Brazilian Journal of Development

Experimental technology-enhanced voting system in Nigeria: a stumbling block or stepping stone?

Sistema de votação experimental com tecnologia avançada na Nigéria: uma pedra de tropeço ou trampolim?

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ABSTRACT

During the 2015 general elections, Nigeria sought a technology solution that could guarantee the concept of 'one citizen, one vote' mandate and establish reliable and accurate voting system. The experiment has been subjected to different analyses among political observers in the country. This essay is one of such attempts but with a distinct task of ascertaining whether the 'e-voting' experiment was really a stepping stone or a stumbling block for electoral democracy in the country. This theoretical diagnosis is done by weighting its weaknesses and strengths and the need for improvement.

Keywords: e-Voting, Experiment, Technology, Democracy, Election.

RESUMO

Durante as eleições gerais de 2015, a Nigéria buscou uma solução tecnológica que garantisse o conceito de "um cidadão, um voto" e estabelecesse um sistema de votação confiável e preciso. O experimento foi submetido a diferentes análises entre os observadores políticos do país. Este ensaio é uma dessas tentativas, mas com uma tarefa distinta de averiguar se o experimento de "e-votação" foi realmente um trampolim ou um obstáculo para a democracia eleitoral no país. Este diagnóstico teórico é feito ponderando suas fraquezas e pontos fortes e a necessidade de melhoria.

Palavras-chave: e-Votação, Experimento, Tecnologia, Democracia, Eleição.

1 INTRODUCTION

Brazilian Journal of Development

It is a fact that outdated voter registration systems in developing countries consistently cast a shadow of doubt over election results because of corruption, cheating, irregularities, and accusations of fraud at the polls. Put differently, duplicate registrations, proxy voting, and the absence of a credible mechanism to verify the true identity of voters promotes fraud and illegal practices which can jeopardize democratic principles and institutions. (See http://www.m2sys.com/biometric-fingerprint-software-case-studies-nigerian-voter-registration/).Thus, the problems with manual voting and voting system has led some countries of the world to adopt the use of Electronic Voting (E-Voting) Technology (System) which is considered as a better and cost effective voting systems (Ezegwu, 2006).

The introduction of information and communications technologies (ICT) into the electoral process is generating both interest and concern among voters, as well as practitioners across the globe. Today, most electoral management bodies (EMBs) around the world use new technologies with the aim of improving the electoral process. These technologies range from the use of basic office automation tools such as word processing and spreadsheets to more sophisticated data processing tools, such as data base management systems, optical scanning and geographic information systems (ACE, 2015).

As an integral part of democratic decision-making, voting is a mechanism that allows citizens' participation in the act of public decision to choose their leaders. Voting cannot be treated in isolation from other chains of democratic decision making, selecting method of voting inclusive. Quality of democracy is reciprocal to the extent to which stakeholders participate in every aspects of public life including political, social and economic (Majekodunmi, 2013). Specifically, electronic voting often significantly changes the way in which elections are conducted in a country. These changes often touch upon interactions between different institutions that might be very sensitive for the EMB to handle, or even be outside the EMB's remit or mandate (IDEA, 2011:25).

Recently, particularly during the 2015 general elections, Nigeria was seeking a technology solution that could guarantee the mantra of 'one citizen, one vote' mandate and establish reliable and accurate voting system. The experiment has been subjected to different analyses among political observers in the country. This essay is one of such attempts but with a distinct task of ascertaining whether the e-voting experiment was really a stepping stone or a stumbling block for electoral democracy in the country. This theoretical diagnosis is done by weighting its weaknesses and strengths and the need for improvement.This essay has six other sections apart from this introduction. The second section focuses on the historical background to electoral systems in the country while the third section discusses the variants and stages of e-voting as exemplified in established democracies. Section four examines the 2015 general elections within the context of

Brazilian Journal of Development

technology-enhanced voting and section five identifies the fault-lines of the experiment essentially in relation to verification/accreditation. The sixth section suggests some factors to be considered in future elections within the ambit of global best practices while section seven concludes the essay.

2 A BRIEF BACKGROUND TO ELECTORAL AND VOTING SYSTEMS IN NIGERIA

Elections are the defining moment in any democracy and in representative democracies, as one scholar reminds us, elections perform two fundamental tasks: they confer authorization upon those chosen to represent the electors and they hold representatives to account for their actions while in office (Brian O'Neal, 1993:2).Electoral systems, the means by which elections are formally structured, are thus a vital component in the achievement of these goals. Strictly defined, electoral systems are the mechanisms by which the preferences of citizens are translated into seats in representative institutions. As such, their impact on a whole range of elements that make up the political character of a society is quite considerable. The behaviour of political parties and candidates for elected office will, for example, in large measure be conditioned by the shape of an electoral system (ibid).

Nigeria is a Federal Republic consisting of 36 States and the Federal Capital Territory (FCT) of Abuja. The President is the Head of State, elected for a four-year mandate, with a maximum of two terms in office. For the purposes of presidential elections, the country is a single national constituency. A candidate only requires a simple majority to win, provided he or she has secured at least one-quarter of the votes cast in two-thirds of the 36 States; if no such majority is attained, then the leading two candidates contest a run-off. Legislative powers of the Federal Republic are vested in the National Assembly which comprises a 109-member Senate and 360-member House of Representatives both elected from single-member constituencies for four years on First-the-Past-the-Post electoral system. Each State has an elected Governor, who has executive authority for the State. Legislative powers of a State are vested in its House of Assembly.

In a transparent electoral democracy, there is a strong link between sustainable development and elections. In an open, competitive and free and fair electoral process, the government is always a custodian of the peoples' will and can therefore galvanize the people into positive actions. The victory of a political party at the polls simply means an endorsement of its manifesto and that of the government to be formed by it.The fallout of a good electoral system cannot be over emphasized. Not only that it encourages popular participation in governance, it promotes respects for rule of law, due process, civil liberties and human rights and makes government accountable.

There are four main formulas that determine how votes are counted to allocate seats, namely: plurality majority formulas, semi-proportional systems, proportional representation, and

mixed systems. Nigeria practices the majoritarian system. Nigeria is using the first-past-the-post (FPTP) system which is one of the variants of the plurality-majority voting system. Under the FPTP, a candidate is neither required to have a minimum threshold of votes nor an absolute majority to be elected. All that is needed is a simple plurality i.e. one more vote than his closet rival. Among the reasons that have been given in support of FPTP is that it is simple to use in that voters only need to choose and vote for one candidate. Second, that it tends to produce stable, accountable, responsive, single party governments, so that the electoral outcome is decisive. Government can make state policies and law decisively, respond to issues more efficiently, and implement the party's manifesto without the need to engage in post-election negotiation. Third, that it promotes constituency service between voters and their representatives (Fagbohun,2013:13).

The Independent National Electoral Commission (INEC) is a Nigerian government agency charged with the conduct and supervision of elections. In the late 1990s, the agency began modernizing its information technology infrastructure by migrating from an outdated legacy voting system heavily dependent on inaccurate paper records and polling cards to the newer Electronic Voting System (EVS). At the heart of EVS is the Electronic Voter Register (EVR), which, by capturing the names of all eligible voters, eliminates duplication and thereby minimizes discrepancies in the electoral process. As such, EVR is viewed as a means of ensuring free and fair elections in Nigeria (ESRI, 2007). Earlier, in 1993, the electoral body had adopted Open Ballot System (OBS) due to past elections history and experiences in the country. The Open Ballot System required voters queuing behind the candidate or his poster as the electoral officer counts the voters directly on the queue. It is observed that the method served as an antidote to rigging. The 1993 elections were globally acclaimed to be the freest and fairest in the nation's political history because the electoral law granted the people the right to monitor their votes.

The proposition of the Electronic Voting System (EVS) as the technology to be adopted by INEC in the build-up to the 2007 elections attracted widespread national criticisms. Anchored on a strategic plan to provide functional communication systems in all INEC offices to allow for effective information flow, the consolidation of the already started process of Electronic Voters Register and the plan for the effective use of Geographic Information System (GIS) technology in polling unit location and identification, the EVS was, according to Professor Iwu (2006 cited in Ibrahim, 2010:46), designed by INEC to incorporate the following major components: • Electronic Voters Register, • Voter Accreditation and Authentication, • Electronic Balloting, and • Electronic Transmission of Results. These technological innovations were aimed at eliminating duplication of voters and minimizing discrepancies in the electoral process, as well as ensuring the successful

collation and transmission of election results from each of the polling stations to the collation center immediately after vote casting (Umonbong, 2006: 4).

Nigeria has over the years used the manual system of voter registration and paper ballot for its registration and voting processes. The successes of the system in terms of the transparency, freeness and fairness of elections have been a mixed bag (Okoye, 2010).Lack of electoral transparency and accountability, the use of money or violence to influence or intimidate voters and the criminalization of politics are critical problems in Nigeria.Indeed,major challenges associated with the Nigeria's failed electoral system are man-made and it includes; mass thumb printing of balloting papers; ballot stuffing; ballot boxes snatching; voter's impersonation; multiple registration and inflation of results figures during collation.In terms of voter registration, Okoye (2010) argues that it has also become clear that the political elite introduce new techniques and new technology of electoral manipulation in each successive election, corrupt the electoral process and hold the voters register to ransom as they recognise that the voters register is the foundation of credible elections. Thus, as noted by Ibrahim (2007), the repeated cycles of frustrating Nigerian voters have been central to the country's tortuous history of political instability and the recurrent incursions of the military into governance. This is the sense in which Nigeria has managed to merely survive since independence.

The inauguration of a civilian government on 29 May 1999 marked the end of almost 16 years of military rule in Nigeria. Many do not regard the event as a return to democratic governance for several reasons, the most important being that all the processes which culminated in the event were master-minded by the authoritarian military oligarchy, whose political agenda was fashioned and executed without a valid constitutional framework (IDEA, 2001:22). The Nigerian political system is, thus constructed in a manner that produces regular patterns of failed elections. While Nigerians are generally committed to exercising their civic responsibilities, including voting for those they want to exercise political power, the political class has developed systematic techniques for frustrating citizens in their civic engagement through rigging and electoral fraud (Ibrahim, 2007). Reviewing the Nigerian electoral system since 1960, Ake (2001:6) posits that with each succeeding election, the dominant faction of the political elite finds itself more and more isolated, increasingly relying on violence (and gross materialism), at war with the rest of the society and with rival factions among its own rank.

3 VARIANTS, IMPORTANCE AND BASIC PROCEDURES OF E-VOTING

The introduction of secret ballots and the need for accountability required that new technologies be devised. These have included lever-operated machines, computer-readable punched

cards, voting in enclosed cubicles at polling stations, and placing voting papers in locked or tamperproof boxes to ensure security. In order to prevent multiple voting, electors generally have their names crossed-off electoral rolls when they vote, or even have their fingers marked with slow-perishing ink. Finally, in order to enhance accountability, scrutinisers observe all aspects of the voting process and numbers are sometimes recorded on voting cards so as to enable individual ballots to be recounted in the event of questionable practices being adopted (Smith, 2001:1).

Electronic Voting System (EVS) is one of several forms of automated voting methods which employ computer technology devices, to improve several aspects of the electoral process. In most cases, it allows the conduct of elections without using the traditional ballot paper and box for making a choice at an election. It incorporates largely paperless voting methods prominent among which are electronic voting machines (EVM), internet voting, telephone IVR voting, digital TV voting, electronic kiosk voting, etc. The system provides for increased efficiency, anonymity, scalability, speed, audit and accuracy, which are major attributes of a good electoral system (Iwu, 2008:5). Depending on the implementation, e-voting can be either local or remote. Local e-voting occurs at a supervised polling station, normally using a touch-screen machine to record votes directly. Such a machine is often called a Direct Recording Electronic (or DRE) machine (Kohno et al. 2004). In contrast, remote e-voting can be conducted at any location, usually through a web browser (Adida 2008; Adida et al. 2009).

An electronic voting is an electronic system which uses election that would allow voters to transmit their secure and secret voted ballot to election officials over the internet. From now on, engineers have repeatedly created new technology to improve the feasibility of electronic voting system. Furthermore, it is *convenience* because with the well-designed software and system, the voters can simply use their own equipment with the minimal time and skill to finish the voting process (E-Politics, 2012). Before the advent of new technology and social media, many states had a monopoly on information. This power sometimes restricted or delayed information on vote counting, and helped to rig elections through "stuffed" ballot boxes. Mobile phones and cameras have made it possible to communicate posted results instantly by voice, picture and video. Party agents, observers and monitors can communicate results as fast as state agencies and can report discrepancies immediately. Similarly, information about numbers of voters per voting station is no longer a monopoly of an EMB and incumbent party (UNECA, 2013:96).As documented by Abiola-Oseni (2015), the electronic system of voting was invented to correct some anomalies and address some needs:

1. the need to record information and to have the results available quickly (*timeliness*);
2. the need to have a system that is accessible to all and easy to use(*accessibility*);

3. the need to ensure secrecy of what takes place (*secrecy*)—except where open elections are called for;

4. the need for voting to be undertaken seriously, after due deliberation (*Deliberation*);

5. the ability to ensure that each individual's vote is recorded and counted accurately (*accuracy*);

6. the need to guard against manipulation and interference with information once recorded (*security*);

7. the need to ensure that individuals cannot be impersonated (*authentication*); and

8. The need to verify what has taken place through the use of traceable information trails (*verifiability*).

e-Voting is the preferred platform for future elections in the developed and developing nations of the world. It is a system that has modernized the electoral processes and electorates are able to cast their votes through an electronic device as against the traditional manual system. The three types of e-Voting, according to Ayo et al (2008:51), include: (a) Polling station e-Voting: where voters cast their votes electronically on an electronic machine within the polling booth; (b) Kiosk e-Voting: where voters cast their votes at pre-selected stations through ATM-Iike terminals; and (c) Remote e-Voting: where voters cast their votes anywhere, and anytime, there is Internet access; as well as voting through mobile devices.Also, some types of electronic tools which can be used in elections are identified as:

• Direct Recording Electronic computers (DREs). Here, computers can be installed at a polling station for recording and storing the votes cast. The casting of vote may involve the use of touch screen (with or without a specific pen) or through the use of other devices by pressing one or more buttons; Online voting which can be done where a reliable network medium is guaranteed for casting of votes like a polling station or in a non-controlled area such as a kiosk or the home;

• Optical and digital scanning devices are suitable for use in places such as designated counting area to scan ballot papers. These are normally used to improve the accuracy of the counting process and reduce potential manual counting errors; and

• The use of one medium to record the vote, which is then registered in a ballot box on another device at the polling station. This system differs substantially from a DRE as nothing is stored in the DRE and it is impossible for a voter to manipulate the memory containing the vote (Ajiboye et al, 2013:8-9).

Brazilian Journal of Development

4 E-VOTING SYSTEM: THE 2015 ELECTIONS AS LITMUS TEST

In many countries, technology is present in activities related to the electoral process, and in some cases it is essential to the conduct of elections. Technology is used, for example, to compile voter lists, to draw electoral boundaries, to manage and train staff, to print ballots, to conduct voter education campaigns, to record cast votes, to count and consolidate vote results and to publish election results. The appropriate application of technology to elections can increase administrative efficiency, reduce long-term costs and enhance political transparency (Encyclopaedia). Properly implemented, e-voting solutions can eliminate certain common avenues of fraud, speed up the processing of results, increase accessibility and make voting more convenient for citizens—in some cases, when used over a series of electoral events, possibly even reducing the cost of elections or referendums in the long term (IDEA, 2011:6).

With manual processes, transparency is relatively straightforward, as the processes are usually visible and it is not difficult to provide meaningful access to observers. By contrast, with the use of some technologies it may be more difficult or even impossible for observers to testify that the outcome is correct. Electronic voting systems are one example where in some cases it is almost impossible to insure that the vote that is registered is indeed the vote cast by the voter and, therefore, that the resulting vote counting is accurate. On the other hand, the use of technology may enhance transparency once the data entry into the respective system is proved to be accurate and large quantities of data can produce meaningful reports with very few errors (Encyclopaedia).Kozakova (2011) observes that convenience is an attribute of e-voting that enhances participation and remedy fatigue associated with traditional voting methods. E-voting makes it easier for people to make their views known and cast their votes, an important requisite for constructive democratic process.

The Electronic Voting machine has been tried successfully in India where there was a registered voter population of about 600 million people and 400 million people reportedly voted. It is recorded that when the machine was used for the first time in India, the opposition party won against the incumbent government which adopted the machine…. The idea of electronic voting is one that has been received with mixed feelings; and suspicion. There is palpable fear that the system can be manipulated. There is also the problem of pervasive illiteracy particularly in the rural areas. How will illiterates know how to use the machine? These fears cannot be dismissed with a wave of the hard. The clear implication of this is that more work needs to be done to convince the electorate that the system will not and cannot be manipulated(See http://www.ukessays.com/essays/politics/electronic-voting-machines-for-electorates-politics-essay.php#ixzz3tZhvpvHu). According to Golden, Kramon and Ofosu (2014:1), these technological

solutions, such as electronic voting machines, polling station webcams and biometric identification equipment, offer the promise of rapid, accurate, and ostensibly tamper-proof innovations that are expected to reduce fraud in the processes of registration, voting or vote count aggregation.

A major challenge confronting Nigeria is that of developing an acceptable voting system that can reduce the manipulation and falsification of election results. Post-election experiences, such as eruption of violence, prolonged litigation and sometimes culminating in the collapse of the democratic experiment, have informed the muting of ideas to create a leak prove voting system to surmount challenges of electoral manipulation (Duruji et al, 2015:100). Nigeria has over the years used the manual system of voter registration and paper ballot for its registration and voting processes. The successes of the system in terms of the transparency, freeness and fairness of elections have been a mixed bag (Ishaq, et al, 2011:305). In each election, the political class improves on their modes and methods of electoral manipulations (Okoye, 2010). In the past, exponents of e-voting who vigorously canvassed the method believed that it was a panacea for malpractices. They premised their argument on the success of the biometric measures adopted by finger prints experts to establish rigging in Ekiti and Osun States at the 2007 polls. Their contention is that, if technology is employed to unravel rigging, technological device can also be used to avert it at the polling booths because prevention is better than cure(http://www2.antigraft.org/readMore/947/2015_electronic_voting_the_prospects_merits_and_hiccups).

On 28 March 2015, after 4 years of tremendous preparation, Nigerians experienced its first Nigeria Semi-Electronic General Elections in which the country tapped partly from breakthrough of Information and Communication Technology (ICT) in part of the electoral process. The Semi-Electronic election process in this context is the act of using an electronic device for verification of eligibility of voters, vote with the use of ballot paper based system and counting manually, and then collation at top levels can be done with the use of e-collation platform (Omolaye et al, 2015:16). This simply means that a card reader is not an electronic voting machine but is a machine to be used for accreditation of voters only before the actual voting. A distinguishing factoris that in electronic voting, ballot papers are not used and cannot be used.

The Independent National Electoral Commission (INEC) produced Permanent Voter Cards (PVCs) for the 68,833,476 persons in the biometric Register of Voters ahead of the March 28th and April 11th, 2015 general elections. The PVC replaces the Temporary Voter Card (TVC) issued on the heels of registration of voters since 2011. These cards have many components and specialized features (e.g. base substrate, security printing, personalization, lamination and chip embedding), and it is designed with an average life span of ten (10) years. The PVC also has an embedded chip that contains all the biometrics of a legitimate holder (including fingerprints and facial image). On

Election Day, it would be swiped with a Smart Card Reader at the polling unit to ensure 100 per cent authentication and verification of the voter before he/she is allowed to vote. The PVC has security features that are not easily susceptible to counterfeiting (Durotoye, 2015:177).

Equally, INEC insisted that for the first time in Nigeria's electoral history, electronic voter authentication system (Smart Card Readers) will be deployed for the 2015 general elections. The card reader uses a highly secure and cryptographic technology that is used commonly in devices that need to perform secure transactions, such as paying terminals. It has ultra-low power consumption, with a single core frequency of 1.2GHz and an Android 4.2.2 operating system (Durotoye, 2015:178). The intendment of the use of card readers was to give credibility to the elections, because our electoral history is full of incidence of rigging style like mass thumb – printing for earmarked or ascribed voter population because there was no means of ascertaining those who voted. This was what the card readers was expected to prevent (Akpotor, 2015:4). The security of an electronic voting system depends on strict adherence to prescribed procedures by all officials involved in their operation, from the EMB commissioners to poll workers. This makes comprehensive training at all levels and stages of the electoral process absolutely critical for the success and credibility of an electronic election.

The introduction of the biometric register, while costly, was seen by many Nigerians as an important step in cutting down on the possibility of voter fraud and ballot stuffing. Since 2010, the former chairman, Attahiru Jega pioneered internal reorganization of INEC's departments as well as new policies and procedures to improve efficiency and effectiveness of the bureaucracy. Despite the highly politicized environment surrounding INEC and elections in Nigeria, Chairman Jega has managed to maintain a reputation for being impartial and professional and is well respected by Nigerian civil society and citizens(Sweeney, 2015).After carefully checking through all the procedures employed in the 2015 general elections, Omolaye et al (2015:17) concluded in their study that it was purely a manual electoral process with an element of electronic voting in the areas of accreditation, verification and e-collation.

5 THE FAULT-LINES OF E-VOTING IN NIGERIA

Some research findings, have cautioned against the adoption of E-Voting technology as an alternative to manual voting systems due to software challenges, insider threats (abuse), network vulnerabilities and the challenges of auditing (Mercuri, 2010; Blanc, 2007). Some of the Challenges of Adopting E-Voting System in Nigeria, according to Mato (2015) include: Legal and Constitutional Constraints, Lack of Critical Infrastructure,Weak Electoral Management Body, Adoption of Technology and Poor Managerial Expertise, Security Concerns, data n security

management, Poor Culture of Information Management and Maintenance, Low level of Computer Literacy,Political Constraints, Lack of Citizens Data Bank and Fear of Uncertainty (like resisting change).

The 2015 elections readily attested to these findings.There were a variety of issues with the card readers on Election Day. In some cases, as noted by Sweeney (2015), biometric information could not be read, in other cases poll workers did not seem to understand how to use the machines. A pollster characterised the use of biometric authentication of voters in the election as testing the depth of a river with both legs. The biometric system recorded spectacular failures. Once the biometric card readers began to fail in several polling units, there was nothing INEC's polling officers did that reflected useful lessons learnt from pre-voting testing of the card readers, which INEC putatively carried out across the six geopolitical zones. It was a trial-and-error process – reportedly led by the intuitions of the voters – that led to measures which improved recognition of finger prints by the biometric fingerprint scanners (Akintunde, 2015).When the then incumbent President, Goodluck Jonathan, went to vote, it took nearly an hour for his fingerprint to be verified, it ratcheted up media attention on the new technologies.It also took the APC Presidential candidate,Muhammadu Buhari, several minutes to have his fingerprint read.

INEC, which initially insisted that only those cleared by the SCR will be allowed to cast their votes, later came up with the idea of Incident Form for those the card readers could not read their finger prints for one reason or the other. That there were several incidences of Smart Card Reader hitches were not in doubt (Agbu, 2015:12).The INEC's directive to its field officers to discontinue the use of card readers for the authentication of prospective voters came suddenly in the middle of the accreditation process. It is not impossible that this may have caused confusion among the voters, temporarily disrupting the polling process. The move by INEC to revert to manual accreditation of voters may be justifiable in view of the challenges associated with the card readers. However, it would seem that INEC did not consider the likely implications of its abrupt decision on the overall electoral process (CDD Report, 2015).

In many cases during the election, the verification of PVCs lasted up to 10 minutes, thereby slowing down the process. This was exactly the case during the test-run of the PVC and SCR in Nassarawa, Rivers and Ebonyi, where the SCRs recorded significant failures (Thisday, 2015). The usefulness of biometric authentication of voters is in its ability to detect if a valid PVC has been presented for voting by someone other than whom it was issued, but in this election, INEC cannot attest to how this purpose was served empirically (Akintunde, 2015).Previously, Nigeria's experience with the use of electronic voter registration and electronic transmission of results during the 2007 General Elections wasalso very unpleasant (INEC, 2012:34).

This may have necessitated the caution that electronic voting should not be seen as a technical solution to a problem of lack of capacity or of competence within the election administration. On the contrary, it will require more expertise and more capacity building at all levels of the EMB as well as with other key external stakeholders (IDEA, 2011:21). However, the semi electronic voting system deployed in the 2015 election had brought to the fore the need for total Electronic system. From 2007 when Electronic registration was introduced till the last election, one thing is certain, that electronic data base cannot function well with a manual voting system.Even with the deployment of PVCs and SCRs, a high number of elections from the 2015 exercise were subjects of litigation. Accordingly, INEC has been saddled with 80 rerun elections from the 2015 polls that were overturned by the courts because of rigging.

6 SOME CONSIDERED MEASURES FOR FUTURE ELECTIONS

The adoption and implementation of E-voting technology into the conduct of elections in some developed democracies such as United States of America, India and Brazil has reduced voter's apathy, improved voter's turnout during elections, and ensured, to a greater extent, the accuracy of vote count (Avgerou, Ganzaroli, Poulymenakou, & Reinhard, 2009 cited in Ishaq, 2014:1). The adoption of E-voting technology by developing democratic countries is not only expected to prevent, but also eliminate problems of ballot stuffing, ballot snatching, votes and voters records manipulations, among others (ibid:2). Use of electronic voting, therefore, has the potential to reduce or remove unwanted human errors. In addition to its reliability, e-voting can handle multiple modalities (such as voice assistance for handicap), and provide better scalability for large elections. E-Voting is also an excellent mechanism that doesn't require geographical proximity of the voters. For example, soldiers abroad can participate in elections by voting online (Sampigethaya and Poovendran, 2006:137).

E-voting tends to take a good deal of the responsibility for the electoral process away from thousands of polling station officials and place this responsibility in the central election administration and the implementers of the e-voting system. In doing so, the implementation of e-voting reduces the risk of widespread fraud and manipulation at polling station level, but concentrates the risk of manipulation at the central level (IDEA, 2011:16).Electronic voting undoubtedly offers both opportunities and challenges. But the challenges can be addressed if selfish interests are taken care of while politicians muster the will to become trustworthy. For instance, in adopting a phased process, experts say e-voting system could be approached in any one of a number of steps – distributing, voting, collating and counting of ballots – until the operators get it right. So it was with a number of countries that are current beneficiaries (The Citizen, 2013).While these

Brazilian Journal of Development

technologies open up new frontiers and offer new possibilities for the electoral process, especially for voting operations, there may be unforeseen risks involved, such as an increase in vote selling or difficulty in auditing election results. Careful consideration also needs to be given to the risks of inappropriate or untimely introduction of technology, especially if it has the potential to compromise transparency, local ownership or sustainability of the electoral process (ACE, 2015).

The principle of transparency is central when considering the ever widening role of electronic technologies in election processes. Whether electronic technologies are employed in delimitation of election districts, development of voter registries, recording and tabulating votes or other sensitive matters, the technology employed, in addition to benefits from its use, poses the risk of negating transparency. The rights of electoral contestants, citizen organizations that monitor and promote electoral integrity and the news media to see into, scrutinize and understand the accuracy and efficacy of such technologies is critical to genuine elections(Merloe, 2008:16).

Engendering a credible electoral system in Nigeria requires coordinated and sustained civic education, public enlightenment and conscientisation, grassroots mobilisation and engagement (IPCR, 2013:43). Put differently, civic education, voter education and voter mobilisation are essential components of the electoral process. These interrelated activities enable the citizens to understand their responsibilities as candidates and voters during elections as well as stimulate the participation of citizens in the electoral process (INEC, 2012:120). In respect of this discussion, well-trained staff are important not only for the successful conduct of an election, but also for allowing the EMB to retain overall control of the e-voting solution, thus taking full ownership of the technology. Well-informed voters will not only find it easier to use e-voting on election day; they will also find it easier to trust a new system if they understand why it is being introduced, what benefits it brings and how the various security measures that are built in support the integrity of the election (IDEA, 2011:29).

One of the characteristics of advanced countries is the relatively high level of administrative competence. Most of the services that these countries provide their citizens are much more complex than registering voters or conducting elections. Indeed, in most industrialized and a few developing countries, people learn the results of elections from television projections not from vote counts. Few citizens in advanced countries even know the rules and procedures for counting, announcing, and certifying the results because they take it for granted that it will be honest and impartial (Robert, 1999:7).

Ahmad et al (2015:101) are of the view that there is the need to practically test the technology on non-public elections platform before the full-scale countrywide adoption. The pilot project, according to them, would guarantee citizens' involvement in the design and policy

formulation concerning the adoption. Opening opportunity for citizens' participation through piloting increases government chances to obtain feedbacks concerning capacity building, infrastructure upgrade, technological design, voter participation and of course suitability of the technology. Thus, electronic voting system should be introduced incrementally, beginning with bye-elections and re-run elections to ensure that short-comings observed are corrected ahead of general elections (INEC, 2012:36).

The world of technology is inseparable from any effective and functional electoral process. It is in this sense that INEC should ordinarily not be denied access to the various technologies that enhance managing elections (Ibrahim and Garuba, 2009:97). The attractiveness of e-voting to the potential voter, his acceptance of this technology as a convenient method of casting his vote are all important factors in the effectiveness of the electoral process. These issues contribute to the fairness or otherwise of the electoral process. Essentially, the introduction of technologies by itself would not transform the Nigerian society; it is entirely the business of Nigerian citizens (Iwu, 2008:4). A report in Britain by a pressure group, *WebRoots Democracy*, found that the introduction of online voting could boost voter turnout in the United Kingdom by nine million people, and save taxpayers £12.8 million per general election. "It (e-voting) can significantly reduce the number of accidentally spoilt ballots, speeding up the counting process, and enable vision-impaired voters to cast a secret ballot," the report said(See http://webrootsdemocracy.org/2016/01/26/report-online-voting-can-be-secured/). India, with 800 million voters, uses the portable and durable electronic voting machines. EVMs are also in use in the United States, Nepal and Bhutan.

It also becomes imperative forINEC to initiate the necessary amendments to the Electoral Act that will repeal the provisions that inhibit the use of technology.For instance, there is a raging debate in the polity about the governorship election in Taraba, Rivers, Abia and Akwa Ibom states, which were overturned and fresh polls ordered by election petitions tribunals and the Court of Appeal, but were reversed at the Supreme Court. Rivers, Akwa Ibom and Abia states presented peculiarly different realities. Although cases of over-voting, rigging and other malpractices were allegedly discovered in these states, the Supreme Court argued otherwise, saying that the use of the card reader was not the sole basis for conducting the election. This is a quandary. In the light of this, Section 52 (2) of the Electoral Act 2010, which says, "The use of electronic voting machine for the time being is prohibited," has to be expunged from the statutes to accommodate e-voting (The Punch, Feb 19, 2016). The growing practice in some countries, which have amended their electoral laws to accommodate deployment of technology, is a useful guide. For instance, e-voting was legalised in Estonia in 2003 after a short debate. In 2005, Estonia took a giant step by making internet voting legally binding in national elections.

Nevertheless, the (2015) election has been a revelation on how best to exercise the franchise of Nigerians. The utilisation of the biometric capabilities of permanent voter's cards and card-readers makes the polls Nigeria's first technologically compliant elections, with a greater degree of success, despite initial hitches and distraction. According to Premium Times (2015), "the ferocity with which the antagonists of free and fair elections fought the utilisation of the new technology was a real revelation about the determination of some politicians to continue to steal the people's mandate. The subsequent perfection of the biometric voting system in Nigeria would clearly improve the integrity of elections in Nigeria". The chairman of INEC, Mahmood Yakubu (The Nation, January 24, 2016) has already indicated the readiness of the Commission to sustain and improve this innovation:

> Not only will the Permanent Voter Cards (PVCs) and Smart Card Readers remain, we are going to go a step higher to see if we can also deploy technology for collation and transmission of results so that we make the processes between the conclusion of elections at the Polling Units, the counting and final tally at the Collation Centre speedy and more accurate and technology-driven

It is contended that in spite of the challenges affecting the country's electoral system, the effects and benefits of adopting e-voting system is enormous and can solve most of the irregularity issues associated with the traditional paper ballot system. Nigeria, in the words of Okoye (2010), must therefore, design a process and procedure of voter's registration and vote casting that restores the sovereign right of the voters as the sole determinants of electoral succession. Such a system must ensure and guarantee transparency, assure voters of the credibility of the ballot and make the process of registration and voting less hazardous.

7 CONCLUSION

Contemporary discourse of liberal democracy has recognised and appreciated the place of a free and fair electoral process as a critical component of any effort to enthrone a democratically responsive and development-focused government (Ibrahim, 2007). What makes democratic governance the most preferable system of government today is the institutionalization of periodic elections. The conduct of credible elections on a typically political party basis is the preferred means of choosing elective public officeholders. It follows, therefore, that the electorate must play a central role in the electoral process, not only by just participating in the process, but also, by doing so in a manner that makes their vote secure so that it counts and is respected (INEC, 2012:1).

The 2015 election is seen as a deviant from the past. INEC's adoption of a biometric voter's card reduced the loopholes in the electoral system to the minimum. Successful elections are important not just for Nigeria, but for the whole region. As West Africa's largest economic and military power, Nigeria plays a key role in promoting regional stability and integration and has

repeatedly led regional interventions to restore stability and, in some cases, democratic rule (Freedom House, March 25, 2015). Thus, any voting system that could engender credible elections and, by implication, sustainable democracy in the country should be embraced by all stakeholders such that Nigeria would not be seen as promoter of democracy outside itsshoreswhile basicdemocratic ingredients are lacking at home.

Considering that the level of political distrust in Nigeria is very high, the use of technology to enhance electoral credibility has become indispensable (Orji and Iwuamadi, 2015:11). To achieve significant improvements, technologies must be implemented in such a way as to improve efficiency and enhance transparency, accountability and accuracy. Again, technological solutions cannot solve political problems, but when implemented properly, they can address the administrative inadequacies identified (Yard, 2014:51).In view of the relative success of the 2015 general elections, partly manifested in the reduction of election rigging, number of electoral litigation as against previous electionsand ultimately, transfer of power from the ruling party to the opposition party, as enhanced by the semi-electronic voting system -in spite of its highlighted shortcomings -it is safe to conclude that the experiment was a stepping stone for Nigeria's electoral democracy.

REFERENCES

Abiola-Oseni, Njumoke (2015) 2015: Is Nigeria ready for Electronic Voting? Available at: http://trisatcom.net/blog/2015-is-nigeria-ready-for-electronic-voting/

ACE Electoral Knowledge Network (2015) Elections and Technology, Available at: http://aceproject.org/ace-en/topics/et/onePage

Adida, Ben (2008) Helios: Web-Based Open-Audit Voting, in Proceedings of the 17th USENIX Security Symposium. USENIX Association, 335–348

Adida, Ben, Olivier De Marneffe, Olivier Pereira, and Jean-Jacques Quisquater (2009) Electing a university president using open-audit voting: Analysis of real-world use of Helios, in Proceedings of the Electronic Voting Technology Workshop/Workshop on Trustworthy Elections (EVT/WOTE). USENIX Association

Agbu, Osita (2015) Unbridled Election Rigging and the Use of Technology: The Smart Card Reader as the 'Joker' in Nigeria's 2015 Presidential Election, Available at: http://www.inecnigeria.org/wp-content/uploads/2015/07/Conference-Paper-by-Osita-Agbu.pdf

Ahmad, Sabo et al (2015) Issues and Challenges of Transition to e-Voting Technology in Nigeria, *Public Policy and Administration Research*, Vol.5, No.4, 2015

Ajiboye, Adeleke et al (2013) Modeling and Evaluation of E-Voting System for a Sustainable Credible Election, *International Journal of Applied Information Systems* (IJAIS) Volume 5– No.3, February 2013

Ake, C., (2000) The Feasibility of Politics in Africa, Dakar: CODERSRIA

Akintunde, Jide (2015) 10 Things to Note about Nigeria's 2015 Presidential Election, Available at: http://myndff.org/policy-dialogue/10-things-to-note-about-nigerias-2015-presidential-election/

Akpotor, A.S (2015) Legal Framework for Elections in Nigeria: A Study of the 2015 General Elections, Available at: http://www.inecnigeria.org/wp-content/uploads/2015/07/Conference-Paper-by-Sunny-Akpotor.pdf

Ayo, C.K Adebiyi, A. A and Sofoluwe, A.B (2012) "E-Voting Implementation in Nigeria: The Success Factors" in Salawu, R.I (eds.) Curbing Political Violence in Nigeria: The Role of Security Profession, Available at: http://eprints.covenantuniversity.edu.ng/873/#.Vrg2vFgrLIV

Blanc, J. (2007). Challenging the Norms and Standards of Election Administration: Electronic Voting [electronic version]. IFES, 11 – 19

CDD Report (2015) Matters Arising from Voting Phase of Nigeria 2015 Presidential, National Assembly Elections, Premium Times, March 29

Durotoye, Adeolu (2015) Nigeria's 2015 Presidential Election: Between Democratic Consolidation and Change, European Scientific Journal, July 2015 edition vol.11, No.19

Duruji, Moses; Ayo, Charles; Oni, Samuel; Oni, Aderonke (2015) Making a Case for e-Voting in Nigeria, European Conference on e-Government, 100-106, Kidmore End: Academic Conferences International Limited (Jun 2015)

Encyclopaedia (2015) Elections and Technology

1.9.2. E-Politics (2012) Advantages and disadvantages of an electronic voting system, Available At: http://csc1102-epolitics.blogspot.com.mt/2012/01/advantages-and-disadvantages-of.html

ESRI (2007) Nigerian Voting System Modernized, Available at: http://www.esri.com/news/arcnews/summer07articles/nigerian-voting.html

Ezegwu, C. (2006) Problems and Prospects of Adopting Electronic Voting System in Nigeria, Conference of the Nigerian Political Science Association (NPSA) South East Chapter, Nnamdi Azikiwe University, Nigeria

Fagbohun, Olanrewaju (2013) Nigeria's Democracy and The Crisis of Political Instability: An Audit of The Electoral System, Being text of Paper Delivered at the June 12 Anniversary Lecture Organized by the Political and Legislative Powers Bureau of Lagos State Government in conjunction with the June 12 Coalition, on 12th June 2013

Freedom House (2015) 5 Things to Know about the Nigerian Elections, March 25, Available at: https://freedomhouse.org/blog/5-things-know-about-nigerian-elections

Golden, M., Kramon, E. and Ofosu, G. (2014) Electoral fraud and biometric identification machine failure in a competitive democracy, Retrieved from: http://golden.polisci.ucla.edu/workinprogress/golden-kramon-ofosu.pdf

Ibrahim, Jibrin (2007), "Nigeria's 2007 Elections: The Fitful Path to Democratic Citizenship", Special Report, Washington DC: United States Institute of Peace

Ibrahim, Jibrin and Garuba, Dauda (2009) "Institutional Weaknesses and Electoral Mismanagement: INEC and the Direct Capture of People's Mandate", in Ibrahim and Ibeanu (eds.) Direct Capture the 2007 Nigerian Elections and Subversion of Popular Sovereignty, Centre for Democracy and Development

IDEA (2011) Introducing Electronic Voting: Essential Considerations, International Institute for Democracy and Electoral Assistance (International IDEA), Policy Paper December 2011

INEC (2012) Report of The Registration and Election Review Committee (RERC), Nigeria, Eddy Asae Nig. Press

International IDEA (2001) Democracy in Nigeria: Continuing Dialogue(s) for Nation-building, International Institute for Democracy and Electoral Assistance

Brazilian Journal of Development

IPCR (2013) Peace and Security as Imperatives for National Development, Institute for Peace and Conflict Resolution

Ishaq, Salimonu (2014) The Determinants of Electronic Voting Adoption: Independent National Electoral Commission of Nigeria Employees' Perspective, Doctor of Philosophy Thesis, Submitted to the Universiti Utara Malaysia

Ishaq, Salimonu et al (2012) Adoption of E-Voting Systems: A Case Study of Independent National Electoral Commission (INEC), Nigeria: A Preliminary Study, Knowledge Management International Conference (KMICe) 2012, Johor Bahru, Malaysia, 4 – 6 July 2012

Ishaq, Salimonu et al (2012) Adoption of E-Voting Systems: A case study of Independent National Electoral Commission (INEC), Nigeria: A Preliminary Study, Knowledge Management International Conference (KMICe) 2012, Johor Bahru, Malaysia, 4 – 6 July 2012

Iwu, M. M. (2008): "Electronic Voting and the Future of the electoral system in Nigeria" *The Nigerian Electoral Journal*, 2(1) 1-29

Kohno, Tadayoshi, Adam Stubblefield, Aviel D Rubin, and Dan S Wallach (2004) Analysis of an electronic voting system, in Proceedings of IEEE Symposium on Security and Privacy, IEEE, 27–40

Majekodunmi, A. (2013) E-democracy as a panacea for enhanced civic participation in Nigeria. International Journal of Advanced Research in IT and Engineering, 2(6), 16–26. Retrieved from http://garph.co.uk/IJARIE/June2013/3.pdf

Mato, Kabir (2015) Global Best Practices in Digital Electoral Process: The Effects and Benefits of e-Electoral Process for A Developing Country(NIGERIA), Paper for Presentation at e-Nigeria Conference 2015 Organised by The National Information Technology Development Agency (Nitda) at The International Conference Center, Abuja, 17th- 19th November, 2015

Mercuri, R. (2010) Electronic Voting, Retrieved from http://www.notablesoftware.com.

Merloe, Patrick (2008) Promoting Legal Frameworks for Democratic Elections: An NDI Guide for Developing Election Laws and Law Commentaries, National Democratic Institute for International Affairs (NDI) Available at: https://www.ndi.org/files/2404_ww_elect_legalframeworks_093008.pdf

Okoye, Festus (2010) Nigeria: Civil Society Groups and Electronic Voting Systems, the Challenges, Vanguard, January 14

Omolaye, P.O et al (2015) Systemic Evaluation of Semi-Electronic Voting System   Adopted in Nigeria 2015 General Elections, American Journal of Information Systems, 2015, Vol 3 No 1, 15-21

O'Neal, Brian (1993) Electoral Systems, Canada, Library of Parliament, Research Branch

Orji, Nkwachukwu and Iwuamadi, Kelechi (2015) Conflict Mitigation in Nigeria's 2015 Elections: Lessons in Democratic Development, Available at: http://www.inecnigeria.org/wp-content/uploads/2015/07/Conference-Paper-by-Kelechi-Iwuamadi.pdf

Premium Times (2015) Editorial: Nigeria's 2015 Historic Presidential Election and the Tasks Ahead, April 2

Robert A. Pastor (1999) The Role of Electoral Administration in Democratic Transitions: Implications for Policy and Research, *Democratization,* Vol.6, No.4, Winter 1999. pp.1-2

Sampigethaya, Krishna and Poovendran, Radha (2006) A Framework and Taxonomy for Comparison of Electronic Voting Schemes, *Computers & Security* 25 (2006) 137–153

Smith, R.G (2001) The Risks and Benefits of Electronic Voting, A paper presented at the 15th Australian Forum - Melbourne, 3 March 2001

Sweeney, William (2015) Nigeria's 2015 Elections: A Critical Vote for Democracy in Africa, Available At:http://www.ifes.org/news/nigerias-2015-elections-critical-vote-democracy-africa

The Citizen (2013) INEC and the e-Voting Challenge, September 6

The Nation (2016) INEC Gets New Technology to Collate, Transmit Results, January 24

ThisDay (2015) "INEC and Smart Card Readers", March 17, 2015, Retrieved from www.http://thisday.com/articles/inec-and-smart-card-readers/204251,

Umonbong, O (2006) The Voting System in Nigeria, Paper Presented at the *AEA* Seminar Held in Blackpool, England, February 2006

UNECA (2013) African Governance Report III: Elections and the Management of Diversity, United Kingdom, Oxford University Press

Yard, Michael (2014) "Technology and Electoral Violence", in Elections Worth Dying for? A Selection of Case Studies from Africa, International Foundation for Electoral Systems