materials from the internet. The study revealed that the conduct of elections dated back to the colonial era while digitalization of the Electoral process started in 2002. Furthermore, the study discovered that technologies introduced so far in the conduct of elections have been confronted with a lot of infrastructural problems, and socio-economic and political challenges. The benefits of these technologies include but are not limited to reduction in the cost of election, elimination of laborious counting and sorting of votes, last minute changes of information on computer and a host of others. Issues of concern include security of the voting machine, procurement of relevant equipment and test running of the technology. The study concluded that despite all these issues and challenges, it is worthwhile to introduce new technologies in the conduct of elections in the country.

Keywords: Electoral Process, Electoral Technology, Election, Nigeria

INTRODUCTION

Historically speaking the conduct of elections in Nigeria could be dated back to the colonial era, with the legislative and council elections in Lagos and Calabar in 1922 (Akerele, 2003 and Iyayi, 2007).

The first elections that were conducted in 1922 to the legislative council were won overwhelmingly by the newly formed Nigerian National Democratic Party of Herbert Macaulay. There was no serious election in the country until 1951. Okonjo (1974) observed that the 1951 election was massively rigged by the British colonial government. For example, Sir Brian confessed that in the election of 1951, he not only helped to prepare the Northern Peoples Congress' manifesto, slogan and strategies but that "in the case of more than a dozen, I had to hold and guide the pen hand, after cajoling from them the names of those for whom they wished to vote". Similarly, the 1958/1959 elections were controversial, characterized by massive rigging. Enahoro (1985) pointed out that those who had fought for independence were not those who had the privilege and the historic duty of meeting the challenges of independence. In effect, the allegation is that the run-up elections of 1959 that were conducted under the Electoral Commission of Nigeria (ECN) were rigged by the British to ensure that they retained control over life and society in Nigeria.

By the time the country attained independence, three sets of elections were held in the period from 1960-1965. These were the elections in the newly created Midwest Region in February 1964, the federal elections of December, 1964 and the regional elections of 1965. The Federal elections of December 1964 and the regional elections of 1965 were extremely controversial (Manasara, 1982). Ademoyega (1981) noted that the elections of December 1964 turned out to be a farce. It was completely boycotted in the Eastern region, where the National Convention of Nigerian Citizens (NCNC) government used its powers to ensure that no election was held. It was also partly boycotted in the West, North, Midwest and Lagos, with the effect that the election results lacked credit and were nationally unacceptable. However, while the United Progressive Grand Alliance (UPGA) rejected them, the National Peoples Congress (NPC) and its allies - the Nigerian National Alliance (NNA), which single handedly carried out the elections accepted them. There followed a national stalemate (Manasara, 1992).

Ademoyega (1981), further revealed that the election of October, 1965 in the West was no less controversial. The Akintola Government Publicly interfered with the result of the election. So many Action Group (AG) candidates who had been issued certificates of election surprisingly heard their names as defeated candidates through government news media. Although the people clearly rejected the Akintola Government at the polls and voted massively for the Action Group opposition party at the Regional and Federal levels, went ahead and declared Akintola as the winner of the election. These developments, including the simmering Tiv revolt in the middle belt, the political impasse at the centre, the resulting mass revolt in the Western Region by the people who felt that they had been cheated at the polls set the stage for the first military coup in Nigeria on January 15, 1966. In the same manner, the above scenario was also corroborated by Manasara (1982), when he observed that there was no doubt 1965 was a year of political gloom throughout Nigeria." Generally, people had been disillusioned and disaffected with the Balewa/Akintola/Sadauna clique. Economic, social, educational and political problems were not solved. Corruption was rife and nepotism was the order of the day. It became clear that the national leadership was nearing its collapse and that the ship of the nation was heading for the rocks. The military then felt that the only option was to carry out a coup.

The coup, which was executed by Major Nzeogwu, Major E.A Ifeajuna and a certain captain assassinated prominent political leaders such as Chief Akintola, Prime Minister of Western Region, Sir Ahmadu Bello, Prime Minister of the Northern Region, Sir Abubakar Tafawa Balewa, Festus Okotie Eboh, the Federal finance minister and a host of others. Reasons such as nepotism, corruption among civil servants who were accused of collecting ten percent kick back, social, educational and political problems, loss of credibility of institutions such as courts, the police, the electoral commission were advanced. The result of the bloody coup brought Major General Johnson Aguiyi Ironsi to handle the affairs of the country. General Aguiyi Ironsi was unable to effect changes in January 1966. In fact, by May, 1966, he had lost his credibility appreciably and suspicion had heightened once again. It was in fact

rightly pointed out by Akpan (1971) that “Irons should have realized that political leadership required the ability to know the environment well, to feel the political temperature of the system, and to know the limit to which decisions can be taken without threatening the basic consensual values which bind the society together.”

After Aguiyi Ironsi’s administration, Colonel Yakubu Gowon took over the mantle of leadership in the same year. Throughout the period of Yakubu Gowon (1966-1975), there was no serious transition programme. The period witnessed a civil war which almost tore the country apart. Brigadier (later General) Murtala Ramat Mohammed overthrew the administration of Yakubu Gowon in July, 1975. He dismissed immediately the twelve state governors, and announced the return to a civilian administration by October, 1979. Though, General Mohammed had good intentions of cleaning the society of its ills, he was assassinated in February, 1976 by Lt. Colonel Dimka. The coup however did not succeed as its arrow head was arrested, court marshaled and executed for treasonable felony. Lt General Olusegun Obasanjo took over the mantle of leadership and put in place a transition programme which included the conduct of elections into Local Government, State Assembly, National Assembly and the Presidency. He also set up a constitutional review committee which recommended among others the creation of a federal system of government with an executive presidency; creation of more states; creation of national political parties; the holding of free and fair elections; and the transfer of the Federal capital from Lagos to Abuja. The transition programme of Obasanjo’s regime eventually produced a democratically elected president on October 1, 1979 which marked the beginning of the second republic. Like other elections in the previous years, there were allegations of malpractices such as rigging, ballot box stuffing, and inflation of registered voters etc. The result of these malpractices led to the challenge of Aihaji Shehu Shagari’s election up to the Supreme Court. The election was however upheld amidst some controversies.

The Shagari administration was dominated by problems of institutionalizing the framework of the Federal government, issues of religious extremism, corruption and economic difficulty arising from volatility in world petroleum prices at the time. Nothing substantial was done to tackle these problems. Shagari’s regime was perceived as notoriously corrupt and incompetent. Despite these problems, the National Party of Nigeria (NPN) which was then the ruling party used its privileged position and financial influence to return to power in 1983. However, Shagari was deposed in a coup led by Major General Mohamodu Buhari. The new administration as at that time promised to rid the society of corruption. With the pronouncement in July, 1985 by Major General Idiagbon, Chief of Staff at the supreme military headquarters, that there was no plan for any civilian rule, and the prohibition of all debates on Nigeria’s political future, the stage was set for another military take over.

In August 1985, Buhari’s regime was peacefully overthrown by Major General Ibrahim Babangida. Babangida, an army chief of staff who ruled the country from 1985-1993 promised to restore democracy and put in place democratic institutions such as the Center for Democratic Studies (CDR); National Council for Inter-governmental Relations (NCR); political parties and the National electoral commission. Despite his initial commitment to achieve these promises, the transition period was repeatedly revised until 1993 when the freest and fairest election conducted by him was annulled. This repulsive action precipitated political crisis across the country, leading to strikes and break down of economic activities and law and order. Babangida in his usual deceptive characteristic set aside and handed over to an Interim National Government (ING) in the wake of prolonged political crisis at that time.

The Shonekan administration was quietly displaced by Major-General Sanni Abacha who also peddled another complex transition programme that generated internal and external protests. He established the Transition Implementation Committee (TIC), created state, local governments and boundary adjustment planning committee, and the National Electoral Commission of Nigeria etc. The sudden demise of Sanni Abacha in 1998 led to the emergence of another transition programme under the leadership of General Abdusalam Abubakar who eventually handed over to a democratically elected president in 1999.

The stability of democracy in Nigeria can only be dated to 1999 when General Olusegun Obasanjo (retired) was elected as the president of Nigeria. Even though there were insinuations that the elections

were characterized by massive rigging, Nigerians believed that the result should be accepted if only to send the military packing. This was in line with the position of Elder-state man and a strong political leader in the south west, Chief Obafemi Awolowo, who observed that the worst civilian regime is better than the best military government.

The 2003 and 2007 general elections were not different from previous elections in term of violence, fraud, ballot stuffing, and destruction of lives and property. This could be associated with the fraudulent activities that characterized the elections. The chronological analysis of the elections conducted between 1922 up to 2007 revealed that at one time or the other, elections were marred with irregularities in Nigeria. Consequently, the introduction of Technologies in the conduct of election in Nigeria commenced with Dr. Abel Gberdai when a digital method of registering voters was introduced in 2002. According to Lorwuese *et al.* (2004), management of elections in modern times is based on reliable technology. The South African Independent Electoral Commission has identified “appropriate technology as a panacea to transparent and credible elections”. Also, Stephen *et al.* (2001) noted that the Independent Electoral Commission of South Africa experienced multiple problems during the multi-party election in 1994, such as inability to register eligible voters, tedious counting process, poor communication within rural areas, inadequate transparency in the electoral process and general disorganisation of the electoral process. The commission as a result of these numerous problems applied ICT to manage the process of election in the 1999 parliamentary and presidential elections. Other positive impacts of ICT in election administration includes but not limited to enhancing free and fair democratic process and putting in place an enduring infrastructure for future.

Election and Electoral Processes

Election as a concept has been defined severally and due to this, there seems not to be a consensus on a definition. Nwabueze (2003) described election as the modern and universally accepted means through which by voting, individuals and groups are openly, methodologically and procedurally chosen to represent a body or community in a larger entity or government.

In their own contribution, Momoh *et al.* (1999) were of the opinion that Election serves as an instrument of legitimization of the State and those who manage the reins of State power and also to ensure political accountability. In the same vein, Guinn *et al.* (1992) defined election as the formal process of selecting a person or persons for public office by voting. Furthermore, Crowder (2000) defined election as an action or an instance of choosing by vote one or more of the candidates for a position, especially a political office. Several other scholars including Mackenzie (1968); Powell *et al.* (1982); Joseph (1987); Mkandawire *et al.* (1999) and Nnoli (2003); among others have given their opinions or views about election and they seem to agree generally that election serves as a means of methodological and procedural selection of candidates into various executive and legislative positions. In view of this, the existence of a legitimate government is a function of a strong institutional framework or structures that will assist the government in conducting acceptable elections. Consequently, to guarantee a credible election, all the components of electoral process should be transparently carried out. What then an electoral process?

Having defined what constitutes ICT, data base and election, it is important to take a look at the phrase “electoral process” and highlight what it entails. The phrase “Electoral process” has not been sufficiently defined in the literature. However, the definition of the phrase within the context of independent National Electoral commission is simple. It means all pre and post electoral activities including the activities on the Election Day. Similarly Nwabueze (1999) a constitutional lawyer viewed the electoral process as a more comprehensive form of democratic system that comprises all the constitutional procedures, arrangements and actions involved in the conduct of elections. For him, it includes suffrage, the registration of voters, delimitation of constituencies, the right to contest elections, electoral competition among political parties, the body charged with the conduct of election, the method of selection of candidates and voting, the actual conduct of election, the determination of results, determination of election disputes, and electoral malpractices and their consequences.

The electoral process does not stop at the above activities, which are carried out by those outside constitutional arrangements. It also includes the activities of local and International observers. In his own

view, Chukwu (2004) pointed out that the electoral process comprises two aspects which are constitutional and non-constitutional. On the one hand, it deals with issues that are constitutionally prescribed. For example, the establishment of an independent body responsible for the electoral process and the legislative body which make laws concerning the conduct of election. On the other hand, the non-constitutional aspect of the electoral process includes voters' registration, electoral offences that are within the legislative sphere of the Act of National Assembly, in this case the Electoral law. It should however be pointed out that voters' registration is a constitutional prescription, contrary to the view of Chukwu (2004).

Technology and Elections

Laanela (2001) noted that technology is essential to the conduct of modern elections. She argued further that technology is used at every stage of the election process such as; for compiling voter's lists; drawing electoral boundaries; employing and training staff; printing ballots; conducting voter education campaigns; voting; recording of votes cast and publishing election results. The appropriate application of technology to elections can increase administrative efficiency, reduce long-term costs and enhance political transparency.

Furthermore, the Administration and Cost of Election Electoral knowledge network (2008) observed that technology is present in activities related to the electoral process, and in some cases it is essential to the conduct of elections. Also, it has been observed that the world economy is undergoing a technology driven transformation from an agrarian based society to an industrial one. The move from an industrial physically based economy to a digital knowledge based economy is a major issue in many sectors. It is therefore logical to view demands for electronic solutions in the electoral process to increase accessibility, transparency and participation as part of the influence of technology on society. A team of researchers on electoral matters, Administration and Cost of Election electoral knowledge network also noted that technologies used for elections can include familiar and old ones such as printing presses, ball point pens, manual type writers, electronic calculators and radios or newer technologies like computers, optical scanners, digital mapping and internet.

Arising from the above, it is logical to conclude that the rate of technological change is so high that election management bodies (EMBs) must regularly re-evaluate their use of technology to determine whether they should adopt new or updated technology to improve their performance. However, it must be noted that the use of technology in election is not an end in itself, but rather assists in the various aspects of electoral administration. For example, electronic data base management system can be used in several components of election process, such as voter lists, material inventories, personnel management, pay roll, election results dissemination and statistics.

RESEARCH METHODOLOGY

Data for the study were obtained through the primary and secondary sources. Primary sources included but not limited to participant observation and interview. Secondary sources included the use of text books, internet surfing and a host of others.

Technological Innovations in the Conduct of Elections in Nigeria Trends

The conduct of elections in the country could be dated back to the colonial era when the first election was conducted into the Legislative House in 1922. Since that period, a lot of technologies, processes and techniques have been introduced. The technologies include but not limited to the use of OMR sheet for registration of voters in 2002, the use of electronic voters register, application of smart card readers, e-collation at the Registration Area and at times constituency levels. Other techniques include the introduction of Continuous Voters' Registration (CVR) as enshrined in the provisions of the Electoral Act 2010 as amended, the use of simultaneous accreditation and voting, root training which has helped field officers in Ekiti and Anambra States and a host of others. Despite all the above innovations, there is still much to be desired in the field of counting and sorting out of votes and electronic voting.

Issues: One of the major issues confronting the application of Technologies in developing countries include the absence of acquisition and procurement procedures, deployment procedure and management

processes. Most equipment in these developing countries are acquired, deployed and managed haphazardly. Some of these issues are discussed thus:

Procurement and Acquisition of ICT Tools

An information Technology procurement process either formal or informal exists in every organisation. Despite the enormous task of acquisition of IT tools such as hardwares, operating systems software, telecommunication equipment and services, there has been little if any research investigation on IT procurement process (Heckman, 1994). In January 1994, the Society for Information Management (SIM) working Group on Information Technology Procurement was formed to exchange information on managing IT procurement and to foster collaboration among different professions participating in the IT procurement process. The model of IT procurement process was developed by a 12-member subgroup comprised of Senior IT procurement executives from large North American companies. The IT procurement process framework provides a value to describe systematically the processes and sub-process involved in IT procurement. These include the deployment and management processes.

Deployment Processes

Deployment processes consist of activities that are performed (to a greater or lesser extent) each time an IT product or services is acquired. Each individual procurement can be thought of in term of a life cycle that begins with requirements determination, proceeds through activities involved in the actual acquisition of a product or service, and is completed as the terms specified in the contract are fulfilled. Each IT product or service that is acquired has its own individual iteration in its deployment life cycle.

- D1:** *Requirements determination* is the process of determining the business justification, requirements, specifications and approvals to proceed with the procurement process. It includes sub-processes such as organizing project teams, using cost-benefit or other analytic techniques to justify investment, defining specifications, and obtaining necessary approvals to proceed with the procurement process.
- D2:** *Acquisition* is the process of evaluating and selecting appropriate suppliers and completing procurement arrangements for the required products and services. It includes the identification of sourcing alternatives, generating communications (such as RFPs and RFQ) to suppliers, evaluating supplier proposals, and negotiating contracts with suppliers.
- D3:** *Contract fulfillment* is the process of managing and coordinating all activities involved in fulfilling contract requirements. It includes expediting or order, acceptance or products or services, installation of systems, contract administration, and management of post-installation services such as warranty and maintenance, and disposal of obsolete assets.

Management Processes

Management processes consist of those activities involved in the overall governance of IT procurement. These activities are not specific to any particular procurement event, but are rather generalised across all such events. Three general classes of IT procurement management processes are supplier management, asset management, and quality management.

- M1:** *Supplier management* is the process of optimizing customer-supplier relationships to add value to the business. It includes activities such as development of a supplier portfolio strategy, development of relationship strategies for key suppliers, assessing and influencing supplier performance, and managing communication with suppliers.
- M2:** *Asset management* is the process of optimizing the utilization of all IT assets throughout their entire life cycle to meet the needs of the business. It includes activities such as development of asset management strategies and policies, development and maintenance of asset management information systems, evaluation of the life cycle cost of IT asset ownership, and management of asset redeployment and disposal policies.
- M3:** *Quality management* is the process of assuring continuous improvement in the IT procurement process and in all products and services acquired for IT purposes in an organization. It includes activities such as product testing, statistical process control, acceptance testing, quality reviews with suppliers, and facility audits.

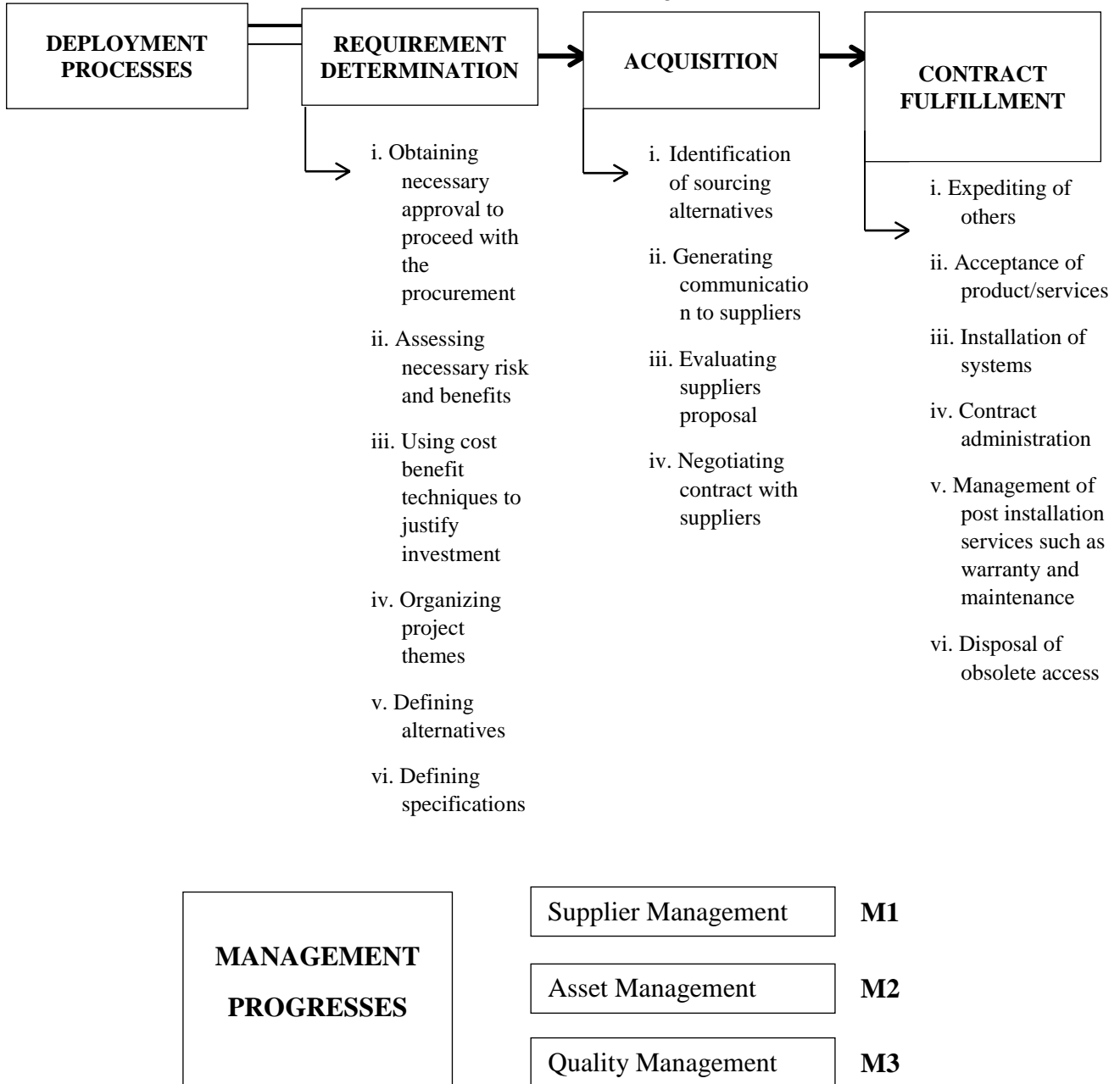


Figure 1: Information Technology Acquisition Procedure (Source: L. Heckman, 1996)

Similarly, for effective performance of a new technology, it is important for an organization to respond accurately to the procedures involved in acquiring a new technology. These procedures include factors necessary to be considered before choosing a new technology and technology assessment issues.

To reduce the problems of operations of new technology, factors such as functionality of equipment, documentation, reliability of equipment, life of the machine, equipment capacity, track record of manufacture of equipment operation cost, availability of spare parts, and ease of maintenance environmental factors among others are expected to be considered before choosing a new technology. Unfortunately, in most developing countries Nigeria inclusive, most of these factors are not usually considered before choosing new technology (Omoleke, 2010).

Security and Other Issues of Concern about the Application of ICT to the Management of Electoral Activities

The protection of ICT systems is important because data and programs within an information technology system are vulnerable to deliberate and accidental destruction or loss, both from within the organization and from outside it. This ranges from faulty disks to a situation where criminal syndicates hack into the computer system. Heathcote (2000) categorized threats to ICT into internal and external threats. Internal threats include hardware failure, faulty procedures, natural disaster and dishonest employees, while external threats include hackers gaining entry into the organization, viruses etc. He further noted that unless steps to cater for the above are put in place, there is tendency for a complete loss of the data. He therefore proposed the following positive measures:

- i. Physical restrictions to building where data and systems are installed;
- ii. Encouraging employees to sign on with user identity and password which are known to them personally and should be changed frequently;
- iii. Putting a restriction to time and location at which terminals can be used;
- iv. Special software can be installed on a computer system which will maintain audit trail of who has logged on, from which terminal and for how long. This will enable any unusual activity to be spotted and investigations made
- v. Data can be encrypted before being transmitted to make it unreadable. It is then decrypted at the receiving end;
- vi. Constant training of staff to ensure efficiency in the usage of the system;
- vii. Careful vetting of staff to ensure that potential hackers and fraudsters are not employed; and installing virus checkers on all networks.

In the same vein, Thompson (1984) was of the opinion that as voting systems become more complex and include software, different methods of election fraud become possible. There was also a challenge of the use of electronic voting from a theoretical point of view, arguing that human beings are not equipped for verifying operations occurring within an electronic machine, and that because people cannot verify these operations, the operations cannot be trusted. He finally concluded that some computing experts have argued that people cannot trust any programming they did not author. Notwithstanding the view of Thompson, efforts can still be made to address this problem by engaging in the training of observers who are expected to monitor election, registration or any other activities of electoral bodies.

Benefits of Application of ICT Infrastructures to Electoral Activities

- a. Appreciable reduction in the multiple registrations, thereby leading to the existence of correct number of registered voters in the country. Voters' register and cards will also contain the photographs of the voters, thus making it easy to identify the owner of the card. This will check impersonation during election.
- b. Authentication which is called accreditation under the manual system can be done electronically with the help of verifier or authenticator, called Automatic Finger Identification System (AFIS) thereby preventing multiple voting.
- c. Efficiency in determining the quantity of materials needed for the election (networking all 774 LGs in the country).
- d. Elimination of ballot papers thereby removing the chance of ballot stuffing.
- e. Reduction or elimination of over voting, stuffing and hijacking of ballot boxes.
- f. Easy determination of Election results at various levels of collation: polling booths wards; Local Government Councils, States and National Headquarters Abuja.
- g. Elimination of laborious counting of votes which eventually delay announcement of results.
- h. Safety of lives and properties of personnel who hitherto transport results under heavy security to various levels of collation.

- i. E-voting process could be beneficial in the effective allocation of resources by indicating the optimal combinations of resources. It also enables electors to make their deliberations and decisions more precisely.
- j. Voting and counting are faster and more accurate using computers than manual process ensuring the electorate is not disenfranchised.
- k. Accuracy and consistency in the distribution of wards, constituencies and polling units.
- l. Persons with disabilities are usually taken care of under electronic voting and e-registration.
- m. A unique opportunity of programming ballot in different languages such as Igbo, Hausa, Yoruba, Efik, Ijaw is possible.
- n. Elimination of rejected votes or spoiled ballots. More than six million votes were rejected in 2003 presidential election. The number increased to over twelve million votes in 2007 presidential election (NEC Facts Book, 2006).
- o. Last minute changes can be made in case there is error, for instance in ability to include a candidate's name on the ballot paper.

Challenges of Technologies Deployed Since Independence

It has been established that technologies have played an effective role in the electoral processes in developed countries. However, these technologies were not deployed without difficulties ranging from socio-economic, political and cultural hiccups in Nigeria and other developing countries. Maiye and McGrath (2008) reported that differences in the contextual environment, socio-economic and political antecedents could be responsible for the differences in the effectiveness of the application of technologies in various countries.

Below are the major challenges of these technologies in Nigeria.

Challenges of Paper Ballot

The use of paper ballot as a technology in the conduct of election in Nigeria poses some challenges. One of these challenges is the difficult topographical terrain of some communities (Le Van and Ukata, 2012). This makes effective distribution of electoral materials very difficult. The Nigerians living abroad are not able to exercise their voting rights. The security and poll officials posted to polling units usually find it extremely difficult, if not impossible, to vote during elections (Adebowale, 2014). Under the ballot paper system, electoral officials collate, count, and announce election results manually. Hence, the method is prone to human error and deliberate manipulation by electoral officials with corrupt motives and intention to rig the election. These circumstances among others inspired the exploration of robust election methods through the use of ICT (Adewumi, Oluwatosin, and Bashorun, 2011).

Challenges of Newly Acquired Technologies

Beginning with the registration of voters, the experience of INEC officials was not palatable. Constant breakdown and insufficient Direct Data Capture Machines (DDCM) to cope with the large number of registrants in some polling units, inability of scanners to read biometrics, insufficient consumables such as A4 paper, cold laminate, unfaithfulness on the part of ad hoc staff engaging in multiple registration and uncooperative attitudes of politicians, were some of the major technical challenges encountered by the INEC during the e-registration in 2006 and 2010. However, some of these challenges were taken care of in 2014/2015. The Commission under the administration of Professor Jega ensured adequate supply of DDCM during voters' registration. But the printing of PVCs was a serious problem as some wards and polling units could not have their PVCs printed before the conduct of the 2015 general elections.

The matter became less burdensome under the administration of Professor Mahmood Yakubu when he introduced continuous voters' registration as contained in the 2010 Electoral Act as amended. The use of Smart Card Reader was another innovative technology introduced in the 2015 General Elections. The card reader was designed to speed up and ensure integrity in the accreditation process. The smart card reader is a technological device set up to authenticate and verify the Permanent Voters' Card (PVC) issued by INEC, against the cloned one.

During the election, some of the card readers could not function well due to poor handling by ad hoc staff, inadequate training and insufficient number of technical staff. Also, the level of awareness of card readers among the voters was not sufficient. Technical staff were expected to be in each ward or registration areato attend to problems. This was not the case in all the wards because they were not sufficient in number. However, card readers were proved to be more than 50% successful in fifteen states during the 2015 elections. It should be noted that the rate of failure of the smart card reader was heavier in the North than in the South. This could be as a result of social and environmental factors. Smart Card readers may not function well under intenseheat. Below are the results of success/failure rate of SCR during Mock Election and Governorship and House of Assembly elections in 2015respectively.

Table 1: Testing of Smart Card Reader Draft Table of Report of Mock Elections Conducted on March 10th, 2015

S/N	State	Percentage Success	Percentage Failure
1	Anambra	70.3	29.7
2.	Bauchi	59.5	40.5
3.	Delta	92.0	8.0
4.	Ebonyi	34	66
5.	Ekiti	67.4	32.6
6.	Kano	47.4	52.6
7.	Lagos	91.4	8.6
8.	Nasarawa	35.7	64.3
9.	Niger	35.7	64.3
10.	Rivers	31.6	68.4
11.	Taraba	38.6	61.4
12.	Kebi	54.3	55.7

Source: Vanguard, 15th March, 2015

Presentation of fake permanent voters’ cards was another constraint that did not allow the smooth working of the technology in some states. This became a serious challenge for the electoral officials. Also, the inadequate training of personnel preparatory to the use of smart card reader culminated in the poor handling of the machine by electoral officials. Cases of broken antenna, misplacement of battery and deliberate removal of Security Access Module (SAM) Card were many across the country. All these reduced the success rate of the technology. However, there was a great improvement during 2019 General Election concerning the use ofSCR.

New technologies also need a colossal sum of money. Purchase of equipment such as DDCM, Smart Card Readers is capital intensive. Acquisition of software isalso expensive most especially when it is not developed by the commission. Most of the DDCM used during the 2010 registration exercise should have been replaced by now because some of them are obsolete. As a matter of fact, the commission ought to have procured another set of DDCM for the proposed continuous voters registration exercise across the country. Interestingly, the present administration procured somefor the exercise which commenced on the 17th of April, 2017.

Test Running of the Proposed Technology

One of the major problems that confronted the application of most technologies adopted so far by the Commission is its inability to do “proper” test run of the technology. For example, the use of card readers ought to have been tested in some bye/re-run elections before the general elections. This measure if carried out effectively, would have enabled the Commission to evaluate the appropriateness or otherwise of the technology.However, it should be noted that technology in the conduct of election is not an end but a means to an end, therefore, the political and socio-economic environment under which a new technology is applied will determine to what extent such technology willsucceed.

Table 2: Analysis of Functionality of Smart Card Readers in Governorship and State House of Assembly Elections in 2015

S/N	State	Percentage Success	Percentage Fail
1.	Ekiti	50.0	50.0
2.	Anambra	51.5	48.5
3.	Rivers	52.9	47.1
4.	Adamawa	54.0	46.0
5.	Benue	54.2	45.8
6.	Cross River	54.8	45.2
7.	Delta	56.0	44.0
8.	Kogi	59.4	40.6
9.	Ogun	59.4	40.6
10.	Ondo	59.7	40.3
11.	Abia	61.0	39.0
12.	Osun	63.7	36.3
13.	Edo	64.6	35.4
14.	Oyo	64.7	35.3
15.	Lagos	78.9	21.1
16.	Kano	15.9	84.1
17.	Nasarawa	17.9	82.1
18.	Bayelsa	21.2	78.8
19.	Sokoto	21.9	78.1
20.	Taraba	22.0	78.0
21.	Zamfara	22.5	77.5
22.	Borno	24.1	75.9
23.	Kastina	27.3	72.7
24.	Yobe	27.4	72.6
25.	Kwara	29.6	70.4
26.	Jigawa	31.6	68.4
27.	Kebbi	31.7	68.3
28.	Akwaibom	33.9	66.1
29.	Bauchi	36.6	63.4
30.	Imo	38.9	61.1

Source: INEC, 2015

Inadequate Awareness of the New Technology

Stakeholders within the context of innovative technology in the electoral process include but are not limited to politicians, the electorate and civil society organizations among others. In managing technology for electoral administration, there are three conceptual frameworks involved; Technical Feasibility, Economic Viability and Social Acceptability. The social acceptability is very germane so as not to impose what is not socially acceptable on the electorate. Omoleke (2010) reported that majority of the electorate in Nigeria preferred INEC to use more technologies in the conduct of elections in Nigeria. It is hereby suggested that, the proposed electronic-voting machine to be introduced in future should not only be assessed in line with the socio-political and economic environment in which we find ourselves, the acceptability of such technology by various stakeholders should be enhanced by way of enlightening them on the implications of using the technology.

Appraisal of the Institutional Framework

The ICT department in INEC procures, deploys and maintains the technologies in existence for elections. From records, it is believed that ICT departments are well equipped at the headquarters and state levels, but such has not been extended to the Local Governments. The success or otherwise of ICT application in the electoral process would to a large extent depend on the availability of the ICT department and tools at the Local Government level. This is because elections take place at the Local Government Areas via polling units. This infrastructure is presently lacking at the LGAs.

Uncooperative Attitude of the Political Class

It is a popular adage that the only thing that is permanent is “change”. But it seems the political class in Nigeria do not want to accept this as a necessary phenomenon in the re-organization of things. The digitalization of voters’ registration in 2010 and subsequent continuous voters’ registration were nearly frustrated by unscrupulous set of people who were mostly political thugs. Cases of double registration by moving from one place to the other, using special registration options meant for people who were physically challenged were abound. Similarly, Smart Card Readers were deliberately made not to function by these set of people who were not favourably disposed to change.

Socio-Cultural and Religion Contexts

Nigeria is a multiethnic country comprising of about Two Hundred and Fifty (250) ethnic groups (The World Factbook). As a result of cultural background, and religious tenets, some sections of the country found it difficult to surrender themselves to biometrics or photograph taking. Special arrangements had to be made by the commission in ensuring that such people were not prevented from registering as voters and disenfranchised during elections. These and other cultural or religious beliefs made it difficult for the Commission to deploy some of its technologies effectively.

Breach of Intellectual Property Law

It is a trite in law that who so ever ought to enjoy the right of another person in intellectual property must seek permission to do so, otherwise this may result in infringement on such rights. The commission is not the owner of most if not all the technologies in question. Permission to transfer the technology (software and hardware) must be sought to avoid litigation. For example, in 2014, a Federal High Court in Abuja ordered INEC to pay Bedding Holdings Ltd, a sum of seventeen (17) billion naira for the use of its patent right on collapsible transparent boxes without approval. Also, the Commission was sued for using Direct Data Capture Machine belonging to Zinox, and Avante Technologies Development Ltd (Daily Tide 29th January, 2014). Furthermore, the garnishee order on Ekiti INEC Account almost disrupted the conduct of 2018 governorship election in the state.

Legal Barrier

The Electoral Act, 2010 does not provide for the use of Smart Card Reader, neither does it provide for the use of electronic voting machines (Section 52(1)(b) Electoral Act, 2010), as amended. There have been a lot of legal debates and controversies as to whether the existing laws governing the conduct of election recognize the use of card reader. Some are of the opinion that smart card reader is provided for in the 2015 manual guideline for elections and since this is part of the legal instruments used in the conduct of 2015 general elections, then the Commission has not violated any law regarding the use of SCR. The proponent of SCR argued that INEC under Section 160 of the 1999 Constitution (as amended) is empowered to make its own regulations as the situation demands.

Therefore, INEC’s decision to use SCR was in order. However, in the case of *INEC v. NyesomWike* (2016) All FWLR pt. 836, the Supreme Court ruled that “the extant laws of the Federation provides for the use of voters register, but the card reader irrespective of its importance does not have a place in any extant law of the land. The Supreme Court commended INEC for introducing card reader, but affirmed that the Trial Tribunal and the Lower Appeal Court were wrongly swayed by the INEC guideline. Therefore, validation for voting process through the use of voters register takes precedence

over any other process for now. It should be recalled that Section 9(1) of the Electoral Act gives the commission the power to compile, maintain, and update on a continuous basis a national register of voters. which should be used to vote in any Federal, State or Local Government or Area Council elections.

Hence, despite the provision of the use of card reader in the INEC guideline under section 8(b) of approved guidelines and regulations for the conduct of 2015 general elections, which can be regarded as a subordinate law, card reader cannot be used to determine the credibility of election, because there is no express provision of such law in the Electoral Act empowering the use of SCR in the conduct of election.

Personally, in my opinion, I think the Supreme Court based its decision on the superiority of Act of National Assembly as against subordinate law, where preference is given to a superior law over a subordinate one, whenever there is a conflict between the two. This is rooted in the provision of the 1999 Constitution as amended. Section 1(3) says “If any other law is inconsistent with the provision of the constitution, the constitution shall prevail, and that other law shall to the extent of inconsistency, be void”. Using this argument, it will be observed that Electoral Act, 2010 as amended is superior to INEC guideline, and since the Electoral Act does not provide for the use of SCR in conducting election, it then means that the guideline is inconsistent with the provision of the Electoral Act and therefore null and void, to the extent of its inconsistency.

Power Supply

This is a major challenge as most rural areas in the country are yet to be electrified. However, this should not be a serious barrier, since the use of generator and batteries could be encouraged.

Poor Maintenance Culture

There is general poor maintenance culture of equipment and facilities. Other challenges are: Inadequate consensus among the various stakeholders especially the various political parties on whether to accept new technology or not. The Cost of procurement, deployment and maintenance of the new technologies, which is generally expensive especially in the face of depreciating value of naira is another challenge that needs to be addressed.

The Future of Electronic Voting on Nigeria

The future of electronic voting in Nigeria depends on the following factors:

- a) Political Will: No matter the effort of researchers and the commission that is charged with the conduct of election in the country, there cannot be a solution until the government is ready and willing to take the bull by the horn and introduce electronic voting. This includes creating enabling environment.
- b) The procedure for acquisition and deployment of technologies should be fully followed.
- c) Understanding the social, economic and political environment under which the technology could be deployed, is very important.

CONCLUSION

The study concludes that despite the issues and challenges befalling the application of ICT in the electoral process, it is worthwhile to embrace innovation in the interest of reducing the cost of election and enhancing transparency in the process.

RECOMMENDATIONS

In view of the above expositions on technology and elections in Nigeria, it is recommended as follows:

- (i) The application of more technologies in future election, especially e-voting is worthwhile despite the numerous challenges.

- (ii) Preparation for the introduction of e-voting technology should commence now so as to overcome the major constraint concerning its implementation and sustainability.
- (iii) The procedure for the acquisition, deployment and management of equipment relating to e-voting technology should be strictly followed.
- (iv) Social infrastructure that would enhance the effective take off of the technology should be put in place.
- (v) The National Assembly should commence the process of amending the Electoral Act 2010 to reflect the legality of e-voting system. Specifically, Section 52(2) of the Electoral Act 2010 should be amended.

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