Impact and Limit of Technology on Free, Fair and Credible Elections in Nigeria.

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Abstract

An unchanging constant for the survival of democracy in any nation are free, fair and credible elections. Elections, that is the process by which citizens can express their will on who their leaders should be, are the life blood for the sustenance of democracy. Now it is no news to the casual observer that Nigerian elections are corrupt to the teeth. They are characterized by mass rigging, political intimidation and violence. Against this backdrop, there has arisen the need to adopt systems by which these electoral malpractices can be curbed. Of many, the most viable has been the advent of technology. This has formed the motivation for this work. An appraisal of how technology has impacted free, fair and credible elections is discussed. This work also recognized the limitations technology has had to achieve this, despite its many achievements in this regard. This study has adopted the doctrinal research methodology and jurisprudentially combs all relevant materials and texts.

Keywords: Fair and Free, Elections, INEC, Technology, Voting.

1.   Introduction

The crux and nucleus of every true democracy is a free and fair election. Without it, the wheels of democracy, which places at its pinnacle the interests of the citizens and masses, will come to a complete halt. Accordingly, 'elections are so clearly tied to the growth and development of representative democratic government that they are now generally held to be the single most important indicator of the presence or absence of such government[1]

Technology plays a pivotal role in shaping the dynamics of elections in Nigeria, as in many other democracies around the world.

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[1]   O. Nnoli, Introduction to Politics, (2nd edition) (Enugu: PACRE 2003)

Its impact on the quest for free, fair, and credible elections is profound, yet it also presents significant limitations and challenges. In this context, it is essential to examine how technology influences the electoral process in Nigeria, both positively and negatively. Technology wields substantial influence over the conduct of elections in Nigeria, presenting opportunities for greater transparency, efficiency, and security. However, it must be employed judiciously and with consideration of the country's unique challenges, including the digital divide, cybersecurity threats, and infrastructure limitations, to ensure that elections remain free, fair, and credible. Balancing the benefits of technology with these limitations requires a comprehensive and context-specific approach.

The Bimodal Voter Accreditation System (BVAS) is a technological device that utilizes fingerprint and facial recognition to identify and accredit voters before casting their ballots. The INEC Results Viewing Portal (IReV) is an online portal where polling unit-level results are uploaded directly from the polling unit, transmitted, and published for public access. The accessibility of polling unit-level results will boost transparency and public confidence in the electoral process.[2]

2. Clarification of Concepts

Before delving into the crux of this article it is pertinent that certain concepts integral to the path of this work is understood, so that a full appreciation of the matter and issue discussed here can be effectively done. Accordingly, the concepts of election, including what it means to have a free and fair and credible election, and election shall be properly appraised.

Elections are one of the essential ingredients for the sustenance of democracy in any state. That is the process by which members of a state or nation, citizens choose their leaders is so vital that without it, a state risks anarchy, brutality, instability, tyranny and despotism. Election has been defined as the process of selecting a person to occupy a position usually a public office.[3] Elections are organized

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2   <https://www.techloy.com/newsletter-how-technology-can-positively-impact-nigerias-elections-2023/> accessed 20 September 2023

3   Bryan A. Garner, Blacks Law Dictionary (Thomson Reuters 2019) Eleventh Edition

explicitly to ascertain and honor the people's will as to who should occupy elected office. Elections are the process by which, any society that professes itself a democratic one confer legitimacy on their leaders and give the mandate to rule. Elections are the process by which the people exercise their sovereignty and express their will on the persons that should utilize our collective resources. Democracy, as a political project is meaningless without elections that are substantially free and fair.[4]

Now, it is clear that to reap the dividends and achieve the purpose for which elections are conducted it must be free of manipulation of whatever kind, it must truly reflect the will of people. In other words, it must be free and fair. According to Larry Diamond, free and fair elections have four major components:

- ✓ One, Independent political parties that compete in electoral process freely and fairly;
- ✓ Two, Freedom of the individual to freely participate in politics and election process based on their own choice;
- ✓ Three, Substantial freedom that allows every adult to exercise the franchise by applying their voting right equally with equal weight; and
- ✓ Four, Election outcomes or counting of vote that is accurate and legitimate.

These four elements must co-exist for it to be rightly said that an election was free, fair and credible. Therefore, the election must involve processes where there is political freedom and fair processes leading up to the vote, a fair count of eligible voters who cast a ballot and acceptance of election results by all parties. The critical role that free and fair elections play in political transitioning cannot be overemphasized. It advances democratization by encouraging political liberalization and helping to promote peaceful democratic political transformation that leads to increased stability.

It is unfortunate that one does not have to perform rocket science to know that the conduct of elections in Nigeria is a far cry

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[4] 'Optimising Technology To Safeguard People's Will'
    <https://www.thisdaylive.com/index.php/2023/01/10/optimising-technology-to-safeguard-peoples-will>
    accessed 8 June 2023

from the obtainable standard. Between 1999 and 2021, there have been at least six national elections and there is hardly one that is entirely devoid of allegations of rigging Although, at the time of making this statement he thought not of Nigeria, Joseph Stalin[5], aptly described the Nigerian reality when he said that *"those who cast the votes decide nothing; those count the vote decide everything."* Nigerian elections are saddled by mass rigging, electoral thuggery and political violence, snatching of ballot boxes and all other activities that are inconsistent with the conduct of proper and credible elections in Nigeria. It is often of said of Nigeria the state of political affairs is like the Law of Diminishing returns. With every succeeding election, the quality of the election gets worse. This assertion finds support with the statement of **Ken Nnamani, Nigeria's former Senate President** wherein he stated that:

> *"The problem we have had in Nigeria is that every succeeding election is worse than the previous one. In other words, the election of 1999 was better than that of 2003, and if care is not taken (that of 2003) will be better than that of 2007, 2011 and 2015 respectively. That does not show growth, it does not show that our democracy is being deepened, talk less of thriving."*

Technology on the other hand refers to the application of scientific knowledge for practical purposes in industry.[6] It is also the machinery and equipment developed from the application of scientific knowledge.[7] For the purpose of the conduct of elections, the relevant or material type of technology used is the Information and Communication Technology. The importance of Information and Communication Technology in human societies can never be relegated. According to Kroeker and Yonck[8], the uses of information and communication technologies in recent times have become inevitable and fundamental to operations and activities of organizations and societies. Statistics Canada, opines that

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[5] Former USSR Communist Leader in 1949
[6] Advanced English Dictionary, https://languages.oup.com/google-dictionary-en/ accessed 10 June 2023
[7] Ibid
[8] Kroeker KL (2010) Engineering the web`s third decade. Association for Computing Machinery 53: 16-18

information and communication technology is a field of work and study that includes technologies such as the desktop and laptop computers, software, peripherals, and connections to internet primarily for information processing and communications functions. This conceptualization points to the fact that ICT involves the use of computer software and hardware to process information for both private and public use.

Chandler and Monray[9] explains that information technology is used to depict information distribution across computers and computer networks. According to them, several products and services within an economy are promoted with the aid of information technology. The technology comprises computer hardware, software, telecommunication equipment and the Internet. It should be noted that some of the products that are promoted by information technology include political parties and political personalities. In the same vein, Daintith describes information technology as the use of computers to store, retrieve, transmit and manipulate data or information. This is often done in the context of business or other enterprise. Information technology is now being used in the context of politics to store, retrieve, transmit and manipulate information relating to politicians.

3. How Technology is Utilised in the Conduct of Elections in Nigeria.

In various aspects and sectors of life we see how technology has been utilised and effected for the conduct of life in those sectors. The electoral sector in the conduct of elections is not spared. To properly appraise and appreciate its impact in bringing about free, fair and credible elections in Nigeria we must access technology's role in the conduct of elections. Now technology is used for the conduct of elections in Nigeria not only for the prima facie use of it to combat rigging and upholding integrity but also because it is simple the modern way of dig things. Elections in whatever pat of the country are observed by international stakeholders and it is considered to be archaic any state that still adopts manual and old

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9   Chandler D & Morray R, Information Technology: A Dictionary of Media and Communication (London Oxford University Press 2012)

ways of conducting elections. The rationale behind this is not far-fetched. First, Nigeria is a densely populated area with large land mass. Transportation of ballot papers and transmission of election results by road or other means of transportation which is prevalent in a manual system of conducting elections[10] is simply non-feasible. According to LeVan & Ukata[11] difficult topographical terrain of some communities is among the biggest challenges of the existing traditional voting system in Nigeria in that effective distribution of electoral materials is not only difficult but also challenging. And it is this system that has allowed the prolonged perpetration of election rigging and manipulation of electoral results. This is because it is transit that corrupt politicians are able to effect the change of results and may even threaten the electoral officers into doing their bidding. Moreover, communicating election results through traditional means of transportation expose the results to numerous risks such as attack by political thugs, aggrieved party members; or manipulation by the corrupt motivated officials. Second, if the goal is to restore public confidence in the Nigerian voting system and propagate accountability and transparency technology means of conducting elections is the way there. This is because technology allows citizens and viewers and stakeholders to view the entire process in real time. Transparency is the lifeblood of a free and fair election and technology readily provides that. Third, the adoption of electronic transmission of results has the potential to drastically limit the prospect of electoral violence because as long as the polling centers are well secured, political thugs will have little or no influence over proceedings as the results could be transmitted within minutes or seconds to the collation Centre.[12]

Accordingly, technology has been utilized in Nigerian elections in the following ways:

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[10] The manual or traditional paper ballot election involves movement of people (electorates and electoral officials) and election materials to the polling units and collation center for casting vote, tallying and results

[11] Levan C and Ukaya P Countries at the CrossRoads 2012

[12] 'Electronic Voting and the Prospect of Free and Fair Elections in Nigeria' <https://guardian.ng/opinion/outlook/electronic-voting-and-the-prospect-of-free-and-fair-elections-in-nigeria/> accessed 7 June 202

a.   *Smart Card Readers*

Smart Card Readers was first deployed in Nigeria for the conduct of the 2015 elections. Generally card readers are highly secure and cryptographic technology. They are devices used to read smart cards. A smart card is a plastic badge that incorporates an installed coordinated circuit that can be either a safe micro-controller or a memory chip. These cards have the capacity to store a lot of information, do encryption and validation as well.[13] They are commonly used in devices that need to perform secure transactions, such as paying terminals.

Registration of voters is vital and integral to the electoral process. In fact, it marks the beginning and foundation of the process, the error of which mars the entire quality of the activity. The Smart Card Reader is a machinery by which the voters can be registered. Before the deployment of the Smart Card Reader for the registration of voters, various other means were used. In 1999, intending voters were registered with pens in forms provided by the INEC. This forms were then used on the Election Day. There was no database of all registered voters or those eligible for voting. The flaws of this system is glaring as there was massive incidence of multiple voting. The 2003 elections experienced a technological leap in the conduct of the elections. The Optical Mark Recognition (OMR) was introduced. It involved the compilation on the form EC.1A of the names and particulars of all prospective voters (also known as Prospective Registrants) who present themselves physically for registration at the Registration Centers. The information so obtained is then transferred and shaded on computer readable OMR Forms, which were later, scanned into database on completion of field operation, and processed to produce the Register of Voters. Each OMR Form has a unique number, which is assigned to the registered voter who is then issued with a new Temporary Voters Card (TVC) bearing the same number and his/her particulars including his/her thumbprint. Under this technology, a database for all voters was created with a unique feature of each voter added for security (i.e. thumbprints).

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[13]   https://www.cardlogix.com/glossary/smart-card-reader/#:!~:text=A%20smart%20card%20reader%20is, encryption%20and%20validation%20as%20well. Accessed 14 June 2023

The 2007 elections brought with it another technological improvement for the conduct of the elections. The Direct Data Capture Machine (DDCM) was introduced for the registration of voters which increased some of level of credibility to the process. The DDCM components include: a computer system for capturing and storing voters' information, scanner for taking fingerprints of registrants; camera for taking pictures; back up batteries to forestall power failure, External Hard Disk Drive(HDD) for data backup and printer for printing Temporary Voters Card (TVC). The DDCM was utilized for the conduct of 2011 elections as well.

The next line of the technological history in the conduct of elections in Nigeria was the Smart Card Reader. It was and is the most sophisticated technological means of registering voters in Nigeria. Improved Automated Fingerprints Identification System (AFIS) was introduced to identify similar fingerprints on the register used for 2011 election. Business rule was also applied in addition to further clean the register. The business rule required that at least two fingers must be captured for a voter to be included in the register. For the first time, INEC adopted technology for accreditation of voters with the aid of INEC Voters Identification System (IVAS) popularly called the Smart Card Reader (SCR). Temporary Voters' Cards (TVCs) which were issued to voters for 2011 election were replaced with the Permanent Voter Cards (PVCs). The PVC replaced the Temporary Voter Card (TVC).

According to INEC, quality, security; durability and cost effectiveness were underlying factors in the production of the Permanent Voter Cards by INEC. These cards have many components and specialized features (e.g. base substrate, security printing, personalization, lamination and chip embedding), and it was designed with an average life span of ten (10) years. With the SCRs, accreditation process was broken down into three: Identification, Verification and Authentication. Identification physical comparison of the face of the card holder with the image displayed on the SCR when the PVC is read; Verification (that the card is original)- being able to read the information on the chip of the PVC presented; Authentication-comparison of the fingerprint stored on the card with what was physically presented and scanned by the reader. Once PVC

has been read and accredited by the SCR, the Voter Identification Number (VIN) is stored in the reader and it does not allow the accreditation of that VIN on that particular reader any longer.[14] In bringing about a credible means of registering voters and ultimately a credible Register of Voters, The Smart Card Reader has been instrumental.

The Smart Card Readers are used in conjunction with the Permanent Voters Card in the conduct of elections. That is to say, a voter who wishes to be accredited with this technology must come with his PVC or else it is an exercise in futility. The Smart Card Reader does not work in isolation. **Section 41(1) of the Electoral Act 2022** gives the Commission the right and power to provide suitable boxes, electronic voting machines or any other voting devices for the conduct of elections. **Section 47(2) of the Act[15]** provides that to vote, the Presiding Officer shall use a Smart Card Reader or any other technological device that may be prescribed by the Commission, for the accreditation of voters, to verify, confirm or authenticate the particulars of the intending voter in the manner prescribed by the Commission. Therefore, the electronic accreditation was segmented into two levels; the verification and authentication of voter. The verification authentication stage involves swiping of the Permanent Voter Card against the Card Reader for the purposes of verifying if the voter is the legitimate holder of the card and that the polling unit information in the PVC corresponds with details of the polling unit. It also enables the polling officials determine if the PVC is genuinely issued by the commission. The authentication stage involves matching the fingerprint of the PVC holder with the biometrics stored in the chip. Impressively, the card reader records number of PVCs verified/authenticated or declined with all the details of the voters. This information can be used to audit polling unit results and also determine whether accreditation figures have been altered or falsified. According to Professor Attahiru Jega (2015) the Permanent Voter Cards (PVCs) the Independent National Electoral Commission (INEC) has produced

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14   Toba Paul Ayeni & Adebimpe Omolayo 'Impact of ICT in the Conduct of Elections in Nigeria' <https://www.imedpub.com/articles/the-impact-of-ict-in-the-conduct-of-elections-in-nigeria.php?aid=22211> accessed 9 June 2023

15   Electoral Act 2022

Permanent Voter Cards (PVCs) for the 68,833,476 persons in the biometric Register of Voters during 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. Quality, security, durability and cost effectiveness are underlying factors in the production of the PVC's by INEC.

a. *Election transparency administration and collation (e-trac) platform.*

This is an e-collation website that was developed by INEC for collation and transmission of polling units' results. Manual and electronic collations are done simultaneously. The electronic platform automatically sums up votes which serve as check and balance for the manual collation. Results were transmitted in real time which has reduced incidence of manipulations at collation centers.[16] It was not used for the general election due to technical problems, however, it was eventually used in the Kogi State governorship election in 2015 as support to the manual collation. INEC ICT staffs were deployed to collate and transmit results electronically while it's been collated on paper by the collation officers. All the elections that were conducted in 2016 which include: Rivers State parliamentary rerun, Kogi State gubernatorial rerun, Edo State, Bayelsa State and Ondo State gubernatorial elections, Rivers State parliamentary rerun as well as Osun State senatorial bye election conducted in 2017 witnessed the use of E-collation as support to the manual collation.

b. *Bi-Modal Verification Accreditation System (BVAS)*

This technology was used for voter accreditation. The Commission added facial technology to the existing fingerprint technology. With bimodal authentication, no person can vote more than once or vote without accreditation, as the face of the person would have been captured during authentication. Thus, the BVAS is a portable technological device that digitally reads the fingerprints of those turning up at a polling unit, thus helping with voter

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[16] Ibid

authentication and accreditation. It also has facial-recognition functions that can read and analyse the features of voters and compare them with the INEC's database of stored images to identify and verify a person prior to them casting their vote.

The device is also equipped with a camera function to capture the raw results sheets from the polling units for transmission to the INEC's collation centre. These raw images are then uploaded to the IReV. This is an online portal that gives the general public real-time access to the results captured and transmitted from the polling units. A user account needs to have been created by the viewing member of public before access is granted to all the uploaded results from the country's various polling units in PDF format.

c.   INEC Result Viewing Portal (IREV)

This technology is used for result uploads. To improve the openness and credibility of elections, form EC8A filled and signed by each Presiding Officer is scanned or photographed and uploaded to a public domain, which can be viewed by the general public.

d.   INEC Voter Enrolment Device (IVED)

This was utilized for voter registration It was introduced to improve data capturing at the point of enrolling voters-facials and fingerprints, migrating from the initial mono-biometrics of fingerprints to bimodal biometrics of fingerprints and facials. In 2021, the Commission upgraded and introduced the *INEC Voter Enrolment Device (IVED).* The Commission introduced IVED to improve the quality of data capture at the point of enrolment (facials and fingerprints migrating from the initial mono-biometric of fingerprints to bimodal biometrics of fingerprints and facials). This involves an entire hardware and software change, designed to capture more information on the voters including their emails, birth and other personal particulars. The need to enhance the power, prestige and sanctity of the vote led to steady improvement in voter accreditation process. The concept of one-person one vote, the secrecy of the vote and the right to free choice devoid of any encumbrance is at the heart of the electoral process.

e. **Voter Registration Online Portal.**

The portal gives voters' access to pre-enroll for voter registration, update their details, transfer their registration as well as submit details for permanent Voter Card replacement and location of their Permanent Voters Cards. For the Continuous Voter Registration (CVR) conducted from June28, 2021 and July 31, 2022 out of the 9,518,188 valid registrants, youths between the ages of 18 and 34 accounted for 7,286,871(76.56%).

f. **The Automated Biometric Identification System (ABIS)**

This was to remove multiple and double registrants. Using the technology, the Commission removed a total of 2,780,756 double and multiple registrants out of 12,298,944 registrants that completed their registration between 28th June 2021 and 31st July 2022.

g. **INEC Candidate Nomination Portal**

Political parties use this portal to upload the list and personal particulars of their validly nominated candidates.

h. **Media accreditation portal.**

Media organizations use the portal to apply for accreditation to cover a scheduled election.

i. **The Observer Group Portal.**

Registered domestic election observers, international observers and embassies apply for accreditation to deploy observes to observe scheduled elections.

j. **The INEC Political Party Polling Agents Portal.**

This portal enables political parties to carry out upload and management of polling and collation agents within an integrated system. The use of technology in the conduct of elections is one that has legal backing. The Electoral Act provides for the use of Smart Card Readers or other technology for the conduct of elections.[17] In

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[17]   S.47(2) Electoral Act 2022

fact, Clause 38 of the Guidelines for the Conduct of Elections 2022 provides for the mode of transmission of election results. It held that:

"Upon the completion of all the Polling Unit voting and results procedures, the Presiding Officer shall:

i)   Electronically transmit or transfer the result of the Polling Unit directly to the collation system as prescribed by the commission.

ii)   Use BVAS to upload a scan of the EC8A to INEV Result Viewing Portal (IReV), as prescribed by the Commission.

iii) Take the BVAS and the original copy of each of the forms in a tamper-evudent envelope to the Registration Area/Ward Collation Officer, in the company of Security Agents. The Polling Agents may accompany the Presiding Officer to the RA/Ward Collation Officer.

The said section not only portrays that the law recognizes the use of technology in the conduct of elections, it mandates and expects that elections should be conducted with the use of such technology.

4.   Impacts of Technology in Ensuring Fair and Credible Election in Nigeria

The Independent National Electoral Commission (INEC) has been devoted to the use of technology to improve credibility, transparency and free and fair elections. In fact, in 1999, the Commission introduced technology in its operations through the creation of a **Computer Room** in its research department. The Computer Room evolved and metamorphosed to become the Computer and IT(C&T) unit and thereafter it became Information Technology and Communications under the office and direct supervision of the Chairman. In 2002, the Unit graduated and became a full department of Information and Communications Technology (ICT).

Happily, we have begun to reap the dividends of this dedication. The impacts of technology in promoting free and fair elections are as follows;

4.1   Reduction of the Incidence of Multiple Voting

Technologies such as the BVAS, Smart Card Readers and others listed above that were solely created for the purpose of registration and accreditation if votes have risen to serve the sacrosanct duty of ensuring that a person cannot be registered more than once and according cannot vote more than once. The democratic principle of *"one man, one vote"* is safeguarded by these technologies. Do not take my word for it. A dive into the Nigerian electoral history suggests that the re-introduction of an improved AFIS in 2015 which led to the deletion of over five million double registrations from the EVR. Also, the introduction of business rule which only allows voters who has at least two fingerprints captured in the register further reduced the number of voters on the register drastically.

With the rate of technological advancement of INEC, it is believed that issue of multiple registrations will be completely eradicated or reduced to the barest minimum in the future elections. The INEC's biometric technology proved efficient in preventing the recurrence of bloated voter figures based on ghost and ineligible names, thus limiting opportunities for impersonation and vote-rigging. With the biometric system embedded in the BVAS, voter fraud and instances of people casting their ballot multiple times could be kept in check.

Affirming this, Professor Jega maintained that:

> *We have made rigging impossible for them (electoral fraudsters) as there is no how the total number of votes cast at the polling unit could exceed the number of accredited persons. Such discrepancy in figures will be immediately spotted. This technology made it impossible for any corrupt electoral officer to connive with any politician to pad-up results. The information stored in both the card readers and the result sheets taken to the ward levels would be retrieved once there is evidence of tampering....."*[18]

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[18]   Oche, *Leadership*, April 5, 2015

4.2 *Reduction of Result-Manipulation at Collation Centers.*

In time past, where the manual system of conducting elections was still the order of the day, when votes were cast, the results would be taken to the ward level where it is collated, then from the ward level it would be taken to the Local Government level where all the wars results are then collated and then finally to the State Level before the results are finally collated for announcement.

The necessary implication is that if the results were not manipulated at the polling until or center it could be manipulated while in transit to the Ward level. If it is not manipulated at the Ward Level, it could be manipulated while in transit to the Local Government level. And if it is not manipulated there it could be manipulated at the state level. It follows therefore that the old way of result collation after the conduct of elections afforded many opportunities to perpetrators of electoral malpractices to manipulate the election results and thwart the supreme will of the people on who should be their leader and hold political offices.

With the advent of technology in the conduct of elections, this problem has been majorly eradicated. This was principally the role the BVAS machine was adopted to serve. Now when votes are casted and tallied at the polling units they can be sent directly to a central server of the INCLEC without having to resort to ward transit or state level transit. This has reduced the incidence of result manipulation and has enabled that the accurate results undiluted from any political interference is sent directly to the server where is computed.

4.3 *Access to Media.*

Elections are a matter of national interest. Thus there is need for wide dissemination of information or any matter that relates to elections. This has informed the role of the mass media. Technology having made the world a global village is instrumental to advancing the frontiers of media coverage. In this regard, many media channels like Channels, Arise TV, NTA, Aljazeera, AIT have uses several of it's programmes to enlighten both the electorate and members of the political parties on various issues pertaining to elections. They have brought to light vices that are prevalent in times of election,

including political violence, ballot box snatching and the likes. They have gone on national campaigns sensitizing the electorates on varying complex political issues, requirements that are needed for the conduct of proper elections and also on the rights of each citizen with regard to voting.

Mass media within Nigeria has been up and doing; particularly as concerns the discharge it the necessary ethical standards this, they seriously engage in informing, educating and entertaining, as conventionally required of then and in the persuasion in the bulk of the masses towards the sustenance of the existing relative peace and stability within the country's confines. A graphic representation of this was during the 2011 elections when the mass media served the purpose of transmitting the election results of voting in each state in the country immediately as the results were turned in. Thus, the mass media assisted in the curbing of the electoral violence, which was the fallout if the numerous anomalies perpetrated during the elections. This was also replicated during the 2015, 2019 and especially during the 2023 general elections.

Social media handles have also been instrumental in spreading wide dissemination of information with regard to the conduct of elections. What was obtainable during the period leading up to the 2023 general elections are apt. On the days before the election various people on their Twitter handles, Instagram accounts and Whatsapp accounts or groups continue to restate the processes by which a person's vote can be cast and would be considered valid for the sake of the elections. Among many that was transmitted was that persons should cast their votes by thumbprint on the ballot paper, and it must be the index finger which must be imprinted on the space provided, and not outside of it or on the line. By this lay person's who were not aware of such intricacies would be armed with such knowledge and on the day of election their votes can be validly cast as opposed to a situation where they would be unnecessarily disenfranchised for non-compliance with these technicalities.

Moreover, access to media affords an opportunity for the electoral process to be properly observed by international stakeholder. So that if equitable and free and fair standards are not

met the government in operation can be condemned for not adhering to such standards.

5. Limits of Technology in Ensuring Free and Fair Elections in Nigeria

It is a wisdom as old as time that everything is a like a coin, having two sides thus all that has its pros comes with its cons. The newly introduced digital technology is seen and believed to be a fix, and able to compensate for the state's weaknesses, shun malpractices and achieve free, fair and credible elections. But the extent to which that has been achieved is still questionable.

5.1 *The Cost of Procuring Technologies for Election.*

The cost of digital technology in the conduct of elections is a major limitation to the realization of a free and credible election in Nigeria. Electoral cost is used to mean the main expenses that go into election preparation and execution. This include: voter registration, boundary delimitation, the voting operation, counting and transmission of results, dispute adjudication, voter education and information, campaigning by political parties and candidates, and vigilance or oversight by party representatives and domestic or international observers[19]

Between 1999 and 2018, the Nigerian Independent Electoral Commission (INEC) received N730.99 billion as budgetary allocations. In 1999, the electoral expenditure started at N1.5 billion, increasing to N29 billion in 2002, N45.5 billion in 2006, N111 billion in 2010, and coming down to N87.8 billion in 2014. In 2019, President Muhammadu Buhari also presented a budget of N242 billion for the elections. You would find that a large chunk of this budget goes into funding the technologies utilized for the conduct of the elections. Notice that with every succeeding election the budget increases, this is because more sophisticated technologies are being conscripted for the purpose of elections.

Painfully, most of the huge funds spent in these elections by INEC are unaccounted for; neither are they reflected in the system,

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[19] F.O Okwueze: Interrogating the Cost of Digital Technology in Elections in Africa, *Africa Development*, Volume XLVII, No. 2, 2022, pp. 199-217

as the elections are often poorly conducted. The use of the, or lack thereof, BVAS and IRev in the conduct of the 2023 General Elections is fitting in this regard.

5.2 *Electoral Technology are Liable to Human Manipulation.*

A noteworthy feature of technology is that it doesn't not operate in a vacuum or without human input to set the machinery in motion. The human element poses the challenge in having the return of a fair and credible election in Nigeria. This is often because the persons who operate this machinery are unscrupulous, corrupt and by their malicious motives intentionally thwart the sacrosanct purpose of the elections. The 2019 General Election conducted in Nigeria employed the use of digital technology but declaration of results in some states as inconclusive. To buttress this point, in some voting centers, it was reported that the card readers malfunctioned and were unable to identify voters. There were also outright abuses of their usage in some areas. These experiences suggest that these technologies are liable to increase popular suspicion of manipulation, and encourage complacency towards traditional forms of election oversight. Election results may be improperly tallied or reported. Inaccuracies may be introduced by human error or because of a lack of proper oversight. These malicious actors can affect vote counts by introducing inaccuracies in the recording, maintenance, and tallying of votes; and/or altering or destroying evidence necessary to audit and verify the correct reporting of election results.

In polling sites, information on voting locations, voting times, and voting processes may be manipulated to mislead potential voters. Disruptions in mail or Internet service may adversely affect remote voters. Registration data may be altered to disenfranchise voters. Voting equipment failures or inadequate supplies could prevent vote collection. After votes have been cast, physical or electronic ballots can be altered, destroyed, or lost. Counting errors may affect manual or electronic tallying methods. Tallies may be inaccurately reported because of carelessness or malicious activity. After the primary reporting of results, evidence that enables verification of the reported results may be altered or destroyed. This evidence could include

original artifacts (e.g., cast ballots) or supplemental data provided to enable external auditing and verification.

5.3 *Disruption of Electronic Systems*

Security vulnerabilities can be exploited to electronically disrupt voting or affect vote counts at polling locations or in instances of remote voting. For example, Denial-of-service Attacks. Denial-of-service (DoS) attacks interrupt or slow access to computer systems.2 DoS can be used to disrupt vote casting, vote tallying, or election audits by preventing access to e-pollbooks, electronic voting systems, or electronic auditing systems. When employed against even a limited number of jurisdictions, DoS disruptions could lead to a loss in confidence in overall election integrity. A DoS attack targeting select jurisdictions could alter the outcome of an election.

There is also malware. Malware—malicious software that includes worms, spyware, viruses, Trojan horses, and ransomware— is perhaps the greatest threat to electronic voting. Malware can be introduced at any point in the electronic path of a system. Worms are standalone computer programs that replicate themselves in order to spread to other computers, possibly compromising the operability of the computers they infect now or in the future. Spyware is software that aims to gather information about a person or organization without their knowledge, that may send such information to another entity without the consumer's consent, or that asserts control over a device without the consumer's knowledge. A computer virus is a type of malicious software program that, when executed, replicates vote—from the software behind the vote-casting interface to the software tabulating votes—to prevent a voter's vote from being recorded as intended.

Malware can prevent voting by compromising or disrupting e-pollbooks or by disabling vote-casting systems. It can prevent correct tallying by altering or destroying electronic records or by causing software to miscount electronic ballots or physical ballots (e.g., in instances where optical scanners are used in the vote tabulation process). Malware can also be used to disrupt auditing software.

Malware is not easily detected. It can be introduced into systems via software updates, removable media with ballot definition

files, and through the exploitation of software errors in networked systems. It may also be introduced by direct physical access, e.g., by individuals operating inappropriately at points during the manufacturing of the election system or at the level of elections offices. It is difficult to comprehensively thwart the introduction of malware in all these instances.

There are other avenues through which electronic systems may be disrupted. Malicious actors may obtain sensitive information such as user-names or passwords by pretending to be a trustworthy entity in an electronic communication. Servers may be breached to obtain administrator-level credentials. Individuals with site access (e.g., employees or contractors) might physically access a system.

5.4   *Lack of Training for the INEC Officials.*

Technological equipment requires expertise for their proper handling. In other words, persons who intend to harness the benefits of such facilities must know how to use it. For example, when a person buys a phone a manual for usage is accompanied with it to educate the user on how to use the phone. Same applied to technologies adopted by the INEC. Person's must know how to use it before it can be harnessed. It is unfortunate however, that in Nigeria a lot of the INEC officials barely know how to use the technologies such as Smart Card Readers, BVAS, IReV and other facilities. There is no proper training prior to elections and this poses a great challenged to the realization of free and fair elections in Nigeria. This is so because these officials are not able to utilize the technology and the sole aim of adopting them for the process is defeated.

An apt example is what occurred at the 2023 general elections. The IReV was designed to kick into action immediately after voting ends. Polling unit ballots were first sorted, counted, and endorsed by an INEC officer. The BVAS device's camera function was then activated to capture the raw result sheets, for transmission to a result-viewing portal in real time. This supposedly seamless process was, however, marred by controversies that tainted the transmission process. At the end of voting, many INEC officials claimed not to remember their passwords to the IReV portal. For those who could

recollect theirs, many complained the passwords were wrong and that they could consequently not upload the polling unit results in real time. The impudence of this ineptitude is jarring and appalling. How can the very body who has spent millions, billions even to acquire this equipment not have the skilled man power to see it through to the end? It shows therefore that no matter how profoundly put together, if the people who are required to operate the lection technologies are not skilled to do so, the whole purpose is defeated.

5.5 Situations outside the Control or Reach of Technological Innovations.

Now it is true that free and fair elections do not end and begin at the point of registering voters and compiling votes. There are other extraneous factors that determine the freeness and fairness of an election or otherwise. Some of those factors include:

i. Adequate voter registration.

ii. Upon the cast of ballots, the votes should be accurately counted and correctly uploaded.

iii. There should be made available media access and a protection of the right to freedom of speech and expression.

iv. Voters have access to reliable information about who the candidates to the election are.

v. Legal framework guaranteeing the citizens' rights to vote and be voted for, and the qualifications to be a candidate for any office.

vi. Voters should be not intimidated by threat of violence or manipulation of whatever kind or by vote buying, into voting against their preferences or voting in candidates they would ordinarily not vote.

vii. There must be no gerrymandering of any kind to influence the votes allotted to a specific candidate

viii. The Electoral management body must be independent, impartial and free from any political interference.

A nuanced interrogation of the above factors that affect the freedom of election suggests that technology can only control factors I, II and III. The rest are outside the control of technology.

Technology is merely a tool in the hands of the electoral management body in combatting unfair and unfree electoral practices and not an active role player. Therefore, there are certain things that are outside it's scope. Thus, in ensuring that there is media access during the course of elections, that voters are properly registered and the results of such ballots properly uploaded, technology has played an indispensable role (though it is not without its issues).

In the other factors, the hand of technology has been cut short. Technology has no control over the legal framework assuring the rights of voters who wish to vote or be voted for. Also, it has no effective control over political thuggery, and election-related violence. We find that even with the advent of technology in the conduct of Nigerian elections, many politicians are still able to hire thugs who snatch ballot boxes, attack areas where it is perceived that their opponents may have more votes. Worse even is where the INEC officials in the various polling units' bully and intimidate voters into voting their preferred candidates. All this happen even while the BVAS machine, IReV portal and other machineries are present.

In essence, all this goes to show that while technology is essential to the realization of free and fair elections, it is not the absolute solution. It must be used in conjunction with other machineries like sound legal framework establishing free and fair elections, proper implementation of these laws and proper regard for the spirit of democratization.

5.6   *Improper Infrastructure for the use of Technologies.*

Many times internet connectivity is required to operate the technological equipment. Therefore, failing to use internet connection or trying to operate offline would not allow the device to be used for either accreditation or uploading of results. It is no news that in many parts of Nigeria there are no internet masts, especially in rural areas. There is poor or weak connection, thus these devices can either not work or there is excessive delay in the transmission of results. Election-monitoring groups like European Union Observer Mission (EUOM) reported that the option to use the BVAS offline, enabling results sheets to be uploaded even in situations of weak

internet connectivity, simply failed to function or remained largely unused by those responsible.

6. Recommendations

In view of the above contentions, the follows are the recommendations of this article:

a. The INEC should continue to develop and maintain a detailed set of cybersecurity best practices for state and local election officials. Election system vendors and state and local election officials should incorporate these best practices into their operations.

b. The INEC should closely monitor the expenditure of funds made available to the states for election security through regulatory framework.

c. INEC should provide funding for state and local governments to improve their cybersecurity capabilities on an ongoing bbasis

d. Federal and state laws should be revised to support pilot programs to explore and validate new election technologies and practices. Election officials are encouraged to seek expert and public comment on proposed new election technology before it is piloted.

e. It is believed that INEC would overcome the challenge of delay in the final collation of results if the use of electronic collation is fully implemented with all necessary legal frameworks. It will save collation officers the risk of travelling in the dead of the night to get results submitted for final collation. It would also save INEC some costs.

f. The current electronic register needs to be updated due to the fact that some of the voters on the register are dead; many permanent voters' cards are yet to be collected while issues of multiple registrations have not been fully resolved. Trying to clean the register further may be very expensive and may not eventually yield the desired results. The weak business rule adopted which requires at least two fingerprints for inclusion in the register needs to be reviewed. Also, the high number of card readers' authentication failures calls for serious concern.

In the light of all these issues raised, the call for outright abandonment of the current voters' register is imperative. It is recommended that the current register be discarded while a fresh voter's registration is conducted with more sophisticated electronic machines that would easily capture potential voter's fingerprints in a jiffy just as the ones used for the recent banks verification numbers (BVN) exercise. A licensed AFIS should be procured to rid the new registers of any occurrences of multiple registrations.

g. In addition, Collection of voters' cards should be tracked online to ensure the cards get to the owners and to allow INEC to keep proper record of those who have collected their cards up to date. Voters who refuse to collect their cards before any major election should not be included in the register for such election. Since no one is allowed to vote without a permanent voter card; anyone whose card is with INEC some weeks to any general election is definitely not ready to vote and should be removed from the register to minimize cases of inconclusive elections. This will ensure that only voters who are willing, ready and qualified to vote is only included in the register.

h. Register update and voters' revalidation exercise should be done before any general election. This will enable INEC to detect and remove dead voters from the register. In addition, enough time should be allocated to ICT-based activities e.g.: computer purging and installation for Continuous Voters Registration (CVR); Smart Card Reader purging and configuration; and printing of registers. Eleventh hour rush will always give room for avoidable mistakes which might generate unnecessary tension and problems. It will also reduce the stress of technical support staff.

i. Furthermore, ICT staff of INEC should be made to undergo certification courses and training both in Nigeria and oversea. This will reduce the cost of outsourcing ICT-related tasks to consultants. It will also minimize security risk. It is also recommended that the operating system on card readers should be upgraded or another set of devices should be procured

which will be able to detect and authenticate fingerprints easily.

7.   Conclusion.

In light of the foregoing it is appropriate to draw the curtains on this article this; elections are a matter of pertinent importance. It affords legitimacy to any government in power and is a periodic sacrament reinstating that the people have the supreme will and are the possessors of the sovereignty in the nation. Therefore, any practice that operates to challenge this sovereignty must be heavily condemned. Accordingly, any instrument or system, like Technology, that would help alleviate the pitfalls of the electoral system in Nigeria should be substantially adopted. In this article, an appraisal of the impacts and limits of technology in ensuring free and fair elections informs us that technology alone cannot be utilized to combat the pitfalls of elections in Nigeria. It must be complemented with legal frameworks combating unfree and unfair elections in Nigeria, a dedicated people and enforcement agencies ready to fight against corruption of whatever kind in elections and respect for the sanctity of elections and the free will of the people.