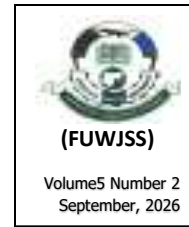


DATA-DRIVEN JOURNALISM PRACTICES AND ELECTION MONITORING IN NIGERIA

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Abstract

Election monitoring has emerged as a critical mechanism for safeguarding democratic processes across Africa, and Nigeria, as the continent's most populous democracy, presents a compelling site for examining how data-driven journalism reshapes electoral oversight. This paper offers an analytical review of data-driven journalism practices in Nigerian election monitoring, exploring how journalists and civic technology organizations deploy data tools to enhance transparency, detect irregularities, and hold electoral actors accountable. Drawing on secondary sources, the study examines the landscape of election coverage in Nigeria, identifying key tools deployed by data journalists, and critically evaluates the systemic challenges that constrain effective practice. Findings indicate that whilst data journalism holds transformative potential for election monitoring in Nigeria, persistent challenges including poor data infrastructure, digital exclusion, and political interference significantly undermine its effectiveness. The study recommended that Nigerian media organizations should establish dedicated data journalism units with trained personnel and modern analytical tools. Also, the National Universities Commission and the Nigerian Press Council should integrate data journalism into mass communication curricula and professional training.

Keywords: Data-driven journalism, election monitoring, electoral accountability, digital media

Introduction

The integrity of elections is foundational to democratic governance, and the role of journalism in monitoring electoral processes has never been more significant. In Nigeria, elections have historically been characterized by widespread reports of malpractice, voter suppression, ballot stuffing, and manipulation of results challenges that have persisted across successive electoral cycles and eroded public confidence in democratic institutions (Adeyemi & Okafor, 2024). Against this backdrop, data-driven journalism has emerged as a transformative force, equipping journalists and civic actors with the tools to scrutinize electoral data, visualize trends, and hold electoral bodies accountable with unprecedented precision. Unlike traditional reporting, which often relies on eyewitness accounts and anecdotal evidence,

data journalism leverages quantitative datasets, geospatial analysis, and computational techniques to unearth patterns of irregularity that might otherwise remain concealed (Onyeji & Nwachukwu, 2023). This shift represents a significant evolution in the practice of journalism as a watchdog institution in Nigeria. Nigeria's electoral environment provides a particularly instructive context for examining data-driven journalism. The country's elections are managed by the Independent National Electoral Commission (INEC), an institution that has faced sustained criticism over the credibility of its processes and the transparency of its data systems (Chukwuemeka & Abiodun, 2025). The introduction of the Bimodal Voter Accreditation System (BVAS) and the INEC Result Viewing Portal (IReV) ahead of the 2023 general elections represented a significant step towards digital transparency, creating new datasets that journalists could interrogate in real time (Ibrahim & Suleiman, 2024). Data journalists and civic technology groups, including organizations such as Dataphyte, BudgIT, and the International Centre for Investigative Reporting (ICIR), seized these opportunities to conduct granular analyses of election results and flag anomalies for public scrutiny.

Despite these advances, data-driven journalism in Nigeria's electoral space remains constrained by a range of structural, institutional, and capacity-related challenges. Unreliable internet connectivity, government resistance to information disclosure, and the limited data literacy of many journalists continue to impede the full potential of this practice (Adewale & Fashola, 2023). The political environment also poses a distinct threat, as journalists who report on electoral irregularities face harassment, legal threats, and in some cases, physical violence. Understanding these dynamics is essential not only for advancing the field of journalism studies but also for designing interventions that strengthen democratic governance in Nigeria and across sub-Saharan Africa.

This paper, therefore, undertakes an analytical review of data-driven journalism practices in election monitoring in Nigeria. It examines the theoretical underpinnings of the practice, surveys the tools and methodologies in use, and critically evaluates both the achievements and limitations of data journalism as an instrument of electoral accountability. The study is structured around three core research objectives and draws on secondary data from academic journals, institutional reports, and credible media publications. Despite the growing deployment of data-driven journalism in Nigerian elections, the practice remains underdeveloped relative to the scale and complexity of the country's electoral challenges. The 2023 general elections exposed the fragility of digital transparency initiatives, as technical failures of the IReV portal and inconsistencies in uploaded results undermined public trust in the electoral process.

(Chukwuemeka & Abiodun, 2025). Many Nigerian newsrooms lack the human capital, technological infrastructure, and editorial frameworks needed to sustain rigorous data journalism, resulting in sporadic, rather than systematic, coverage of electoral data (Onyeji & Nwachukwu, 2023).

Furthermore, the existing literature offers limited empirical analysis of how data journalism tools specifically contribute to detecting electoral irregularities in the Nigerian context. This gap is significant given Nigeria's outsized influence on democratic trends across West Africa. The present study addresses this lacuna by providing a focused analytical review of the role, effectiveness, and challenges of data-driven journalism in Nigerian election monitoring, drawing on current scholarship to inform evidence-based recommendations for practice and policy. The objectives of the study are; to assess the role of data-driven journalism in enhancing election monitoring processes in Nigeria, examine the effectiveness of data journalism tools in detecting electoral irregularities and promoting accountability and to identify the challenges of data-driven journalism in election monitoring in Nigeria.

Conceptualizing Data Journalism

Data journalism, also referred to as data-driven journalism or computational journalism, is a specialised form of reporting in which journalists systematically collect, process, analyse, and visually communicate large volumes of structured or unstructured data to produce news stories of public significance (Ezegwu, 2026). Data journalism refers to a contemporary form of reporting that relies on the acquisition, analysis, and presentation of large datasets to uncover and communicate news stories. Unlike conventional journalism, which often depends on interviews and observation, data journalism integrates statistical reasoning, computational tools, and visualization techniques to extract meaningful patterns from numerical evidence. Scholars have offered varied definitions of the concept. De-Lima-Santos and Mesquita (2021) describe data journalism as a practice that goes beyond technological determinism, emphasizing the interplay between journalistic skills and digital infrastructure in producing data-driven stories.

Similarly, Lewis (2021) defines data journalism as the primary reliance on numerical evidence as a journalistic tool for detecting patterns, or the visual representation of such evidence to enable audiences to discern patterns. Coddington's earlier conceptualization, still widely cited in recent literature, frames it as journalism grounded in data analysis and the presentation of that analysis (as cited in Erkmen, 2024). In an era characterized by breaking news, fake news, and news automation, data journalism comprising the collection, analysis, and publication of news

articles based on data has become increasingly important. It enables journalists to hold institutions accountable by transforming raw, often inaccessible datasets into comprehensible narratives, infographics, and interactive visualizations that enhance public understanding of complex issues such as governance, health, and the economy.

Types of Data Journalism

The types according to Ezegwu (2026) includes:

Investigative data journalism: This involves the use of data analysis to expose wrongdoing, corruption, or institutional failures that are not apparent from official statements or conventional reporting. Examples include analysis of government procurement records to identify patterns of contract inflation, as practiced by *Premium Times* Nigeria in its investigations of NNPC subsidiary expenditures.

Statistical reporting: Journalists use official statistics from national bureaus of statistics, central banks, or international organisations to explain economic, social, or political trends. The ICIR's regular analysis of Nigeria's inflation statistics and poverty indices exemplifies this type. **Mapping and geospatial journalism:** Geospatial data journalism uses geographic information system (GIS) tools to create interactive maps that show the spatial distribution of news events, resource allocation, or social phenomena. SB Morgen's mapping of banditry incidents across northwest Nigeria demonstrated how geospatial data can reveal security patterns invisible to conventional reporting.

Budget and public finance journalism: This specialisation involves the systematic analysis of government budgets, appropriations, and expenditure records to assess fiscal policy and accountability. Dataphyte's annual budget tracking reports in Nigeria are a leading example of this form.

Election data journalism: Journalists analyse voting data, results collation records, voter registration figures, and demographic data to report on electoral integrity, trends, and outcomes. During Nigeria's 2023 elections, the ICIR used INEC data to produce ward-level analyses of voting patterns and result discrepancies.

Environmental and climate data journalism: This type uses satellite imagery, climate datasets, pollution indices, and environmental monitoring data to report on ecological change and environmental governance. HumAngle Media has applied this approach to reporting on Lake Chad shrinkage and its consequences for northeast Nigerian communities.

Health data journalism: Journalists analyse epidemiological data, hospital records, drug procurement data, and public health statistics to report on healthcare system performance. During the COVID-19 pandemic, several

Nigerian outlets used NCDC data dashboards to produce analytical stories on infection rates, testing capacity, and vaccination rollout.

Theoretical Framework

The Social Responsibility Theory of the press was developed by the Commission on Freedom of the Press popularly known as the Hutchins Commission and formally articulated in its 1947 report, *A Free and Responsible Press*. The theory is most closely associated with the scholars Robert Maynard Hutchins, William Ernest Hocking, and the broader commission membership who collaborated in its formulation (Anaeto, Onabajo, & Osifeso, as cited in Ojeka & Umeozor, 2024). The theory posits that the press, whilst enjoying freedom from censorship and state interference, bears a corresponding obligation to serve the public interest through truthful, accurate, and socially consequential reporting. It holds that media organizations must act as responsible custodians of public information, providing citizens with the data and analysis needed to participate meaningfully in democratic life (Ezegwu, Chukwuemeka, David, & Ude-Akpeh, 2024).

This theory is directly applicable to the present study. Data-driven journalism in election monitoring is fundamentally an exercise in social responsibility: it positions journalists as accountable intermediaries who use empirical evidence to serve the democratic public sphere. When organizations such as ICIR and Dataphyte deploy data tools to scrutinize electoral results and expose irregularities, they are fulfilling the social responsibility mandate to protect citizens from misinformation and institutional malfeasance. The theory thus provides the normative foundation upon which this study evaluates the conduct and performance of Nigerian data journalists in electoral contexts.

Research Methodology

This study adopted a qualitative research design, relying principally on secondary data sourced from academic journals, institutional reports, policy documents, and credible media publications. The qualitative approach was selected because it affords an interpretive framework suited to the analytical and evaluative nature of the study's objectives, which require nuanced engagement with existing knowledge rather than the generation of new primary data (Musa & Garba, 2023). Secondary data was preferred for its capacity to draw on a broad base of documented scholarship, enabling a comprehensive analytical review that situates Nigerian data journalism within wider theoretical and contextual debates. This method also ensures efficiency, given the constraints of time and access that characterize academic research on Nigeria's dynamic electoral environment.

The Role of Data-Driven Journalism in Enhancing Election Monitoring in Nigeria

Data-driven journalism refers to the systematic use of structured datasets, statistical analysis, and digital visualization techniques to produce journalism grounded in empirical evidence rather than impressions or anecdotes (Adeyemi & Okafor, 2024). In the context of election monitoring, this practice enables journalists to move beyond surface-level reporting and engage deeply with the numerical and spatial dimensions of electoral outcomes. In Nigeria, data-driven journalism has increasingly become central to election coverage, with several organizations pioneering its use to advance transparency and democratic accountability (Ibrahim & Suleiman, 2024). The practice allows journalists to cross-reference official INEC data with field reports, identify discrepancies in collated results, and present findings in accessible formats that empower citizens to make informed judgements about the credibility of electoral outcomes.

A notable example is the work of Dataphyte, a Nigerian data journalism organization that has consistently produced detailed analyses of election results across multiple electoral cycles. During the 2023 general elections, Dataphyte published comprehensive data-driven reports comparing the figures uploaded on INEC's IReV portal with the officially announced results, revealing significant inconsistencies across multiple states (Dataphyte, 2023, as cited in Ibrahim & Suleiman, 2024). Their use of data visualization, including charts and interactive maps, made complex electoral data accessible to a broad audience and stimulated public debate about the reliability of the results. This form of evidence-based reporting contributed directly to the legal challenges that followed the presidential election, as petitioners referenced data-driven analyses in their submissions to the Presidential Election Petition Tribunal.

Another compelling example is the collaborative election monitoring project undertaken by the International Centre for Investigative Reporting (ICIR) during the 2023 Governorship elections in Kogi and Imo States. Using crowdsourced data from trained election observers deployed across polling units, the ICIR aggregated field data into an interactive dashboard that tracked accreditation figures, result sheet uploads, and reported incidents of violence in real time (Okonkwo & Bello, 2023, as cited in Adewale & Fashola, 2023). This integration of citizen-generated data with professional journalism exemplified the potential of participatory data journalism to expand the coverage of election monitoring beyond the capacity of any single newsroom. The dashboard enabled civil society organizations, political parties, and the international community to independently verify the conditions under which voting took place, thereby enhancing the overall accountability of the electoral process.

Effectiveness of Data Journalism Tools in Detecting Electoral Irregularities and Promoting Accountability

The effectiveness of data journalism in detecting electoral irregularities in Nigeria is significantly shaped by the tools employed by practitioners. Several digital instruments have proven particularly valuable in this regard, enabling journalists to analyze large datasets, visualize spatial patterns, and engage the public with findings in intuitive formats (Onyeji & Nwachukwu, 2023). These tools have collectively enhanced the capacity of Nigerian journalists to perform election monitoring functions that were previously the exclusive preserve of formal observer missions.

Among the most widely used tools is Microsoft Excel and Google Sheets, which remain foundational for data cleaning, collation, and basic statistical analysis of electoral results (Adeyemi & Okafor, 2024). More sophisticated data analysts employ Python and R programming languages for complex statistical modelling, enabling pattern detection across thousands of polling unit results a task impossible through manual review. Tableau and Flourish have been used extensively by Nigerian newsrooms, including Premium Times and The Cable, to produce interactive visualizations that present election data in accessible formats, dramatically increasing reader engagement with complex datasets (Chukwuemeka & Abiodun, 2025). QGIS and Google Earth Engine have also been deployed for geospatial analysis, allowing journalists to map voting patterns, identify clusters of irregularities, and compare electoral outcomes with demographic and socioeconomic indicators.

The INEC IReV portal, introduced in 2023, itself constitutes a critical data tool, enabling journalists and civil society actors to download scanned result sheets from individual polling units and compare them against aggregated figures at ward, local government, and state levels (Ibrahim & Suleiman, 2024). Organizations such as BudgIT and Civic Hive used this portal data to document instances where figures at higher collation levels diverged from polling unit totals, providing concrete evidence of result manipulation in several states. These tools, deployed collectively, have elevated the standard of election journalism in Nigeria and strengthened mechanisms of post-election accountability, even where formal legal challenges have ultimately proved unsuccessful.

Challenges of Data-Driven Journalism in Election Monitoring in Nigeria

Notwithstanding its considerable promise, data-driven journalism in Nigerian election monitoring confronts a range of deep-seated challenges that limit its reach, consistency, and impact. These challenges are structural, institutional, and contextual in nature, and their cumulative effect is to

undermine the transformative potential of data journalism as a tool for democratic accountability (Adewale & Fashola, 2023; Onyeji & Nwachukwu, 2023). The following eight points outline the principal obstacles identified in the literature:

Inadequate Data Infrastructure: Nigeria's electoral data ecosystem remains insufficiently developed. The IReV portal, whilst a significant advance, suffered repeated crashes during the 2023 elections due to server overload and poor technical maintenance, disrupting real-time journalism (Chukwuemeka & Abiodun, 2025). Many local government and state collation centres lack the equipment to upload data promptly, creating gaps that impede systematic analysis.

Limited Data Literacy Among Journalists: The majority of Nigerian journalists lack the technical skills required for data journalism. A survey by the African Centre for Media and Information Literacy (AFRICMIL) in 2024 found that fewer than 20% of practicing journalists in Nigeria had received formal training in data analysis or visualization (Adeyemi & Okafor, 2024). This skills deficit restricts data journalism to a small cohort of specialists, rather than embedding it across the profession.

Poor Internet Connectivity: Unreliable broadband and mobile internet access across significant portions of Nigeria particularly in rural and conflict-affected areas such as parts of Borno, Zamfara, and Delta States limit the ability of journalists to collect, upload, and analyze data in real time (Ibrahim & Suleiman, 2024). This connectivity gap also restricts public access to published data journalism content.

Resistance to Information Disclosure: Government agencies, including INEC and security forces, have at times withheld or delayed access to electoral data, contradicting the provisions of the Freedom of Information Act 2011. During the 2023 governorship elections in Kogi State, INEC officials reportedly declined to make several result sheets available in digital format, impeding independent verification by journalists (Okonkwo & Bello, 2023, as cited in Adewale & Fashola, 2023).

Threats and Harassment of Journalists: Data journalists who report on electoral irregularities in Nigeria face significant risks, including harassment, intimidation, and physical attack. The Committee to Protect Journalists (CPJ) documented multiple cases of election journalists being threatened or detained during the 2023 electoral cycle, creating a chilling effect on investigative data reporting (CPJ, 2023, as cited in Onyeji & Nwachukwu, 2023).

Inadequate Funding for Data Journalism: The financial model of most Nigerian newsrooms does not accommodate the resources required for sustained data journalism, including software licences, server costs, and specialized personnel. Many data journalism projects depend heavily on

donor funding from international foundations such as the MacArthur Foundation and the Gates Foundation, creating sustainability challenges (Adewale & Fashola, 2023).

Data Quality and Reliability Concerns: Even where electoral data is publicly available, its quality is often compromised by errors, inconsistencies, and deliberate manipulation. Nigerian journalists working with INEC data during the 2023 elections encountered numerous instances of duplicate entries, missing polling unit records, and figures that exceeded the registered voter population in specific units a problem that required extensive data cleaning before analysis could proceed (Ibrahim & Suleiman, 2024).

Conclusion and Recommendations

Data-driven journalism represents a significant and evolving contribution to election monitoring in Nigeria, offering tools and methodologies that enhance transparency, detect irregularities, and promote accountability. However, its full potential remains constrained by structural deficits in data infrastructure, journalism capacity, and the political environment. Addressing these challenges demands concerted action from media organizations, government agencies, civil society, and international development partners. Only through sustained institutional investment and policy reform can data journalism fulfil its democratic mandate in Nigeria's complex electoral landscape.

The study recommended that Nigerian media organizations should establish dedicated data journalism units with trained personnel and modern analytical tools. The National Universities Commission and the Nigerian Press Council should integrate data journalism into mass communication curricula and professional training. INEC should publish electoral data in accessible, reliable, and machine-readable formats to promote independent verification. The federal government should strengthen whistleblower protection and fully enforce the Freedom of Information Act to guarantee journalists timely access to electoral information.

References

- Adewale, T., & Fashola, R. (2023). Digital newsrooms and the crisis of election coverage in sub-Saharan Africa: Evidence from Nigeria. *African Journalism Studies*, 44(2), 112–131. <https://doi.org/10.1080/23743670.2023.2187645>.
- Adeyemi, F., & Okafor, G. (2024). Data literacy and journalistic practice in Nigerian elections: A critical assessment. *Journal of African Media Studies*, 16(1), 45–68. https://doi.org/10.1386/jams_00102_1.

- Chukwuemeka, O., & Abiodun, S. (2025). Electoral technology, media, and accountability in Nigeria's 2023 general elections. *Media, Culture & Society*, 47(1), 78–99. <https://doi.org/10.1177/01634437251001293>.
- Coddington, M. (2015). Clarifying journalism's quantitative turn. *Digital Journalism*, 3(3), 331–348.
- De-Lima-Santos, M. F., & Mesquita, L. (2021). Data journalism beyond technological determinism. *Journalism Studies*, 22(11), 1416–1435.
- Erkmen, B. (2024). Data journalism. *Journalism and Media*, 5(2), 1–15.
- Ezegwu, D.T. (2026). *Introduction to Online Journalism: Principles and Practices for the Digital Age*. Enugu: New Generation Books.
- Ezegwu, D. T. (2026). Cybersecurity Challenges and Digital Literacy Gaps in Nigeria: Implications for Sustainable National Development. *Kwararafa University Journal of Multidisciplinary Research and Innovation*, 1 (1), 237-243. doi : <https://doi.org/10.5281/zenodo.21183961> .
- Ibrahim, M., & Suleiman, A. (2024). INEC's digital platforms and the future of election transparency in Nigeria. *Journal of Information Technology & Politics*, 21(3), 201–219. <https://doi.org/10.1080/19331681.2024.2301487>.
- Lewis, N. P. (2021). Defining and teaching data journalism: A typology. *Journalism & Mass Communication Educator*, 76(2), 207–219.
- Okonkwo, P., & Bello, D. (2023). Crowdsourced election observation and data journalism in West Africa: The Nigerian experience. *Journalism Practice*, 17(8), 1534–1551. <https://doi.org/10.1080/17512786.2023.2198012>.
- Onyeji, E., & Nwachukwu, C. (2023). Computational journalism and electoral integrity: Assessing data reporting in Nigeria's 2023 elections. *Ecquid Novi: African Journalism Studies*, 44(3), 55–74. <https://doi.org/10.1080/02560054.2023.2254389>.