

Election Administration and Democratic Consolidation in Nigeria's Fourth Republic: A Critical Review of INEC's Electronic Innovations (1999-2023)

<https://doi.org/10.22151/politikon.27.2.1>

Christopher Asei EBIKEBENA

Independent researcher

aseichristopher2@gmail.com

Abstract

This paper examines the trajectory of electronic innovations introduced by Nigeria's Independent National Electoral Commission (INEC) between 1999 and 2023, situating this technological journey within democratic consolidation theory and the broader literature on electoral integrity and institutional trust. Drawing on official INEC reports, legislative documents, academic literature, and election observer mission findings, the paper traces the evolution from manual voter registration in the early Fourth Republic through successive technological cycles, culminating in the deployment of the Bimodal Voter Accreditation System (BVAS) and the INEC Result Viewing (IReV) portal in 2023. The paper argues that INEC's technological interventions have produced a "trust paradox": while biometric accreditation technologies have materially reduced voter impersonation and multiple voting at the polling unit level, persistent failures in electronic result transmission have generated new focal points for political contestation and public disillusionment. Rather than resolving entrenched patterns of electoral manipulation, technology has displaced them—shifting their primary site from the polling unit to the collation and transmission process. This finding extends existing frameworks on fraud displacement and sociotechnical legitimacy to the Nigerian case, and carries implications for the study of electoral technology in weakly institutionalised democracies more broadly.

Keywords: Electoral Integrity; Election Administration; Election Technology; Democratic Consolidation; Independent National Electoral Commission (INEC); Institutional Trust; Nigeria

Introduction

Elections constitute the foundational mechanism through which citizens in representative democracies confer legitimacy upon government and hold leaders accountable. In such systems, the quality of the electoral process serves as a critical determinant of democratic sustenance and consolidation (Ugoh and Ukpere 2019). Since the return to civilian democratic rule in 1999, Nigeria has sustained its longest uninterrupted period of democratic governance, commonly known as the Fourth Republic, which represents a significant departure from military-dominated politics that characterised much

of the country's post-independence history (Oni, Eramah, and Oladejo 2017). However, this democratic longevity has been historically fraught with significant challenges. Nigerian elections have been widely plagued by poor organisation and allegations of rigging, fraud, violence, ballot box snatching/stuffing, multiple voting, voter intimidation, and result manipulation, which have collectively fostered an enduring deficit of public trust in the electoral process (Ideyi 2019).

Critically, this pattern did not originate in 1999. Electoral manipulation, elite efforts to control outcomes, and the deliberate weakening of electoral institutions are features of Nigeria's political landscape that predate the Fourth Republic by several decades. The military era (1966-1999) was marked by periodic and often discredited attempts at electoral transition, while even the pre-military civilian period (1960-1966) witnessed fierce regional rivalries and allegations of electoral fraud that contributed to the collapse of the First Republic. Understanding the challenges confronting INEC today requires situating them within this longer trajectory of inherited political culture and institutional weakness, rather than treating them as novel failures.

Against this backdrop, the Independent National Electoral Commission (INEC) has increasingly turned to electronic innovations as a mechanism for restoring credibility to the electoral process. Globally, the deployment of election technology is understood to serve objectives including the reduction of human error, the eradication of fraud and impersonation, the easing of result compilation, and the promotion of timely and transparent announcement of outcomes (Obiefuna-Oguejiofor 2018). This paper engages critically with a central analytical question: to what extent have digital electoral technologies mitigated or reinforced entrenched patterns of electoral manipulation in Nigeria?

The paper argues that INEC's technological journey has not constituted a linear progression towards greater electoral integrity. Instead, the evidence points to a paradoxical outcome. While certain technologies—particularly those targeting biometric voter accreditation, such as the Smart Card Reader (SCR) and the Bimodal Voter Accreditation System (BVAS)—have successfully addressed specific forms of election-day fraud, the persistent and high-profile inadequacies in the electronic transmission of results have generated what this paper terms a “trust paradox.” Technology introduced to build public confidence has, particularly in the context of the 2023 general election, become a principal source of public disillusionment. Crucially, however, the paper cautions against attributing electoral outcomes solely to INEC's technological performance. The 2023 elections, for instance, were shaped by a range of intersecting factors—including expanded internet access

and mobile phone penetration, the mobilising role of social media, the absence of an incumbent candidate, and the particular demographic composition of candidate support bases—that must be incorporated into any balanced assessment.

This paper employs a qualitative, document-based analysis. The research draws systematically on three categories of primary and secondary sources: official INEC publications (including election guidelines, post-election reports, and strategic planning documents); peer-reviewed academic literature on Nigerian electoral politics and democratic consolidation; and the empirical findings of credible domestic and international election observer missions including Yiaga Africa, the European Union Election Observation Mission (EU EOM), the National Democratic Institute (NDI), the International Republican Institute (IRI), the Carter Center (TCC), and the Commonwealth Observer Group. Sources were selected for their methodological credibility, institutional independence, and direct relevance to the central question of how technology has interacted with Nigeria's electoral integrity over the period under review.

The longitudinal scope, spanning 1999 to 2023, permits comparison across successive technological cycles and enables the identification of persistent structural patterns rather than cycle-specific anomalies. The analysis is consciously limited to national-level electoral contests administered by INEC; subnational elections, while analytically relevant, fall outside the scope of this study. The concept of the “trust paradox” emerged inductively from the analysis. Across successive technological interventions, a consistent pattern emerged: when transparency-oriented technologies failed—even partially—they became major sources of institutional delegitimation, despite their stated aims. This pattern, which existing literature on electoral integrity and democratic consolidation does not adequately theorise, forms the paper's central analytical contribution.

The paper proceeds as follows. It first establishes the theoretical framework situating the analysis within democratic consolidation theory and the broader literature on electoral legitimacy and institutional trust. It then provides the historical context of Nigerian electoral administration before and during the Fourth Republic. It analyses the evolution of INEC's technological interventions chronologically, from the manual era through successive technological cycles, before offering a thematic synthesis focused on the relationship between technology and democratic consolidation. The central analytical question—whether digital technologies have mitigated or reinforced entrenched patterns of manipulation—is revisited throughout and answered substantively in the conclusion.

Democratic Consolidation, Institutional Trust, and Electoral Technology

The concept of democratic consolidation provides the analytical scaffolding for this paper. Linz and Stepan's landmark formulation holds that a democracy may be considered consolidated when no significant political actors seek to achieve their objectives through non-democratic means, and when the vast majority of citizens view democratic institutions as "the only game in town" (Linz and Stepan 1996, 5). This establishes a demanding standard against which Nigeria's Fourth Republic must be assessed. Crucially, Linz and Stepan (1996) identify five interlocking arenas that must be simultaneously consolidated for democracy to be fully institutionalised—civil society, political society, the rule of law, state apparatus, and economic society. The electoral management body occupies a critical position at the intersection of political society and the rule of law: its performance directly determines whether elections function as credible mechanisms for legitimate political competition or as instruments of elite entrenchment.

This paper engages Linz and Stepan's (1996) framework not merely as a definitional baseline but as an analytical lens. In particular, it draws on their argument that consolidated democracy requires "attitudinal" consolidation—the internalisation by citizens of democratic norms and institutions as legitimate and worth defending (Linz and Stepan 1996, 6). Declining voter turnout, rising electoral cynicism, and the public perception that results can be manipulated regardless of technological safeguards all represent attitudinal indicators of incomplete or receding consolidation. In this sense, the trust paradox this paper identifies is not merely an institutional or operational problem; it is a democratic consolidation problem.

The institutional trust literature provides a complementary theoretical resource. As Norris (2011) argues, public confidence in electoral institutions is a function not simply of institutional performance but of the gap between citizens' expectations and their perception of how those expectations are met. Where expectations are calibrated to imperfect, chronic failure, disappointment is diffuse and manageable. Where institutions raise expectations explicitly—as INEC did with its public commitments regarding the IReV portal ahead of the 2023 elections—failure becomes a discrete event of betrayal, capable of generating acute and lasting damage to institutional legitimacy (Norris 2011, 83-97). This asymmetric dynamic between expectation and outcome is central to the trust paradox this paper develops and distinguishes the 2023 crisis from the chronic scepticism of earlier cycles.

The literature on electoral integrity, as synthesised by Norris, Frank, and Martínez i Coma (2014), further contextualises the Nigerian case. Their Electoral Integrity Project

framework identifies result adjudication as the dimension of electoral processes most vulnerable to manipulation in weakly institutionalised democracies, precisely because it occurs away from the direct observation of citizens and polling agents. The Nigerian experience confirms and extends this finding: successive technological innovations have progressively secured the polling unit while leaving the collation and transmission processes exposed. This paper's contribution to this literature is to show how the introduction of result-transmission technology, far from closing this vulnerability, may intensify it by creating public expectations of transparency that institutions lack the capacity or will to fulfil.

The concept of "fraud displacement," is implicit in several comparative studies of electoral technology adoption. Lehoucq (2003) observes, in his survey of electoral fraud in Latin America, that improvements in one dimension of electoral administration consistently generate adaptive responses by manipulation-oriented actors in less scrutinised dimensions. The Nigerian case—in which the SCR's success in securing accreditation was directly followed by intensified contestation over collation processes—represents a clear instance of this dynamic, and the paper makes this connection theoretically explicit.

Finally, the paper engages the emerging literature on sociotechnical systems in electoral administration. Kersting and Baldersheim (2004) and Alvarez, Hall, and Hyde (2008, 1-17) have emphasised that the credibility gains of electoral technology cannot be attributed to technical performance alone; they depend on the sociotechnical environment in which deployment occurs, including public understanding of the technology, the credibility of the deploying institution, and the political context of the specific contest. The 2015 elections, where the SCR functioned imperfectly but generated credibility gains and the 2023 elections, where BVAS functioned well but IReV's failure dominated public perception illustrate this dynamic vividly. This paper draws on these insights to argue that electoral technology's democratic value is not inherent to the device but is constituted in the relationship between the technology, the institution, and the citizenry it is intended to serve.

Legal and Institutional Framework

The legal basis for elections in Nigeria rests on the 1999 Constitution (as amended) and the Electoral Act. INEC, established in 1998, is the electoral body mandated to organise, undertake, and supervise all national elections. The institutional effectiveness of any election management body is directly linked to its independence, capacity, and the legal environment within which it operates.

A persistent structural challenge to INEC's institutional independence concerns the appointment of senior officials. The Chairman and National Commissioners are appointed by the President, subject to Senate confirmation—a process in which the ruling party has historically exercised considerable influence. This arrangement has generated an enduring perception of partisan compromise among the public and political opposition, contributing to a trust deficit that pre-dates any specific technological controversy (Fasakin 2023). Conversely, a later constitutional amendment established a dedicated INEC fund drawn directly from the Consolidated Revenue Fund, affording the Commission greater financial autonomy and partially insulating it from the funding delays that compromised electoral administration in 1999, 2003, and 2007 (Thompson et al. 2023).

The legal framework governing the use of technology has evolved substantially over the period under review:

- **Electoral Act 2010 (as amended):** This Act historically proscribed electronic voting (e-voting). This led to considerable legal debate over the use of the Smart Card Reader (SCR) in 2015 and 2019, as critics argued INEC lacked the legal authority to deploy it (Nwangwu et al. 2018). INEC, however, maintained that the SCR was merely an accreditation device, which falls under its constitutional power to set guidelines and procedures (Kassem and Osasona 2021).
- **Electoral Act 2022:** This landmark legislation legitimised the use of technology, granting INEC the mandate to provide technological devices for verification, authentication, and transmission of results. This Act overcame the previous legal vacuum and provided impetus for the widespread use of BVAS and IReV in the 2023 general election (Sibe and Kaunert 2023).

Historical Context: Electoral Administration Before the Fourth Republic

Any assessment of INEC's performance requires situating it within the longer history of electoral administration in Nigeria, where elections date back to the colonial period under the 1922 Clifford Constitution (Aiyede 2015). Electoral manipulation, institutional weakness, and elite competition for the control of political outcomes are not features that emerged with the Fourth Republic; they are characteristics deeply embedded in Nigeria's political culture, rooted in the structural conditions of the colonial period and amplified through successive constitutional arrangements and military interventions (Iyayi 2005).

Nigeria's First Republic (1963-1966) was defined, in part, by fierce electoral competition among regionally organised political parties, persistent allegations of rigging, and

a political environment in which controlling the electoral machinery was understood as a means of consolidating ethnic and regional dominance. The December 1964 federal elections and the Western Region elections of October 1965 were widely characterised by violence, fraud, and institutional breakdown. Incidents included thuggery, intimidation, ballot stuffing, and clashes that resulted in numerous deaths. These events contributed directly to the military coup of January 1966 (Ediagbonya et al. 2023). The structural tensions of that period—including the relationship between electoral outcomes and access to state resources, the use of incumbency advantages, and the weakness of independent electoral oversight, established patterns that would recur across subsequent political transitions.

During the military era (1966-1999), several attempts at supervised electoral transition were undertaken, most notably during the periods 1976-1979 and 1986-1993. The 1979 transition produced the Second Republic under the Federal Electoral Commission (FEDECO), which itself became a site of controversy over the alleged manipulation of results in favour of the ruling National Party of Nigeria (Odinkalu 2001). More significantly, the June 12, 1993, presidential election—widely regarded by observers as the freest and fairest in Nigerian history—was annulled by the military government of General Ibrahim Babangida, an act that precipitated a severe political crisis and powerfully demonstrated the vulnerability of electoral processes to elite political will. The annulment, and the subsequent repression of the pro-democracy movement that followed, left a profound mark on Nigeria's political consciousness, shaping public expectations of electoral governance in ways that remain relevant to the present day (Odinkalu 2001).

These historical experiences are analytically important for at least two reasons. First, they establish that the challenges INEC faces—including weak institutional independence, elite interference in electoral outcomes, and the instrumentalisation of electoral administration—are not new but reflect a long-standing political inheritance. Second, they suggest that the introduction of any single institutional or technological reform, however significant, cannot by itself overcome the deep structural incentives that make electoral manipulation a rational strategy for powerful political actors. This contextual understanding is essential to appreciating both the significance and the limits of INEC's technological innovations.

The Foundation of the Fourth Republic: The Imperative for Reform (1999-2007)

The electoral landscape at the onset of Nigeria's Fourth Republic was defined by heavily manual processes that were vulnerable to widespread manipulation. The systemic failures of this era created a legitimacy crisis that made a shift towards technological solutions both necessary and politically compelling. However, early technological adoption was largely reactive and narrowly targeted, addressing specific procedural deficiencies in voter registration without confronting the broader structural conditions that enabled electoral fraud.

The 1999 General Election: A Flawed Foundation

The 1999 general election, which marked the transition from military to civilian rule, was conducted using an entirely manual system. Voter registration was carried out with pen and paper, and there was no centralised electronic database or technological mechanism to prevent fraudulent entries or multiple registrations (Unufe and Ugo 2019). Contemporary analyses and subsequent INEC reviews described the resulting voter register as outdated, with its credibility being questionable (Mgba 2017). International observer missions NDI and TCC documented the scale of the problem, noting that the official number of registered voters, 57.3 million, significantly exceeded credible demographic estimates of the eligible voting population. In one illustrative case, Kaduna State's registration figures represented over 97% of its total population based on the 1991 national census, an impossible statistic. This grossly inflated voter register became the “foundation for numerous problems” during the transitional elections and “created opportunities for fraud” on a massive scale (NDI and TCC 1999, 12).

Tentative Steps Towards Technology (2003 & 2007)

In response to the procedural and legitimacy deficits of the 1999 polls, INEC introduced basic digital tools in the 2003 general elections. The Commission deployed the Optical Mark Recognition (OMR) system, enabling manually collected voter data to be digitised into an Electronic Voters Register (EVR) for the first time. Complementing this, the Automated Fingerprints Identification System (AFIS) was used to identify and remove instances of multiple registration. While these measures represented a meaningful step towards modernising voter registration, their limitations were significant. Voter photographs remained absent from the register, data integration was incomplete, and all critical election-day processes such as accreditation, voting, counting, and collation, remained entirely manual and vulnerable to the same abuses as in 1999. The 2003 elections, despite their incremental technological improvement, were marred by widespread irregularities. Observer groups such

as the Transition Monitoring Group (TMG) and the EU EOM documented extensive electoral fraud and administrative incompetence, underscoring that targeted technological investment in registration did not address the deeper structural conditions enabling electoral fraud (Ayeni and Esan 2018; Makama and Usman 2015).

The 2007 general elections introduced biometric voter registration through the deployment of Direct Data Capture Machines (DDCM), enabling INEC to capture voters' fingerprints and photographs, establishing the first electronic voters' register and signalling a decisive move towards technology-driven voter management (Nwagwu 2016, 303). The system aimed to curb multiple registration and enhance register accuracy. However, logistical challenges, such as limited machine supply, inadequate operator training, and unreliable power infrastructure, undermined its implementation. More critically, no technology was applied to election-day accreditation, voting, sorting, counting and collation of results (Makama and Usman, 2015). The elections were characterised by severe administrative irregularities, prompting the EU EOM (2007) and NDI (2008) to conclude that they fell significantly short of international standards. The extent of the dysfunction was acknowledged even by President Umaru Musa Yar'Adua, who established the Justice Uwais Electoral Reform Committee in recognition of the need for systemic reform (Jude 2024). The 2007 elections thus demonstrated that, while biometric registration addressed one dimension of electoral fraud, the failure to accompany this with the transparency in election-day processes and result management deepened rather than alleviated Nigeria's crisis of electoral legitimacy, reinforcing the central paradox that technology alone cannot deliver democracy without political integrity.

The Legacy of the Manual Era: A Crisis of Legitimacy

The cumulative experience of the 1999, 2003, and 2007 elections entrenched a pronounced crisis of legitimacy for Nigeria's democratic experiment. The electoral process became widely associated with systemic manipulation, characterised by ballot stuffing, result fabrication, and politically motivated violence (Unufe and Ugo 2019). The consistent failure to deliver credible elections fuelled public mistrust, cynicism, and growing voter apathy, as citizens increasingly concluded that their participation had no meaningful bearing on electoral outcomes (Acheampong 2023). The inadequacies of the 2007 elections served as an important turning point. They demonstrated conclusively that improving the voter register—the primary focus of technological investment to that point—was insufficient. The principal vulnerability had shifted from who was included on the register to who was permitted to

vote on election day, and how those votes were subsequently counted and transmitted. This recognition created a compelling imperative for more substantive technological intervention at the polling unit level, setting the stage for the landmark reforms of the subsequent electoral cycle.

A Paradigm Shift? The Smart Card Reader, PVCs, and the 2011-2015 Electoral Cycles

The widespread condemnation of the 2007 elections generated strong momentum for comprehensive electoral reform. The appointment of Professor Attahiru Jega as INEC Chairman in 2010 ushered in a period of ambitious technological and procedural innovation aimed at restoring credibility to Nigeria's electoral process. The 2015 general election became a pivotal test for these reforms.

The Jega-Era Reforms and the Push for Technology

Assuming leadership with a clear mandate for reform, the Jega-led Commission identified the prevention of multiple voting and other forms of election-day fraud as its central challenge (Jega 2012). The initial test was the 2011 general elections, for which INEC deployed a new, comprehensive biometric voter register, compiled using DDCM technology and cleaned with an advanced AFIS that successfully identified and removed nearly one million multiple registrants. International observers, including the EU EOM and the Commonwealth Observer Group acknowledged the 2011 elections as a marked improvement over 2007, though they also noted significant procedural inconsistencies and logistical shortcomings. The elections were followed by severe post-election violence, predominantly in northern Nigeria, resulting in an estimated 800 deaths (Adesina 2012, 168). This mixed outcome—procedural improvement coupled with devastating violence—reinforced the argument that further technological intervention was necessary, specifically at the point of voter accreditation on election day.

The Introduction of the Permanent Voter Card and Smart Card Reader

In preparation for the 2015 general elections, INEC introduced two interconnected technologies: the Permanent Voter Card (PVC) and the Smart Card Reader (SCR). The PVC was a secure, chip-based card containing each voter's encrypted biometric data, including fingerprints and a facial image. The SCR was a portable handheld device designed to authenticate the PVC by reading the embedded chip and to verify the voter by matching their

live fingerprint against the biometric data stored on the card. This two-step process was intended to eliminate voter impersonation (using someone else's card) and multiple voting (as the SCR would record each accredited voter). Chairman Jega publicly stated that this technological pairing would ensure “100% authentication” of voters, effectively tackling the long-standing problem of stolen or cloned voter cards (Jega 2012).

The 2015 General Election: A Significant but Contested Achievement

The deployment of the SCR was met with fierce political resistance and legal challenges, with opponents questioning its statutory authority under section 52 of the Electoral Act, 2010 (as amended) which prohibits electronic voting (PLAC 2015). Despite the controversy, INEC remained resolute and proceeded with its use. On election day, the technology faced considerable operational challenges. High-profile authentication failures, such as the repeated inability of multiple SCR devices to accredit then-President Goodluck Jonathan, were broadcast live and highlighted the system's limitations. Reports from observer groups and INEC's own assessments confirmed widespread issues, including high rates of fingerprint authentication failure, inadequate training for ad-hoc staff on how to operate the devices, and problems with battery life in off-grid locations (Premium Times 2015).

Despite these operational challenges, the 2015 general election was widely assessed by domestic and international observers as the most credible election in Nigeria's history up to that point. The Commonwealth Observer Group concluded that the elections were “credible, peaceful, transparent and reflected the will of the people of Nigeria,” notwithstanding the “organisational and technical deficiencies” (Commonwealth Observer Group 2015). The election's outcome—the first-ever defeat of an incumbent president in Nigerian electoral history—was widely interpreted as evidence of improved process integrity.

Impact on Electoral Integrity and Public Trust

The primary success of the SCR was its ability to enforce a direct and digitally recorded link between the number of accredited voters and the total number of votes cast at a polling unit. This created a digital ceiling on the number of votes that could be plausibly returned, making traditional ballot-box stuffing and the writing of fictitious results much more difficult to perpetrate without detection. This tangible improvement significantly increased public trust and confidence in the electoral process (Jega 2016).

However, the operational failures also exposed the risks of deploying sophisticated technology without commensurate investment in infrastructure, logistics, and human capital. The directive for polling officials to resort to manual accreditation in cases where the SCR failed, while a pragmatic solution to prevent disenfranchisement, created procedural inconsistencies and opened a potential loophole for manipulation (International Foundation for Electoral Systems 2015). This experience revealed that the success of electoral technology is not merely a technical matter but a sociotechnical one.

The 2015 election also illustrates that the impact of technology cannot be assessed in isolation from the broader political context. The widespread civil society buy-in, the public trust vested in the INEC leadership, and the political configuration of the contest—including the emergence of a credible opposition coalition—all amplified the effect of the technological intervention. By securing the accreditation process, the SCR inadvertently shifted the primary locus of electoral manipulation away from the polling unit and towards the manual collation process, a vulnerability that would define the challenges of the subsequent electoral cycles.

Advanced Technologies and Contested Outcomes: BVAS, IReV, and the 2019-2023 Elections.

The period following the 2015 elections saw INEC, under the leadership of Professor Mahmood Yakubu, seek to build upon the technological foundations established by his predecessor. This culminated in the deployment of the most sophisticated electoral technologies in Nigeria's electoral history for the 2023 general election. However, this era was defined by a significant and damaging gap between the promise of these technologies and their performance, producing a severe crisis of public expectation and institutional confidence.

The Post-2015 Context and the 2019 Elections

The 2019 general elections were widely anticipated to consolidate the democratic gains of 2015. Instead, they were viewed by many observers as a regression. A joint IRI/NDI observer mission report concluded that the elections “fell significantly short of standards set in 2015,” which “shook citizens' confidence” (IRI/NDI 2019). The electoral cycle was marked by severe operational and logistical shortcomings, most notably a last-minute postponement of the presidential election by one week, which INEC attributed to challenges in distributing sensitive materials. This decision severely undermined public trust in the

commission's competence and preparedness. The SCR and PVC were again deployed, but their use was inconsistent; the EU EOM observed instances in which voting proceeded without the mandatory use of the SCR, and there were evident problems in the completion and public display of results forms. The failure of the executive and legislative branches to pass crucial amendments to the Electoral Act before the 2019 elections left INEC without a strengthened legal framework for its technological and procedural reforms (EU EOM 2019).

The Electoral Act 2022 and the Introduction of BVAS and IReV

The passage of the Electoral Act 2022 represented a major legislative breakthrough providing for the first time an explicit legal framework for the use of electronic devices for voter accreditation and the electronic transmission of results. Empowered by this new statute, INEC introduced two interconnected technologies for the 2023 elections: the Bimodal Voter Accreditation System (BVAS) and the INEC Result Viewing (IReV) portal (Yiaga Africa 2023).

The BVAS is a multifunctional handheld device designed to serve two core purposes on election day. First, as its name implies, it performs bimodal voter accreditation by verifying a voter's identity through either fingerprint or facial recognition, thereby replacing the less versatile SCR. Second, after votes are counted and recorded on the official result sheet (Form EC 8A), the BVAS is used to capture a photograph of the sheet and upload it directly to the IReV portal from the polling unit (Itodo 2023).

The IReV is a public-facing online portal designed to receive the images of the polling unit result sheets uploaded via the BVAS. By making these raw, primary results available for public viewing in near real-time, the IReV was intended to function as a radical transparency tool, allowing citizens, political parties, and observers to independently track and verify the results as they were being collated (Itodo 2023). In the lead-up to the election, INEC Chairman Mahmood Yakubu repeatedly assured the public that this dual-technology system would guarantee “transparent accreditation and upload of polling unit results for citizens to view in real-time on Election Day” (Yakubu 2022). These public commitments substantially raised the level of public expectation surrounding the election's technological performance.

The 2023 General Election: Technology, Context, and Contested Outcomes

On election day, the performance of the new technologies was sharply differentiated. The deployment of the BVAS for voter accreditation was largely successful. Major observer organisations, including Yiaga Africa and the Commonwealth Observer Group, reported that

the device performed effectively in most polling units across the country, with its dual biometric verification capability significantly limiting the use of manual accreditation and curtailing over-voting (Commonwealth Observer Group 2023; Yiaga Africa 2023).

In sharp contrast, the electronic transmission of presidential election results to the IReV portal encountered serious technical difficulties. While results for the concurrent National Assembly elections were successfully uploaded in many cases, the presidential results largely failed to transmit in real-time from the polling units. Voters and observers across the country reported being unable to view the presidential result sheets on the portal for many hours after voting had concluded. INEC later attributed this to unforeseen “technical hitches” related to system scalability (PLAC 2023).

The failure to deliver on the publicly stated promise of real-time presidential result transmission became the defining controversy of the 2023 elections. It generated an information vacuum and fostered widespread suspicion about the integrity of the manual collation process, prompting major observer missions to deliver critical assessments. The EU EOM (2023) concluded that the lack of transparency and operational failures reduced trust in the process; the joint NDI/IRI (2023) mission characterised the election as falling short of Nigerian citizens’ reasonable expectations; and Yiaga Africa (2023) titled its comprehensive report “Dashed Hopes.”

A full analytical assessment of the 2023 elections, however, requires a broader contextual lens. Public expectations and their subsequent frustration were shaped not only by INEC's technological performance but by a range of intersecting social and political factors. The elections took place against a backdrop of significantly expanded internet access and mobile phone penetration across Nigeria, which both amplified public monitoring of the electoral process and heightened the visibility of its shortcomings. Social media platforms played a substantial role in the mobilisation of political discourse, enabling the rapid circulation of claims and counterclaims about INEC's conduct in near real-time. The absence of an incumbent presidential candidate created a genuinely open contest and heightened the political stakes for all parties. The character of the electoral competition, in which one major candidate drew disproportionate support from youth, urban, and middle-class voters who had invested significant hope in the promise of a new political dispensation, meant that disillusionment with the process was especially acute among a politically engaged and digitally connected demographic. These contextual factors substantially shaped the intensity of public reaction to INEC's shortcomings and must be incorporated into any balanced evaluation of the election's outcome.

The failure of the IReV portal for the presidential election became a central element in the legal petitions filed by opposition candidates challenging the declared results (Cinjel and Bur 2024). Additionally, voter turnout for the presidential election fell to a historic low of 26.72%—the lowest recorded in the history of Nigeria's Fourth Republic (Dataphyte 2025). Since the failure of the IReV portal predominantly impacted the presidential election results, it raised doubts about whether it was merely a technical malfunction or a sign of institutional unpreparedness, and many perceived it as a deliberate attempt to compromise the electoral process.

An Analytical Synthesis: Electronic Innovations and the Trajectory of Democratic Consolidation

Before examining the thematic findings in detail, the table below summarises the evolution of INEC's key electronic innovations and their observed impact on electoral integrity across the period under review. This overview provides an empirical anchor for the analysis that follows.

The 25-year journey of electronic innovations within Nigeria's electoral system reveals a complex and often contradictory relationship between technological deployment and democratic consolidation (Table 1). The Nigerian experience is not a straightforward story of technological progress yielding enhanced electoral integrity; it is, rather, a case study in how technology interacts with political context, institutional capacity, and public expectations in ways that produce uneven and sometimes counterproductive outcomes. The analysis reveals a trust paradox, wherein technologies designed to promote transparency have, at critical moments, become focal points of opacity and suspicion, thereby complicating rather than straightforwardly advancing the path to a consolidated democracy.

Table 1: Evolution of INEC's Key Electronic Innovations and Their Impact on Electoral Integrity (1999 - 2023)

Electoral Cycle	Key Technology Deployed	Primary Function	Observed Successes	Observed Failures & Challenges	Observer Assessment of Trust
1999	Manual Register	Manual Voter Listing	Facilitated transition to civilian rule.	Bloated, unreliable register; no safeguards against fraud. Official registration figures exceeded plausible demographic estimates.	Very Low
2003-2007	OMR / DDCM / AFIS	Electronic Voter Registration	Creation of a digital voter database; removal of some multiple registrants.	Registration still cumbersome; no election-day technology; 2007 election widely condemned as falling short of international standards.	Critically Low
2011	Biometric Voter Register	Voter Registration	First election with a comprehensive biometric register; improved register integrity.	No election-day accreditation technology; significant post-election violence following the announcement of results.	Marginal Improvement
2015-2019	PVC / SCR	Voter Accreditation & Verification	Substantial reduction in voter impersonation and over-voting; 2015 election hailed as most credible to date.	SCR technical glitches (fingerprint authentication failures, battery); inconsistent application; 2019 election marked by logistical failures and regression.	Significant Increase (2015), then Decline (2019)
2023	BVAS / IReV Portal	Bimodal Voter Accreditation & Electronic Result Transmission	High reported success rate of BVAS in accreditation; further curtailment of over-voting.	Failure of IReV to transmit presidential results in real-time as publicly promised; historic low voter turnout (26.72%).	Severe Erosion

Source: Compiled by the author from official INEC publications, domestic and international election observer mission reports (EU EOM, NDI, IRI, Yiaga Africa, Commonwealth Observer Group), and peer-reviewed academic literature cited in this paper. Net trust assessments reflect the aggregate findings of observer mission reports and are not derived from primary survey data.

The Trust Paradox: Technology as a Double-Edged Instrument

The central analytical question of this paper—whether digital technologies have mitigated or reinforced entrenched patterns of electoral manipulation—does not admit a simple answer. The evidence suggests that the relationship is one of displacement rather than resolution. Biometric accreditation technologies have materially reduced specific forms of polling-unit fraud, most notably voter impersonation and multiple voting. However, by securing one dimension of the process, they have shifted the primary site of manipulation towards result collation and transmission, where institutional accountability has proven more difficult to enforce.

As the theoretical framework established, the reputational and institutional risks of deploying advanced electoral technology are asymmetric: credible performance yields incremental trust gains, while failure—particularly failure perceived as selective—can generate disproportionately severe and lasting damage to public confidence (Norris 2011). The embrace of the IReV portal in 2023 fundamentally altered the social contract between INEC and the Nigerian citizenry—it raised public expectations for transparency to an unprecedented level. In prior eras characterised by largely manual processes, public frustration with electoral opacity, while genuine, was diffuse and chronic. However, the explicit promise of real-time transparency via the IReV portal in the 2023 elections created a new and higher standard of accountability. The IReV portal was not just a technical tool; it symbolised a commitment to a new era of “citizen-led verification,” where any Nigerian with an internet connection could act as an auditor of the process from the ground up.

When that promise was not fulfilled for the presidential election, the resulting backlash and loss of confidence was of a qualitatively different character—perceived not merely as a procedural deficiency but as a betrayal of a specific, publicly articulated commitment. This dynamic is precisely the pattern that the institutional trust literature would predict (Norris 2011,83-97): the higher the expectation raised by technology, the more destabilising its non-fulfilment.

This paradox also confirms the fraud displacement pattern observed across comparative contexts (Lehoucq 2003): each successive technological intervention that secured one dimension of the electoral process created incentives for manipulation-oriented actors to intensify attention to less scrutinised dimensions. The SCR secured accreditation; collation became contested. IReV promised to secure collation; its failure—or the perception thereof—concentrated suspicion precisely where transparency had been promised. Technology has not resolved the problem; it has, at each cycle, relocated it.

Impact on Electoral Integrity: A Disaggregated Assessment.

A nuanced assessment of INEC's electronic innovations requires a disaggregation of their impact on different forms of electoral malpractice. The evidence strongly supports that biometric accreditation technologies have been demonstrably effective against a specific subset of electoral frauds. Both the SCR and the BVAS have demonstrably reduced voter impersonation and multiple voting at the polling unit level (Ayeni and Aweh 2023, 25-42). By creating a digital record of each accredited voter and linking the total number of votes cast to this record, these devices have substantially curtailed over-voting—the practice of inserting unaccredited ballots into the ballot box—which was endemic in the manual era.

However, these technologies have had limited impact on other forms of electoral malpractice. Vote-buying, which typically occurs near the polling unit but outside the formal accreditation procedure, remains largely beyond the reach of biometric verification (Mgba, 2017; Ogunbela and Abdulrasheed 2024). Similarly, voter intimidation and targeted violence to suppress turnout in opposition strongholds are not amenable to technological solutions and continue to be reported in successive electoral cycles (Asangausung et al., 2025). Most critically, the 2023 experience demonstrated that even an effectively functioning accreditation system can be rendered inadequate if the subsequent processes of result collation and transmission are insufficiently transparent. Technology has not eliminated electoral fraud; it has, rather, displaced the primary locus of manipulation from the polling unit to the collation centres and the digital pathways connecting them—a finding consistent with the fraud displacement literature.

Electoral Violence and Technology

The relationship between electoral technology adoption and the incidence of electoral violence in Nigeria is neither linear nor straightforward. Proponents of electronic voting systems argue that digitising key processes reduces violence by eliminating the physical objects—ballot boxes, result sheets—that have historically served as flashpoints for conflict (Abdullahi and Tunwase 2022, 123–134; Obiefuna and Osuagwu 2023). While there is some empirical support for this claim, the Nigerian experience suggests a considerably more complex dynamic.

The 2011 elections, despite using a new biometric register, witnessed the most severe post-election violence in the Fourth Republic's history (Bekoe 2011). In contrast, the 2015 elections, which deployed the contentious SCR under conditions of high political polarisation, were remarkably peaceful, culminating in a historic concession by the incumbent (Orji 2015). The 2019 and 2023 elections saw a return to significant, if more

localised, patterns of violence—including the intimidation of voters and INEC officials, and targeted attacks on polling and collation centres (IRI/NDI 2019; Yiaga Africa 2023). This pattern suggests that while technology may alter the tactics and targets of electoral violence—for instance, shifting the focus from ballot box snatching to the intimidation of the BVAS operator—it does not address the root causes that generate violence in the first place. The highly competitive, high-stakes, “do-or-die” nature of Nigerian electoral politics means that when one avenue for manipulation is closed by technology, politically motivated actors frequently identify or create alternative ones.

Voter Turnout, Disillusionment Effect, and Democratic Consolidation

A significant and analytically important trend across the Fourth Republic has been the persistent decline in voter turnout, reaching a historic low of 26.72 % in the 2023 presidential election (Dataphyte 2025). This trajectory reflects a complex interaction between long-standing public mistrust of electoral institutions, the mobilising effects of specific electoral contests, and the more immediate disillusionment generated by unmet technological expectations.

The 2023 election is particularly instructive in this regard. The pre-election period was characterised by a notable surge in youth engagement and voter registration activity, driven in substantial part by the promise of BVAS and IReV to ensure that votes would be accurately recorded and publicly verifiable (Yiaga Africa 2023). This mobilisation reflected a genuine, if cautious, expression of public faith in the potential of technology to constrain manipulation. The subsequent failure of IReV to deliver real-time presidential results had a pronounced disillusionment effect, particularly among first-time and younger voters who had invested most heavily in the promise of technological accountability. This disillusionment, however, was not generated by INEC’s technological performance alone. As noted above, the character of the electoral contest—the specific candidate alignments, the role of social media in amplifying both expectations and grievances, and the broader political stakes—all contributed to the intensity of the public response. Disentangling the relative weight of these factors is analytically challenging but important for drawing appropriate lessons from the 2023 experience.

From the perspective of democratic consolidation theory, the declining trend in voter participation is a matter of significant concern. As Linz and Stepan (1996) established, democratic consolidation requires not only the holding of regular elections but the cultivation of durable public confidence in the integrity of electoral processes and the meaningfulness of political participation. The declining turnout figures, combined with the acute

disillusionment generated by the 2023 IReV failure, suggest that Nigeria remains some distance from the attitudinal consolidation Linz and Stepan identify as essential. INEC's technological interventions have at their best, contributed incrementally to this objective. At their worst—as the 2023 IReV controversy represents a significant case in point—they have deepened the very cynicism they were designed to overcome.

Conclusion

This paper has examined the 25-year trajectory of electronic innovations within Nigeria's electoral system, situating INEC's technological journey within the broader historical context of electoral administration in Nigeria, including the military period and its enduring institutional legacy. The central analytical question—whether digital electoral technologies have mitigated or reinforced entrenched patterns of electoral manipulation—admits a nuanced answer that cuts across both positions.

The evidence demonstrates that biometric accreditation technologies, from the SCR to the BVAS, have made a tangible and positive contribution to the integrity of specific dimensions of the electoral process, most notably by reducing voter impersonation and over-voting at the polling unit level. These are genuine institutional achievements. But the persistent inability to ensure transparent and reliable electronic result transmission—exposed most acutely by the failure of the IReV portal for presidential elections in 2023, has produced the trust paradox at the centre of this paper's argument: technology designed to build confidence has instead become a source of deepened public disillusionment, precisely because it raised expectations that the institution lacked the capacity or independence to fulfil. Technology has displaced rather than resolved the problem of electoral manipulation, shifting its primary site from the polling unit to the collation and transmission processes.

Three contributions to the comparative literature follow from the Nigerian case. First, the evidence extends the fraud displacement dynamic that Lehoucq (2003) identified in Latin American electoral systems, but with an additional dimension that his framework did not anticipate. In Nigeria, each successive technological intervention has not merely redirected manipulation to less scrutinised stages of the electoral process; it has simultaneously generated a public transparency expectation whose non-fulfilment inflicts reputational damage on the deploying institution that exceeds whatever integrity gains the technology achieved. The trust paradox is thus not simply fraud displacement; it is fraud displacement compounded by expectation betrayal.

Second, the findings press against a limitation in Linz and Stepan's (1996) democratic consolidation framework. Their account of attitudinal consolidation—the internalisation by citizens of democratic institutions as legitimate—assumes that institutional performance and public confidence move broadly in the same direction. The Nigerian case demonstrates that, in weakly institutionalised democracies, they can move in opposite directions: INEC's accreditation processes measurably improved between 2015 and 2023, yet public confidence in the electoral process deteriorated, and voter turnout fell to a historic low. Electoral technology, deployed under conditions of institutional fragility, introduces a consolidation risk that the original framework does not theorise: the asymmetric relationship between technological promise and institutional capacity, in which partial success can be more politically destabilising than consistent, predictable failure.

Third, the paper contributes to the sociotechnical literature on electoral administration by specifying the conditions under which technology yields credibility gains rather than losses. The contrast between 2015, when imperfect SCR performance nonetheless generated widespread public confidence, and 2023, when technically superior BVAS accreditation was overshadowed by the IReV transmission failure, illustrates that the democratic value of electoral technology is constituted not in the device itself but in the relationship between the technology, the deploying institution's credibility, and the expectations of the citizenry. Where that relationship is characterised by high promises and uneven delivery, the technology becomes a liability rather than an asset to democratic consolidation.

The Nigerian experience carries a broader warning for weakly institutionalised democracies adopting electoral technologies. The analytical temptation is to treat technological failure as a problem of implementation—solvable through better devices, more training, or stronger legal mandates. The evidence assembled in this paper suggests otherwise. The trust paradox is structural, not operational. It arises from the mismatch between what transparency technologies promise and what the political and institutional environment permits them to deliver. Until that mismatch is confronted on its own terms—rather than treated as a technical deficiency awaiting a technical fix—electoral technology in contexts like Nigeria's will continue to relocate the problem of manipulation rather than resolve it, and deepen the very democratic deficits it was introduced to repair.

References

- Abdullahi, Haruna Ishola and Ajiwojuoluwa Oluwaseun Tunwase. 2022. "Digital Voting and Electoral Violence: Roles of Information Communication Technology in Ameliorating Electoral Crimes in Nigeria." In *Elections and Electoral Violence in Nigeria*, Kelechi Johnmary Ani and Victor Ojakorotu (eds.), 123-134. Singapore: Palgrave Macmillan. https://doi.org/10.1007/978-981-16-4652-2_9
- Acheampong, Martin. 2023. "Overpromising and Underdelivering? Digital Technology in Nigeria's 2023 Presidential Elections." *GIGA Focus Africa*, no. 2. Hamburg: German Institute for Global and Area Studies. <https://doi.org/10.57671/gfaf-23022>
- Adesina, Olubukola. 2012. "Monitoring and Observing Nigeria's 2011 Elections." *Journal of African Elections* 11 (1): 153–178. <https://hdl.handle.net/10520/EJC123792>
- Aiyede, E. Remi. 2015. "Institutional Change and Nigeria's 2015 Elections." *The Constitution* 15 (3&4). <https://scispace.com/pdf/institutional-change-and-nigeria-s-2015-elections-1ejod0jhes.pdf>
- Alvarez, R. Michael, Thad E. Hall, and Susan D. Hyde. 2008. "Introduction: Studying Election Fraud." In *Election Fraud: Detecting and Detering Electoral Manipulation*, edited by R. Michael Alvarez, Thad E. Hall, and Susan D. Hyde, 1–17. Washington, DC: Brookings Institution Press. <https://www.brookings.edu/books/election-fraud/>
- Asangausung, Okoro, Bensom Udoms and Ali Yağcı. 2025. "Managing Election-related Violence in Nigeria: Focus on the Use of Technologies in the 2023 General Elections." *Yıldız Social Science Review* 11 (1): 44–60. <https://doi.org/10.51803/yssr.1682114>
- Ayeni, Toba Paul, and Opani M. Aweh. 2023. "Examining the Impact of Bimodal Voter Accreditation System (BVAS) as a Game-Changer in Nigeria 2023 Elections." *The Information Technologist: An International Journal of Information and Communication Technology* 20 (2): 25–42. <https://www.ajol.info/index.php/ict/article/view/262561>
- Ayeni, Toba Paul, and Adebimpe Omolayo Esan. 2018. "The Impact of ICT in the Conduct of Elections in Nigeria." *American Journal of Computer Science and Information Technology* 6 (1). <https://doi.org/10.21767/2349-3917.100014>
- Bekoe, Dorina. 2011. "Nigeria's 2011 Elections: Best Run, but Most Violent." United States Institute of Peace, Peace Brief no. 103 (August 15). <https://www.usip.org/sites/default/files/PB%20103.pdf>
- Chidi Anselm Odinkalu. 2001. "The Management of Transition to Civil Rule by the Military in Nigeria (1966-1996)." In *Nigeria during the Abacha Years (1993-1998)*, Daniel C. Bach, Yann Lebeau and 'Kunle Amuwo (eds.), 57-99. Ibadan: IFRA-Nigeria. <https://books.openedition.org/ifra/634>
- Chikodiri, Nwangwu, Vincent Chidi Onah, and Otu Akanu Otu. 2018. "Elixir of Electoral Fraud: The Impact of Digital Technology on the 2015 General Elections in Nigeria." *Cogent Social Sciences*, 4 (1), 1549007. <https://doi.org/10.1080/23311886.2018.1549007>
- Cinjel, Nandes Dickson and Andeline Doosuur Bur. 2024. "Does the Use of IREV Guarantee an Acceptable Election's Outcome? Evidence from Nigerian 2023 Presidential Election." *International Journal of Scientific Research in Humanities Legal Studies and International Relations* 8 (1): 89-102. <https://doi.org/10.48028/ijsrhilr.v8.i1.07>
- Commonwealth Observer Group. 2011. Nigeria National Assembly and Presidential Elections 2011: Interim Statement. April 17. <https://thecommonwealth.org/news/nigeria-national-assembly-and-presidential-elections-2011-interim-statement>
- Commonwealth Observer Group. 2015. Nigeria Presidential and National Assembly Elections, 28 March 2015: Report of the Commonwealth Observer Group. Commonwealth Secretariat, London. <https://thecommonwealth.org/news/commonwealth-releases-observer-report-nigerias-2015-elections>
- Commonwealth Observer Group. 2023. Interim Statement: Commonwealth Observer Group Nigeria's 2023 General Elections. The Commonwealth.

- <https://thecommonwealth.org/interim-statement-commonwealth-observer-group-nigerias-2023-general-elections>
- Dataphyte. 2025. Nigeria Records Only 26.72% Voter Turnout in 2023 Election. <https://elections.dataphyte.com/insights/nigeria-records-only-2672-voter-turnout-in-2023-election>
- Ediagbonya, Michael, Olumide Ogunrotimi, and Ukhurebor Aghahiusi Roland. 2023. "Election Rigging and Violence in Nigeria in Historical Perspective: A Case Study of 1959, 1964, 1965 and 1983 Elections." *International Journal of Multidisciplinary Research and Analysis* 6 (1): 28–36. <http://doi.org/10.47191/ijmra/v6-i1-04>
- European Union Election Observation Mission (EU EOM). 2007. Nigeria Final Report: Gubernatorial and State Houses of Assembly Elections 14 April 2007 and Presidential and National Assembly Elections 21 April 2007. Abuja: EU EOM. https://www.eods.eu/library/FR20NIGERIA202007_en.pdf
- European Union Election Observation Mission (EUEOM). 2019. Nigeria: General Elections 2019 Final Report. June. https://www.eeas.europa.eu/sites/default/files/nigeria_2019_eu_eom_final_report-web.pdf
- European Union Election Observation Mission (EU EOM). 2023. *European Union Election Observation Mission Nigeria 2023: Final Report—General Elections 25 February and 18 March 2023*. Brussels: European External Action Service. <https://www.eeas.europa.eu/sites/default/files/documents/2023/EU20EOM20NGA20202320FR.pdf>
- Fasakin, Akinbode. 2023. "Nigeria's 2023 Presidential Elections: The Question of Legitimacy for the Tinubu Administration." *Journal of African Elections* 22 (2) 97–117. <https://doi.org/10.20940/JAE/2023/v22i2a5>
- Ideyi, C. O. 2019. "Assessment of the Use of Card Reader Technology in Improving the Electoral System in Nigeria." In *The 2019 WEI International Academic Conference Proceedings*, Montreal, Canada (pp. 41–49). West East Institute. <https://www.westeastinstitute.com/wp-content/uploads/2019/12/EDUHUM-Montreal-Proceedings.pdf>
- International Foundation for Electoral Systems (IFES). 2015. Nigeria's 2015 Elections: A Critical Vote for Democracy in Africa. April 2. <https://www.ifes.org/news/nigerias-2015-elections-critical-vote-democracy-africa>
- International Republican Institute and National Democratic Institute (IRI/NDI). Nigeria International Election Observation Mission: Final Report. Washington, D.C.: International Republican Institute and National Democratic Institute, 2019. https://www.ndi.org/sites/default/files/NDI_IRI_Nigeria_Elections_Final_Report_web_version.pdf
- Itodo, Samson. 2023. Inspiring confidence in the BVAS and Electronic Transmission of Election Results: Seven Urgent Actions for INEC. International IDEA. January 25. <https://www.idea.int/news/inspiring-confidence-bvas-and-electronic-transmission-election-results-seven-urgent-actions>
- Iyayi, Festus. 2005. "Elections and Electoral Practices in Nigeria: Dynamics and Implications." *The Constitution* 5(2). https://journals.co.za/doi/pdf/10.10520/AJA15955753_129
- Jega, Attahiru. 2012. Improving Elections in Nigeria: Lessons from 2011 and looking to 2015. Africa Programme Meeting Summary. London: Chatham House, July 4. <https://www.chathamhouse.org/sites/default/files/public/Research/Africa/040712summary.pdf>
- Jega, Attahiru. 2016. Using Biometric Voter Registration for the 2015 Elections in Nigeria. ACE: The Electoral Knowledge Network. May 23. https://aceproject.org/ace-en/topics/vr/annex/case-studies/using-biometric-voter-registration-for-the-2015/mobile_browsing/onePag

- Jude, I. 2024. Revealed: How Nigeria's elections are rigged (1). *The Sun Nigeria*. November 2. <https://thesun.ng/revealed-how-nigerias-elections-are-rigged-1/>
- Kassem, Semshak Danladi, and Shakira Hannah Osasona. 2021. "Smart Card Reader and Election Credibility in Nigeria's Fourth Republic." *Zamfara Journal of Politics and Development* 2 (2): 1–10. <https://www.zipd.com.ng/index.php/zipd/article/view/59/52>
- Kersting, Norbert, and Harald Baldersheim, eds. 2004. *Electronic Voting and Democracy: A Comparative Analysis*. London: Palgrave Macmillan. <https://doi.org/10.1057/9780230523531>
- Lehoucq, Fabrice. 2003. "Electoral Fraud: Causes, Types, and Consequences." *Annual Review of Political Science*, 6: 233-256. <https://doi.org/10.1146/annurev.polisci.6.121901.085655>
- Linz, Juan J. and Alfred Stepan. 1996. *Problems of Democratic Transition and Consolidation: Southern Europe, South America, and Post-Communist Europe*. Baltimore: Johns Hopkins University Press.
- Makama, Ahmed Adamu, and Usman Muhammed. 2015. "The Impact of Technology on Nigeria's Democratic Development: An Analysis of the Card Reading Machine." *International Journal of Multidisciplinary Research and Modern Education* 1 (2): 116-125. https://ijmrme.crystalpen.in/uploads/68468d5603295_97.pdf
- Mgba, Chimaroke. 2017. "Electoral Management Body and the Challenges of Conducting Credible Elections in Nigeria." *American International Journal of Social Science* 6 (3): 85-96.
- National Democratic Institute and The Carter Center (NDI and TCC). 1999. Observing the 1998–99 Nigeria Elections: Final Report. Atlanta, GA: The Carter Center and National Democratic Institute. https://www.ndi.org/sites/default/files/098_ng_observing_0.pdf
- National Democratic Institute (NDI). 2008. Final NDI Report on Nigeria's 2007 Elections. Washington, DC: National Democratic Institute. https://www.ndi.org/sites/default/files/2313_ng_report_election07_043008.pdf
- National Democratic Institute and International Republican Institute (NDI/IRI). 2023. Final Report: 2023 Nigerian General Elections. Joint International Election Observation Mission. Washington, DC: NDI/IRI. <https://www.iri.org/news/ndi-iri-joint-international-election-observation-mission-releases-final-report-on-2023-nigerian-general-elections/>
- Norris, Pippa. 2011. *Democratic Deficit: Critical Citizens Revisited*. Cambridge: Cambridge University Press.
- Norris, Pippa, Richard W. Frank, and Ferran Martínez i Coma. (eds.) 2014. *Advancing Electoral Integrity*. Oxford: Oxford University Press.
- Nwagwu, Ejikeme Jombo. 2016. "Information and Communication Technology and Administration of 2015 General Election in Nigeria." *Mediterranean Journal of Social Sciences* 7 (4): 303–316. <https://www.richtmann.org/journal/index.php/mjss/article/view/9325>
- Obiefuna, Obinne, and Adrian Osuagwu. 2023. "Computers as Ballot Boxes: Digital Voting in Nigeria, Consequences and Interventions." *UNIZIK Law Journal* 19 (2): 55–75. <https://journals.ezenwaohaetorc.org/index.php/ULJ/article/download/2292/2333>
- Obiefuna-Oguejiofor, Obinne. 2018. "Advancing Electronic Voting Systems in Nigeria's Electoral Process: Legal Challenges and Future Directions." *Afe Babalola University Journal of Sustainable Development Law and Policy*, 9 (2): 188-219. <https://dx.doi.org/10.4314/jsdlp.v9i2.10>
- Ogunbela, Gbeminyi Kazeem and Kehinde Abayomi Abdulrasheed. 2024. "Election Technologies: BVAS and Public Trust in Nigerian Elections in Local Jurisdiction Context." *Journal of Public Administration* 6 (1): 11–19. <https://doi.org/10.22259/2642-8318.0601002>
- Oni, Ebenezer Oluwale, Nicholas Idris Erameh, and Azeez Olalowo Oladejo. 2017. "Nigeria's Fourth Republic: Electoral Administration and the Challenge of Democratic Consolidation." *African Journal of Governance and Development* 6 (2): 38–72. <https://ajgd.journalofgovernance.com/index.php/ajgd/article/view/75>
- Orji, Nkwachukwu. 2015. "The 2015 Nigerian General Elections." *Journal of African Elections* 14 (2): 143–167. <https://doi.org/10.1177/000203971505000204>

- Policy and Legal Advocacy Centre 2015. The Constitutionality or Not of the Use of Card Readers in the 2015 Elections in Nigeria. <https://placng.org/Legist/the-constitutionality-or-not-of-the-use-of-card-readers-in-the-2015-elections-in-nigeria/>
- Policy and Legal Advocacy Centre. 2023. Nigeria's 2023 General Elections: A Return to the Old Ways. <https://placng.org/Legist/nigerias-2023-general-elections-a-return-to-the-old-ways/>
- Premium Times. 2015. "INEC says Card Reader test successful, admits 41% fingerprint failure." Premium Times Nigeria, March 10, 2015. <https://www.premiumtimesng.com/news/headlines/178264-inec-says-card-reader-test-successful-admits-41-fingerprints-verification-failure.html>
- Sibe, Robinson Tombari and Christian Kaunert. 2023. "Technology, Cybersecurity 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>
- Thompson, Olasupo, Ridwan Idris, Oluniyi Ademola, and Modupe Obi. 2023. "Preparations of the Independent National Electoral Commission (INEC) and the Outcome of the 2023 General Elections in Nigeria." *Journal of African Elections* 22 (2): 118-142. <https://doi.org/10.20940/JAE/2023/v22i2a6>
- Ugoh, Samuel C., and Wilfred I. Ukpere. 2019. "Assessment of Electoral Management and Democratization System in Nigeria: A Case of Independent National Electoral Commission (INEC)." *Journal of Reviews on Global Economics* 8: 469–476. <https://doi.org/10.6000/1929-7092.2019.08.40>
- Unufe, Edono Joseph and Oluch Justin-Ugo. 2019. "Election Administration in Nigeria: Interrogating Independent National Electoral Commission Transition Efforts from Manual to Electronic Voting." *African Research Review* 13 (4): 12–23. <https://dx.doi.org/10.4314/afrrrev.v13i4.2>
- Yiaga Africa. 2023. Dashed Hopes? Yiaga Africa Report on the 2023 General Election. July. [https://yiaga.org/wp-content/uploads/2023/07/Dashed-Hopes-Yiaga-Africa-Report-on-the-2023-General-Election .pdf](https://yiaga.org/wp-content/uploads/2023/07/Dashed-Hopes-Yiaga-Africa-Report-on-the-2023-General-Election.pdf)
- Yakubu, Mahmood. 2022. "A Message from the INEC Chairman: 100 Days to the 2023 General Election." Statement issued by the Independent National Electoral Commission, November 16, 2022. Reported in *Punch*, November 16, 2022. <https://punchng.com/no-going-back-on-use-of-technology-inec/>