TALLINN UNIVERSITY OF TECHNOLOGY

School of Business and Governance

Ragnar Nurkse Department of Innovation and Governance

Nosakhare Jefferson Osemwota

173979HAGM

THE IMPACT OF INFORMATION COMMUNICATION TECHNOLOGY (ICT) IN NIGERIA'S DEMOCRATIC STABILITY

Master's thesis

Technology Governance and Digital Transformation

Supervisor: Keegan McBride, MA

Tallinn 2019

AUTHOR'S DECLARATION OF ORIGINALITY

I hereby declare that I have compiled the paper independently

and all works, important standpoints and data by other authors

has been properly referenced and the same paper

has not been previously presented for grading.

The document length is ……….. words from the introduction to the end of conclusion.

Nosakhare Jefferson Osemwota……………………………

           (signature, date)

Student code: 173979HAGM

Student e-mail address: Njomota92@yahoo.com

Supervisor: **Keegan McBride**, MA

The paper conforms to requirements in force

………………………………………………

(signature, date)

Chairman of the Defence Committee: / to be added only for graduation theses /

Permitted to the defence

…………………………………

(name, signature, date) [14.05.2019]

ACKNOWLEDGMENT

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS AND TERMS

Abbreviation	Description
AU	African Union
BPVC	Biometrics permanent voters card
BVR	Biometric voters registration
CCP	Context, content and process
DRC	Democratic republic of Congo
ICT	Information communication technology
INEC	Independent national electoral commission
PVC	Permanent voters card
SCRM	Smart card reader machine
TVC	Temporary voters card

Abstract

The global political space and governance in contemporary times has been moving along the line of technology infusion in elections management. The democratic system of government which is representative in nature is imperative to modern developmental and progressive governance. The democratic stability of Nigeria over the years, after her independence has been in a dwindling state. This is witnessed by the constant interference of the democratic process by the men on uniform, which has led to the stunted growth of Nigeria's democratic development. However, events leading to the emergence of the fourth republic has seen Nigeria experience some democratic stability, as it has enhanced the push towards a democratic society. The democratic society gave birth to the unification of democracy in the nation. Never the less, most of the elections conducted are characterized with a lot of political/electoral malpractices, electoral violence and vote buying.

In the light of the above, there was the impending need of electoral reforms, which will facilitate a more transparent, effective, efficient, and accountable electoral system that will uphold the trust of the citizens in terms of political participation which is crucial to the democratic process and political stability in the country. Hence, introducing information communication technology (ICT) relating to bio-metric registration and permanent voters' card cum the card reader machines as a first paradigm shift from the old electoral voting system to curtail some of these lapses and inefficiencies in the Nigerian electoral arena.

The study main objective is to evaluate how the Biometric Permanent Voters Card (BPVC) has changed the election process in Nigeria during the 2015 presidential election. The sub-objective is to also evaluate how the Introduction of Biometric Permanent Voters Card (BPVC) has affected Independent National Electoral Commission (INEC), towards the management and planning of year 2015 presidential polls. The study employs the case study design and an exploratory approach which involves a semi - structured interview process in data gathering. A total number of 17 respondents which cut across the focus group of the study – government officials, election officials, and the electorates were interviewed. Data collected were analyzed using the RQDA coding software. From the research findings the study acknowledges the

hindrances to implementation of ICT in all aspect of the electoral process in Nigeria. Thus, recommending that, further reforms as to embracing the other aspects of election technology like, e-balloting, e-collation and e-transmission should be introduced as seen fit in relations to environmental factors.

Introduction

In contemporary times there has been the introduction and adoption of ICT in enhancing the democratization process. In the advent of these trend, Nigeria has progress towards the adoption of ICT in its democratic process especially in the area of elections that is crucial to democratic flow. Upon this platform a quick overview of democracy, ICT and its fusion in Nigeria political terrain is analyzed.

In his speech, Abraham Lincoln operationalized democracy as the peoples' government which has gained popularity globally among democratic states (Lawal and Ogunro, 2012). Harvey and Harvey (1989) also view the concept of democracy to center around – making public policy according to legislation, ensuring equality, periodic representation by mode of elections, respect for citizens right and most importantly upholding the sanctity of the law (Harvey and Harvey, 1989). Franceschet (2009) viewed democracy from tripod sense of opinion which involve, a state of accepting and tolerating the perspectives of others, involvement in political activities and equal playing field in the political arena (Franceschet, 2009). The foundations of democracy as opined by Dawood (2015) are, famous involvement, superiority of majority will but with high regards for the rights of minority, preservation of constitutional rights of all citizens, transparent political competition via the means of elections, and an overall working system as enshrined in the tenets of democracy (Dawood, 2015). Dahl (1971), presented opted for a narrower insight to democracy. He stated that, democratic theory is focused more on the *processes* whereby regular citizens have a major say in the leadership structure and policies of government. In his definition, the process dynamic is key (Dahl, 1971). And elections are major players in Dahl's process dimension.

Information Communication Technology (ICT) has been a wonderful revelation in contemporary times. ICT has facilitated the progress of business dealings, medical applications and even socio-economic growth etc. Also, the democratic political arena has not been left out of this electronic movement – thus, the concept of e-democracy. E-democracy discourse arises from the theoretical tradition of participatory democracy and the adopting of ICTs in most institutions (Beltran, 2015). Advancement in technology, most importantly in the area of ICT has helped in improving democratic transformation democratic transformations (Neubauer et al., 2012). Steve (2009) defines e-democracy as the adoption of technology and its inputs by a political system with

interactions among local communities, states/region, nations and the global stage. Also, as cited in European Union report (2007), e-democracy areas include among others; e-parliament, e-consultation-participation, e-initiatives, e-petitioning, e-campaigning, e-polling/e-surveying (EOM, 2007).

Nigeria which is the case study of this research has had a long and unpleasant road when it comes to implementing democratic measures and obtaining democratic stability, this is something that has been noted by other scholars, such as Duruji et al, (2015). For instance, electoral farness has been very popular in the country, this could be traced back to the early days of her sovereignty from the British. Nigeria as a political entity has been enmeshed with electoral violence (Assibong, P and Oshanisi, 2018). This has energized the drive by this research to evaluate the conduct of elections (presidential elections) in relation to ICT introduction. The democratic settings in Nigeria's post-colonial era especially in the first and running down to the third republic has been marred with numerous democratic irregularities. These irregularities as opined by Nwagwu (2016), ranges from mass murder, intimidation, disenfranchisement of electorates, under-aged voting and bribery. (Nwagwu, 2016).

After the moribund third republic in the 1990s in Nigeria, a subsequent attempt to democratic practice in 1999 was initiated by the then military Head of State which is regarded today as Nigeria's fourth republic. Moreover, with the transition to democratic rule, the state of the nation is still in a heated shape based on the behavior and disposition of desperate politicians to the corridor of power (Duruji et al., 2015).

According to Assibong and Oshanisi (2018), in a bid to improve on the existing electoral pattern and process that comes with lots of irregularities and openness to election malpractices, stakeholders in the electoral process which include the electoral management organization in the country (INEC). The organization introduced technology as a major part of the electoral process, which was geared to improving the standard of conducting elections in the country. In their opinion, these changes helped to reduce electoral mal-practices and also responsible for the positive outcome of the general elections in the 2011. Regardless Nigerian electoral system still has some flaws. (Assibong, P and Oshanisi, 2018a)

Okonkwo (2012) in his assessment stated that, the use of advanced ICT system during election process will relatively reduce election irregularities in Nigeria (Okonkwo et al., 2012) . In a

study carried out by Palmer and Perkins (2012), they argued that ICT has also fundamentally changed the politics of more local spaces through its promising features and component of interactions (Palmer and Perkins, 2012).

However, in the quest to stable the electoral process in Africa especially in Nigeria, Orihuela and Obi (2012) argued that, the government are increasingly making use of ICT to interact with their citizens, to provide them with services that will benefit them. It is precisely because of this new phenomenon that the word "E-democracy" was coined, to express the relationship and the role of ICT when applied as a tool to enhance and strengthen the democratic form of governance (Orihuela and Obi, 2012). Studies has showed that ICT can be used to fight corruption or increase transparency, trust in government, accountability etc. Nigeria was picked as an understudy with ICT introduction in her electoral process based on its peculiar case over the years with election issues. The presidential elections in Nigeria is the focus of this study. Hence, this study tends to investigate what impact the introduction of ICT especially the Permanent Voter's Card (PVC) have in the electoral process in a bid to stabilizing democracy in Nigeria.

Elections in Nigeria has been faced with a lot of challenges which has comparatively been viewed by both local and international scholars as shown in Table 1. Most of these challenges tends to undermine the existence of participatory government, and these has to some degree impacted the participation of citizens in public affairs; Hence the ICT tends to improve polling activities and access to first-hand information during elections there by improving the overall electoral process. (Odeyemi and Mosunmola, 2015).

Table 1: Challenges of election in Nigeria

Challenges	References
▪ Names of some valid voters are omitted ▪ Frightening and subduing of electorates	Sabo et al., (2015) Alabi, (2009)
▪ Forcefully seizure of ballot boxes at gun points, ▪ Brutality, ill feeling, and violence towards voters and opposition. ▪ Intimidation of political oppositions and the intimidation of voters	Oni et al., (2014)

▪ serious irregularities and frauds	EOM, (2007) EOM, (2003)
▪ delays in elections,	
▪ hiding and deliberate hording of voting materials.	
▪ the names and logos of some political parties are deliberately omitted from the ballot box,	
▪ the privacy of voters is not respected and voters registry is faced with enormous challenges.	

But due to the aforementioned abnormalities as sighted by Oni et al (2014), political leaders in Nigeria and Africa at large were prompted to uncover other options that will facilitate and guarantee citizenship participatory democratic process (Oni et al., 2014). Furthermore, it's clearly obvious from the above table that the challenges of Nigerian elections were both identified by local and foreign observers and they have similar standpoint of the country's electoral process. But despite the enormous opportunities being offered by the use of ICT in further progress of the electioneering process in a democratic setting, Nigeria in particular has not yet fully embraced the ideal with so much deficiencies in the way and manner elections are being conducted over time. Thus, informing the following objectives of this study.

ICT brings a lot of packages into the electoral process which include; ease in citizens participation, accurate computation of results, strong voters' education etc. Nigeria want to have these benefits, but right now they are miles away from enjoying these benefits associated with the effective use of ICT in her electioneering process that can positively change the outlook of democracy especially in the way and manner elections are being conducted. Thus, beg the questions; why doesn't Nigeria use ICT more in her elections or how can it begin to use them? What are the drivers and barriers to the full use of ICT in her electoral Process Hence, the following research questions if properly deal with, will help in achieving the set objective of this study.

R1. How has the Biometric Permanent Voters Card (BPVC) changed the election process in Nigeria during the 2015 presidential election?

SQ1. How has the Introduction of Biometric Permanent Voters Card (BPVC) affected Independent National Electoral Commission (INEC) in the Management of elections, during the 2015 presidential elections?

The case study research design was deemed appropriate as a methodology utility. Yin (2013) posited that, a case study is suitable for a research when "a 'how' or 'why' question is being asked about a contemporary set of events, over which the investigator has little or no control".

The unit of analysis is a very crucial part in any research case study design, it is the force that gives the framework for the case study and it thus flows from the research question (Yin, 2013). Therefore, the unit of analysis for this study is the process of how ICT introduction has changed the election pattern in Nigeria especially the presidential elections.

The importance of this research is to expose further the impact of ICT in the democratic stability of developing countries with Nigeria as a case study. The study will be immersed benefit to policy making bodies like the legislature, and the executive. Civil society organization and the academia in both developing and developed countries will also stand a chance of gain.

Also, of more importance, the Independence National Electoral Commission (INEC) the umpire body charged by statutory act to conduct and manage elections and the democratization process in Nigeria will above all find this research study useful for policy references.

This study is focused on the impact of ICT in Nigeria's democratic stability and how it has influenced the Nigerian political space as regards its deployment. Citizens' inclusiveness is important, and ICT has provided the dynamic platform for its occurrence, which has enhanced the political awareness and participation of the people. Notwithstanding as a result of project duration the authors selected a limited research coverage that is based on the use of smart card reader for the authenticating of PVC. While considering other aspects of ICT impacts.

Although the usage of ICT in Nigeria's politics goes beyond elections, as government performance in ensuring that democracy articulated is achieved by its operations been evident in

the growth and development of the country. Despite this, our study will only place emphasis on elections via usages of ICT platform in the form of Biometric Identification Machine in its conduct which is relevant to democratic stability as the medium for the exchange of power.

This thesis is structured in six different chapters, Chapter introduces the research topic, after which the problem statement, objectives of the research and research hypothesis are outlined. Additionally, research methodology together with the significance was elucidated. In chapter 2 a literature overview and lucid explanation of the theoretical framework was provided. The third and fourth chapter outlines the case study (PVC) and survey methodology respectively. In chapter five, the results from empirical research are analyzed and discussed while the last chapter while in last chapter deals with recommendations, summary and conclusion for the study discussed.

1. LITERATURE REVIEW

1.1   ICT And Elections

An increase number of elections over the years around the world has been organized with the help of Information and Communication Technologies (ICT). In an attempt to facilitate all stakeholders trust in the electoral process, numerous governments of the world has in one way or the other has recourse for the adoption and use of technology (IDEA, 2014). In most cases when imagining e-aided or e-empowered elections, the caption of e-voting or I-voting comes to mind only. However, according to Loeber (2017), the electoral cycle has a plethora of faces in which ICT can be applied an example which is visible during the presidential elections in the states in 2008, were social media played a very important role during electoral campaigning. (Loeber, 2017).

Technological applications in election ranges from the use of geographic information systems to conduct boundary delimitation and establish the location of polling units cum other functional operations of machines which ranges from e-registration, e-authentication, e-collation and e-transmission thus enabling citizens cast their ballots (IDEA, 2014). The capturing of eligible citizens' bio data for the purpose of elections have positively assisted the electoral processes of democratic states globally. And this biometric fingerprint registration and identification process through the card reader technology is the focus of this research which will be referred to from this moment onward as the Biometric Permanent Voter's Card (BPVC). The BPVC will be discussed further at length over the course of this research study as it relates to how it has affected elections in Nigeria since its introduction and usage in the 2015 general elections.

The BPVC can be seen as a unique form of identification document which can function in the same capacity as the national identity card in most countries. In a bid to adequately understand what the BPVC as an identity document is all about, the concept of identity must be dealt with.

Cap and Maibaum (2005) see identity as, "a parameter associated with a person (e.g., name, age, place of work), to ensure that real world operations are invoked on the correct individual (e.g., putting a person in jail, awarding a prize to a person), to verify, whether a person has certain rights (e.g., to drive a car, to pick up tickets for a theatre performance) or to engage in communication acts with the intended addressee (e.g., sending a letter or an email) (Cap and Maibaum, 2005). (p.804)". Also, Kornum, Gyrdjones, Al, and Anthony (2017), explains identity as the individual's "unique sense of self, distinguishing self from others" (Kornum et al., 2017).

From another perspective, Postmes and Jetten (2006) in Olaniyi (2017) argued that, identity is a member of a person's self-concept deduced from his knowledge of its association with diverse groups and with the emotional importance associated to that group(cited in Olaniyi, (2017). Speaking further, Lyon (2009) in Olaniyi (2017) was of the view that, it is mandatory to relate as a dominant member of a social organization or commonly bonded there by giving credibility to the modern state. In an attempt to give more light on the matter as depicted by Lyon, Olaniyi explain further that, Lyon (2009) applies "embrace" meaning "grasping or registering citizens by the state in ways that both include and exclude persons" (e.g., to distinguish between citizens of a country and expatriate or those of temporary or permanent resident permit). Olaniyi noted that the reason for this was to secure the trust of citizens and guarantee their benefits (entitlements). These entitlements can be seen as rights for individuals to exercise their franchise – being able to vote and be voted for and eligibility to be able to enjoy government good and services (Nguyên, 2003). Therefore, according to Olaniyi (2017), the use of identification systems in public service is widely regarded as a very important part of governance. The utilization can be traced back to the period of the creation of modern state systems.

In cases when countries deliberate on the opinions of identity document just like the BPVC, there are specifies features of identification management must be met (Clark, 1994 cited in Olaniyu, 2017). Based on the milieu of the study case, most of the reviewed literatures will be focused on developing countries and how they have embraced or how they are in the process of technology adoption in their electioneering development.

1.2 BPVC Adoption in Third World Countries

The third world countries have been known to indulge in election process that is regularly disrupted, sometimes characterized with high level of violence leading to disunity and damaged economy. (Gelb and Diofasi, 2019). A suggested panacea is to apply modern day technology during the electoral process. For example the use of ICT to register and authenticate voters, prevent under aged voters by documenting voters age, thereby improving the standard of the election process. Golden et al., (2014), noted that "these technological solutions, such as electronic voting machines, polling station webcams and biometric identification machines, provides a system that promotes transparency and credibility in the electoral process"(Golden et al., 2015).

Table 2: Features of BPVC Recognition.

Generalization of Coverage	Every valid voters should be associated with a unique identifier.
Distinctiveness	Each identifier is peculiar to only one person. That is two people cannot share similar identifier.
Permanence	Each unique identifier cannot be changed
Indispensability	Each unique identifier is expected to exhibit multiple natural characteristics that can be owned and retained by an individual. Furthermore the identifier must be made available all the time.
Collectability	At any period in time, the unique identifier should be collectable.
Storability	It possesses the function of both paper documentation and electronic storage.

Exclusivity	It reserves the uniqueness for a single identifier.
Precision	It offers an individualistic distinctiveness.
Simplicity	The operational process of identification should not be cumbersome.
Cost	It should possess an optimization for cost measuring and storing.
Acceptability	Its operations and utilization should be adaptable to global ecology.

Source: Clark (1994) cited in Olaniyi (2017)

About 38 low and middle income nations are seen to have used BPVC technology to register and authenticate voters in year 2014. Furthermore a number of countries also are in the process of implementing the use of BPVC and the figure has increased steadily (IDEA, 2014). For instance, according to Nwangwu (2015), various forms of technology have been adopted in different stages of the electoral process in most African countries, which include to mention but a few, Mozambique, Malawi, Senegal, Mauritania and including Nigeria with different levels of election outcome. Figure 1 shows the categories of biometric voter's card registration in Africa.

Keys:

Green countries – Continuous list

Red countries – Periodic list

Blue countries – Civil registry

Purple countries – Combined system

Blank spaces - Unidentified

Figure 1 : Categories of Biometric Voters Card Registration in Africa

Source: UNDP (2012); Electoral Institute for Sustainable Democracy in Africa (EISA) (2012)

1.2 Time and Place: The when and where factor

BVR can be organized newly for each major electoral event (UNDP, 2012), or then a continues BVR process will be necessary. This implies that the Electoral Management Board (EMB) is frequently receiving new registrations, amending details of inhabitance who have relocated or change their names due to marital vows, and deleting from the voter register those that are deceased and recoding those that migrated or otherwise those disqualified from exercising their franchise. According to UNDP (2012), where the EMB is wholly in charge as regards voter

registration, the sequential possibilities are outlined as periodic or continuous voter registration (UNDP, 2012).

1.3 Guiding Principles in the use of BPVC Registration Technology

The most important and serious component of any election technology irrespective of the level of technology is the degree to which it is viewed as suitable and relevant to the context in which it is introduced. Hence in the view of UNDP (2012), stated that the principles of responsiveness, integrity, sustainability, and effectiveness can be used to improve the relevance and credibility in any electoral technology. Each of these principles are described in Table 3 below:

Table 3: Features of Biometric permanent voters' card

Relevance	Response
Integrity	When making a decision on the choice of election technology, integrity plays a very important role which include: • Completeness and accuracy- this simply means to what length the electoral technology is able to help improving the quality of the whole process by reducing errors such as omissions and or multiple entries.
Responsiveness	The principle of responsiveness are valid and important from the following questions • Which problem/challenges is the applied technology trying to solve. • How best is the technology been applied • What are the incurred cost and potential benefits of the technology • To whom is the technology most beneficial to • To what extent is the beneficiaries and state holders participating in the selected technology and how is the level of responsiveness
Effectiveness	The effectiveness explains the following valves • Balancing between the quality and cost of the technology

	• Regulating the time frame of technology implementation thereby avoiding unplanned delays which could disrupt the election schedule
Sustainability	This involves the following • Institution: is the agency responsible for the conduct and management of elections capable to adapt the introduction of upgraded technology? • Socio-economical: is the country able to purchase/implement a new technology • Political: Does the political atmosphere has enough backup for the adaptation of the technology? • Environmental: Considering ecological and environmental constraints will the technology be Belign

Source: EU – UNDP (2012)

1.4 The Effect of Biometric Voters Card Registration Technology in Third World and Developing Countries

Elections using biometric technology have somewhat produce relative success in nations across the world (Alan and Anna, 2016). For example, in Bolivia, the introduction and adoption of biometric registration has tremendously increase the number of registered voters which gave more citizens to participate in the electoral process. But this exercise met some challenges and hurdles, thus preventing its full implementation (Gelb and Decker, 2012). Similarly in Pakistan, an overhaul of the digital capturing system was executed in 2012, which provoked the removal of majority of the old capture and a recapturing process was executed in uploading majority data entries (Malik, 2014) .

The utility and importance of the biometric voters card was noticed in the Republic of Benin and the Democratic Republic of Congo. Gelb and Decker (2012) opines that, the voters card was used for other reasons and transactions apart from its primary purpose. Majority of Ghanaian in their assessment of voters biometric registration especially in 2012 where in full support that, the biometric exercise indicates development and growth in their electoral system (Piccolino, 2016).

In an empirical insight Golden et al. (2014), observed that, in Ghana, with some pockets of constraints and challenges as regards the election technology, the issue of electoral malpractices and irregularities were less in polling stations where the utility of biometric card readers were deployed. Thus, cumulating to a relatively acceptable election which have become a reference point for most of Africa countries (Alan and Anna, 2016).

It was revealed according to Evrensel (2010), that a reasonable number of voters could not get their data registered by the election technology in Zambia. Similar, failures of election machines were recorded in different polling station in Kenya's 2013 elections (ELOG, 2013). As a matter of fact, in the Nigerian 2015 elections, it was recorded that, machine failures in numerous polling units was obvious, even to the extent of it failing or unable to authenticate the seating president at that time (Alan and Anna, 2016).

For there to be any form of progress in the technological adoption in the election processes in the third world, the sustainability principle must be guided jealously irrespective of how the introductory and further movement process of the use of election technology might be. Thus, the election management body (EMB) as an institution for delivering the good of the electoral process in a democracy must be well equipped. Hence the need for a quick review of EMBs and technology.

1.5 EMBs and Technology

With the success of elections across the world to very high standard, there remains evidence of problems with poor election quality in both established and transitional democracies (Lean, 2015; Lehoucq, 2003; Norris, 2015). Thus, the design of electoral management boards (EMB), the organizations responsible for conducting elections, has become a pressing concern for policy makers (James et al., 2016) which are constantly finding new ways of improving the electoral process. And one of these ways is the introduction of technology into the process. According to IDEA (2014), an election management body is an institution with the singular right and legal authority. Which possesses basic fundamental tools for the management and conduct of elections in a given geographical democratic space. These fundamental (or core) tools in view of the IDEA (2014) include:

      a. determining who is eligible to vote;

b. authenticating election contestants and the electorates;

c. voting management;

d. counting the votes; and

e. tabulating the votes.

Technological introduction into an independent Electoral Management Bodies (EMBs) in many countries in the world have been championed as a key institutional reform strategy to upgrading the practical conduct and management of elections along the line of integrity, transparency and credibility (Catt et al., 2014; Rafael Lopez-Pintor, 2000). Yet, according to James et al., (2016) despite the intuitively appealing assumption that a technological independent electoral management bodies will erase most of electoral fraud, studies reveals a relative different empirical conception. Furthermore, views of different scholars have showed relative improvement in elections in Africa and Latin America via the adoption of technology (Hamberg, S, and Erlich, 2013; Hartlyn et al., 2008; Makulilo et al., 2015) research have shown that, the operational activities of election management bodies globally are relatively associated with low election integrity and trust (Norris 2015). Emerging scholarship demonstrates that the capacity of electoral management boards (Clark, 2015) in embracing technology (IDEA, 2014), the personnel (James, 2013) , operational design (James 2015) and organizational formation (Van Ham and Lindberg, 2015) optimization of elections outcome.

EMBs has different models, Pastor, (1999) gave an overview of the models, using five models:

- Election office within the government;

- Election office within the government ministry which is supervised by a judicial body;

- An independent election commission which is immediately accountable to the legislature and made up of experts;

- A multi-party election commission made up of representatives of political parties; and

- A non-partisan electoral commission that is made up of distinguished individuals from a list proposed by the president and parliament, reduced by a veto of the political parties, and selected by a group of judges for a decade.

The classification made by Pastor (1999) is on the bases of a composition of commissioning. IDEA categorized on the bases of the models, whether they are independent and, or governmental (IDEA, 2006).

Arrangement of the aforementioned models constructed on the following, institutional arrangement, formal accountability, composition, implementation, power, term of office and budget. The above-mentioned fundamental construct are evaluative mechanism in accessing election management bodies and as an extension the scholarship environment (Elklit and Reynolds, 2007). Furthermore, credibility, trust and legitimacy must be the standard of election management irrespective of the model being adopted (IDEA, 2014). Credibility and trust in the electoral process can be achieved with the laying down of essential guides. Table 3 shows the principles guiding EMBS.

Table 3: Principle Guiding EMBS

Principles	References
Independence	IDEA (2014); Birch (2013); Van Han and Lindberg, (2015).
Impartiality	Toby et al, (2016).
Integrity	Hamberg and Erlich (2013).
Transparency	IDEA (2014).
Efficiency and performance monitoring	James (2013)
Professionalism	James (2013)
Service – mindedness	Van Han and Lindberg (2015).

Source: Author Compilation

With the aforementioned guiding principles, the EMBs in any democratic country can be sure to conduct elections that are fair to all and free from all forms of electoral vises.

2 THEORETICAL FRAMEWORK

Different theories such as the cybernetics model of communications theory as a instrument of analyzing the function of ICT in elections (Langdon Winner, 1969; Nwangwu, 2015) has been crucial to the development of technology in the electoral process in different countries. But the focal theoretical approach for this study is the contextualist approach, propounded by Pettigrew (Pettigrew, 1990, 1987, 1985) and has gathered much attention among Information and Technology (IT) scholars (Augustsson et al., 2010; Ngwenyama, 1998). In his argument, Pettigrew (1985) emphasized the lack of process and context attribute in organizational transformation research, which he then postulated the: C*ontext, Content and Process* (CCP). The adoption of CCP framework is motivated by two motives. Firstly, according to Pandey (2015), CCP as a theoretical approach has the backing of major scholars in the technology and information environment. Secondly, the CCP as a concepts can boast of a firm foundation whereby all major pillars in organizational framework and direction can stand especially one like the EMB (Pandey, 2015). Thus, an approach structured on the foundation of CCP to access the input of technology in the electoral process of different democracies and the strategic interplay of EMBs in ensuring credible and trustworthy elections is key in finding answers to the research objectives.

The CCP is portrayed in IT circle as an embodiment of theoretical structure (Karyda et al., 2005), as a formulated method of describing and analyzing phenomenons (Walsham and Sahay, 2006) and as a format and guide of restructuring in an organisation (Klein et al., 1999). In all the different views of acknowledging contextualism, according to Diniz and Pozzebon (2012) all the IT studies reviewed are tinted towards one direction. The CCP framework circle is illustrated in Figure 2.

The CCP approach provides researcher with a wide range of features (Stockdale et al., 2006; Symons, 1991). According to Symons (1991) as cited by Aavik (2015:10) "by breaking it into a number of elements – purpose (*why*), subject (*what*), timeframe (*when*), methodologies (*how*) and people (*who*) – allowing the researcher to recognize a wide scope of interrelated factors". The CCP approach in its capacity and influence gives the researcher a broader scope in terms of analysis as it regards man and its interactions with its environmental strata (Aavik, 2015; Stockdale et al., 2006).
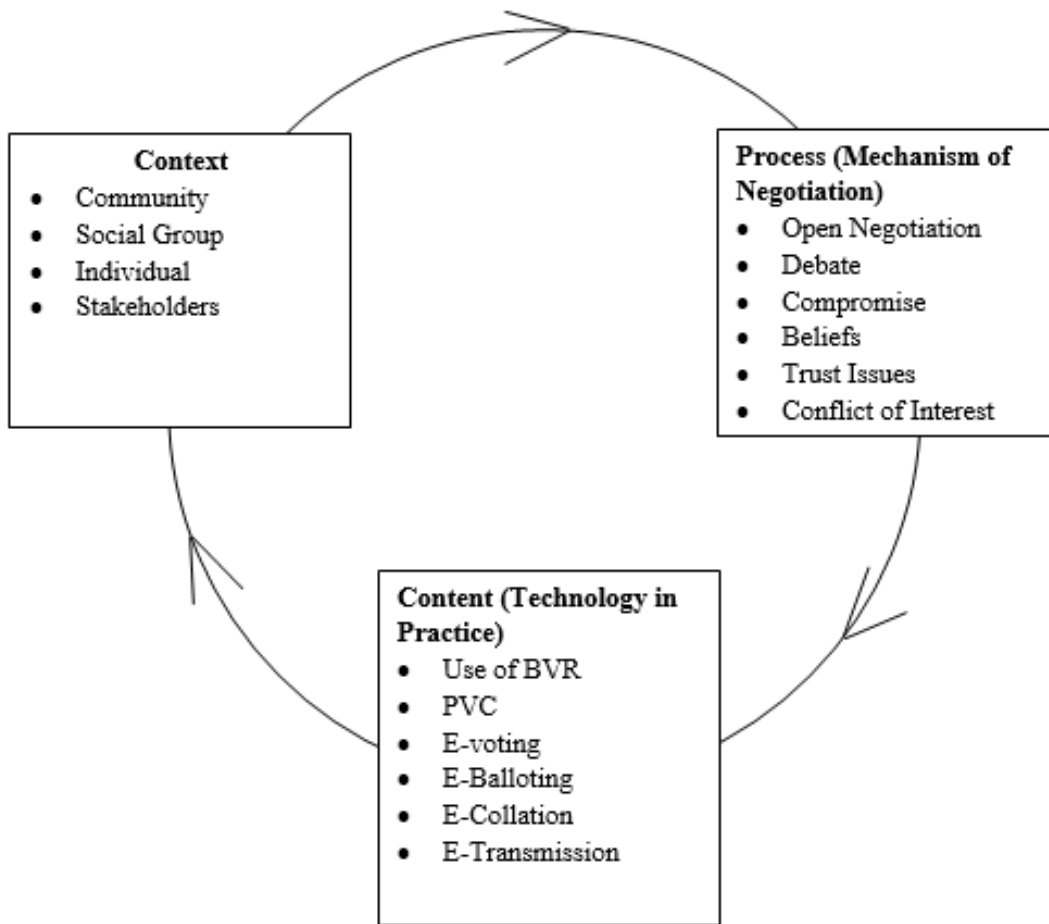

Figure 2: CCP Framework Circle.

Source: Author

The context dimension of the CCP framework connotes the various interactions that occurs in the environment of the new technology engagement and its utility (Pozzebon & Diniz, 2012). The context variation of the CCP approach can be articulated in different format and scope which involve the analysis of ecological issues and frameworks, incidents and features to organizational progress and performance and also the issue of human personal activities in terms of economic, social and political behavior as it affects the organization and its core institution (Pollitt, 2013; Self et al., 2007; Miller et al., 1988; Symons, 1991).

With the fundamental questions being put forward by the context application of thr CCP appraoch which involve the *why* and *how* interrogation, the knowledge and insight to why certain introduction to change and new ideals have worked and have failed are understood (Devos et al., 2007; Symons, 1991). In the proceess of effecting the various change intiatives, the input of stakeholders are very paramount which tends to add values and scope or eventually reduce its benefit to the environment. Thus, an insight and evaluation of the both the internal and external contextual environment is key to affecting the adoption and sucessful implementation of new ideals and changes particularly in the area of technology (Stockdale et al., 2006 and Aavik, 2015).

The activities of how social grouping and their interactions including their influences at various levels and stages of the communication geared towards the introduction and adoption of ICT artifact is refers to as the process (Pozzebon and Diniz, 2012). In looking at the implication of the *how,* it gives an insight to the avenue and channels of dialogue and a shift in the status quo and assist the researcher to give tangible answers to change process (Symons, 1991). The process dimension in the CCP approach explains the various interactions and interplay that might have transpired in an ecological setting leading to the eventual adoption of change (Aavik, 2015).

In the words of Symons (1991) as cited by Aavik (2015), the driving point of the process in CCP is the changing forces of interactions of the non-formal or informal sector, which take precedence in the environmental factors of various stakeholders involved in the process. Stakeholders group can be involved in open bargaining, debate, compromise, and conflict of interest and beliefs (Aavik, 2015). The success of any change initiative depends on the relationship between the various stakeholders involved and the process of communicating the intended change phenomenon. This process involve various ways, means and strategies which

ranges from persuasion to open debate and even confrontation and eventually compromise (Self et al. 2007).

The content dimension involves the outcome or output that emanant from the interactive process of actors in the environment of change which is achieved basically through the process analysis (Pozzebon and Diniz, 2012). The immediate and remote product of the stakeholders resolves and conclusions as regards to change in an environment or organizational setup is what the content dimension stands for (Aavik, 2015; Devos et al 2007; Song, 2012).

According to Pozzebon and Diniz, (2012), in trying to effect multi-dimensional change package, the eventual problems that goes along it is always cumbersome in nature which requires unique technical and managerial strategy to overcome. The change in a particular substance or phenomenon requires series and check, analysis and evaluations which tends to deal with all matters involved in actualizing the change. (Pozzebon and Diniz, 2012; Miller et al. 1988). In the content analytical process, the issue of proper evaluation and doing things right and righly is very pertinent (Song 2012). Thus, according to Pozzebon and Diniz, (2012), in looking at the election technology in furthering the electoral process in the public sector, a mere anticipation and guessing of how it is and how it should be done is tantamount to failure, which then means a rigorous and clever analysis of the process must be carryout. In the event of any change substance, the behavior and attitudinal characteristic of individuals involved in a particular context can be a huge impact or influence on the particular phenomenon being changed or introduced as change (Self. et al. 2007). In moving forward, the CCP framework will be used as a major tool in the analysis and discussion of the case study.

Three propositions can be drawn from the theoretical outline. These propositions will further assist in finding adequate answers to the research questions.

Proposition 1: The change process of manual registration and identification to digital mode in elections comes with the mandate of checking and minimizing fraudulent practices in the electoral process.

Proposition 2: The adoption of technology in the electoral process has further increase trust and transparency in the election management body (EMB).

Proposition 3: The environment and processes involved in the fusion of election technology has a major input in its adoption.

3.0 RESEARCH METHODOLOGY

3.1 Introduction

The study at its inception was made to past through a vigorous and concise process of literature review. In the process of reviewing various literatures it became obvious that; the electoral process in Nigeria is evolving, technology in government especially in elections has been discovered to be important in the electoral process, and full implementation ICT innovations has the potential to increase trust and transparency in elections in Nigeria. Thus, with the aforementioned, there was an obvious gap in literature which tends to explore how the introduction of technology has altered the patterns of conducting elections in Nigeria particularly the 2015 presidential elections and how ICT has improved the trust and transparency in the electoral management body in Nigeria. Hence, the research questions were thought after from the manifestation of the research gap. In conducting a holistic research, the case study design was thought fit as a good approach in achieving the purpose and objectives of the study. Also, an exploratory approach was used in getting more clarity on the research questions. An exploratory design can act a compact to directing and giving more lucidity to a given problem by way of exploring the various angles of such problem systematically (Saunders et al., 2009).

A *case study* can be seen as a scientific method or approach which is geared towards finding solutions to contemporary issues in their domains which can spring forth new theories and basic assumptions (Runeson et al. 2012). A case study is best as an approach for this study because of

its regards for the "how" or "why" questions and how it is focused on contemporary issues (Yin, 2009) . A single case study has been chosen for this research study. This is because it allows for a more rigorous view and insight of a given context in relation to using more than one case study. Also, in operationalizing a case study, a case study can be viewed from the point of its intended goals and objectives. According to Yin (2013), he gave different purposes for carrying out a research case study which are five in number - critical cases, extreme or unique cases, representative or typical cases, revelatory cases, and longitudinal cases. And majorly, this research study has critical met these criteria as espoused by Yin 2013.

3.2 Case Study Design

The unit of analysis is adequately the main driver of any research study. And basically, it springs from the core research question of the research study. Hence, the unit of analysis for this study is the *process* of how ICT introduction has changed the election pattern in Nigeria especially the 2015 presidential elections. The main point of this case study is not the end product of e-electoral process in Nigeria, but rather the process or progression of how technology was introduced into the electoral process. Furthermore, it is of upmost importance to note that, the introduction of technology in the electoral process in Nigeria has not been fully implemented in all aspect of her elections – which involves e-registration, e-identification, e-voting, e-collation, e-transmission amongst others. Thus, the sub-basic unit of analysis in this study is the introductory mode of the biometric Permanent Voters Card (BPVC) which is kind of narrow and single in nature rather than being holistic. And in a more compact approach, the theoretical construction of this study which is the Context Content and Process (CCP) model will be used in analyzing further the unit of analysis of the study.

3.3 Data Sources and Collection

 Making use of several sources of evidence in tackling a case study, is a good start in achieving a sense of validity and reliability of the study (Yin, 2013). More than one sources of evidence gives a firm background and strong foundation to the study which make room for a clear conclusive deduction, theorization and a sort of generalization. As regards to this study, three different sources of evidence were utilized which are; interviews, documents and experiences/participation.

Interviews were conducted with government officials, election officials, and electorates (citizens) in an attempt to gain a profound understanding of the impact of information communication technology (ICT) in Nigeria's democratic stability. These interviewed persons were selected on the basics of their relevance to the subject matter as it relates to useful information that can be gotten from then. The government officials were four in numbers, they comprised of a member working in the senate house, and others worked in the government ministries, while the election officials were six in numbers which worked as Ad-hoc staff/presiding officials/assistant polling officials and the last of the list were well meaning Nigerians. Semi- structured interviews were conducted as regards it workability with exploratory case studies as it gives the opportunity for improvisation and exploration of different ideas that emerge naturally from the conversation. For the semi-structured interviews, a list of six basic questions was prepared, and these laid the foundations for the interviews; although the interviews were not limited to only these questions due to the fact that they were semi-structured as compared to a structured interview. The interviewees that were selected represented both government and election officials as well electorates that cut across subject discussed. A total of seventeen interviews were conducted, seventeen were done face to face and recorded. After the interviews the responses were transcribed and then coded. Finally, semi-structured interviews are one of the best ways of understanding how stakeholders view issues; due to the informal nature of the interview it creates room for unknown facts to be mentioned.

3.4 Limitations

Several limitations have been observed in case study research, one of these several limitations is the issue of generalization. The case study approach lacking generalization or universal acceptability has been an issue of dialogue which possesses some truth in it. According to Yin (2013), the generalization of case study can be acceptable to theoretical assumptions and not relating to an entire population or universality. Thus, the research according to the generalization stand, has taken critical measures in addressing the problem, thereby ensuring reliability and validity of the study. Another limitation and risks to case study research is the issue of bias. The bias factor is a serious consideration as regards interviewees whom may not be transparent and open when answering questions as pertain to the study. Based on the qualitative nature of the

study, it allows for much criticism based on its subjective nature which can be affected by interviewee's perceptions (Bryman and Burgess 2002).

4.0   THE CASE

4.1   Introduction

Having done an exploratory capture on literation in respect to technology and elections, including the various actors involve the process like the Electoral Management Body (EMB) in a democratic setting. The thesis will further examine Nigeria as its case study and in doing so, it will explore its historical election background, its interaction and processes with technology in her elections especially the 2015 presidential elections and lastly, the substance and eventual output of the interaction of technology in the 2015 presidential elections.

4.2   The Context Dimension: Interrogating the Nigerian Electoral Ecology

Though, the utilization of technology in Nigeria's election is only recent, but for one to fully understand and grasps the technological need in elections in Nigeria, the historical contextual experience is pertinent (Alabi, 2009; Ojo, 2014). To really appreciate our destiny and focus as a country, the understanding of where we are coming from must be valued (Crane and Carvell, 2007). In 1922, with the advent of the Clifford constitution, the electoral principle was introduced which only allow for voting in Lagos and Calabar, hence, ushering in a new era in Nigeria's political history (Ojo, 2014). But with the general elections in 1959 which was geared towards Nigeria's independence in 1960, a new twist of events was experienced which involves all forms of electoral violence, malpractices and ethnic politics (Nwolise, 2017). For the lack of difference in political ideology among political parties in Nigeria, many political actors

(politicians) tends to solicit for support and vote via ethnic and tribal lines. Consequently, as political events unfold, it should be noted that, the political turbulence and violence in 1959 was not to be compare with future political experiences in Nigeria (Ojo, 2014).

After independence, the 1964 general elections were the first election which was organized by Nigerian political elite (Ojo, 2014). The national census which was concluded and contested at that time with a rigorous political campaign heightened tension as regard the outcome of the elections (Ojo, 2014). With wide spread violence and electoral malpractices especially in the Western Regional elections between 1965 – 1966, the country was then thrown into devest political divide along ethnic lines and cleavages which thus led the Eastern region to boycott the elections (Ojo, 2014).

The advent of the electoral crisis led to many lives being lost (Malu and Ogbu, 2006). With the continuing crisis, the military had to intervene which lead to the fall of the first republic (Nwolise, 2017). The struggle for power was also a cankerworm among the top ranks of the military which eventually led to a long civil war between the Nigerian army and the Biafra soldiers in 1966 which lasted for 30 months (Ojo, 2017).In the years preceding exactly 13 years after, the military held on to power. In 1979, the then General Olusegun Obasanjo's military government initiated a transition plan to civil rule which thus ushered in the second republic (Ojo, 2014). But the 1979 general elections were also met with lots of electoral violence and malpractices which ranges from the fortification of electoral results, thuggery, among others.

With a civilian government in place in 1979, the next general elections which was four years later (1983) was recorded to be in similitude with that of 1964 with numerous outstanding rate of electoral violence and malpractices before the election, during the election and after the election, with the incumbent wanting to hold on to power at all cost (Nwolise, 2017). The spread of violence and killings led to the second coming of the military government in 1983 (Malu and Ogbu, 2006). In 1993, the then military government of General Ibrahim Babangida, conducted a general election with the formation of two political parties with its outcome recorded to be the most free and fair ever, but it was declared null and void (Ojo, 2014). With the unfolding event, an interim government was formed which brought in Chief Ernest Shonekan who was recorded to be in office for only three months (Ojo, 2014). The government of Shonekan was later overthrown by General Sani Abacha who's after his dead in 1998 was succeeded by General

Abdul Salam (Ojo, 2014). Abdul Salam immediately put in motion a transition programme to civilian rule. Thus, in 1999 a general election was conducted with minimum cases of electoral violence and malpractices which bought in President Obasanjo (Malu and Ogbu, 2006).

In the next election following (that is, 2003), the conduct of the election as met with lot of electoral mishap and violence and documented in 1964 and 1983 general elections with day light assassination of the electoral process (Nwolise, 2017). The 2007 elections were also in the same electoral irregularities' column with a concomitant increase in the violence and further national divide (Uzedhe and Okhaifoh, 2016). With a view of changing the ugly electoral narrative in Nigeria, an introduction and test run of technology in the electoral process was incubated and given birth to. The 2011 general elections were adjudged fair and better than the 2007 elections, but with a post-election violence in Northern Nigeria which claimed several lives (Ojo, 2014). This was to a greater extent due to the introduction of election technology in the form of voter biometric registration and verification which was met to tackle various aspect of electoral malpractices as regards numerous voting (Ojo, 2014). Consequently, the 2015 general election was recorded to be a set forward in the right direction in the history of elections in Nigeria. With the full use of voter biometric registration, verification, voters' card and it reader, the election management body was applauded by both national and international observers (Olowojolu and Ake, 2016). The synopsis according to interview 17 from the context electoral historical interaction was that, elections management in Nigeria has evolved over the years from the days of FEDECO headed by Chief Eyo Esua in the first republic, then Michael Ani in 1979 (the second republic), then Victor Ovie Whisky during the General Ibrahim Babangida and General Sani Abacha's regimes and others which include Humphrey Nwosu (1989-1993). The forth republic which established the INEC saw the likes of Ephraim Akpata, Abel Guobadia, Maurice Iwu, Attahiru Muhammadu Jega and presently Mahmood Yakubu as chairmen. Hence, the Interviewee 17 was of the opinion that, elections have gone through ups and downs from the days of manual voting to option A4 to what we currently experience – which is the introduction of election technology in the electoral process.

4.3 The Content Dimension: An Analysis of the Outcome of Election Technology

The success of the 2011 general elections as compared to previous elections in Nigeria ushered in a change in scope and direction of the conduct of election in Nigeria. This was so because of the introduction of biometric registration technology which led to the biometric registration of 73 million Nigerians and a check on 800,000 double registration entry which was detected by the Automated Fingerprint Identification System (Aziken, 2015). Buttressing this point further, one of the study Interviewee (interview 17) (See appendix 1) stressed the fact that, "…*the introduction of ICT into the electoral process has accounted for a lot more of transparency in the electoral process and has helped by reducing multiple voting because of the capturing of bio metric information because of the localization of one person that makes it unique such as the finger prints and all that so people can't vote twice on an election day…*".

With the mind of electoral development, INEC (Independence National Electoral Commission) the election management body in Nigeria, was resolute to improving on the outcome of the 2011 election, thus, the introduction of Permanent Voters Card (PVC) to replace the Temporary Voters Card (TVC) and the Smart Card Reader Machine (SCRM) which was used to authenticate the validity of the PVC in the 2015 general elections and specifically the presidential election (Nwangwu, 2015). By way of moving forward, a brief insight into the concept of the PVC and CRM is pertinent.

4.3.1 The Permanent Voters Card (PVC)

The PVC was primarily developed to replace the TVC which was used in the 2011 general elections (Agbu, 2015). Prior to the 2015 general elections, INEC has developed PVC for 68,833.476 Nigerians of eligible voting age (Agbu, 2015). The introduction and mass production of the PVC according to INEC was for security, a case of durability, and the issue of cost optimization were fundamental reasons for its adoption (Odeyemi and Mosunmola, 2015b). The PVC was specially designed with expert components and characters – these components include; security printing, lamination, chip implanting and base substrate (INEC, 2015). A pictorial view of the PVC is shown in Figure 3.
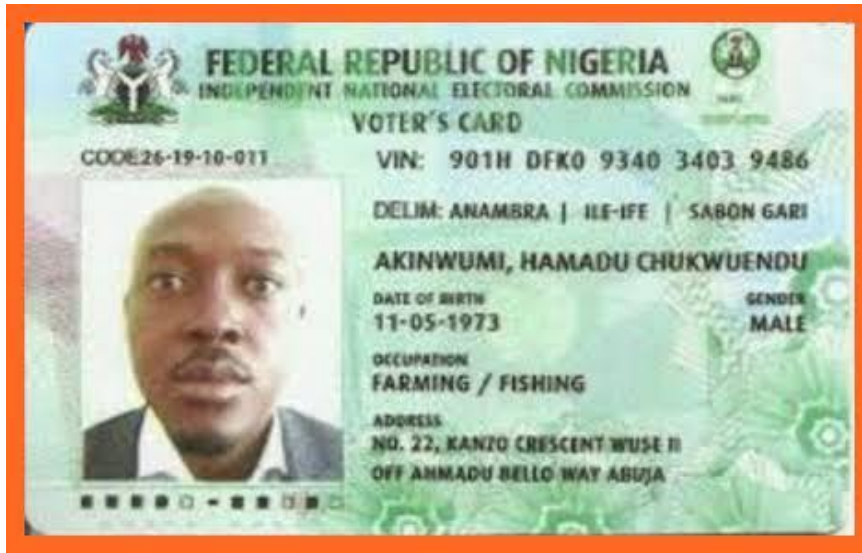
Figure 3: A Pictorial Front View of the PVC

Source: INEC (2015)

The implanted chip in the PVC holds the entire biometrics of the registered personnel. The PVC also comprises a special security feat that cannot be easily broken or hacked (Agbu, 2015).

4.3.2 The Smart Card Reader Machine (SCRM)

The SCRM in the history of Nigeria was first deployed in the 2015 general elections via a system of electronic authenticating of voters (Agbu, 2015). The CRM is embedded with an optimally secured cryptographic technology which is commonly found in financial transaction devices. With an Android operating system of 4.2.2, a 1.2GHz single core frequency and a low power consumption capacity, the SCRM was functionally tested to be of quality standard, reliable, durable and was truly adjudge the main deal for election improvement in Nigeria (Agbu, 2015). In its functionality, according to Agbu (2015), the SCRM was tested to capture, authenticate and validate a voter within an average time range of 10 seconds. A pictorial view of the smart card reader machine is shown in Figure 4.

Figure 4 : A pictorial illustration of the SCRM

Source: INEC (2015)

Figure 5: An Illustration of the Utility of SCRM on the PVC.

Source: INEC (2015).

The PVC and SCRM was finally tested and put to use on 7 March 2015. According to This day , (2015) out of the 120,000 polling units and 155,000 voting centres, the PVC and SCRM experimentation took place in 225 polling units and 358 voting centres (This day, 2015). With the success recorded in the SCRM to achieving its primary purpose – that is, authentication and

validation of the PVC, the exercise was applauded justified due to its reduction in electoral malpractices and an increase in trust for INEC to conduct a transparent and credible elections (Agbu, 2015). Thus, with its implementation in the general and presidential elections in 2015, the PVC and SCRM ultimately change the narrative of the Nigeria political landscape in the sense that, for the first time since Nigeria return to democracy in 1999, an incumbent president was dethrone and without any post-election violence (Agbu, 2015). Though, there were some complaint in so many quarters of the technical failure of the SCRM to authenticate voters. But the narrative still remains that, the ideal for the introduction of technology in the form of PVC and SCRM was justified.

4.4 The Process Dimension: An Interplay and Interactions of Stakeholders in the Adoption of Technology in Nigeria's 2015 Presidential Election

The usage of the PVC and SCRM did not just come out of the blues. It involves an arena of different stakeholders' interest and values. The utility of elections technology particularly the PVC and SCRM are not a product of election day activities, but according to Odeyemi and Mosumola (2015), these technological output were a product of a well debated process; which involves legal and constitutional backing and framework, political parties input, negotiations and interest, Civil Society Organizations influence, the print and electronic media involvement, citizens interactions, rejections and acceptance and lastly but not the least, the activities of the Electoral Management Body which is the INEC in bringing all these stakeholders together in terms of enlightenment, negotiations, agreement and disagreement and eventually compromise. Highlighting the process involved in the adoption of the PVC and SCRM, Odeyemi and Mosumola (2015), noted that, in the process, diverse relationships are formed and nurtured based on personal interest between the electorates and political actors. In the words of Jega (2014), citizens involvement in a large scale in the adoption process, in the capacity of individuals or corporate bodies identify the importance of stakeholders. As a result, the foundation upon which the adoption of technology in Nigeria's elections especially in the 2015 presidential elections are based on the platform of activities and interactions of stakeholders in the process.

As regard the study construct, the ICT adoption success process involves four crucial variables which are – technological readiness, supposed benefit, ecological features and organizational (EMB) preparedness.
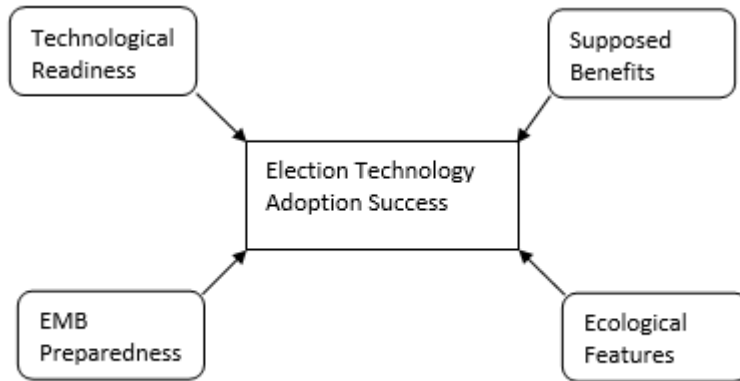
Figure 6: Variables involved in the Adoption Process of Technology in Nigeria's 2015 Elections

 Source: Salimonu et al. 2013

Technological Readiness: This variable underscores the level of importance and value the said technology is the context of its adoption. In the view of Oliveria and Martins (2011), the ability and capability of any technological device among others things being equal display an important feature in its adoption and eventual usage (Oliveira and Martins, 2011). The identification of the reliability and security of the technology also falls in this variable.

Supposed Benefit: This variable refers to the perceived advantages various stakeholders in the adoption process holds to gain. According to Salimou et al (2013), the expected benefits comprises two formations – the direct and indirect benefits. The direct benefits focus on saving or minimizing cost operations, while the indirect benefits focuses on the output of the adoption of the technology.

Ecological Features: These are environmental factors that are in existence either to make or mar the adoption process of the technology in question – in this case – the PVC and SCRM (Salimou et al, 2013). These factors include, political parties' input, Civil Societies interactions, electorate behavior, legal framework and government policies.

EMB Preparedness: This involved the level of readiness of the electoral management body – in this case – the INEC, which has been bestowed with readiness for the innovative change and adoption of technology in the conduct of elections in Nigeria. In the view of Molla and Licker (2005), organizational readiness in the adoption and infusion of technology has a positive significant in the eventual success of such technology(Molla and Licker, 2005).

5   DISCUSSION

The discussion of the findings as regards to this study will further explain the issues raised in chapter 2, elaborating more on the theoretical perspectives and framework, including laying a succinct narrative to the propositions of the study.

An analysis of proposition 1 actually saw a paradigm shift from the old narrative to another play entirely in the electioneering process in Nigeria. **P1** which states that "the change process of manual registration and identification to digital mode in elections comes with the mandate of checking and minimizing fraudulent practices in the electoral process in Nigeria". As previously analyzed in 4.2 as regards the contextual literature (Alabi, 2009; Ojo, 2014, and Nwolise, 2007) , which indicates the process of elections in Nigeria as a "do or die" affair with lots of social electoral vices which ranges from thuggery, ballot box snatching to corruption of election management staff and security apparatus, the introduction of bio-metric registration in 2011 and the use of the PVC and smart card reader machine for authentication of the PVC in 2015 usher in a new dawn in the electioneering process in Nigeria. In corroborating the change process as regards technological introduction in Nigeria's election, Interviewees 1 – 17 (See appendix) with the exception of Interviewee 7 all agreed that the movement from the manual mode of

registration and identification to the digital mode has to a large extent minimize the cases of fraudulent practices in Nigeria's electoral process. Examining the impact of introducing technology in elections in Nigeria, Assibong and Oshanisi (2018), were of the view that the technological reform in the electioneering process was to effectively put a stop to the menace of electoral vices that have affected the nation's socio-economic and political development negatively and a create a new paradigm for the electoral space in Nigeria (Assibong and Oshanisi, 2018).

Specifically, addressing the issues as posited in *Research Question* one (**R1)** in relation to **P1**, the study noticed that, the dynamics of change in the electoral process in Nigeria during the 2015 presidential election was unique. Based on the statement of Interviewee 7, the change process that occurred in 2015 presidential election in Nigeria was not as a result of technology, according to him, - "…*the eventual change in the political landscape as regard the presidential elections is not as a result of the introduction of technology…but as a result of the right consciousness of the people for clamor for change in the political party rulership of the country"*. In support of this statement, Interviewees 12 and 15 were also of the view that, technology did not out rightly cause a change in the presidential political process of 2015 that made an incumbent president to be defeated in the electoral poll, but rather a rejection of the political (PDP – Peoples Democratic Party) that have been in rulership since the country's return to democratic process in 1999. This mindset according to them, laid the foundation for the timid electorate who were tired and weary of the administration of the old guide (the PDP) which eventually lost the presidential seat to the All Progressive Congress (APC) in 2015. Conversely, majority of the Interviewee, most especially Interviewee 1, 2, 3 and 17 were of the opinion that, of a truth and without doubt, the introduction of technology, most especially the Biometric Permanent Voters Card (BPVC) was the major reason for a change in incumbency and consolidation of the electoral process. Particularly, quoting Interviewee 17, she opines that,

"...elections in Nigeria have evolved over the years from the days of Fedeco to the days of Morris Igwu, to Honfrey Iwonsi, to the days of Utahuru Jaga and now when we have Prof Mahammado Yakubu. So, our elections have gone through ups and downs from the days of manual voting to option A4 to what we currently have. But talking about the introduction of that technology. Yes. For transparency purpose the introduction of technology into the electoral

process has helped to a large extent to cub electoral malpractices be that as it may there are still a lot of room for improvement…" (Respondent).

Consequently therefore, examining the effect of change the BPVC has brought to the table of Nigeria's electoral process, one will but imagined how it was in 2003 and 2007 prior to the introduction of technology in the electoral process in 2015 and preceding 2011, which in the words of Interviewee 17 as paraphrased was a *"…shambolic display and an open assassination of the electoral process in a democracy…"* Other external participants in the elections of 2015, particularly the African Union and European Union Observers also gave a high score to the electoral management body (INEC) for the conduct of the 2015 presidential election which according to their evaluations was one of the best and peaceful in the history of Nigeria's democracy which also saw the unseated incumbent president in the person of formal President Goodluck Jonathan congratulating the winner of the election - President Muhammadu Buhari for his well-deserved victory. Thus, to some extent free from electoral vices and malpractices.

Proposition 2 reveals an exciting upward voyage on the introduction of ICT in the electoral process in Nigeria. **P2** which states that the adoption of technology in the electoral process has further increase trust and transparency in the election management body (INEC) which has gain ground in a lot of front and highlights especially as relate to the 2015 presidential election. In the course of my research, certain themes were highlighted from my respondent, I noticed from my interview's that majority of my interviewee had used the PVC, they showed some level of credibility in the electoral process although it was evenly argued, but their trust in the process has increased compared to previous elections, which comparatively showed an upgrade and improvement of the country's election and they mostly showed optimism as regards the stability and improvement of democracy in Nigeria. These highlights are tabulated in Table 4, below

Table 4 : Highlights of interview response

Highlights	Interview Response
High usage of PVC	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16.17
Credibility of election	2,4,5,10,15
Increased trust	1,2,3,4,5,6,7,8,9,10,11,12,13,15,16.17

Stability and improved democracy	1,2,3,4,5,6,7,10,11,13,15,16,17
Improved elections	1,2,3,4,5,10,11,13,14,15,16,17

 Source: Author

The various highlights as it reveals above, shows that there was high usage of the PVC, which indicates further the level of trust on the EMB as it regards the 2015 presidential election. And for the first time in Nigeria's democratic fourth republic, democracy was consolidated by reason of a transfer of power from an incumbent president to an entirely new president from a different party. In support of stability and improved democracy, Osita (2015), opines that, for the first time since Nigeria return to democracy in 1999, an incumbent president was dethrone and without any post-election violence, and this was due to the implementation and usage of the PVC and SCRM in the general and presidential elections in 2015, which ultimately change the narrative of the Nigeria political landscape. The 2015 presidential elections were also branded an improvement compare to other elections been conducted in Nigeria's fourth republic and other previous republics. In relating **P2** to **SQ1** which states that, how has the introduction of BPVC affected INEC in the management of elections, during the 2015 presidential elections, it was revealed from the interview process, that the context, process and content of technology in the electoral process in Nigeria has not been a smooth ride. Interviewees largely commended the election as a positive step in the right directions despite some sizeable amount of elections irregularities like the malfunctioning of the smart card reader machines in various election centers. The position of Interviewee 14 stood out as an opposition voice who opined that, the trust values or rating of electorates in the 2015 elections on the election management body (INEC) was not in any way improved. This was because according to him, the election malpractices and irregularities noticed and seen in the era of manual registration and the temporary voter's card was also hugely manifested in the partial adoption of technology era. But majority of the Interviewees most especially Interviewees 1, 2, 8 and 16 amongst others beg to defer. In their opinion they were of the view that, though, there were some pockets of irregularities here and there, in comparative analysis with previous elections, the 2015 presidential election was significantly not besieged with cases of fraud, rigging and electoral malpractices. In the words of interviewee 13, he asserted that, "…. *Given his close involvement*

as a presiding officer, he noted that they were able to handle cases of multiple voting relatively easily via their usage of the Biometric permanent voters card (BPVC) *and it played a huge role in controlling fraud as a voter who had casted his or her vote once cannot repeat the process even if he or she goes to another polling unit…..*"Even international observers like the AU attested to the aforementioned statement. For credibility moreover, more than half of the Interviewees were less passionate about the credibility posture of the elections. Thus, their non-approval of the 2015 presidential election credibility. But in the case of transparency, more than 80% of the Interviewees lauded the election as a huge success based on the deployment of biometric registration and authentication of voters PVC by the use of the smart card reader machine which Interviewees 1,2,3,4,5,14 and 17 amongst other saw as a great improvement in the conduct of 2015 presidential elections. In the words of Interviewee 5, he asserted that;

"…well from moving from the analog system to digital has gone a long way to cub the corruption and mal-practices even though it has not eradicated it completely because you find that coming to the digital age the Nigerian people now see transparency in the system thereby increasing their confidence to participate in the process. The trend coming from the 2015 up till the current elections that was just concluded in 2019, more people are now involve in the electoral process given the fact that it's now a digital system. Because with a digital system Nigerians are now able to observe what's going on and spot if there are mal practices in the system, so if the numbers are not adding up we can easily tell because we have gone digital…" (Respondent).

The environmental influence and diverse processes involved in the introduction, adoption and usage of the bio metric registration, the PVC and the SCRM technology is also crucial to the 2015 presidential election, which brings us to **proposition three**. **P3** states that, the environment and processes involved in the fusion of election technology has a major input in its adoption. The context approach of the study theoretical framework actually gave us insight on the intricacies of interplay of various variables that forge the bases for the success and failure of technological input and adoption in the 2015 general elections. Variables such social groups, communities, stakeholders and individuals tends to have a major say in the process (Symons, 1991). According to Interviewee 17, most of the stakeholders and community leaders most especially in the northern part of Nigeria were not very particular about the adoption of technology in the

electoral process due to high illiteracy rate and low level of infrastructural facilities in that region. Hence, even when it was partially introduced, in her statement *"…because of the nature of elections generally, people tend to have pent up emotions about it and they look for reasons to when they are at the losing end to shake the credibility of the process…"* (Respondent).

With the movement of the world towards digitalization of almost all work activities including running of government, the globalization drive and electronic governance drive has tended to further boost the chances of the adoptions of technology in Nigeria's government especially in her electoral process (Interviewees 2 and 9). Thus, the external environment of technological growth and development has affected the adoption of technology in elections in Nigeria. It is noteworthy to know also that the introductory ideal of technology into the electoral process in Nigeria did not just begin in 2011 and 2015. It has been a *process* which all stakeholders involved has been locked in the arena of deliberations, negotiations, debates, and even compromise Hence, the outcome of the various processes eventually manifested in 2011 in the form of bio metric voters registration and 2015 in the form of voter registrations also and permanent voters card with a smart machine for authenticating the card called the card reader. With the various interviews conducted it was noticed that, not just the adoption of technology that is being affected by the environment, the aftermath usage and election process was also affected by the environment. Interviews 4,12,14,15,16 and 17 were of the view that a lot of barriers were inherent and visible in the conduct of the 2015 general and presidential elections. The issue of problematic card readers and a deliberate attempt by some unscrupulous stakeholders in the electoral process to manipulate the will of the people was noticed (Interview 12 and 16). Furthermore, Interview 1,2,4,6,12,13,14 and 17 were of the opinion that, despite the introduction, adoption and usage of the bio metric registration, the PVC and smart card reader machine, there were still some cases of fraud, rigging and electoral malpractices.

In a nutshell, taking a clue from Robert Dahl conceptualization of democracy, he stated that, democratic theory is focused more on the *processes* whereby regular citizens have a major say in the leadership structure and policies of government (Dahl, 1971). And in his evaluation of the *process,* the concept of election was viewed as a key player in the process. With the description of elections in the contextual case showed in 4.2, the original notion of the practice of democracy with elections as a key process has to a large extent eluded the democratic space of Nigeria. This,

Elaigwu (2006) and Nwolise (2007) corroborated in the view that, the conduct of elections in Nigeria has met with lot of electoral mishap, violence and day light assassination of the electoral process. Analysis from the interview reveals as a matter of fact, that, the electoral process especially as pertaining the conduct of elections in Nigeria over the years have been shambolic prior to the 2015 general elections which necessitated the use of some technological input (Interviews 1,2,3,4,6,7,9-16). More so, when questioned about the stability of democracy, the interviewees apart from (Interview 5 and 8) were with one voice that, electoral malpractices, thuggery, ballot box snatching, electoral violence – which include killings of innocent citizens, has been the order of the day. These thus, has tend to compromise the electoral process which invariably has led to tension and instability in the democratization process in Nigeria prior to the introduction of technology in the electoral process in 2011 and 2015.

CONCLUSION AND SUMMARY

Democracy in the conceptualization view of Robert Dahl involves various processes which according to him elections is one of the key process variables (Dahl, 1971). Elections world over is one of the most controversial and contestable events even in the most advance countries like the United Stated of America, United Kingdom, Germany, France to mention but a few. Coming down to less advance countries like Nigeria and most of other third world countries, the process of elections has been faced with all forms of what elections in a democratic setting is not. With the founders of democracy in the West not particularly bordered in as much as some tenets of democracy is observed – "the end justifies the means". Thus, making stakeholders in third world countries, especially in Nigeria to act in ways that shows total disregard for the tenets of democracy particularly in the electoral process. In light with the aforementioned, patriotic stakeholders in the electoral process thus sort for better ways of improving the electoral process in Nigeria, hence the electoral reforms in 2009 and 2013 which postulated the introduction of technology in Nigeria's electoral process.

The new wave of technology and its impacts in almost all spheres of life including the business of government has necessitated its involvement in the electoral process of most developed and developing countries which the study case – Nigeria has started the journey in its path. The introduction of technology in the case of bio metric registration and PVC and its authenticating device (the SCRM) has open a new chapter in the electoral process and operations as being formulated by the Electoral Management Body – INEC. The change process especially in 2015, which has been the basis for analysis in this study gave the electoral process a trust and credible dimension. The interaction of both the environment, stakeholders and technology in the election process particularly in 2015 was seen and acknowledge to be a step in the right direction and it became imperative that the introduction of technology in Nigeria's elections is key to the stability and development of democratic process in Nigeria. With glimpse of hope and trust on the EMB, most especially as it relates to the 2015 presidential elections, electorates, stakeholders and the EMB now understands that, the way forward from the shambolic mode of conducting elections in the pasts which involved all sorts of electoral malpractices and irregularities is the full implementation of technology in all process of elections – ranging from the registration, voter authentication, balloting, vote collation and vote transmission (Figure 7).
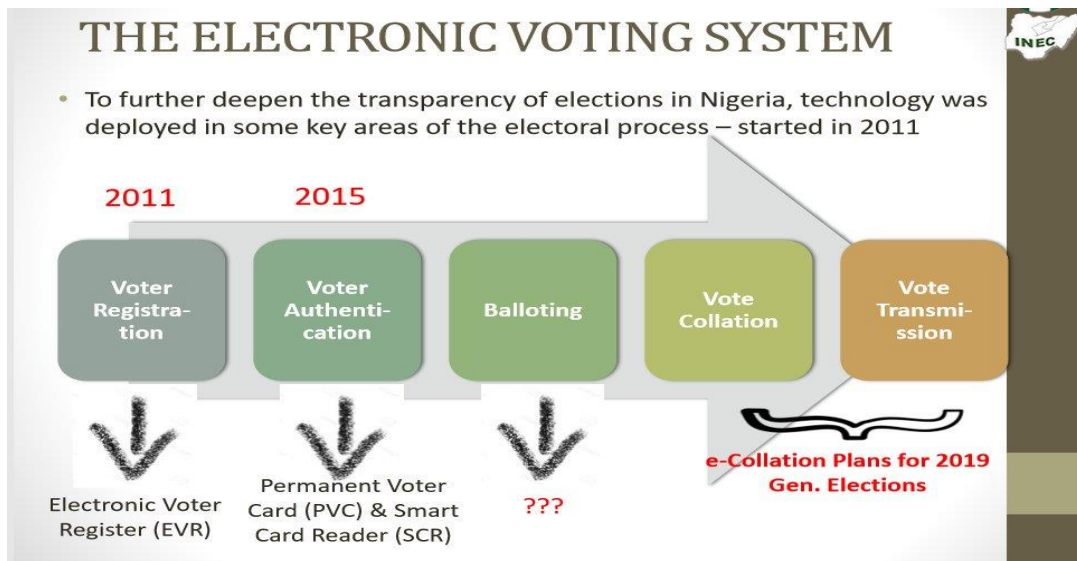

Figure 7: The electronic voting system

Source: Yakubu (2017)

Understanding the process involved in the adoption of technology is another key area of the study. Various stakeholders were instrumental to the process with different dynamics of

interactions. This gave raise to interplay of interest among political parties, the government, CSOs, the electronic media and other interest groups. Thus, with the dugout a compromise was settled and a new platform for election conduct was created which has to a large extent brought stability to the democratization process in Nigeria. But as any other new invention, the issue of challenges cannot be over emphasized. The study therefore recommends that, further reforms as to embracing the other aspects of election technology like, e-balloting, e-collation and e-transmission should be introduced as seen fit in relations to environmental factors. The issue of infrastructural development is also necessary for the success of election technology. There must be periodic allocation and investment of funds in ICT infrastructural facilities. Also, voter's education and wide spread literacy campaign must be carried out for all citizens of the country. This will increase the knowledge base of citizens in interacting with the various electoral technology being adopted. As a way of further research in the area of elections and technology, an insight into the challenges most especially from the environmental context will assist in literature to further improve on the technology structure on ground as it pertains to the electoral process in Nigeria.

LIST OF REFERENCES

Aavik, G., 2015. The Electronic Identification and Trust Service Regulation (Eidas): an Analysis of Its Compatibility with the Estonian E- Government System (Ees). Tallinn University of Technology.

Agbu, O., 2015. Election rigging and the Use of Technology: The Smart Card Reader as the Joker in Nigeria's 2015 Presidential Election. J. African elections 15, 90–111. https://doi.org/10.20940/jae/2016/v15i2a5

Alabi, M.O., 2009a. Electoral reforms and democratic consolidation in Nigeria: The Electoral Act 2006. CEU Polit. Sci. J. 4, 278–304.

Alabi, M.O., 2009b. Electoral reforms and democratic consolidation in Nigeria: The Electoral Act 2006. CEU Polit. Sci. J. 4, 278–304.

Assibong, P and Oshanisi, O., 2018a. The Role of Information and Communication Technology (ICT) in the 2015 Presidential Election of Nigeria. J. Cult. Soc. Dev. 38, 1–7.

Assibong, P and Oshanisi, O., 2018b. The Role of Information and Communication Technology (ICT) in the 2015 Presidential Election of Nigeria. J. Cult. Soc. Dev. 38(1), 1–7.

Augustsson, N., Nilsson, A., Holmström, J., 2010. The Role of Context in Managing Information Infrastructure Services, Icis-Rp.

Aziken, E., 2015. Card readers: Lessons from other lands. [WWW Document]. Vanguard Newsp. URL http://www.vanguardngr.com/2015/03/card-readers-lessons-from-other-lands/.

Beltran, S.P., 2015. Government Driven e-Participation: The Case of "Urna de Cristal" in the Colombian Context. Uppsala University.

Bryman, A.,and Burgess B.,2002. Analyzing qualitative data. London, Routledge.

Cap, C.H., Maibaum, N., 2005. Digital Identity and its Implication for Electronic Government, in: Towards the E-Society. Kluwer Academic Publishers, Boston, pp. 803–816. https://doi.org/10.1007/0-306-47009-8_59

Catt, H., Ellis, A., Maley, M., Wall, A., Wolf, P., 2014. Electoral Management Design: Revised Edition 461.

Clark, A., 2015. Public administration and the integrity of the electoral process in British elections. Public Adm. 93, 86–102. https://doi.org/10.1111/padm.12106

CODEO, 2013. Preliminary Statement on Ghana's December 7 to 8, 2012 Presidential and General Elections [WWW Document]. Coalit. Domest. Elect. Obs. URL http://www.codeoghana.org/images/CODEO_Preliminary_statement-2012_1.pdf

Crane, P.R., Carvell, W.N., 2007. The Importance of History [WWW Document]. Curtis's Bot. Mag. https://doi.org/10.1111/j.1467-8748.2007.00588.x

Dahl, R.A., 1971. Polyarchy : participation and opposition. New Haven, CT: Yale University Press.

Dawood, O., 2015. Fifteen Years of Democracy , 1999-2014 : Reflections on Nigeria ' s Quest for National Integration. African Res. Rev. 9, 59–77.

Devos, G., Buelens, M., Bouckenooghe, D., 2007. Contribution of Content, Context, and Process to Understanding Openness to Organizational Change: Two Experimental Simulation Studies. J. Soc. Psychol. 147, 607–630. https://doi.org/10.3200/SOCP.147.6.607-630

Diniz, E.H., Pozzebon, M., 2012. Theorizing ICT and Society in the Brazilian Context: a Multilevel, Pluralistic and Remixable Framework. BAR - Brazilian Adm. Rev.

Duruji, M., Ayo, C., Gberevbie, D., Oluranti, J., 2015. The impact of e-Democracy in political stability of Nigeria. Proc. Eur. Conf. e-Government, ECEG 2015–Janua, 93–99.

Elklit, J., Reynolds, A., 2007. The Impact of Election Administration on the Legitimacy of Emerging Democracies: A New Comparative Politics Research Agenda. Commonw. Comp. Polit. 40, 86–119. https://doi.org/10.1080/713999584

ELOG, 2013. ELOG's Observation of the Voting Process. Elections Observation Group [WWW Document]. URL http://www.elog.or.ke/index.php/104-voting2013

EOM, E., 2007. Nigeria: Final Report, Gubernatorial and State Houses of Assembly Elections 14 April 2007 and Presidential and National Assembly Elections 21 April 2007.

EOM, E., 2003. Nigeria: Final Report, National Assembly Elections 12 April 2003, Presidential and Gubernatorial Elections 19 April 2003, State Houses of Assembly Elections 03 May 2003.

European Commission – United Nations Development Programme (EU-UNDP), 2012. Information Technology and Elections Management: Informed Decisions for Sustainable Outcomes. EU-UNDP Thematic Workshop, hosted by the Independent Electoral and Boundaries Commission, Kenya, 5-9 March, 2012.

Evrensel, A., 2010. Voter Registration in Africa: A Comparative Analysis. Johannesburg: Electoral Institute for the Sustainability of Democracy in Africa.

Franceschet, A., 2009. Democratic Ethics: An Introduction. London, Lymnne Rienner Publishers.

Gelb, A., Decker, C., 2012. Cash at Your Fingertips: Biometric Technology for Transfers in Developing Countries. Rev. Policy Res. 29, 91–117. https://doi.org/10.1111/j.1541-1338.2011.00539.x

Gelb, A., Diofasi, A., 2019. Biometric Elections in Poor Countries: Wasteful or a Worthwhile Investment? Rev. Policy Res. 36, 318–340. https://doi.org/10.1111/ropr.12329

Golden, M., Kramon, E., Ofosu, G., Sonnet, L., 2015. Biometric Identification Machine Failure and Electoral Fraud in a Competitive Democracy. Retrieved from: http://golden.polisci.ucla.edu/workinprogress/golden-kramon-ofosu.pdf.

Hamberg, S, and Erlich, A., 2013. Electoral Management Bodies and the Quality of Elections in sub-Sahara Africa between 1990 and 2010.", in: 2013 Annual Meeting of the American Political Science Association, Chicago.

Hartlyn, J., McCoy, J., Mustillo, T.M., 2008. Electoral Governance Matters. Comp. Polit. Stud. 41, 73–98. https://doi.org/10.1177/0010414007301701

Harvey, S., Harvey, M., 1989. Government and People. London, Macmillan. Human Rights Watch (2003). Nigeria's 2003 Elections: The Unacknowledged Violence. New York: Human Rights Watch.

IDEA, 2014. ICTs in Elections Database. Institute for Democracy and Electoral Assistance [WWW Document]. Retrieved from http//www.idea.int/elections/ict/.

IDEA, 2006. Electoral Management Design: The International IDEA Handbook 373.

INEC, 2015. INEC Nigeria – Independent National Electoral Commission [WWW Document]. URL https://www.inecnigeria.org/?inecnews=inec-statement-on-card-reader-demonstration (accessed 5.12.19).

IshaqSalimonu, R., Rozaini Bt. Sheik Osman, W., Jaleel Kehinde Shittu, A., Jimoh, J., G, R., 2013. Adoption of E-Voting System in Nigeria: A Conceptual Framework. Int. J. Appl. Inf. Syst. 5, 8–14. https://doi.org/10.5120/ijais13-450912

James, T., 2013. Centralising Electoral Management: Lessons from the UK. Pre-APSA Work. Elect. integrity. Chicago.

James, T., Loeber, L., Van Ham, C., 2016. Improving Electoral Management: the Organisational Determinants of Electoral Integrity – Research Proposal Executive Summary, in: 13th European Conference of Electoral Management Boards, Bucharest, Romania.

Karyda, M., Kiountouzis, E., Kokolakis, S., 2005. Information systems security policies: A contextual perspective. Comput. Secur. 24, 246–260. https://doi.org/10.1016/j.cose.2004.08.011

Klein, H., Quarterly, M.M.-M., 1999, U., 1999. A set of principles for conducting and evaluating interpretive field studies in information systems. academia.edu.

Kornum, N., Gyrd-Jones, R., Al Zagir, N., Brandis, K.A., 2017. Interplay between intended brand identity and identities in a Nike related brand community: Co-existing synergies and tensions in a nested system. J. Bus. Res. 70, 432–440. https://doi.org/10.1016/J.JBUSRES.2016.06.019

Langdon Winner, 1969. CYBERNETICS AND POLITICAL LANGUAGE on JSTOR. Berkeley J. Sociol. Vol. 14 (1969), pp. 14, 1–17 (17 pages).

Lawal, T., Ogunro, O., 2012. Democracy and development in Nigeria, International Journal of Development and Sustainability. 1 (2); 448 – 455.

Lean, S.F., 2015. Advancing Electoral Integrity. Edited by Pippa Norris, Richard W. Frank, and Ferran Martínez i Coma. Oxford: Oxford University Press, 2014. 320p. $39.95. Perspect. Polit. 13, 236–238. https://doi.org/10.1017/s153759271400382x

Lehoucq, F., 2003. E <scp>LECTORAL</scp> F <scp>RAUD</scp> : Causes, Types, and Consequences. Annu. Rev. Polit. Sci. 6, 233–256. https://doi.org/10.1146/annurev.polisci.6.121901.085655

Loeber, L., 2017. The use of technology in the election process: Who governs? in: Building Better Elections Workshop, Organised by the Electoral Management Research Network at the ECPR Conference, Oslo.

Makulilo, A.B., Ntaganda, E., Ang'ila, A.F., Sekaggya, M., Osodo, P., 2015. Election Management Bodies in East Africa: A Comparative Study of the Contribution of Electoral Commissions to the Strengthening of Democracy, Open Society Foundations.

Malik, T., 2014. Technology in the service of development: The NADRA story. Center for Global Development.

Malu, N and Ogbu, N., 2006. Settlement of Election Civil Disputes and Political/Electoral Violence in Nigeria'in N Malu & Ogbu (eds. Acad. Manag. Journal, 31(3); 5.

Miller, D., Dröge, C., Toulouse, J.-M., 1988. Strategic Process and Content as Mediators between Organizational Context and Structure. Acad. Manag. J. 31, 544–569. https://doi.org/10.5465/256459

Molla, A.; Licker, P.S., 2005. E-commerce adoption in developing countries: a model and instrument, Information & Managemen. Elsevier 877–899. https://doi.org/doi:10.1016/j.im.2004.09.002

Neubauer, T., Vuga, T., Ilc, B., 2012. ICT as the facilitator of postmodern and empowered forms of citizenship: Myth or reality?, in: Koussouris, Y.C. and S. (Ed.), Empowering Open and Collaborative Governance: Technologies and Methods for Online Citizen Engagement in Public

Policy Making. Aufl. Berlin, Heidelberg: Springer Berlin Heidelberg., pp. 223–240. https://doi.org/10.1007/978-3-642-27219-6_12

Nguyên, T.L., 2003. National Identification Systems. Doctoral dissertation, Massachusetts Institute of Technology.

Ngwenyama, O.K., 1998. Groupware, social action and organizational emergence: On the process dynamics of computer mediated distributed work. Accounting, Manag. Inf. Technol. 8, 127–146. https://doi.org/10.1016/S0959-8022(98)00003-4

Norris, P., 2015. Why Elections Fail - Pippa Norris - Google Books [WWW Document]. URL https://books.google.ca/books?hl=en&lr=&id=dzEZCgAAQBAJ&oi=fnd&pg=PR9&dq=Norris,+P+(2015).+Why+Elections+Fail.+New+York:+Cambridge+University+Press. &ots=_NzvB1pfLa&sig=FzTxaHy1juKPHXigbQEVrz6KZTg#v=onepage&q=Norris% 2C P (2015). Why Elections Fai (accessed 5.11.19).

Nwagwu, E.J., 2016. Information and Communication Technology and Administration of 2015 General Election in Nigeria, Mediterranean Journal of Social Sciences. https://doi.org/10.5901/mjss.2016.v7n4p303

Nwangwu, C., 2015. Biometric voting technology and the 2015 general elections in Nigeria. (pp. 1–28). Abuja. See more at: http://www.inecnigeria.org/. Retrieved 19 - 12-2018.

Nwolise, O.B.C., 2017. Electoral Violence and Nigeria's 2007 Elections. J. African elections 6, 155–179. https://doi.org/10.20940/jae/2007/v6i2a9

Odeyemi, T.I., Mosunmola, O.O., 2015a. Stakeholders, ICTs Platforms and the 2015 General Elections in Nigeria, Inec. https://doi.org/10.1017/CBO9781107415324.004

Odeyemi, T.I., Mosunmola, O.O., 2015b. Summary for Policymakers. Clim. Chang. 2013 - Phys. Sci. Basis. https://doi.org/10.1017/CBO9781107415324.004

Ojo, E.O., 2017. Elections: An Exploration of Theoretical Postulations. J. African elections 6, 4–13. https://doi.org/10.20940/jae/2007/v6i2a1

Ojo, O.V., 2014. Turbulent Election History : an Appraisal of Precipitating Factors in Nigeria. Int. J. Polit. Good Gov. 5, 1–18.

Okonkwo, O.R., Quality, P.S., Ebirim, C.I.C., Nkwocha, G.N., Wosu, A., Onwuachu, M.A., 2012. West African Journal of Industrial & Academic Research, West African Journal of Industrial and Academic Research. Olliverson Industrial Publishing House.

Olaniyi, O.E., 2017. the Role of National Electronic Identity Cards in Enhancing Public Service Effectiveness: the Nigerian Case. Tallinn University of Technology, Tallinn Estonia.

Oliveira, T., Martins, M.F., 2011. Literature Review of Information Technology Adoption Models at Firm Level. Electron. J. Inf. Syst. Eval. 14, 110–121.

Olowojolu, O., Ake, M., 2016. An Overview of 2015 General Elections in Nigeria. Oman Chapter Arab. J. Bus. Manag. Rev. 5, 13–20. https://doi.org/10.12816/0019122

Oni, S., Chidozie, F., Agbude, G., 2014. Electoral Politics in the Fourth Republic of Nigeria's Democratic Governance.

Orihuela, L., Obi, T., 2012. E-democracy : ICT for a better relation between the State and their citizens, In E-Democracy Concepts and Practices by Mishra, Santap Sanhari (AUTHOR) Dec-31-2012 Hardback, edited by Santap Sanhari Mishra. SBS Publishers.

Palmer, N.A., Perkins, D.D., 2012. Technological Democratization: The Potential Role of ICT in Social and Political Transformation in China and Beyond. Perspect. Glob. Dev. Technol. 11, 456–479. https://doi.org/10.1163/15691497-12341236

Pandey, P., 2015. "Context, Content, Process" Approach to Align Information Security Investments with Overall Organizational Strategy. https://doi.org/10.5121/ijsptm.2015.4403

Pastor, R.A., 1999. The role of electoral administration in democratic transitions: Implications for policy and research. Democratization 6, 1–27. https://doi.org/10.1080/13510349908403630

Pettigrew, A.M., 1990. Longitudinal Field Research on Change: Theory and Practice. Organ. Sci. 1, 267–292. https://doi.org/10.1287/orsc.1.3.267

Pettigrew, A.M., 1987. Context and action in the transformation of the firm. J. Manag. Stud. 24, 649–670. https://doi.org/10.1111/j.1467-6486.1987.tb00467.x

Pettigrew, A.M., 1985. Contextualist research and the study of organizational change processes. In E. Mumford, R. Hirschheim, G. Fitzgerald, & A. T. Wood-Harper (Eds.), Research methods in information systems (pp. 53-72). New York: North Holland.

Piccolino, G., 2016. Infrastructural state capacity for democratization? Voter registration and identification in Côte d'Ivoire and Ghana compared. Democratization 23, 498–519. https://doi.org/10.1080/13510347.2014.983906

Pollitt, C., 2013. Context in public policy and management: The missing link? Cheltenham: Edward Elgar Publishing Limited.

Rafael Lopez-Pintor, 2000. Electoral Management Bodies as Institutions of Governance Bureau for Development Policy.

Runeson, P., Höst, M., Rainer, A., Regnell, B., 2012. Case Study Research in Software Engineering: Guidelines and Examples, Case Study Research in Software Engineering: Guidelines and Examples. John Wiley & Sons, Inc., Hoboken, NJ, USA. https://doi.org/10.1002/9781118181034

Sabo, A., Abdullah, S.A.J., Arshad, R., 2015. Issues and challenges of transition to e-voting technology in Nigeria. Public Policy Adm. Res. 5, 95–102.

Saunders, M.N.K., Thornhill, A., Lewis, P., 2009. Purchase Research Methods for Business Students. Harlow, Engl. Pearson.

Self, D.R., Armenakis, A.A., Schraeder, M., 2007. Organizational Change Content, Process, and Context: A Simultaneous Analysis of Employee Reactions. J. Chang. Manag. 7, 211–229. https://doi.org/10.1080/14697010701461129

Song, X., Letch, N., 2012. Research on IT/IS Evaluation: A 25 Year Review. Year Rev. 15, 276–287.

Stockdale, R., Research, C.S.-E. journal of operational, 2006, U., 2006. An interpretive approach to evaluating information systems: A content, context, process framework. Elsevier.

Symons, V.J., 1991. A review of information systems evaluation: content, context and process. Eur. J. Inf. Syst. 1, 205–212. https://doi.org/10.1057/ejis.1991.35

This day, 2015. INEC Releases Register of Eligible Voters, Candidates, February 28, 2015. http://www.thisdaylive.com/articles/2015-inec-releases-register-of-eligible-voterscandidates/199155/.

UNDP, 2012. Improving Electoral Management: the Organisational Determinants of Electoral Integrity – Research Proposal Executive Summary, in: 13th European Conference of Electoral Management Boards, Bucharest, Romania, 14th April 2016.

Uzedhe, G., Okhaifoh, J., 2016. a Technological Framework for Transparent E-Voting Solution in the Nigerian Electoral System. Niger. J. Technol. 35, 627. https://doi.org/10.4314/njt.v35i3.22

Van Ham, C., Lindberg, S., 2015. When Guardians Matter Most: Exploring the Conditions under Which Electoral Management Body Institutional Design Affects Election Integrity. Irish Polit. Stud. 30, 454–481. https://doi.org/10.1080/07907184.2015.1099097

Walsham, G., Sahay, S., 2006. GIS for District-Level Administration in India: Problems and Opportunities. MIS Q. 23, 39. https://doi.org/10.2307/249409

Yin, R.K., 2013. Validity and generalization in future case study evaluations. Evaluation 19, 321–332. https://doi.org/10.1177/1356389013497081

Yin, R.K., 2009. Validity and generalization in future case study evaluations. Evaluation 19, 321–332. https://doi.org/10.1177/1356389013497081

APPENDICES

Appendix 1: Interview questions

1. How would you describe elections in Nigeria's fourth republic?

2. Did you use the BVR/BPVC during the 2015 presidential elections?

3. Has the change process from manual or analog mode to digital operations assist in minimizing electoral mal practices in the electoral process, and if yes how has this process change in minimizing corruption in Nigeria elections?

4. Has the introduction and adoption of technology helped in any way increase trust and transparency in the election management body?

5. What are the drivers towards technology adoption?

6. In general, can you say with the introduction and partial adoption of technology in the electoral process that democracy in Nigeria is gaining gradual stability?

Appendix 2 – Links to the transcribed Audio files

https://drive.google.com/open?id=1dLZIS0Ya-Vqrdo2Aiw1rMB3QCfMxPslw