

Impact of Technology on Elections in Nigeria: A Case of the 2023 General Elections

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Abstract

The 2023 Nigerian General Elections were a turning point in the nation's democratic history because the Independent National Electoral Commission (INEC), which oversees elections, implemented innovations like the INEC Results Viewing Portal (IReV) and the Bimodal Voter Accreditation System (BVAS) to increase credibility and transparency. Although these technologies made the election better in certain ways, they also had problems, which led to discussions about how effective they were. Vote manipulation, ballot box snatching, and result falsification have plagued Nigeria's electoral history, raising widespread doubts about the results of elections. The 2022 Electoral Act required electronic accreditation and result transmission by law in an effort to address these problems. It was proclaimed a game-changer when BVAS was implemented, combining biometric verification (facial recognition and fingerprint) with real-time result uploads. However, as the 2023 elections showed, technological dependability, institutional dedication, and judicial enforcement are necessary for technology to be effective in ensuring electoral integrity. The impact of technology on Nigeria's 2023 elections is examined in this chapter, with particular attention to BVAS and IReV. The following questions are among those it answers: Was the credibility of electoral fraud weakened or did BVAS reduce it? What was the impact of real-time result transmission on public confidence in INEC? What were the obstacles to BVAS and IReV implementation? Which lessons can Nigeria learn for future elections? It is desk research and relies on secondary sources of data.

Keywords: Nigeria, 2023 elections, electoral technology, BVAS, IReV, transparency, INEC

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Introduction

Democracy has emerged as the preferred system of government around the globe because of its support of political rights, human rights, and civil liberties. Technology has been employed to enhance reliability and transparency in the conduct of elections (Titus & Aluko, 2024). The entrenchment of democracy in a polity is characterized by the conduct of free, fair, and transparent elections. In Nigeria, the electoral processes have been marred with dissents and discord. It has contributed to the low level of development as time is used in resolving election petitions rather than concentrating on good governance (Oyelude & Olojede, 2023). Similarly, Ogiewa, and Ajisebiyawo (2023), maintained that the manual conduct of elections in Nigeria was marred with corruption, vote manipulation, ballot box snatching, under-age voting and election violence. By the same token, Okwong (2012), maintained that Nigeria elections have been constant tales of violence, fraud, and bad blood.

In his insightful analysis of digital technologies and elections management in Africa, Ibeanu (2022) noted that two issues have dominated the quality of election in Africa (Nigeria inclusive) and these issues are the impartiality and the efficiency of election management agencies. The former centres on the level of human intervention in determining the outcome of elections. This has to do with among others, trust in the election umpires that they will adhere to the rules in order for the citizens to take part in the elections without hindrances and also respect the choice of the people. Besides, ensuring that all the gladiators will be given a level playing level. The level of citizens trust in elections in Nigeria has declined over the years, with every election outcome being contested. For instance, since Nigeria return to civil rule in 1999, all the elections outcomes have been contested. The total number of petitions filed after the 2003 General Elections was 560. By 2007, the petitions increased to 1,290. A total of 731 elections petitions were filed at the various Election Petition Tribunals across the Federation after the 2011 General Elections (INEC, n.d.). For 2011 and 2015 the numbers were 731 and 297 respectively (Ayeni, Aweh, Badeji-Ajisafe & Atachin, 2023).

According to the Court of Appeal, the official number of petitions filed following the general elections held in February and March 2023 is 1,209, out of which 206 were withdrawn, leaving 1,003 (PLAC, 2023). The latter revolves around the efficacy of election managers in delivering quality elections. Elections are poorly planned, the procurement and delivery of materials are slow, the casting of ballots and the tabulation of results are outdated, and the declaration of results is delayed. Thus,

digital technologies have been advanced as solution to problem of election quality in Africa. According to Ibeanu (2022), the belief in digital technology as solution to questionable elections in the continent was so pervasive that it was becoming difficult to imagine elections on the continent without them.

In today's world, elections in Nigeria and elsewhere on the continent as well as in the world are conducted with the aid of technology. Technologies are used in all the activities of electoral management cycle, such as registration of voters, preparation of election plans, procurement, logistics and, in some cases, voting. Besides, digital technologies are used to share election related information and mobilization of voters for elections are done through social media (Ibeanu, 2022).

It is against this backdrop that this chapter examines the impact of technology on Nigeria elections with focus on the 2023 General Election in Nigeria. The chapter is organized into six segments of which this introductory part is one. This is closely followed by conceptual clarification of concepts germane to the study and these are technology and elections. The third part examines the history of technology in the Nigerian electoral process. The fourth section discusses the role of technology in 2023 general elections and the fifth part examines the challenges/ impacts of technology in the electoral process in the country and the final section concludes with a recommendation.

❖ Conceptual Clarification

This segment of the chapter examines two concepts that are germane to the study, and these are technology and election. The clarifications of these concepts are necessary to have full appreciation of the subject discussed.

• Technology

The concept technology refers to the application of scientific knowledge, tools, and techniques to solve practical problems and improve human life. It incorporates innovations designed to enhance efficiency and productivity across different aspects of human lives. Historically, technology developed from simple tools to sophisticated digital systems, profoundly shaping societal functions (Angaye, Clark & Ikenga, 2023).

According to Brynjolfsson and McAfee (2014), technology transforms industries by automating tasks, optimizing processes, and introducing novel modes of production and service delivery. In a like manner, Arthur (2009) notes that such advancements

address societal challenges, driving economic and social progress. In the modern era, technology is closely associated with digital innovations, such as computers, the internet, and mobile devices, which have revolutionized global communication and commerce.

For Castells (2010), technology has led to the emergence of a "network society," where information flow and digital networks drive socio-economic and political processes. Technology's integration into governance has also grown, improving transparency and efficiency through innovations like biometric identification and online government services (Norris, 2001).

The adoption of the Bimodal Voter Accreditation System (BVAS) during the 2023 general elections in Nigeria demonstrates the transformative potential of technology in governance. BVAS enabled biometric verification and real time result transmission, addressing long-standing issues of electoral malpractice and improving electoral credibility (Agbaje & Okechukwu, 2023). Such innovations underscore technology's role in advancing societal goals, ensuring accountability, and fostering trust in democratic processes.

For Abodunrin, Oloye, and Alaba, (2018), technology is the accumulation of procedures, abilities, techniques, and method utilized as a part of the generation of products, administrations or in the achievement of goals, for example, logical examination and election.

From the foregoing, technology can be described as the practical application of science to address prevailing societal problems.

- **Election**

The concept of election belongs to one of the social sciences concepts known as contested concept because of its lack of acceptable definition. Put differently, election has been defined in various ways by different scholars and policy makers. For Ikelebe (2016) election is the process by which people decide their rulers and assign persons to leadership positions. Similarly, Babalola (2019(15), sees elections as all about choosing leaders. In the same vein, Nwolise (2007), defined elections as the process of selecting the officers or representatives of an organization or group by the vote of its qualified members. By the same token, Bamgbose (2012) defined elections as the process of elite selection by the mass of the population in any given political system. Elections provide the medium by which the different interest groups within the bourgeois nation state can stake and resolve their claims to power

through peaceful means. In a like manner, Araba and Braimah (2015) noted that an election is a procedure by which the electorate, or part of it, choose the people who hold public office and exercise some degree of control over the elected officials. It is the process by which the people select and control their representatives.

Eya (2003) sees election as the selection of a person or persons for office as by ballot and making choice as between alternatives. Similarly, Ozor (2009), sees election as the procedure through which qualified adult voters elect their politically preferred representatives to parliament or legislature of a county (or any other public positions) for the purpose of farming and running the government of the country.

Elections are the cornerstone of democracy, allowing citizens to select their leaders, influence governance, and ensure accountability. They legitimize political authority, provide a platform for policy debates, and facilitate peaceful power transfer (Angaye, Clark & Ikenga, 2023). Similarly, Dahl (1988) maintained that elections are vital for democratic systems, fostering citizen participation and ensuring that leaders remain accountable, knowing their mandates can be revoked in subsequent cycles.

From the foregoing definitions, elections can be described as the process through which some of the registered voters or electorates elect their leaders to positions through the ballot box. They offer the citizens opportunities to choose their leaders and policies, make their leaders accountable and responsive to their needs, etc.

History of Technology in Nigeria Electoral Processes

As earlier indicated in the introductory part of this chapter the irregularities that marred the conduct of elections in the country since the return to civil rule in 1999 necessitated the introduction of technology into Nigeria electoral processes.

Nigeria electoral history is replete with poorly organized elections with complains of rigging and many documented accounts of election malpractice (Enwere & Ladan-Baki 2015; Sulaiman, n.d). Studies have shown that the widespread of electoral malpractice was due to manual methods used in conducting elections in the country and due to this, there were calls for the reform of the electoral system in the country (Jibia & Zake 2020). These calls necessitated the deployments of technology in Nigeria's electoral process which began in 2003 (Jega & Hillier 2012). According to Jibril, Mohammed, Baba and Bello (2024), the 2003 general elections in the country witnessed a technological leap with the introduction of Optimal Magnetic Recognition (OMR) forms. While still retaining the manual approach as back up, INEC incorporated computerization using the Optical Mark Recognition

(OMR) technology. This entails the compilation of the names and particulars of all prospective voters (also known as prospective Registrants) on the form EC.1A who present themselves physically for registration at the registration Centers. The information 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 (cited in Jibril, et.al, 2024).

The build-up to the 2007 general elections witnessed the procurement of the Direct Data Capture Machines (DDCM) for the registration of prospective voters and this enhanced the level of credibility of the electoral system (Sibe & Kauner, (2023; Ayeni & Esan, 2018).

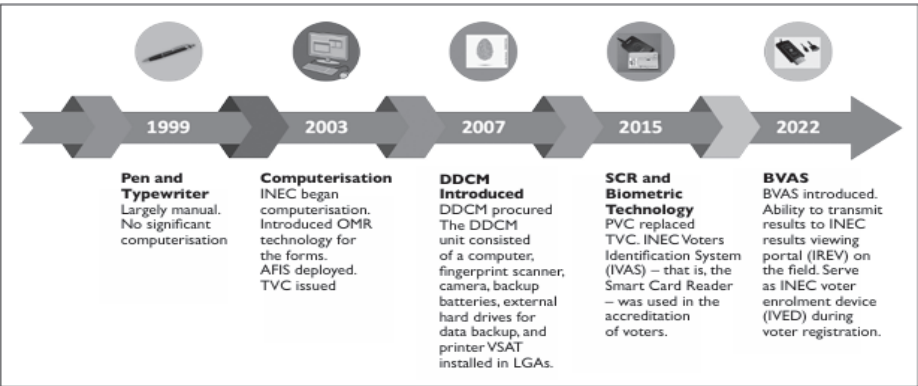
For the 2015 General Elections in Nigeria, a smart card reader was introduced. The smart card reader is a technological device setup to authenticate and verify Permanent Voter Card (PVC) issued by INEC. The device uses cryptographic technology that has ultra-low power consumption, with a single core frequency of 1.2GHz and Android 4.2.2. Operating System (Nnamani, Nduba, & Nwanolue, 2019). Put differently, the card reader is designed to read information contained in the embedded chip of the permanent voter's card issued by INEC to verify authenticity of the Permanent Voter's Card (PVC) and carry out a verification of the intending voter by matching the biometrics obtained from the voter on the spot with the ones stored on PVC (Nnamani, Nduba, & Nwanolue, 2019).

The 2023 General Elections was taken a step further in terms of technology with the introduction of BVAS machine. BVAS means a biometric voter accreditation system and replaces the smart card reader which was used in 2015 General Elections. It comprises of software and hardware components. It is used to scan and electronically transmit PU result (form EC8A) to the INEC Result Viewing (IREV) portal which will be available to the public. The work of BVAS is also to guard against identity theft where one person uses another person's PVC to vote.

The BVAS runs on android OS with the installed relevant software to optimally perform the specific functions it is design for BVAS usage entails scanning the barcode on the PVC, QR code on voter's card, entering the last six digits of the voter identity number (Ezeador, 2025). The figures that followed show the summary of the timeline of technological deployments in Nigeria's electoral process, the BVAS

machine, permanent voter card (PVC), OMR form processing machine, Direct Data Capture Machine used in 2006 for voters registration, Smart Card Reader (SCR) and the current Direct Data Capture Machine currently being used for voters' registration.

Figure 1: Timeline of technological deployments in Nigeria’s electoral process



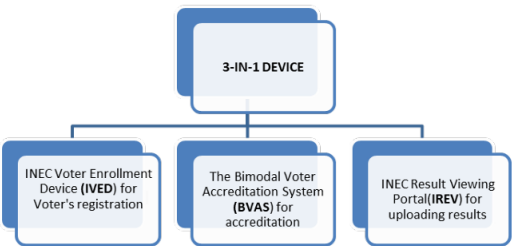
Source: Sibe & Kauner, (2023)

Figure 2: INEC Three-in-one device (BIVAS) Machine



Source: Ayeni, et.al, (2023).

Figure 3: Figure showing how one device is used for three purposes.



Source: Ayeni, et.al, (2023).

Figure 4: A Pictorial Front View of the PVC



Source: Osemwota, (2019)

Figure 5: OMR Form processing machine



Source: Ayeni & Esan, (2018)

Figure 6: Direct Data Capture Machine used in 2006 for voters registration



Source: Ayeni & Esan, (2018)

Figure7: INEC Voters Identification System (IVAS) popularly called the Smart Card Reader (SCR)



Source: Ayeni & Esan, (2018)

Figure 8: Direct Data Capture Machine currently being used for voters' registration



Source: Ayeni & Esan, (2018)

The Role of Technology in 2023 General Elections in Nigeria

The 2023 general elections in Nigeria were held on the 25th of February and 18th of March 2023, throughout the federation. The Presidential and National Assembly elections were held on 25th of February 2023 while Governorships and States Houses of Assembly were held on 18th of March 2023. The technology employed for the 2023 General Election was the Bimodal Voter Accreditation System (BVAS). This device used to identify legible voters for accreditation, with the inbuilt capacity to recognize voters' fingerprints and facial before voting, and to transmit/upload live results from polling units directly to INEC result portal, the IReV, in real-time. This device cost the electoral body and the nation at large a whopping of N105.25 billion in 2021 (Ezeigbo, 2024).

The Electoral Act of 2022 which governed the conduct of 2023 general election permitted INEC to use technological device in the conduct of the elections. For instance, section 7(2) of the Act makes it mandatory 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 (Ihechukwu, 2023).

The BVAS ensures that only persons eligible to vote and in possession of their PVCs and whose names are on the register of voters of a particular polling unit are allowed to vote at that polling unit and to only vote once. Besides, it verifies and accredits voter using either their fingerprints or their face and eliminating failure to accredit eligible voter. According to INEC, some of the roles of the BVAS in the 2023 general elections in Nigeria, is that it was used to store the details of voters, as INEC Voter Enrolment Device (IVED) during voters' registration and for uploading election results to the INEC Results viewing Portal (IReV) (Ezeigbo, 2024).

In his insightful analysis of the roles played by BIVAS in the 2023 General Elections, Dawn (2022) noted that BVAS machine enabled voters to get accredited and vote without wasting time; it helped in transmitting some election results to IReV, thereby reducing interference, and with BVAS, any polling unit where any form of violence was detected, results from such polling units was automatically nullified and voided. Similarly, Many and Dangnan (2022) contended that BVAS machine increased accuracy, transparency, and efficiency, make elections digital other than analogue, accommodates more people in shorter time and make the process interesting and less cumbersome.

Challenges / Impacts of Technology on Nigeria's Electoral Process

There is no doubt that the introduction of technology has revolutionised election credibility and reliability in Nigeria. However, various challenges have been identified in the implementation of technology in the electoral processes in the country. It is pertinent to once again remind us of the questions this chapter seeks to address. Has the credibility of electoral fraud weakened or reduce with the introduction of technological device such as BVAS machine? What was the impact of real-time result transmission on public confidence in INEC? What were the obstacles to BVAS and IReV implementation? Which lessons can Nigeria learn for future elections? Some of these questions are address in the paragraphs that followed.

One of the challenges that confronted INEC in the 2023 General Elections was the issue of reliability of the technology device deployed for the conduct of the elections. The country is noted for technological failures in elections. For instance, in 2015

General Elections, there were reported cases of the failure of the Smart Card Reader (SCR). According to Alebiosu (2016), all the five biometric card readers deployed to the then President polling unit failed. In the same vein, Odalonu and Ogu (2022) reported that the BIVAS machine deployed in the Anambra governorship elections had technical challenges. This also happened at the Ekiti and Ogun States governorship elections (Ileyemi 2021). In the 2023, General Elections, there were cases of failed BVAS. For example, in Rivers State, the BVAS failed to accredit the wife of the governor, thereby disenfranchising her (Jaiyeola 2023). Despite the electoral body earlier claim that the BVAS has passed reliability tests, it admitted to glitches with the BVAS which it promised to improve in subsequent elections (Vanguard 2023).

The different election monitoring groups also made statements corroborating issues of reliability with the technology deployed in the 2023 General Elections. For instance, the European Union Observation Mission to Nigeria (2023) observed that while the introduction of the BVAS and IReV raised citizens' hopes, on election Day there were failures with the electronic transmission of results, particularly for the presidential election result. In a like manner, the Commonwealth Election Observer Group to Nigeria (2023) noted that the BVAS functioned satisfactorily in most polling stations. However, there were also notable problems. The report indicates that the BVAS's facial recognition function was more efficient than the fingerprint verification. This view was shared by a joint statement of the International Republican Institute (IRI) and the National Democratic Institute (NDI) (2023), which observed that while the BVAS functioned properly, the fingerprint verification appeared less effective than facial recognition.

Cyber- attacks are another challenge of the use of technology in the electoral process. For example, in 2022 gubernatorial elections in Osun and Ekiti States, they were cases of cyber-attacks on INEC Result Viewing Portal (IReV). These attacks were international in nature as they originated from Asia (Ufuoma, 2022). The then Nigeria's Minister of Communication and Digital Economy reported that the country experienced a total of 12 988 978 cyber-attacks days before and during the election the February 2023 Presidential Election in Nigeria (Michael 2023). The attacks were said to have originated from both within and outside the country (Sibe & Kaunert. 2023).

Inadequate training is yet another challenge facing the deployment of technology in Nigeria's electoral process. The training given to ad hoc INEC staff on the BVAS was inadequate. Majority of the ad hoc staff were not effectively trained on the use of

the machine. Moreover, the venues where the training took place were not conducive and overcrowded such that most of the trainees did not properly receive the instructions on the use of the device. The practical demonstrations of how to use the device were imperfect and in most cases the machines were inadequate to go around among the trainees (Ezeador, 2025; Ayeni, Awesh, Badeji-Ajisafe & Atachin, 2023).

Another challenge in the deployment of technology experienced in the 2023 General Election was internet network problems, including malfunctioning SIM cards in the BVAS and local network disparities. This forced INEC ad-hoc staff to resort to personal phones for internet connectivity. This resulted in unintended uploads, such as personal photos and unrelated files, on the IReV platform, compromising the integrity of election results (Ezeador, 2025; Ayeni, Awesh, Badeji-Ajisafe & Atachin, 2023).

The misuse of technology for political goals like spreading fake news has seriously affected the electoral processes. There were cases of fake results of the 2023 General Elections especially the Presidential Election posted on social media, and this affected the acceptance of the outcomes of the elections as some gullible Nigerians believed in the results posted and cast doubts on the official results later released by the INEC.

Inconsistency in result transmission is another challenge. The failure of INEC to upload all results promptly fueled the suspicions of result manipulation especially in the presidential election. The opposition parties namely Labour Party (LP) and People Democratic Party (PDP) alleged that INEC compromised the system to favour the ruling party All Progressive Congress (APC). This allegation affected the credibility of the election outcomes and was subject of litigation in the election tribunal as well as the Supreme Court (Eleanya 2023(45)). This failure of the transmission and real-time display of results were corroborated by several observer groups that monitored the elections. For example, Yiaga Africa raised concerns about the unexplained delay in uploading polling unit results to IReV portal after the conclusion of counting several hours on election day especially the presidential election results contrary to the promises given by INEC. Similarly, the Commonwealth Election Observer Group to Nigeria (2023) reported that the election results were not uploaded to the IReV portal in real-time as advertised. (Kareem 2023).

Digital resource access differs between urban and rural populations. Digital gadgets are not evenly distributed among citizens, making technology-based voting processes difficult to engage in. In a like manner, Okeaya-inneh (2023) contended that the poor internet connectivity in remote areas, delayed the presidential election results and this undermined confidence in the process.

Nevertheless, the introduction of technology using BVAS machine which is a three in one device- IVED for voters' registration, BVAS- for accreditation and IREV- for uploading and viewing of results has contributed positively to electoral processes in Nigeria. It has enhanced voter accreditation. The replacement of Smart Card Readers with BVAS which has fingerprint and facial recognition as its features reduce impersonation and multiple voting. Besides, it improved the speed and accuracy of voter verification in many polling units.

The IReV portal allowed polling unit results to be uploaded in real-time enabling the public to track results and reducing manual tampering. This increased transparency and reduced delays in result collation.

The use of BVAS and IReV made it difficult for politicians to manipulate votes at polling units. Thus, reducing electoral fraud. Electoral fraud entails inflation of the number of voters present and multiple voting at polling stations. This became a thing of the past because of the introduction of technology. Thus, the device checked the undemocratic attitude of politicians in polling booth electoral malpractices (Aboundrin et.al, 2018). Moreover, it has increased electorates confidence in the electoral process. Many voters are of the opinion that technology make elections fairer, leading to higher turnout.

Election litigations were minimized. There was a departure from the past where every election outcome is being contested at the election tribunal. For example, the total number of petitions filed after the conduct of 2007 general elections were 1, 290 and for 2023 general elections, the figure was 1003, this shows a decline in the figure compared to 2007.

Furthermore, electoral violence which characterized previous elections in the country was drastically reduced. This is because the elections were perceived to be transparent and credible due to the use of BVAS machine. Though the 2023 Presidential Election raised dusts because of the refusal of the two of the gladiators to accept the outcomes of the results. Nevertheless, the overall assessment of the election indicated that it was credible and transparent compared to the previous one especially the 2003 and 2007 elections.

Conclusion and Recommendation

Technology shaped Nigeria's 2023 general elections by improving accreditation and results transmission, but its varying implementation raised credibility problems. While BVAS and IReV were steps forward, logistical and trust issues emphasized the need for further refinement in future elections. The experience underlined both the potential and limitations of digital solutions in Nigeria's electoral system. In the light of the above, the following are suggested.

Firstly, INEC should ensure that the BVAS machines are tested to ascertain their state of health before deployment. This will ensure the credibility of the election outcomes as well as the transparency of the entire electoral processes. Hence, no citizen will be disenfranchised, and the perception of the people will change, there will be trust in the whole process and the people can bet their chests to say our votes count.

Secondly, INEC needs to improve on its cyber-security readiness and capability. The series of attacks during and after the elections were alarming, and the way out is for the electoral body to improve its digital forensic readiness by developing in-house competency in digital forensics. Moreover, given the larger database with PII, there is a need for the electoral body to take measures to ensure data protection and NDPR compliance.

Thirdly, it was observed that inadequate training of the ad hoc staff of INEC contributed negatively to the conduct of the elections. A way to address this problem is for INEC to ensure that in future elections those to be recruited are adequately trained to guide against the reoccurrence of what happened in 2023 general elections.

Fourthly, there were reports of poor network in urban and rural areas. The electoral umpire (INEC) should work with relevant government and private organisations to ensure proper network coverage and bandwidth tests for contingent preparation.

Lastly, the National Assembly should enact a law that would regulate the social media activities. As earlier identified, social media platforms have been abused by politicians and their supporters who misinformed the people on elections outcomes. This law when enacted would guide against this and will reduce the activities of mischief makers and the society would have a rancor free electoral activity.

The foregoing suggestions would go a long way in addressing the problems identified and this will ensure that the nation's electoral activities would be credible, transparent, reduction in electoral petitions, etc.

References

- Abodunrin, O., Oloye, G., & Alaba, A. (2018). Technology-based device and electoral process in Nigeria. *Global Journal of Applied, Management and Social Sciences (GOJAMSS)*, 15, 318–325.
- Agbaje, A., & Okechukwu, C. (2023). The impact of BVAS on Nigeria's electoral process: A case study of the 2023 general elections. *African Journal of Democracy and Governance*, 10(1), 56–72.
- Alebiosu, E. A. (2016). Smart card reader and the 2015 general elections in Nigeria. *Journal of African Elections*, 15(2), 69–89.
- Angaye, W. W. T., Clark, V. E., & Ikenga, F. A. (2023). Bimodal Voter Accreditation System (BVAS) and the 2023 presidential election in Bayelsa. *International Journal of Progressive Research in Engineering Management and Science (IJPREMS)*, 4(12), 1006–1118.
- Araba, A. A., & Braimah, J. O. (2015). Comparative study of 2011 and 2015 presidential elections in Nigeria. *Global Journal of Human Social Science*, 15(7).
- Arthur, W. B. (2009). *The nature of technology: What it is and how it evolves*. Free Press.
- Ayeni, T. P., Aweh, O., Badeji-Ajisafe, B., & Atachin, A. J. (2023). The role of technology in Nigeria's 2019 and 2023 general elections. *Global Scientific Journals*, 11(12), 267–280.
- Ayeni, T. P., & Esan, A. O. (2018). The impact of ICT in the conduct of elections in Nigeria. *American Journal of Computer Science and Information Technology*, 6(1), 1–6. <https://doi.org/10.21767/2349-3917.100014>
- Babalola, A. (2019). Towards credible election: Results announced by presiding officers should be deemed as conclusive. <http://www.vanguardngr.com/2019/02/towards-credible-election-results-announced-by-presiding-officers-should-be-deemed-as-conclusive-evidence-by-inec-and-courts/>
- Brynjolfsson, E., & McAfee, A. (2014). *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. W. W. Norton & Company.
- Castells, M. (2010). *The rise of the network society* (2nd ed.). Wiley-Blackwell.
- Commonwealth Election Observer Group to Nigeria. (2023). Interim statement of the Commonwealth Observer Group to Nigeria's 2023 general elections. <https://thecommonwealth.org/interim-statement-commonwealth-observer-group-nigerias-2023-general-elections>
- Dahl, R. A. (1998). *On democracy*. Yale University Press.
- Dawn, O. M. (2022). What is the benefits of BVAS during this election? <https://www.nairaland.com/>
- Eleanya, F. (2023, February 28). INEC fails Nigeria on e-transmission of results. <https://businessday.ng/technology/article/inec-fails-nigeria-on-e-transmission-of-results/>
- Enwere, C., & Ladan-Baki, I. (2015). Understanding the role of technology in free and fair elections in developing countries. *Journal of Social and Administrative Sciences*, 2(3), 135–143.
- European Union Election Observation Mission to Nigeria. (2023). General elections – 25 February and 11 March 2023: First preliminary statement. https://www.eeas.europa.eu/sites/default/files/documents/2023/EU%20EOM%20NIGERIA%202023_FIRST%20PRELIMINARY%20STATEMENT_27_02_2023.pdf
- Eya, N. (2003). *Electoral process, electoral malpractices, electoral violence*. Sages Publication Nigeria Limited.
- Ezeador, C. N. (2025). Technological innovation: Its impediments in conducting free and fair elections in Nigeria. *NJP*, 8(1), 67–75.

Ezeigbo, M. E. (2024). The role of BVAS in 2023 general elections in Nigeria and its implications to national development. *International Journal of Public Administration (IJOPAD)*, 3(2), 196–204.

Ibeanu, O. O. (2022). Digital technologies and election management in Africa's democratisation process: More technocratic than democratic? *Africa Development*, 47(2), 15–39.

Ikelebe, A. (2016). *Politics and governance in Nigeria: Perspectives, issues and cases*. John Archers.

Ileyemi, M. (2021, November 11). #AnambraDecides2021: Review BVAS, security challenges before 2023–TMG tells INEC. <https://www.premiumtimesng.com/news/more-news/494898-anambradecides2021-review-bvas-security-challenges-before-2023-tmg-tells-inec.html>

International Republican Institute, & National Democratic Institute. (2023, February 27). Preliminary statement of the joint NDI/IRI international observer mission to Nigeria's 2023 presidential and legislative elections. <https://www.iri.org/resources/preliminary-statement-of-the-joint-ndi-iri-international-observer-mission-to-nigerias-2023-presidential-and-legislative-elections/>

Jega, A., & Hillier, M. (2012). *Improving elections in Nigeria: Lessons from 2011 and looking to 2015*. Chatham House. <https://www.chathamhouse.org/sites/default/files/public/Research/Africa/040712summary.pdf>

Jibril, Z. A., Mohammed, S. M., Baba, M. S., & Bello, A. U. (2024). The impact of Bimodal Voter Accreditation System (BVAS) on the conduct of credible elections in Nigeria: A case study of 2023 general elections in Adamawa North Senatorial District. *ADSU International Journal of Applied Economics, Finance & Management*, 9(1), 386–409.

Jibia, M. S., & Zake, M. (2020). Electronic technology literacy and performance of elections in selected states in Nigeria. *International Journal of Science and Technology*, 67.

Kareem, K. (2023, March 1). International observer groups flag Nigeria's presidential election. <https://www.dataphyte.com/latest-reports/international-observer-groups-flag-nigerias-presidential-election/>

Manya, V. A., & Dangnan, A. (2022). Digitalizing elections in Nigeria: Pros, cons and implications. <https://www.linkedin.com/>

Michael, C. (2023, March 12). INEC server records 12m cyberattacks during presidential poll. <https://businessday.ng/news/article/inec-server-records-12m-cyberattacks-during-presidential-poll-pantami/>

Nnamani, D. O., Nduba, J. O., & Nwanolue, I. S. (2019). ICT and election management in Nigeria: The implication for 2019 general election. *African Psychologist: An International Journal of Psychology and Allied Professions*, 9(1), 32–52.

Norris, P. (2001). *Digital divide: Civic engagement, information poverty, and the Internet worldwide*. Cambridge University Press.

Nwolise, O. B. C. (2007). Electoral violence and Nigeria's 2007 elections. *Journal of African Elections*, 6(2).

Odalonu, B. H., & Ogu, H. N. (2022). Voting behaviour and pattern of voting in 2021 gubernatorial election in Anambra State, Nigeria. *African Journal of Humanities and Contemporary Education Research*, 4(1), 1–17.

Ogieva, L. O., & Ajisebiyawo, A. S. (2023). Transparent elections in Nigeria: An assessment of the introduction of electronic voting (BVAS) in the 2023 general elections in Nigeria. *Iconic Research and Engineering Journals (IRE)*, 6(10), 709–716.

Okeaya-Inneh, A. (2023, March 26). High tech failed to make Nigeria's presidential election transparent. <https://www.dandc.eu/en/article/nigerian-voters-are-frustrated-because-digital-election-tools-did-not-deliver-promised>

Okwong, A. E. (2012). IT-based solutions to the electoral system in Nigeria. *West African Journal of Industrial and Academic Research*, 5(1), 127–139.

Osemwota, N. J. (2019). *The impact of information communication technology (ICT) in Nigeria's democratic stability* (Master's thesis, Tallinn University of Technology).

- Oyelude, O., & Olojede, I. B. (2023). Evaluating the effectiveness of electronic voting systems in Nigeria: Challenges and opportunities. *African Journal of Politics and Administrative Studies*, 16(2), 84–104. <https://doi.org/10.4314/ajpas.v16i2.5>
- Ozor, F. U. (2009). Electoral process, democracy and governance in Africa: Search for an alternative democratic model. *Politikon*, 36(2), 315–336.
- Policy and Legal Advocacy Centre. (2023). From ballot to the courts: Analysis of election petition litigation from Nigeria's 2023 general elections (Abridged report, pp. 1–38).
- Sibe, R. T., & Kaunert, C. (2023). Technology, cyber security and the 2023 elections in Nigeria: Prospects, challenges and opportunities. *Journal of African Elections*, 22(2), 68–96. <https://doi.org/10.20940/JAE/2023/v22i2a4>
- Sulaiman, A. O. (n.d.). Electoral reforms and democratic stability in Nigeria: A critical review of the 2022 Electoral Act. *NILDS Journal of Democratic Studies*, 2(2), 1–28.
- Titus, U., & Aluko, B. (2024). Election, technology and political participation in Nigeria: A theoretical review. *Journal of Digital Art and Humanities*, 5(2), 3–15. <https://doi.org/10.33847/2712-8149.5.2>
- Ufuoma, V. (2022). Hackers attacked our result portal during Ekiti, Osun elections. International Centre for Investigative Reporting. <https://www.icirnigeria.org/hackers-attacked-our-result-portal-during-ekiti-osun-elections-inec/>
- Vanguard. (2023, March 4). INEC admits glitches, vows to use BVAS in gov, assembly elections. <https://www.vanguardngr.com/2023/03/inec-admits-glitches-vows-to-use-bvas-in-gov-assembly-elections/>

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