Law, Technology, and Electoral Transparency: A Comparative Study of Nigeria and the United States

Omoleke Olujide Muslim[1], Sesan Fabamise[2*]

[1]The Faculty of Law, Federal University Oye-Ekiti, Ekiti State, Nigeria
[2] The Faculty of Law, Afe Babalola University, Ado-Ekiti, Ekiti State, Nigeria

Email: muslim.omoleke@fuoye.edu.ng[1], fabamisesesan@abuad.edu.ng[2*]

Abstract

The study explores how the use of technology has an impact on improving the level of transparency in elections through a comparative legal analysis of Nigeria and the United States. The frequent occurrence of election fraud, such as false reporting of votes, bribery, and underage voters in Nigeria's elections is having an adverse effect on confidence in the political system and reducing voter turnout. A large proportion of 256 respondents surveyed for this study found current election technologies to be ineffective at 53.5%, and when compared to what is used in developed democracies, they were deemed highly inadequate at 77%. By using both a Doctrinal approach and Comparative Legal Methodology, along with Primary Survey Data, the researchers have concluded that technological improvements will only strengthen pre-existing inequities among voters if there is no accompanying robust legal framework. Thus, the two aspects of electoral credibility are linked together legally and technologically. There was a significant association between respondents' levels of satisfaction with the legal and technological aspects of elections ($\chi^2(1)=32.997$, $p<.001$,$\varphi=.359$). Furthermore, electronic result transmission was identified as the number one reform priority to address before the 2027 General Elections.

Keywords

Electoral technologies, Electoral transparency, Legal assessment, Voter participation, Result transmission.

Introduction

Democracy relies upon elections as its institutional heartbeat; technology has completely changed how legal issues relating to transparency, accountability and trust will be addressed (Rafi, 2025). The U.S. presidential election in 2000 exposed systemic technological failures during the Florida recount (Kellner, 2025). Congress responded with enactment of the Help America Vote Act (HAVA) in 2002. HAVA mandated state wide voter registration databases, provisional ballot systems and accessible voting machines (Bailer, 2024). An Internet voting test conducted in the Michigan Democratic Presidential Primary in 2004 demonstrated that Internet voting attracted young voters and infrequent voters; however, it did not produce a

Submission: 24 May 2026; **Acceptance:** 16 June 2026; **Available online:** June 2026

statistically significant rise in total number of voters – indicating that technology for convenience does not expand democratic participation, but instead consolidates existing forms of democratic participation (Serdült et al., 2015). As of 2023, thirteen states within the U.S. have passed mandates requiring Risk Limiting Audit legislation to establish Independent Post Election Verification as a Legal Requirement (Clapman, 2023).

Furthermore, the rationale for using the United States as a comparator in this study is that it is a benchmark for democracy. Hence, due to the advanced electoral technologies and innovations evident in the electoral system, it has become a standard against which developing electoral jurisdictions such as Nigeria can be compared (Adenuga, 2026).

For decades, elections in Nigeria utilized manual accreditation and physical ballots resulting in predictable delay times, opportunities for results manipulation and violence (Onuoha *et al.*, 2025). In 2015, INEC implemented the use of smart card readers (Ugwuozor, 2025). In addition, as of the 2023 general elections INEC implemented the Bimodal Voter Accreditation System (BVAS) and the INEC Result Viewing (IReV) portal (Ayeni & Aweh, 2023). However, survey responses from 256 respondents indicate that 77.0% of respondents considered Nigeria's technologies to be comparable to those of the U.S., Sweden and/or Denmark while 74.2% rated them as lower than their respective developed country counterparts.

The major issue facing Nigeria is that Nigeria's technologies do not provide full support for transparent collation of vote totals, open verification processes or uninterrupted transmission of vote totals (Bello & Chukwudi, 2023). Cross tabulations showed that 81.3% of respondents who felt the legal framework was inadequate felt that electoral technologies were also inadequate ($\chi^2(1,N=256)=32.997,p<.001,\varphi=.359$), affirming that these two factors are related and cannot be separated. The research addresses four specific questions: What types of technologies are used in Nigerian elections compared to U.S. elections? How do the laws governing each jurisdiction impact transparency? What structural barriers exist in Nigeria preventing Nigeria from achieving U.S. standards? Finally, what potential reforms can Nigeria adopt based on the experiences of the U.S.?

The strength of this study is that it focuses on the relationship between the application of law and technology and how it can effectively be used in Nigeria, as compared to the United States. In the same way, the comparative analysis with the U.S provides the identification of best practices and technological innovations that can further enhance electoral transparency in Nigeria.
The limitation of current methods is evident in the fact that most methodologies used in comparison were mainly doctrinal. This involves the pure analysis of statutes and regulations, rather than the use of empirical methods. Consequently, the limitation arises because the doctrinal legal analysis cannot be used to provide a more adequate solution, due to its inability to reflect the practical aspect and real-life scenarios of electoral administration.

The major existing research gap addressed by this study is the absence of a comprehensive comparative assessment of both the legal frameworks and electoral technologies used in Nigeria and the United States. Previous studies have not adequately investigated the extent to which deficiencies in law and technology jointly affect electoral transparency, accountability, verification of results, and public trust in Nigeria's electoral process.

Methodology

This research employed a combination of a doctrinal and comparative legal methodology in addition to first-hand empirical data. The doctrine-based portion included the conduct of an extensive literature review of the Electoral Act 2022, the Help America Vote Act of 2002 (52 U.S.C. § 20985), the Executive Order 14248 (2025) and relevant journals.

The qualitative dimension was informed by secondary analysis of an empirical survey, carried out in April 2026. Using Cochran's sample size formula $n = \frac{Z^2.P.(1-P)}{E^2}$, where n is the sample size, Z is the sample score, P is the estimated proportion of the population and E is the margin of error; n = 385. A total of 385 questionnaires were distributed to stakeholders in the electoral process which include but are not limited to political party members, INEC staff, legal practitioners, civil society organisations, and other democratic institutions. Of this sample size, about 256, representing 66.6% of the questionnaire were retrieved and analysed using descriptive and inferential statistical tools. Effect sizes were reported using Phi (φ) for 2×2 tables and Cramér's V for larger tables.

The sampling technique, which is COCHRAN, is used because of the size of the population, comprising of all stakeholders in the electoral process. Hence, a non-probability or deliberate sample size was used.
The questionnaire was validated using about 5% of the total sample size, and the responses were encouraging.
The study is limited by the absence of resources to expand the sample size. Also, the uncooperative attitude of a few respondents to the questionnaire is a limitation of the study.

Results and Discussion

Nigeria has made its greatest strides on technological aspects of law by virtue of the Electoral Act of 2022 (Ogunbanjo, 2024). This legislation established an obligation (Section 62) for the creation of a National Electronic Register of election results available to the general public. The same Act permitted Smart Card Reader devices (Section 47(2)) for voters to verify their status as eligible voters; it also allowed for electronic voting machines (Section 41(1)), and granted INEC the authority to determine how poll results would be electronically transmitted (Section 50(2)). Sections 60(5), and sections 64(4)-(5) provide INEC with authorization to transmit data via electronic means from all polling locations, and establish that Collation Officers may only rely upon data that was transmitted directly into the system. A penalty of no less than one-year imprisonment or a fine of ₦10 million will be imposed for failure to comply with documentation requirements related to materials (Section 73).

Table 1. Respondents' Familiarity with and Assessment of Electoral Legal Instruments (N = 256)

Dimension	Freq.	%
Familiar with legal instruments: Yes	229	89.5
Electoral Acts/Guidelines/Constitution adequate: Yes	181	70.7
Strongly agree legal instruments need amendment	124	48.4

Dimension	Freq.	%
Present legal instruments achieve free, fair elections: Yes	157	61.3

Source: Survey data, this study.

The EAC's evaluation report published under HAVA is a form of institutional protection that is missing within Nigeria's electoral technology structure. Another example of how U.S. politics has consistently shaped its technology regulations can be found in the new Executive Order 14248 (2025), which will require documentary evidence of citizenship to register voters federally, designate election infrastructure as "critical," and require voter-verifiable paper records, etc (Ndema, 2025).

Based on the foregoing, the ability of the U.S to make its electoral laws flexible and subject to improvement can be seen as one area where the legal framework applicable in the U.S is better than that in Nigeria. In the same way, laws are not static, but dynamic. Consequently, the law should adapt to the technological changes in society (Ndema, 2025). It should also be noted that the advancement of electoral technologies in the U.S is a gradual, consistent process, birthed by a result-oriented long-term agenda and effective legal frameworks (Garnett & James, 2020).

According to Table 2, respondents identified BVAS as the dominant form of electoral technology used (71.5%) while respondents identified electronic transmission of results as the least frequently cited technology used in Nigeria (only 0.8%). As such, the technological deployment in Nigeria is primarily focused at the point of accreditation with little or no focus placed upon transmitting and tabulating election results. This is consistent with historical manipulations of election results and also with the findings of Mumuni (2023), regarding BVA'S in the 2023 FCT and Adamawa elections.

Table 2. Electoral Technologies Identified as Currently in Use in Nigeria (N = 256)

Technology	Freq.	%
Bimodal Voter Accreditation System (BVAS)	183	71.5
Permanent Voter Card (PVC)	20	7.8
Biometric Voter Registration (BVR) / IReV Portal	18 / 18	7.0 / 7.0
Smart Card Reader (SCR)	7	2.7
Electronic Voting Machine (EVM)	3	1.2
Electronic Transmission of Results / GIS	2 / 2	0.8 / 0.8

Source: Survey data, this study.

In addition to a large gap in credibility, Table 3 shows a very low level of comparability for Nigerian technologies. With 77.0% indicating they have found Nigerian technologies to be non-comparable to those used in the U.S., Sweden or Denmark. In direct alignment with existing research into elections, there was also strong support (61.3%) for transmitting election results being where the need for modern technology would be needed the most. This corresponds well with what has been identified within the electoral process literature as the areas of greatest risk for manipulation (Nzereogu & Nnolum, 2024). The intended use of the IReV Portal to mitigate some of these risks in 2023, however, failed to achieve full success.

Connectivity issues were reported as were many instances of incomplete upload of results (Asangausung *et al.*, 2025).

Table 3. Assessment of Nigeria's Electoral Technology Adequacy and Global Comparability (N = 256)

Dimension	Freq.	%
Technologies adequate in Nigeria: No	137	53.5
Technologies comparable to USA/Sweden/Denmark: No	197	77.0
Area most needing advanced tech — Result Transmission	157	61.3
Technology at developed-country standard: No	190	74.2

Source: Survey data, this study.

The urgency for implementation of reforms is that the electronic transmission of election result information has to take place before the elections in 2027 (Adeyemi et al., 2026); secondly vote-buying (23.8%) and thirdly electronic voting (12.1%) (Table 4). The irony lies in the fact that there are problems with networks – a serious obstacle to the implementation of these reforms (the mean for this is M=2.40±1.30), as they are the largest impediment to the top-reform-priority, the electronic transmission of election-result data. Therefore, simply providing better technology will not solve the problem; it is necessary to invest in complementary technological infrastructure and also establish laws or regulations that require compliance.

Table 4. Urgent Reform Priorities Before the 2027 Elections (N = 256)

Reform Area	Freq.	%
Electronic Transmission of Results	104	40.6
Vote Buying	61	23.8
Electronic Voting	31	12.1
Voter Education	26	10.2
Litigation after Elections	15	5.9
Training of Ad-Hoc Staff / Counting / Party Campaign	19	7.5

Source: Survey data, this study.

Table 5. Ranking of Challenges to Electoral Technology Deployment in Nigeria (N = 256)

Challenge	% Most Severe	Mean ± SD
Network issues	34.8%	2.40 ± 1.30
Poor maintenance of existing technologies	26.6%	2.60 ± 1.33
Poor road infrastructure	25.8%	2.70 ± 1.33
Insufficient funding for technologies	23.8%	2.82 ± 1.39
Inadequate training of personnel	16.8%	2.87 ± 1.21

Note: Lower mean = more severe. Source: Survey data, this study.

Legal and technological adequacy are interdependent factors in terms of building stakeholder confidence (Almosh, 2024). Table 6 demonstrates that there was a moderate to high level of statistical significance in the relationship between the two ($\varphi = .359$), $\chi^2(1,N=256)=32.997$, $p<.001$. There was an even greater difference in the percentage of those who believed both legal and technological aspects of the election process were inadequate as well as satisfactory. Those who were dissatisfied with the legal aspect of the election process had an 81.3% belief that technologies used in the election process were also inadequate. Only 42.0% of those who were satisfied with the legal aspect of the election process were also satisfied with the technologies used. A second chi-square test demonstrated that there was a significant relationship between ratings on the legal instruments and ratings on the confidence in the use of technology during elections. In this case, it appears that as stakeholders rated the legal instruments used during the election process as being less effective, they became less confident in their ability to contribute substantially to credibility during elections. Ratings ranged from 94.8% (effective) to 51.9% (highly ineffective); thus, this represents a strong indication that legal reforms must precede technology confidence and cannot be viewed simply as a supplemental factor.

Table 6. Association Between Legal Framework Adequacy and Perceived Technology Adequacy (N = 256)

Legal Framework Adequate	Tech Adequate: Yes	Tech Adequate: No	Total
Yes (n = 181)	105 (58.0%)	76 (42.0%)	181 (100%)
No (n = 75)	14 (18.7%)	61 (81.3%)	75 (100%)
Total	119 (46.5%)	137 (53.5%)	256 (100%)

Note. $\chi^2(1, N = 256) = 32.997$, $p < .001$, $\varphi = .359$. No cells had expected counts below 5.

Comparative Analysis

Nigeria and the United States have similar goals for improving their electoral process using electronic technologies to increase transparency (Duruji *et al.*, 2021); however, they have different legal frameworks and methods of verifying elections after they occur. Nigeria uses a hybrid approach combining both manual and electronic methods for its elections due to issues including inconsistent electrical power, lack of reliable communication networks and varying levels of digital literacy among voters. In contrast, the U.S. utilizes a decentralized combination of direct recording electronic voting machines (DRE), optical scan ballots and electronic absentee voting for military personnel deployed abroad. The most significant institutional difference is how each country verifies elections after an election has taken place. According to Glazer *et al.*, (2021) 14 states in the U.S. require Risk-Limiting Audits (RLA) which are referred to as the "gold standard" of post-election audits. Voter Verified Paper Audit Trails (VVPATs) are also mandated in nearly every jurisdiction in the U.S. where voters verify their selections prior to casting their ballot. However, there is no such statutory requirement for auditable evidence in Nigeria. Therefore, when results published on the Independent National Electoral Commission (INEC) Results Viewing Portal (IReV) were challenged in 2023 it was due to the inability to provide independent verification of the output data (Thompson *et al*., 2023)

Regarding institutional trust, 59.4% of survey respondents stated that the Nigerian electoral commission did not operate independently and 78.5% found presidential appointments to INEC positions to be inappropriate. Furthermore, approximately 70% of those surveyed believed that INEC should separate its registration responsibilities, regulatory duties and election oversight responsibilities into two separate bodies, demonstrating a high level of awareness regarding institutional design. Perceptions of corruption within the electoral process in Nigeria were similarly evident: 69.1% strongly agreed that corruption impacts credibility of elections and 72.7% believed that prosecuting individuals convicted of purchasing votes would be the most effective method for combating corruption.

Conclusion and Recommendations

The findings of this research demonstrate that the legal and technical components of credible elections in Nigeria are closely related and will need to develop simultaneously ($\chi^2(1)=32.997$, $p<.001$, $\varphi=.359$). Law alone does not replace technology. The experiences in the U.S., particularly with regard to the transformative impact of HAVA on the delivery of election services, the cautionary cancellation of SERVE and post-2016 cyber-security reforms show that sustained legislative reform and mandatory audits along with verifiable records for voters and independent certification of election technology are what create conditions of democratic trust for technology used in conducting elections.

Recommendations

- Require all pre-deployment assessments of technology by INEC meet standards comparable to those established under the Help America Vote Act of 2002 (HAVA) and certification by the Election Assistance Committee (EAC).
- Provide adequate funding for redundant telecommunications infrastructure connecting all polling stations and establish ring-fenced budget allocations for maintenance/upgrade

purposes with coordinated efforts at local government agencies addressing rural road infrastructure obstacles.

- Establish statutory authority requiring voter-verifiable audit trail records, mandatory third party security audits with public disclosures and post-election risk limiting audits for all federal elections modeled after legislation enacted in some states in the U.S.
- Establish transparent and nonpartisan procedures for appointing INEC members; ensure INEC is financially autonomous and funded through a line-item appropriation in the Consolidated Revenue Fund; and consider separating regulatory responsibilities from election oversight responsibilities.
- Increase cooperation between the Interagency Task Force on Public Corruption (ICPC), Economic Financial Crimes Commission (EFCC), INEC, expand use of solar-powered monitoring equipment at polling stations, and include civics-based educational programs concerning electoral participation as part of curriculum for secondary schools and universities.

Through commitment to establishing a robust legal framework and investing strategically in key areas, Nigeria may bridge credibility gaps that are self-determined by Nigerians' own perceptions about democracy and strengthen public confidence in democratic institutions.

Acknowledgements

There is no grant or funding bodies to be acknowledged for preparing this paper.

References

Adenuga, G. A. (2026). Questioning American model for African electoral democracy: Insights from the 2023 Nigerian and 2024 US presidential elections. *Frontiers in Political Science, 8*. https://doi.org/10.3389/fpos.2026.1727285

Adeyemi, A. A., Alade, O. F., Olawunmi, B., Adelowo, F. N., & Obateru, P. A. (2026). Legislative contingency and electoral transparency in Nigeria: Media framing, the electronic transmission provision and public trust under the Electoral Act 2026. *Impact International Journals and Publications*, *2*(1), 1609–1623. https://impactinternationaljournals.com/publications/index.php/ojs/article/view/349

Al Amosh, H. (2024). Stakeholder theory in elections: navigating political money, tribal tendencies, ethics, and the dark side of stakeholders. *Politics & Policy*, *52*(4), 828-853. https://doi.org/10.1111/polp.12610

Asangausung, O., Udoms, B., & Yağcı, A. (2025). Managing Election-Related Violence in Nigeria: Focus on the Use of Technologies in the 2023 General Elections. *Yildiz Social Science Review*, *11*(1), 44-60. https://doi.org/10.51803/yssr.1682114

Ayeni, T. P., & Aweh, O. M. (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 (ICT)*, *20*(2), 25-42. https://www.researchgate.net/publication/377499582

Bailer, C. (2024). Navigating the ADA-HAVA Nexus: Balancing Election Accessibility, Security, and Technology. *Geo. JL & Pub. Pol'y*, *22*, 1079. https://www.law.georgetown.edu/public-policy-journal/wp-content/uploads/sites/23/2025/03/GT-GLPP240053.pdf

Bello, O. W., & Chukwudi, C. E. (2023). Technology and conduct of election in developing countries: A study of Nigeria's Fourth Republic. *Tuijin Jishu/Journal of Propulsion Technology*, *44*(6), 6947–6958. https://www.propulsiontechjournal.com/index.php/journal/article/view/5748

Clapman, A. (2023). *How states can prevent election subversion in 2024 and beyond*. Brennan Center for Justice at New York University School of Law. https://www.brennancenter.org/our-work/policy-solutions/how-states-can-prevent-election-subversion-2024-and-beyond

Duruji, M. M., Olanrewaju, F. O., Olu-Owolabi, F. E., Duruji-Moses, F. U., & Chukwudi, C. (2021). Digital government in the electoral process: Implications for elections in Nigeria. *African Renaissance*, *18*(2), 251. https://doi.org/10.31920/2516-5305/2021/18n2a12

Garnett, H. A., & James, T. S. (2020). Cyber elections in the digital age: threats and opportunities of technology for electoral integrity. *Election Law Journal: Rules, Politics, and Policy*, *19*(2), 111-126. https://doi.org/10.1089/elj.2020.0633

Glazer, A. K., Spertus, J. V., & Stark, P. B. (2021). More style, less work: card-style data decrease risk-limiting audit sample sizes. *Digital Threats: Research and Practice (DTRAP)*, *2*(4), 1-15. https://doi.org/10.48550/arXiv.2012.03371

Kellner, D. (2025). Media Spectacle and the Crisis of the US Electoral System in election 2000. In *Media Spectacle in the 21st Century: From the Stolen Election of 2000 to the Trump MAGA Horror Show* (pp. 25-56). Cham: Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-82659-7_2

Mumuni, N. A., & Abdulyakeen, A. The Impact of BVAS in Mitigating Election Fraud in the 2023 General Election in Fufure LGA of Adamawa State. https://bsum.edu.ng/journals/bjss/vol10n1/files/24.pdf

Ndema, S. C. (2025). THE DYNAMICS OF ELECTION IN NIGERIA AND THE UNITED STATES OF AMERICA COMPARED. *International Journal of Diplomatic, Legal & International Studies*, *10*(6), 9-39. https://eprints.gouni.edu.ng/4438/1/4272-1453-54-1062-1.pdf

Nzereogu, D. C., & Nnolum, J. O. (2024). Electoral malpractices and the challenges of democracy in Nigeria: A review of the 2023 presidential election. *Nnadiebube Journal of Religion, Culture and Society*, *4*(2). https://www.acjol.com/paper/5494.pdf

Ogunbanjo, B. (2024). A Critical Review of Democracy and the Aftermath of the 2023 General Elections in Nigeria. *Integral Research*, *1*(7), 137-177. https://integralresearch.in/index.php/1/article/view/53

Rafi, M. (2025). Reimagining Democratic Elections: An AI-Powered Techno-Democratic Republic. *Available at SSRN 5507579*. https://dx.doi.org/10.2139/ssrn.5507579

Serdült, U., Germann, M., Harris, M., Mendez, F., & Portenier, A. (2015). Who are the internet voters? In E. Tambouris, A. Macintosh, & H. de Bruijn (Eds.), *Electronic government and electronic participation* (pp. 27–41). IOS Press. https://doi.org/10.3233/978-1-61499-570-8-27

Thompson, O., Idris, R., Ademola, O., & Obi, M. (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), 114-148. https://hdl.handle.net/10520/ejc-eisa_jae_v22_n2_a6

Ugwuozor, I. S. (2021). Evaluating the Impact of Electronic Card Readers on Nigeria General Elections: 2015-2019. *IDOSR JOURNAL OF CURRENT ISSUES IN ARTS AND HUMANITIES*, *7*(1), 42-51. https://www.idosr.org/wp-content/uploads/2021/05/IDOSR-JCIAH-7142-512021.-Ugwuozor-P1.pdf