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Election Technology Deployment and Democratic Participation: A Comparative Study of Nigeria's 2015 and 2023 General Elections

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Abstract

Election technologies are increasingly deployed across Africa to improve electoral transparency and deepen democratic participation. In Nigeria, the Independent National Electoral Commission (INEC) has adopted multiple technological reforms from the Smart Card Reader (SCR) in 2015 to the Bimodal Voter Accreditation System (BVAS) in 2023. Despite these advancements, voter turnout continues to decline, raising questions about the effectiveness of technological interventions in strengthening democracy. Using the technological determinism and institutional governance theories, this study examines whether electoral technology has improved democratic participation in Nigeria by comparing the 2015 and 2023 general elections. This study adopts a qualitative comparative case study design focusing on the 2015 and 2023 general elections in Nigeria while relying on content analysis of INEC data, academic reports, and voter perception surveys. The study argued that while technological reforms have improved accreditation and reduced certain forms of electoral malpractice, they have not significantly enhanced public trust or voter participation. Institutional inefficiencies, poor communication, and low confidence in result management continue to undermine the democratic benefits of technology. The study concludes that election technology, without parallel reforms in governance and accountability, cannot independently foster participatory democracy in Nigeria.

Keywords: Election Technology, Democratic Participation, Smart Card Reader, BVAS, General Elections

Introduction

Elections remain the foundation of democratic governance, providing the means through which citizens choose leaders and hold them accountable. In Nigeria, however, electoral processes have

been mostly undermined by fraud, irregularities, and declining public trust (Ibrahim, 2017; Omotola & Akinboye, 2021). To address these challenges, the Independent National Electoral Commission (INEC) has introduced technological reforms intended to improve credibility and administrative efficiency. From the introduction of the Smart Card Reader (SCR) in 2015 to the adoption of the Bimodal Voter Accreditation System (BVAS) in 2023, technology has become a central instrument in Nigeria's electoral reform agenda (Omodia & Aliu, 2023; Abdulrahman, 2025).

Despite these reforms, voter turnout in Nigeria has continued to decline. INEC (2023) reported that while 43.7% of registered voters participated in the 2015 general elections, only about 26% did so in 2023 the lowest in the history of Nigeria's electoral process. This voter apathy is an indication that adoption of election technology does not translate into increased democratic participation. Yet, technical failures, delayed result uploads, and institutional inconsistencies rekindled debates over whether the state's deployment of electoral technology genuinely promotes democratic participation or merely enhances procedural legitimacy (Ibori 2019; Sulaiman, 2021; Acheampong, 2023). Therefore, recent studies (Parycek et al., 2017; Titus & Aluko, 2024; Gyimah-Boadi, 2025; Abdulrahman, 2025) argued that electoral technology cannot guarantee legitimacy unless accompanied by institutional transparency, civic trust, and robust communication mechanisms. The controversies surrounding the electronic transmission of results in 2023 via the INEC Result Viewing Portal (IReV) highlight persistent governance deficiencies.

Previous studies have examined the administrative performance of electoral devices such as SCR and BVAS (Ekanem & Okafor, 2018; Omodia & Aliu, 2023; Nebeife & Okafor, 2023; Abdulrahman, 2025). Although the contributions of these scholars have advanced our knowledge of the subject matter, yet they have not established a connection between state's deployment of election technology and its possible effects on the erosion of democratic participation in Nigeria's electoral process. This oversight has resulted in a significant gap in the existing literature, which this study aims to address.

Literature Review

Election technology refers to the application of digital or electronic tools aimed at increasing the efficiency, transparency, and credibility of electoral processes (Norris, 2017). Globally, such technologies encompass biometric voter registration, electronic accreditation, and digital results transmission, all designed to reduce fraud and administrative errors while fostering trust in democratic institutions (James, 2020). Election technology is used throughout the electoral cycle—from voter registration and biometric verification to electronic voting, results transmission, and data collation (Alvarez & Hall, 2010). Typical examples include the Smart Card Reader (SCR), Biometric Voter Authentication System (BVAS), Direct Recording Electronic (DRE) voting machines, and the INEC Result Viewing Portal (IReV). However, the successful implementation of these tools is contingent upon institutional preparedness, robust legal frameworks, and the digital literacy of stakeholders. Deficiencies in infrastructure, low internet penetration, cybersecurity risks, and opaque deployment practices can undermine both effectiveness and public trust (Wahab, 2024).

The Smart Card Reader (SCR), introduced during Nigeria's 2015 elections, verified voters through fingerprint recognition and authentication of Permanent Voter Cards (PVCs). Although it enhanced transparency, its unimodal biometric system frequently failed due to device limitations, environmental factors, and poor fingerprint quality. Additionally, the absence of online connectivity for real-time result transmission rendered the collation process vulnerable to

manipulation. These weaknesses prompted the Independent National Electoral Commission (INEC) to adopt the Bimodal Voter Accreditation System (BVAS) in 2021. BVAS utilises both fingerprint and facial recognition, thus reducing accreditation failures and enabling real-time uploads to the IReV portal. It incorporates both online and offline functions, supports continuous voter registration, and generates audit trails. BVAS marks a substantial improvement, aligning Nigeria's elections with international digital standards, though both SCR and BVAS remain challenged by infrastructural and training deficits (Nebeife & Okafor, 2023; Monday & Aluko, 2024).

Democratic participation transcends mere voter turnout, encompassing citizens' engagement, trust in the process, and belief in the efficacy of their votes (Verba, Schlozman, & Brady, 1995). It includes not only voting but also activities such as campaigning, public debate, civil society involvement, and advocacy for accountability (Verba et al., 1995). Participation serves as both a gauge of democratic vitality and a mechanism for legitimising government (Danbala & Okafor, 2024; Elumelu & Okafor, 2024). In contemporary democracies, participation is shaped by socio-economic factors, institutional frameworks, and citizens' perceptions of electoral credibility. Indicators of robust participation include high turnout, inclusivity, and equitable access to political platforms, while apathy, violence, and disenfranchisement suggest democratic weakness. Scholars contend that technology may either foster or hinder participation, contingent on the political context, institutional capacity, and perceived legitimacy of the process (Lindberg, 2006; Norris, 2017).

The adoption of election technology in several African countries has become central to modern electoral reform, with aims to enhance integrity, transparency, and fairness. Election technology, such as biometric voter registration, verification, electronic voting, and results transmission, seeks to reduce irregularities, including multiple voting, ballot stuffing, and manual result manipulation (Norris, 2014). Ghana, Kenya, Liberia, and Nigeria have employed biometric systems for voter authentication, while Namibia and Zambia have piloted electronic voting machines. These innovations have often improved operational efficiency and transparency, reduced human error and enhancing public trust in elections. In jurisdictions such as Ghana and Kenya, technological interventions have reinforced citizens' trust and improved international perceptions of electoral credibility (Cheeseman, 2018; Onyekwelu, 2023).

Nevertheless, the impact of election technology on African electoral integrity remains mixed. Technical malfunctions, insufficient voter education, and infrastructural challenges, particularly unreliable internet and electricity, often undermine these systems. As Lührmann and Lindberg (2019) argue, technological innovation cannot ensure electoral integrity without robust institutional and legal supports. Olisah and Okafor (2023) and Uno (2024) further suggest that the efficacy of election technology depends on state commitment to democratic norms and the independence of election authorities. Nigeria's 2023 elections, for example, were marred by BVAS failures and inconsistent IReV use, casting doubt on transparency (Onyekwelu, 2024). Similar challenges in Kenya and Malawi, including delays and system breakdowns, have reduced public trust. A lack of institutional independence and political will can thus undermine otherwise promising technological reforms.

Since 2015, Nigeria's electoral process has been transformed by the incremental adoption of election technology by INEC. The Smart Card Reader (SCR), first introduced in the 2015 general elections, represented a significant technological intervention (Ekanem & Okafor, 2018). SCRs authenticated Permanent Voter Cards and verified voters biometrically (Alebiosu, 2016). Agbaje

and Adejumobi (2016) note that SCR deployment improved credibility by curbing multiple voting and ballot stuffing. However, limitations such as device failure, poor network coverage, and insufficient staff training affected performance in some areas, revealing the infrastructural and logistical challenges that pervade Nigeria's electoral landscape (Ekanem & Okafor, 2018).

INEC built on 2015's modest gains by expanding its technological framework in subsequent elections. The 2019 polls saw the introduction of new data management systems and continuous voter registration (CVR) platforms, digitising the voter register. Yet, persistent problems with result collation and transmission fuelled scepticism about transparency. In anticipation of the 2023 general elections, the 2022 Electoral Act was signed into law, promising fairness and transparency (Nebeife & Okafor, 2023). Consequently, BVAS and the IReV portal were introduced to enable real-time result uploads and one-person-one-vote authentication (INEC, 2023). BVAS integrated fingerprint and facial recognition, while IReV facilitated public access to results. Simbine and Oyekanmi (2025) regard these developments as progressive steps towards digital accountability and transparency in Nigeria's electoral process.

Despite INEC's assurances, the 2023 elections highlighted significant operational shortcomings in the use of BVAS and IReV. Widespread device failures, delayed uploads, and inconsistent application led to public dissatisfaction and legal disputes over results. Nebeife and Okafor (2023) argue that INEC disregarded its own procedures, resulting in dishonesty and injustice. These failings diminished the anticipated benefits of BVAS and undermined electoral confidence (Acheampong, 2023; Ibori, 2019; Sulaiman, 2021). Reports of delayed result uploads, connectivity failures, and human interference reignited doubts about the reliability and impartiality of the process. Adejumobi (2020) describes this as the "politics of technological reform," where state-led innovations are frequently launched without sufficient institutional or infrastructural support, undermining their intended impact.

Persistent gaps in institutional and infrastructural readiness continue to hamper Nigeria's electoral reforms. Okoye (2023) stresses that technology's potential depends on comprehensive voter education, strong cybersecurity, and consistent policy enforcement. Entrenched political culture, elite dominance, and weak accountability structures limit the transformative capacity of election technologies. Although technological advancements have signalled progress towards more credible elections, their uneven application and infrastructural challenges accentuate the enduring disconnect between technological reform and meaningful democratic participation (Amao, 2022; Onyekwelu, 2023).

Theoretical Framework

The study adopts both technological determinism and institutional governance theory as the guide. Technological determinism posits that social and political changes are primarily the result of the introduction and spread of new technologies. Its early foundations can be traced to Thorstein Veblen, who argued that technological advancements reshape societal habits and institutional structures (Veblen, 1919). Jacques Ellul (1964) advanced a more pronounced form, asserting that modern societies are governed by "technique," an imperative toward efficiency and control that supersedes human intention. Marshall McLuhan's influential dictum, "the medium is the message," maintains that communication technologies fundamentally transform human perception, culture, and political outcomes, independently of content (McLuhan, 1962, 1964). Later scholars, such as Winner (1977) and Dusek (2006), conceptualise technological determinism as a spectrum, ranging from "hard" (technology as an autonomous force) to "soft" (technology significantly shapes, but does not wholly determine, social outcomes). The core tenets include the

structuring of human action by technological affordances and the tendency for technology to generate predictable effects, irrespective of human intentions or institutional design.

Institutional governance theory, largely informed by Douglass C. North, frames institutions as the "rules of the game", encompassing formal laws, organisational structures, and informal norms that direct behaviour and shape incentives (North, 1990/1991). North emphasised that institutions serve to reduce uncertainty and transaction costs, enabling stable and predictable political interactions. Subsequent scholars, such as Hodgson (2025), have highlighted the interplay between formal and informal institutional elements, arguing that the outcomes of technological reforms depend crucially on institutional capacity, enforcement mechanisms, and organisational competence rather than on formal rules alone. This theoretical approach assumes that technological change alone is insufficient; effective adoption depends on administrative skills, transparency, and the alignment of informal norms with formal innovations.

From a technological determinist perspective, Nigeria's implementation of the Smart Card Reader in 2015 and the BVAS/IReV system in 2023 can be conceptualised as transformative interventions restructuring electoral processes and outcomes. The Smart Card Reader altered the accreditation process, reducing multiple voting and inflated turnout (INEC, 2015). In 2023, BVAS and IReV introduced dual biometric verification and real-time result transmission, theoretically enhancing transparency and trust. These affordances, embedded within the technologies, could independently foster or undermine public confidence, depending on their reliability (McLuhan, 1964). However, institutional governance theory contends that the impact of these technologies was mediated by INEC's preparedness, training, and logistics. Failures in BVAS operation and delays in IReV uploads, particularly in regions with weaker institutional capacity, illustrate that the presence of technology alone did not guarantee uniform improvements in participation or trust (Cheeseman et al., 2018; Nebeife & Okafor, 2024).

Recent analyses underscore the limitations of technological determinism in explaining Nigeria's electoral outcomes. Acheampong (2023) and Agbakwuru (2023) argue that INEC's administrative lapses in 2023 undermined democratic trust, while Tsokwa and Nwanegbo (2024) attribute barriers to institutional failures rather than technological inadequacies. Barkan (2013) further cautions that the adoption of election technology does not inherently strengthen democracy, a view echoed by Onyekwelu (2023), who observes that digital innovations may transform electoral processes without deepening democratic culture. The deliberate non-utilisation of BVAS for presidential result transmission heightened voter apathy and trust deficits (Nebeife & Okafor, 2023; Chioke, 2024). Thus, informal political norms, inadequate enforcement, and inconsistent institutional incentives shaped the effectiveness of technological reforms, demonstrating the necessity of integrating both theoretical perspectives for a nuanced understanding of election technologies' impacts in Nigeria.

Methods and Materials

This study adopts a qualitative comparative case study design focusing on the 2015 and 2023 general elections in Nigeria. The comparative approach enables a systematic analysis of how the state's deployment of election technology evolved across two electoral cycles and how this evolution influenced democratic participation. The study relies primarily on secondary data, which include official reports from the Independent National Electoral Commission (INEC), election observation reports by organizations such as the European Union Election Observation Mission and the Nigeria Civil Society Situation Room, academic journal articles, policy papers, and relevant legal documents such as the Electoral Act 2022. Data was analyzed using qualitative

content analysis. The analysis was guided by the theoretical lenses of technological determinism, which posits that technology can improve political outcomes, and institutional governance theory, which emphasizes how institutional capacity, rules, and state interests influence technological effectiveness (Norris, 2017). The choice of 2015 and 2023 elections is justified by their significance as milestones in Nigeria's electoral history, representing the first and most recent major deployments of election technology.

Discussion of Findings

Evolution of Election Technology in Nigeria's Electoral Process

Scholarly evidence indicates that INEC's adoption of election technology was a response to persistent allegations of electoral fraud in Nigeria's pre-2015 elections (Nebeife & Okafor, 2023). To modernise the electoral process, technologies such as the Automatic Fingerprint Identification System (AFIS), Permanent Voter Cards (PVC), Smart Card Readers (SCR), and Electronic Voters Register (EVR) were introduced, significantly reducing multiple registrations and voting (Ekanem & Okafor, 2018). Building on these advances, INEC implemented the Bimodal Voter Accreditation System (BVAS) for the 2023 general elections to further mitigate electoral fraud and address longstanding integrity concerns.

The evolution of election technology in Nigeria followed a path of incremental adaptation. The 2015 general elections saw the nationwide adoption of biometric accreditation via SCRs, which authenticated voters and curbed impersonation (INEC, 2015; Jega, 2017). This marked reduction in manual accreditation improved electoral credibility and was viewed as instrumental in the peaceful transition of power to an opposition party (Agbaje & Adejumobi, 2016; Omotola, 2010). Scholars argue that this development demonstrated the capacity of technology to bolster the integrity of Nigeria's electoral process (Olurode, 2017; Obiora, Nwanolue, & Enemoh, 2019).

However, the 2023 elections, featuring BVAS and the INEC Result Viewing (IReV) portal, were beset by operational difficulties, including technical malfunctions, delays in result transmission, and inconsistent regional implementation (Uwaezuoke & Nwobu, 2023; Acheampong, 2023). Although BVAS and IReV worked for National Assembly results, INEC failed to upload presidential election results as promised, prompting accusations of selective application and undermining trust (Agbakwuru, 2023; Nebeife & Okafor, 2023). This technological inconsistency heightened concerns over INEC's credibility and illustrated how technological adoption alone does not guarantee deepened democracy (Onyekwelu, 2023). Such failures may also exacerbate voter apathy and trust deficits in future elections (Okafor, Odigbo, & Okeke, 2022; Olonite et al., 2023).

Table 1: Technology Tools used in Nigeria Elections from 1999 to 2023

S/N	YEAR	VOTER REGISTRATION	DAYS FOR REG.	DATA CAPTURED	D-BASE	ACCREDITATION/ VOTING	RESULT COLLATION
1	1999	Pen/sheet & Typewriters	14 Days	Basic details. No picture or finger print	Nil	Nil	Nil
2	2003	Optical Magnetic Recognition (OMR) form Automated Finger Prints Identification System (AFIS)	10 Days	Basic details & finger print only	Yes	Nil	Nil
3	2007	Direct Data Capture Machine (DDCM) (AFIS)	4 Months	Basic details, photograph, and finger prints	Yes	Electronic Voters' Register Prints (EVR)	Excel Sheet/Email
4	2011	Direct Data Capture	21 Days	Basic details photograph, and finger prints	Yes	Electronic Voters' Register Prints (EVR)	Excel Sheet/Email
5	2015	Direct Data Capture	Continuous	Basic details	Yes	EVR, INEC Voters	Election

		(DDCM), Improved (AFIS) Business Rule	Voters Reg. (CVR)	photograph, and finger prints		Authentication System (IVAS), Smart Card Reader (SCR)	Transparency Admin. & Collation (e-TRAC)
6	2016-2023	DDCM, Improved AFIS & Business Rule	Continuous voters reg. (CVR)& BVAS	Basic details photograph, and finger prints	Yes	EVR & IVAS	Electronic – collation (Ecollation) support e-TRAC

Sources**:** Authors' Compilation from Ayeni & Esan (2018); Monday & Aluko (2024)

Table 1 illustrates Nigeria's gradual transition from manual to digital electoral processes between 1999 and 2022. The early elections (1999–2003) relied on paper-based registration with minimal data capture and no electronic collation. From 2007 onward, the introduction of Direct Data Capture Machines (DDCM) and biometric systems modernized voter registration. The 2015 elections marked a technological leap with the Smart Card Reader (SCR) and INEC Voter Authentication System (IVAS), enhancing verification and transparency. By 2016–2023, innovations such as the Bimodal Voter Accreditation System (BVAS) and electronic collation consolidated Nigeria's shift toward digitalized, integrity-driven electoral management (Ayeni & Esan, 2018; Monday & Aluko, 2024).

However, the reality indicates that while Nigeria's electoral technology has advanced in technical sophistication, its institutional adaptation has been inconsistent. As Cheeseman, Lynch, & Willis (2018) and da Silva Neto & Chiarini (2021) argued that technological progress in elections does not automatically translate into democratic progress; rather, it depends on institutional capacity, transparency, and political will. The Nigerian case demonstrates the limitations of technology in the absence of robust institutional accountability and infrastructural readiness.

State Capacity, Institutional Readiness, and the Politics of Technological Deployment

The comparative analysis underscores that the efficacy of election technology in Nigeria is fundamentally shaped by state capacity and the autonomy of electoral institutions. In 2015, INEC's preparatory activities under Jega's leadership were marked by comprehensive training, extensive voter education, and coordinated pilot testing of the Smart Card Reader (Kabiru et al., 2017; Jacobsen, 2019). More institutional independence facilitated more reliable enforcement of technological protocols (Oladele, 2025). In contrast, the 2023 elections were characterised by reduced institutional cohesion and heightened political contestation over INEC's management of BVAS and IReV (Ibori, 2019; Sulaiman, 2021). Delayed results upload and allegations of interference undermined perceptions of neutrality and system integrity. Acheampong (2024) described this as "overpromising and underdelivering," where the symbolic adoption of technology projected legitimacy but lacked the operational support necessary for successful implementation.

Critics argue that the symbolic utilisation of technology can mask persistent structural deficiencies within Nigeria's electoral system. Tsokwa and Nwanegbo (2024), Udisi (2024), and Oladele (2025) note that limited state capacity, insufficient funding, and political interference frequently impede the realisation of technology's intended benefits. Rather than building trust, the mismanagement of election technologies may deepen civic disillusionment, highlighting the need for robust institutions, legal enforcement, and unwavering political commitment. Institutional governance theory, as articulated by North (1990) and Norris (2017), posits that institutional context, rather than technological design alone, determines the success of democratic reforms. In Nigeria, technology's deployment oscillates between genuine reform and instrumental manipulation for legitimacy. Consistent with Barkan (2013) and Cheeseman et al. (2018), electoral

technologies in African states often serve to signal reformist intent while preserving incumbent advantage, potentially reinforcing power asymmetries when institutions remain compromised.

Technological Impact on Democratic Participation and Public Trust

Evidence from official reports and academic literature reveals that the introduction of technology in Nigerian elections has produced complex and ambivalent effects on democratic participation. In 2015, the deployment of the Smart Card Reader (SCR) was credited with improving voter turnout and reducing multiple accreditations, as many citizens regarded it as a deterrent to electoral malpractice (INEC, 2015; Moruf, 2015). By 2023, initial enthusiasm surrounding BVAS and IReV gave way to disappointment following operational lapses and inconsistencies (INEC, 2023; Onyekwelu, 2023). Norris (2017) describes this as the "paradox of electoral technology," where technological shortcomings can further erode trust in electoral integrity. While intended to promote inclusion and transparency, technological failures or manipulation may alienate voters and deepen scepticism. The Nigerian experience in 2023 underscores that such failures stem not only from technical issues but also from broader challenges in governance, communication, and institutional accountability.

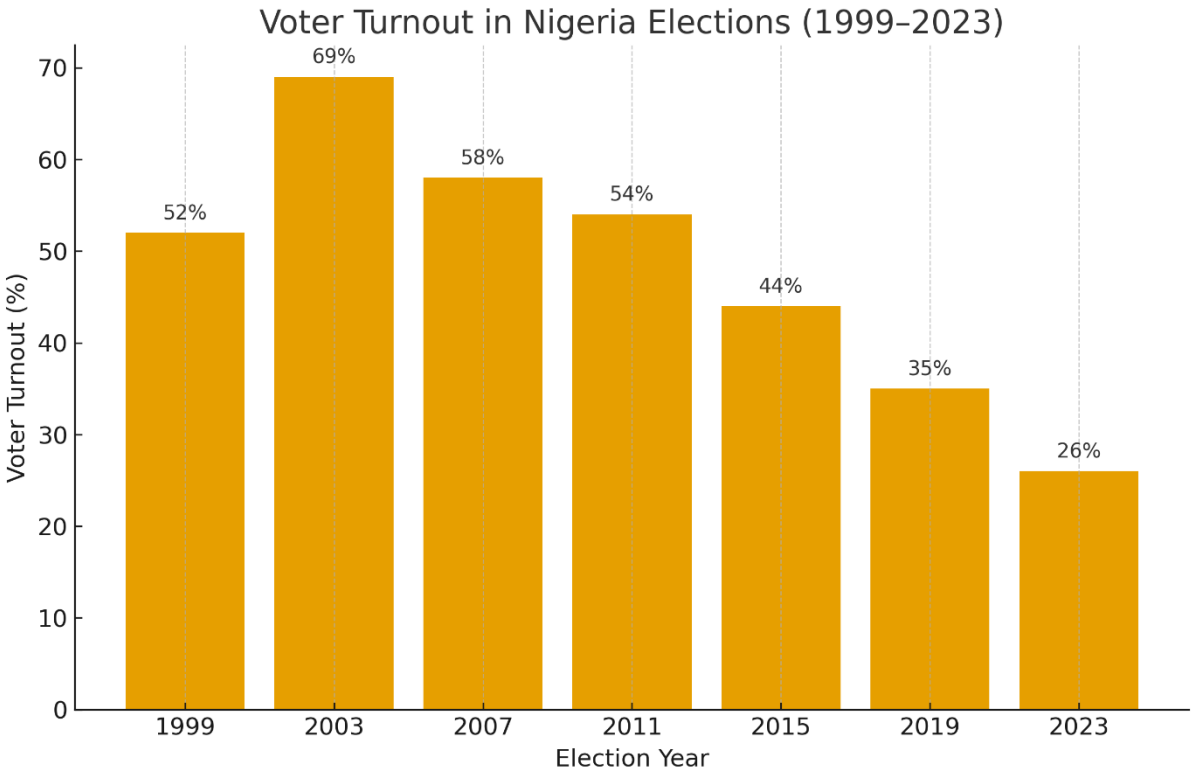
Moreover, the influence of election technology on participation and public trust in Nigeria has been uneven and subject to sustained criticism. Scholars such as Tsokwa and Nwanegbo (2024) and Oladele (2025) argue that BVAS and electronic result systems have suffered from operational setbacks, political interference, and inconsistent rule enforcement, thereby weakening public confidence. Acheampong (2023) notes that technology is often overpromised as a panacea for electoral fraud but underdelivered in execution, engendering voter mistrust. Similarly, Adebogun et al. (2025) highlight that INEC's failure to rigorously implement technological protocols has raised doubts regarding neutrality and transparency. Consequently, technology alone cannot enhance democratic participation or restore trust without institutional readiness and robust political will. Failures in result transmission, system breakdowns, and perceived interference have reinforced a persistent trust deficit in Nigeria's electoral process (Acheampong, 2023; Adebogun et al., 2025).

Table 2: Showing the Population and Voters' Turnout in Nigeria's Presidential Elections from 1999 to 2023

YEAR	POPULATION	VOTERS' REGISTRATION	TOTAL VOTES CAST	PERCENTAGE OF VOTER TURNOUT
1999	108, 258, 350	57, 938, 945	30, 280, 052	52%
2003	129, 934, 910	60, 823, 022	42, 081, 735	69%
2007	131, 859, 730	65, 567, 036	35, 397, 627	58%
2011	155, 215, 570	73, 528, 040	39, 469, 484	54%
2015	181, 562, 052	67,422,005	29,432,083	44%
2019	200, 963, 599	84,004,084	28,614,190	35%
2023	227, 883, 000	93, 469, 008	23, 377, 450	26%

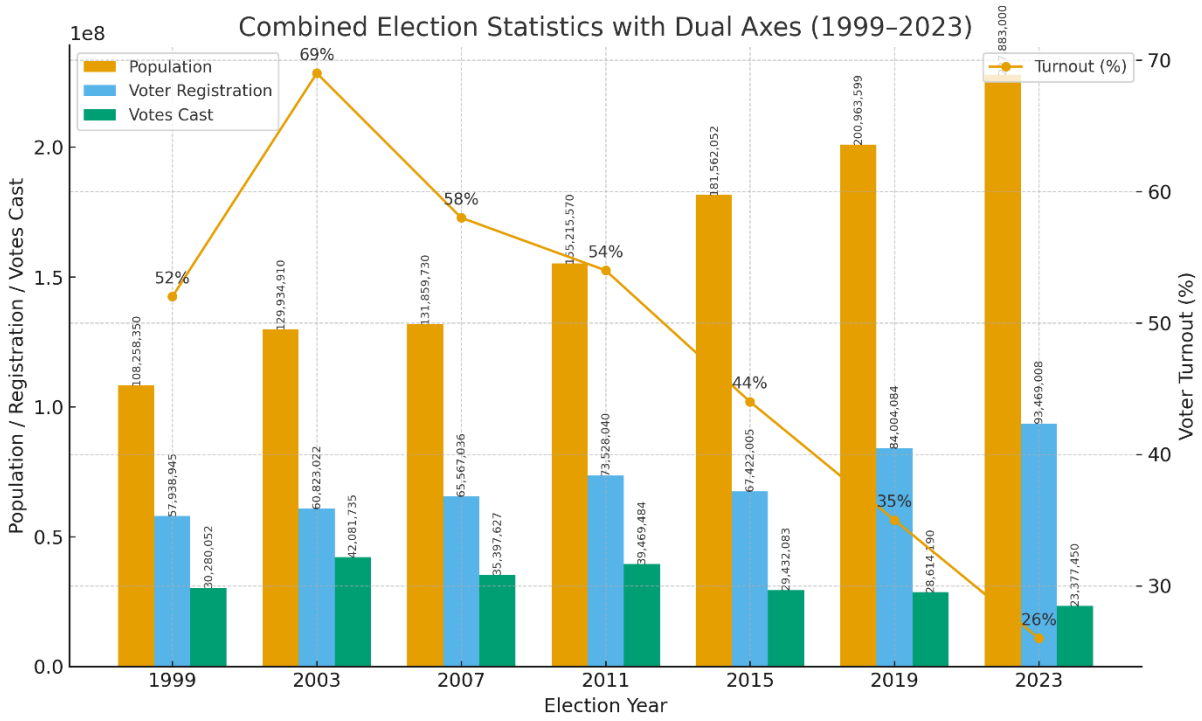
Sources: Authors' Compliation from Fagunwa, 2015; Moliki & Dauda, 2014; Okafor, Odigbo, & Okeke, 2022; Nebeife & Okafor, 2023.

Figure 1: Illustrates the Declining Voter Turnout in Nigeria's General Elections, 1999-2023



Source**:** Designed by the authors using the data in Table 2.

Figure 2: Demonstrates the Population, Voter's Registration and Total Votes Cast in Nigeria from 1999 to 2023



Source: Designed by the authors using the data in Table 2.

The two graphs above illustrate a paradox in Nigeria's electoral trajectory. Despite the continuous technological reforms, voter turnout has steadily declined. The turnout chart shows a sharp drop from 69% in 2003 to just 26% in 2023, even as population and voter registration numbers increased. The dual-axis chart reflects that while technological tools such as the Smart Card Reader (SCR) and later the BVAS system sought to strengthen accreditation accuracy, reduce multiple voting, and curb fraudulent practices, these improvements did not translate into increased citizen participation. In fact, the growing gap between registered voters and actual votes cast suggests persistent distrust in the electoral process. Although technology has helped sanitize accreditation and reduced certain forms of manipulation, widespread concerns about result transmission, institutional transparency, and post-election legitimacy continue to undermine public confidence. Thus, the graphs show that technological reform alone is insufficient; without broader systemic credibility, voter turnout will continue to decline.

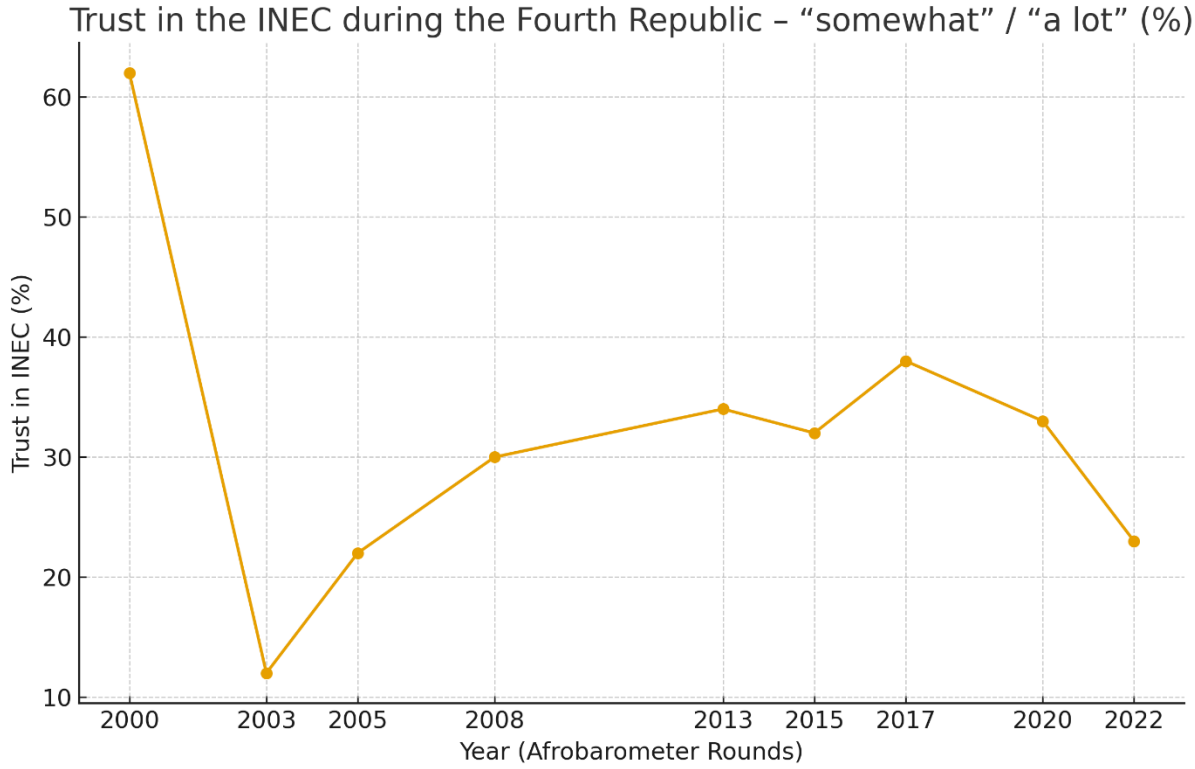
Rethinking Technology, Trust, and Democratic Consolidation

The study finds that Nigeria's experience with electoral technology demonstrates both progress and regression in democratic consolidation. The 2015 elections demonstrated how technology could restore trust through transparent processes, whereas the 2023 elections revealed the fragility of those gains in the absence of institutional credibility. The assumption of technological determinism shows that innovation automatically produces democratic outcomes that has proven untenable in Nigeria's situation. Instead, the data support the institutional governance perspective, which posits that democratic consolidation depends on the integrity, autonomy, and effectiveness of political institutions (North, 1990; Lührmann & Lindberg, 2019).

To rethink state deployment of election technology in Nigeria, policymakers and scholars must therefore move beyond the focus on devices and systems to address structural deficits such as weak institutional, inadequate infrastructure, and politicized oversight. As Norris (2017) and Onyekwelu

(2023) emphasize, technology can only deepen democracy when embedded within transparent institutions that prioritize accountability over political interest. The Nigerian experience demonstrates that without these institutional foundations, the digitalization of elections risks producing a "technologically sophisticated illusion" of democracy rather than its substantive realization. The figure below illustrates trust deficit in INEC since Nigeria returned to democratic governance in 1999.

Figure 3: Illustrates the Diminishing Trust in Nigeria's Democratic Institution



Sources**:** Afrobarometer (2022)

Based on Afrobarometer survey rounds, the graph shows the varying degrees of popular confidence in Nigeria's Independent National Electoral Commission (INEC) from 2000 to 2022. In 2000, more than 60% of respondents indicated that they had "somewhat" or "a lot" trust. But by 2003, this confidence had fallen precipitously to slightly over 10 percent, indicating widespread discontent in the wake of that era's political scandals. Trust steadily increased starting in 2005 and peaking in 2017 at just over 35 percent before falling once more in 2020 and 2022. Generally, the pattern demonstrates that public confidence in INEC has been erratic, with notable fluctuations that line up with Nigeria's varied election experiences and opinions of institutional performance across time.

According to Afrobarometer surveys, roughly 7 out of 10 Nigerians do not think that their opinions are represented in elections, and another 77% do not think that elections offer a way for leaders to be removed from office (Afrobarometer 2022). These opinions are not without merit given the variety of electoral malpractices (such as vote-buying, violence, and ballot-box snatching) that have consistently plagued and undermined the nation's electoral process (Acheampong 2023). As seen in Figure 3 above, less than 25% of Nigerians trusted the INEC "somewhat" or "a lot" in the

build-up to the 2023 general elections. Thus, reduced voter turnout over the past 20 years is somewhat correlated with declining trust in the INEC and the electoral process.

Acheampong (2023, p.2) noted that voter apathy in Nigeria may have two interrelated causes. First, the increasing popular distrust in the state capacity, electoral process generally and, second, in the country's Election Management Body (EMB) specifically. Perceptions that election results do not represent the will of the people, logistical issues, and enduring distrust of democratic institutions have all been connected to the worrisome trajectory. All things considered indicates the pattern of the growing discrepancy between democratic expectations and Nigerians' trust in the country's election system. Further studies like Chioke (2024) described the democratic situation in Nigeria as a cancerous type of democracy. Similarly, Okafor et al. (2022) and Obasun (2025) pointed out that declining voter turnout and political disengagement underscore a broader legitimacy crisis in a democracy increasingly devoid of substance. Obasun (2025) argued further that Nigeria's democracy operates more as a mechanism of elite consolidation than as a vehicle for collective uplift. According to Ita & Ibanga (2025), the deployment of BVAS and INEC Result Viewing gave Nigerians high expectations, but the outcome of 2023 general elections dashed the hope. Lessons from the election indicate that guaranteeing electoral credibility requires concerted and determined effort, since technology alone cannot ensure it (Ita & Ibanga, 2025). Therefore, the use of technology in elections is not an end in itself but assists in the various aspects of electoral administration.

Conclusion

This study examined the state deployment of election technology and its implications for democratic participation in Nigeria through a comparative analysis of the 2015 and 2023 general elections. The analysis showed that although technological advancements like the Smart Card Reader (SCR), Bimodal Voter Accreditation System (BVAS), and INEC Result Viewing (IReV) portal have added new levels of efficiency and transparency, their efficacy is still heavily influenced by the institutional and political context in which they are used. The evidence demonstrates that the 2015 elections benefited from stronger institutional coordination, relatively higher public trust, and a reform-oriented electoral management body, resulting in enhanced electoral credibility. On the other hand, while having more sophisticated technology, the 2023 elections were marred by a lack of institutional cohesiveness, technical irregularities, and public distrust, which reduced trust in the electoral process.

These findings emphasise that democratic consolidation cannot be guaranteed by technological innovation alone. According to Barkan (2013) and Norris (2017) and democracy depends not just on the availability of technology means but also on the legitimacy, openness, and independence of the organisations that use them. The Nigerian example demonstrates that institutional governance and political culture are more important in understanding political outcomes than technical determinism. Instead of acting as a catalyst for democratic transformation, electoral technology may act as a façade for legitimacy in the absence of strong institutions and sincere political will.

Recommendations

1. The autonomy and operational capacity of the Independent National Electoral Commission (INEC) should be enhanced through constitutional and financial reforms. INEC should institutionalize continuous capacity-building for its staff and field officers to manage electoral technologies proficiently.

2. The Electoral Act and related regulations should clearly define procedures for technology use, data management, and dispute resolution.
3. The government should prioritize infrastructural investment, particularly in rural areas, to ensure that technological reliability does not vary across regions.
4. INEC, in collaboration with civil society organizations, should intensify awareness campaigns to educate citizens about the functionality, limitations, and safeguards of electoral technologies.
5. To rebuild public confidence, INEC should adopt open data principles that allow independent verification of election results and system performance. In addition, the procurement and deployment of election technologies should follow transparent, competitive processes insulated from partisan influence.

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