

Revisiting Conventional Models of Electoral Prediction: Insights from Nigeria's 2023 Presidential Election

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Abstract

Although electoral forecasting has received considerable scholarly attention, research systematically reassessing conventional prediction methods in relation to Nigeria's electoral volatility, social media dynamics, and ethno-regional complexity remains limited. This study revisits opinion polls, historical voting patterns, and expert assessments in Nigeria's 2023 presidential election and examines how social media sentiment can complement these approaches. A qualitative case study design was employed, drawing on eleven major pre-election polls, official results from the Independent National Electoral Commission, secondary sentiment-analysis datasets, and documentary sources. Comparative and thematic analyses were used to examine forecasting performance and identify methodological and contextual explanations for observed discrepancies. Conventional methods performed unevenly, with a reported failure rate of 63.6% among the eleven polling organisations reviewed. The analysis linked these shortcomings primarily to urban-centred sampling, inadequate turnout modelling, and insufficient attention to ethno-regional and religious cleavages. Approaches incorporating historical voting behaviour, turnout scenarios, and structural variables demonstrated greater predictive accuracy. Twitter sentiment provided timely indications of electoral competitiveness, although its contribution depended on recognising the limitations of social media data for representing the wider electorate. These findings support the development of hybrid forecasting frameworks that combine representative polling, historical and structural information, turnout

modelling, and contextual interpretation of digital sentiment. The study highlights the importance of adapting forecasting methods to Nigeria's social and institutional conditions. Its contributions include informing the integration of rational choice, socioeconomic, and institutional perspectives on voting behaviour and identifying methodological priorities for improving electoral information. The findings also have implications for public understanding of campaign forecasts and debates concerning electoral integrity. Further research should examine multi-platform social media analytics and compare forecasting performance across African electoral contexts.

Keywords: Electoral Prediction; Opinion Polls; Social Media; Voter Turnout; Nigeria

INTRODUCTION

The prediction of electoral outcomes has long occupied a central place in political science, serving as a tool for understanding voter behaviour, shaping campaign strategy, and assessing the broader implications of democratic processes (Ibeanu, 2007; Carlson, 2015). In contemporary democracies, accurate election forecasting matters not only for anticipating shifts in governance but also for financial markets, political stability, and social cohesion (Pak & Paroubek, 2010). Electoral prediction is thus both a scientific endeavour and a practical necessity for sustaining democratic accountability.

In Nigeria, the dynamics of electoral processes have undergone considerable transformation, shaped by shifting voter demographics, changing party competition, and evolving political behaviour (Amao & Alliu, 2024). Despite a steady increase in the number of eligible voters, turnout has remained inconsistent: from 82 million eligible voters with 26 million votes cast in 2019 to 87 million eligible voters with only about 24 million votes cast in 2023 (Adibe, 2023). Such trends suggest that numerical data alone cannot capture the complexity of electoral behaviour; understanding the underlying drivers of participation, disengagement, and decision-making is essential to producing reliable predictions.

Conventional approaches to electoral forecasting, including opinion polls, expert analysis, and statistical modelling based on historical voting patterns, have been widely used in Nigeria. Yet these methods remain constrained by sampling bias, weak data infrastructure, and an inability to fully capture the multidimensional character of voter behaviour in diverse and volatile political environments (Fridy, 2016; Ojo, 2007; Yang et

al., 2022). These limitations are not unique to Nigeria or to the Global South. Prosser and Mellon's (2018) review of more than twenty-six thousand polls across forty-five countries over seven decades found that polling error has remained persistently and substantially larger than the margins of error that pollsters routinely report, while Gelman (2021) traces recurrent polling misses in established democracies to differential non-response and poor turnout modelling rather than to “shy voters” alone. Zhou et al. (2021), analysing the 2019 Argentine election, likewise showed that social-desirability bias, whereby respondents conceal their true preference for a controversial candidate, can silently distort even methodologically careful polls. These global findings caution against treating Nigeria's polling failures as a uniquely African pathology; rather, they suggest that conventional forecasting models carry structural weaknesses that are simply magnified by Nigeria's scale, informational opacity, and ethno-regional complexity (Oyewola et al., 2023).

This gap is significant given the growing relevance of social media to political communication, mobilisation, and agenda-setting. Platforms such as Twitter (now X) provide real-time insight into public opinion and offer complementary datasets capable of strengthening traditional forecasting models (Pak & Paroubek, 2010; Reveilhac et al., 2022). Yet social media signals cannot independently determine electoral outcomes, since elections ultimately unfold offline among an electorate that is neither fully represented nor fully captured by online discourse. This underscores the need for a hybrid approach combining conventional methodologies with digital data sources to generate more comprehensive and context-sensitive predictions.

Previous Studies and the Research Gap

Electoral forecasting has traditionally relied on opinion polls, expert analyses, demographic analysis, and the study of historical voting patterns. Opinion polls are widely regarded as the most immediate reflection of voter intentions, conducted through telephone surveys, face-to-face interviews, and, increasingly, online questionnaires (Endersby, 2017; Yang et al., 2022). While such polls can provide useful snapshots of electoral trends, their reliability is often undermined by sampling bias, non-response error, and social desirability bias, particularly in contexts such as Nigeria where methodological rigour is frequently compromised (Carlson, 2015). Prosser and Mellon (2018) similarly show, from a much larger and cross-national dataset, that polling errors most commonly arise from unrepresentative samples and weighting failures, and to a lesser extent from

miscalibrated turnout models, rather than from deliberate concealment of vote intention. These structural sources of error compound the additional challenge, well documented in transitional democracies, of capturing last-minute shifts in voter sentiment.

A second dimension of conventional forecasting is the use of historical voting patterns. Analysts frequently draw on past electoral outcomes to identify regional and demographic consistencies, assuming that voter behaviour reproduces itself over time (Ojo, 2007). This offers useful insight into entrenched political loyalties in societies with strong ethno-religious and regional voting blocs such as Nigeria, but it risks oversimplifying the dynamic nature of voter behaviour by failing to account for emergent political movements, shifting party coalitions, or contemporary socio-economic grievances. Expert predictions have also played a prominent role, with political scientists, journalists, and commentators offering forecasts grounded in their knowledge of political dynamics and historical trends (Ibeanu, 2007). These analyses provide nuanced interpretation of complex political contexts but remain limited by the subjectivity of individual analysts and susceptibility to elite bias.

Demographic analysis has further enriched electoral prediction by examining variables such as age, gender, education, income, and ethnicity in explaining variation in voting behaviour (Madueke & Enyiazu, 2025). This is especially relevant in multi-ethnic societies such as Nigeria, where demographic cleavages strongly influence political alignment. Even combined with historical trends and expert opinion, however, demographic profiles remain insufficient to capture the complexities of voter behaviour in environments marked by volatility, weak institutions, and electoral manipulation. Since the return to civilian rule, Nigerian elections have been marred by allegations of corruption, vote buying, intimidation, and systemic manipulation by state and non-state actors alike (Abdullahi, 2015; Centre for Public Policy Alternatives, 2015; Ogundare et al., 2025). Ethnicity, religion, and regionalism have consistently shaped voter alignment, creating enduring obstacles to objective forecasting (Sule et al., 2018), while Nigeria's turbulent political culture, marked by favouritism, violence, and coercive state apparatus, renders electoral outcomes particularly unpredictable (Falola & Heaton, 2008). Even reforms such as the Permanent Voter Card, the Bimodal Voter Accreditation System, and successive electoral law amendments have not fully resolved these challenges. Comparative evidence from elsewhere in Africa reinforces this point: Barkan's (2013) analysis of Kenya's 2013 elections concluded that new voting technology alone does not guarantee democratic

outcomes, while Debrah et al. (2019) similarly found that Ghana's adoption of a biometric verification system in 2012 did not, by itself, guarantee an outcome widely accepted as credible. Technological and procedural innovation, in other words, can improve administrative transparency without resolving the deeper institutional and behavioural sources of unpredictability that conventional forecasting models must contend with.

Given these structural limitations, scholars have increasingly examined the predictive potential of social media. The #EndSARS protest of 2020 vividly demonstrated the capacity of social media to shape political participation in Nigeria (Oyewola et al., 2023), and with more than 36 million Nigerians now active on social media (Kemp, 2024), Twitter has become a vital arena for tracking public sentiment and campaign narratives. Its openness makes it attractive to researchers who apply sentiment analysis and machine learning to large datasets in order to infer voter preference (Brito et al., 2021; Pak & Paroubek, 2010). Globally, Tumasjan et al. (2010) showed that Twitter activity could anticipate German federal election outcomes, while Cameron et al. (2016) and Ceron et al. (2014) demonstrated the capacity of social media data to track and correlate with electorate preference in New Zealand, Italy, and France respectively. In the United States, Chaudhry et al. (2021) and Wang et al. (2024) found convergence between lexicon-based sentiment analysis of Twitter data and traditional polls in the 2020 presidential election, while Kazadi and Musimwa (2023) developed a dynamic popularity index that produced highly accurate forecasts. A comparable methodological innovation from Ghana is instructive: Nortey et al. (2015), lacking reliable opinion-poll infrastructure, developed a Markov chain Monte Carlo model with bootstrap percentile estimates to forecast the 2016 presidential election at the regional and national level, illustrating that statistically rigorous alternatives to conventional Western polling can be built directly around African data constraints rather than imported wholesale.

Empirical studies within Nigeria, though fewer, point to similar possibilities. Oyewola et al. (2023) applied Long Short-Term Memory and Peephole LSTM sentiment models to assess public perception of the three leading candidates in the 2023 presidential election, finding that Peter Obi generated the most positive sentiment, a result that diverged from the eventual outcome. This disjunction highlights both the promise and the limits of social media prediction in Nigeria, where online engagement skews toward younger, urban, and more technologically connected demographics, leaving significant segments of the electorate unrepresented (Yang et al., 2022). Studies outside Nigeria

further underscore the benefits of hybrid approaches: Graefe (2018), analysing United States presidential elections from 2004 to 2016, found that combining expert forecasts with polling averages and fundamentals-based models substantially reduced prediction error; Boon (2012), applying a “wisdom of crowds” approach in the United Kingdom, showed that aggregating public perception offered more reliable predictions than reliance on expert elites alone; and Saeki (2024) demonstrated the value of integrating incumbency, approval ratings, and macroeconomic performance with conventional models. Comparative African evidence adds a further dimension: Odote and Kanyinga (2021), examining Kenya's experience with electoral technology, found that disputes over technological failure themselves became a source of political violence, underscoring that the credibility of a prediction or a result is never purely a technical or statistical question but is entangled with institutional trust.

Taken together, the literature indicates that conventional methods remain indispensable to electoral forecasting but face substantial challenges in contexts such as Nigeria, where voter behaviour is shaped by volatile dynamics, institutional weakness, and structural manipulation, challenges that are magnified rather than created by Nigeria's scale and diversity. Social media, by contrast, offers new opportunities for capturing sentiment and campaign dynamics in real time, though its representativeness and reliability remain contested. The specific gap in Nigerian scholarship lies in the systematic integration of these two strands, conventional forecasting methods on one hand and social media analytics on the other, situated within a theoretical framework capable of explaining why some conventional approaches succeeded where most failed. This study addresses that gap by revisiting conventional models of electoral prediction and assessing how social media data can complement them in explaining the dynamics of Nigeria's 2023 presidential election.

Theoretical Foundation

Electoral prediction, as a field of inquiry, requires grounding in theoretical perspectives that explain the motivations and constraints shaping voter behaviour. This study draws on three interrelated frameworks, Rational Choice Theory, the Socioeconomic Theory of Voting, and Institutional Theory, to illuminate the multidimensional factors influencing electoral outcomes in Nigeria's 2023 presidential election. Each theory highlights a distinct domain of explanatory power while presenting important limitations;

their integration allows for a more holistic understanding of election forecasting in a context marked by social complexity, institutional fragility, and volatile political alignment.

Rational Choice Theory assumes that individuals act as utility-maximising agents, weighing perceived costs and benefits before casting a ballot (Downs, 1957). Predictive models inspired by this approach incorporate demographic variables, income levels, and issue salience as proxies for rational decision-making (Miller & Shanks, 1996). Within the Nigerian context, the theory offers insight into how voters weighed inflation, unemployment, and governance performance in shaping their 2023 preferences; yet critics argue that it oversimplifies political behaviour by assuming complete information and neglecting cultural identity, clientelism, and affective loyalty (Green & Shapiro, 1994), a critique particularly relevant where ethno-religious attachment and elite patronage often override purely rational calculation.

The Socioeconomic Theory of Voting extends this reasoning by emphasising structural factors such as class, occupation, education, and regional inequality (Key, 1966). From this perspective, electoral outcomes are best explained by the alignment of social groups around perceived material interest, and Nigerian applications of this approach help account for how persistent poverty, regional disparity, and youth unemployment shaped the 2023 election. However, socioeconomic explanations risk reductionism by framing voting purely in material terms, thereby overlooking ideological commitment, religious orientation, and the personal charisma of candidates (Lazarsfeld et al., 1968).

Institutional Theory shifts attention to the structuring effect of formal and informal rules, electoral frameworks, party systems, electoral commissions, and judicial oversight, that shape voter choice and competitive dynamics (Powell, 2000). In Nigeria, institutional factors such as the Independent National Electoral Commission's technological innovations, party primaries, and legal disputes profoundly shaped the 2023 election. Institutional Theory thus provides a lens for understanding how electoral law, party coalition, and systemic reform condition voter behaviour and aggregate outcomes, though it has been critiqued for underestimating individual agency and the informal social norms, kinship obligation and patron-client networks, that often drive political action in Africa (Cox, 1997). This underestimation is precisely what the Kenyan and Ghanaian experiences with electoral technology illustrate: institutional and technological reform can improve procedural transparency (Barkan, 2013; Debrah et al., 2019; Odote & Kanyinga, 2021), yet

without a corresponding shift in elite behaviour, informal power, and public trust, formal rule change alone cannot resolve the credibility, or the predictability, of an election.

Taken in isolation, each theory provides only a partial account of electoral behaviour: Rational Choice Theory highlights individual decision-making but struggles with non-material motivation; the Socioeconomic Theory underscores structural inequality but risks neglecting ideology and institutions; Institutional Theory captures systemic constraint but often underplays voter agency and identity salience. This study therefore adopts an integrative analytical framework combining the three perspectives, conceptualising voter behaviour as the outcome of intersecting rational calculation, socioeconomic condition, and institutional constraint, mediated by Nigeria's unique sociopolitical context. As illustrated in Figure 1, Nigerian voters' rational capacity to evaluate candidates is mediated by socioeconomic realities such as poverty, unemployment, and regional inequality, while also being conditioned by institutional factors such as electoral rules, party structures, and governance practice. The 2023 election demonstrated how these forces intersect, producing outcomes that defied some conventional predictions while reaffirming enduring structural and institutional influence. This integrative framework informs both the analytical strategy adopted in this study and its theoretical contribution to the electoral forecasting literature.

Rational Choice Theory (cost-benefit voter calculation)	Socioeconomic Theory (class, region, material interest)	Institutional Theory (electoral rules, INEC, courts)
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Figure 1. Integrative analytical framework of intersecting rational, socioeconomic, and institutional determinants of Nigerian voter behaviour and electoral prediction.

Note. The three theoretical strands intersect and jointly condition voter behaviour; no single strand independently explains predictive accuracy in the 2023 election.

Research Focus and Objectives

Against this backdrop, this study revisits conventional models of electoral prediction by examining Nigeria's 2023 presidential election. Specifically, it investigates the determinants and parameters shaping the election outcome, evaluates the comparative performance of opinion polls, historical voting patterns, and expert assessment, and examines the potential of integrating social media data to enrich prediction analysis. In doing so, the study contributes to the growing body of literature on electoral forecasting in emerging democracies and offers theoretical and practical implications for scholars,

policymakers, and electoral stakeholders. The study is guided by the following research propositions:

P1: Conventional methods of election prediction were effective in predicting the outcome of the 2023 Nigerian presidential election.

P2: There is a relationship between social media trends and the prediction of the 2023 presidential election.

P3: There is no relationship between key electoral determinants and predictive analysis of election results.

METHODS

This study employed a qualitative case study design to critically examine the effectiveness of conventional methods of election prediction in the context of Nigeria's 2023 presidential election. The case study approach is appropriate because it enables in-depth analysis of a single, complex political event, providing insight into the strengths and limitations of forecasting models when applied to transitional democracies characterised by fluid political alignment and weak institutional structures (Yin, 2018). By focusing on one of Africa's most competitive and closely watched elections, the study illuminates broader debates on the applicability of conventional forecasting tools in non-Western contexts.

Data were collected from multiple sources to ensure robustness and triangulation. First, publicly available opinion polls conducted by leading Nigerian and international survey organisations before the 2023 election (ANAP Foundation, Nigerian Human Rights Community, KwaKol Research, SBM Intelligence for Enough is Enough Nigeria, Bloomberg/Premise Data Corps, Stears, Nextier, Fitch Solutions, Political Africa Initiative and BusinessDay, Dataphyte Research, and 234Intel) were systematically reviewed. These included national and regional surveys capturing voter preference across Nigeria's six geopolitical zones. Second, secondary data were drawn from official election results released by the Independent National Electoral Commission, which served as the benchmark for evaluating predictive accuracy. Third, media reports, campaign speeches, and party manifestos were examined to provide contextual insight into factors shaping voter preference that were not always captured by polling instruments. Fourth, previously published sentiment-analysis datasets on Nigerian Twitter discourse (Oyewola et al., 2023)

were incorporated to assess the correspondence between online sentiment and eventual electoral outcomes. Finally, scholarly and policy analyses of the 2023 election, together with comparative evidence on electoral technology and forecasting from Ghana and Kenya (Barkan, 2013; Debrah et al., 2019; Nortey et al., 2015; Odote & Kanyinga, 2021), were reviewed to situate the findings within the broader African and global literature.

The analytical procedure involved a comparative assessment of pre-election predictions against the official electoral outcome. Polling forecasts were coded according to projected vote share, party ranking, and predicted margin of victory, and were then compared with the actual result to determine levels of predictive accuracy and error, using a simple binary classification (correct or incorrect first-place prediction) supplemented by qualitative assessment of methodological transparency. Particular attention was paid to the performance of polls in capturing the unprecedented competitiveness of third-party candidacy, the role of youth mobilisation, and regional variation in voting behaviour. To enhance reliability, findings were cross-validated against multiple independent polls and reports, reducing the potential for bias arising from any single source. Sentiment data were analysed thematically, comparing the direction and intensity of Twitter sentiment toward the three leading candidates against the eventual result.

The study recognises limitations inherent in its design. Reliance on publicly available polling data, some of which lacked transparency in sampling technique, constrained the extent of methodological verification. As a single-case study, the findings may not be directly generalisable to other African or transitional democracies without careful contextual adaptation. Nevertheless, by systematically examining the Nigerian experience and situating it against comparable evidence from Ghana, Kenya, Argentina, and established Western democracies, the study contributes evidence to ongoing debates about the applicability and effectiveness of conventional election forecasting models in volatile political environments.

RESULTS

Opinion Polls

Opinion polling constituted the most visible predictive tool ahead of the 2023 election. Out of the multitude of polls conducted, eleven major surveys were considered based on methodological quality, institutional credibility, and recognition in domestic and

international reports (Table 1). Of these, six organisations, ANAP Foundation, KwaKol Research, SBM Intelligence for Enough is Enough Nigeria, Bloomberg (Premise Data Corps), Stears, and Nextier, projected victory for Peter Obi of the Labour Party. Two organisations, SBM Intelligence and Nextier, explicitly declined to call the race with confidence. Four organisations, the Nigerian Human Rights Community, Fitch Solutions, the Political Africa Initiative and BusinessDay, and Dataphyte Research, correctly identified Bola Ahmed Tinubu of the All Progressives Congress as the eventual winner. 234Intel projected an Obi victory. Overall, seven of the eleven organisations reviewed (63.6%) incorrectly predicted the outcome.

Table 1. Survey Organisations and Predictions for Nigeria's 2023 Presidential Election

S/N	Research Body	Methodology / Parameters	Prediction / Outcome Recorded
1	ANAP Foundation	Three separate surveys; sample of 2,000 respondents in February 2023, up from 1,000 in earlier rounds.	1st: Peter Obi (LP); 2nd: Bola Ahmed Tinubu (APC); 3rd: Atiku Abubakar (PDP). Incorrect.
2	Nigerian Human Rights Community (NHRC)	Preferences of 19,365 persons surveyed across all 774 local government areas.	1st: Bola Ahmed Tinubu (APC); 2nd: Atiku Abubakar (PDP); 3rd: Peter Obi (LP). Correct.
3	KwaKol Research	Survey poll combined with historical data analysis and endorsements from political groups and influencers.	1st: Peter Obi (LP); 2nd: Bola Ahmed Tinubu (APC); 3rd: Atiku Abubakar (PDP). Incorrect.
4	SBM Intelligence for Enough is Enough (EiE) Nigeria	Survey of 11,534 Nigerians on presidential candidate preference.	1st: Peter Obi (LP); 2nd: Atiku Abubakar (PDP); 3rd: Bola Ahmed Tinubu (APC). Not confident enough to call. Incorrect.
5	Bloomberg News (Premise Data Corps)	Opinion survey of Nigerians.	1st: Peter Obi (LP); 2nd: Bola Ahmed Tinubu (APC); 3rd: Atiku Abubakar (PDP). Incorrect.
6	Stears	National poll using an election-prediction model weighted heavily on voter turnout.	1st: Peter Obi (LP); 2nd: Bola Ahmed Tinubu (APC); 3rd: Atiku Abubakar (PDP), under a high-turnout scenario; model separately projected a Tinubu win under low turnout (Figure 2). Incorrect (as headline call).
7	Nextier	Survey of 3,000 Nigerian voters.	1st: Peter Obi (LP); 2nd: Atiku Abubakar (PDP); 3rd: Bola Ahmed Tinubu (APC). Not confident enough to call. Incorrect.
8	Fitch Solutions Country Risk and	Opinion survey of Nigerians' candidate preference.	1st: Bola Ahmed Tinubu (APC); 2nd: Atiku Abubakar (PDP); 3rd: Peter

S/N	Research Body	Methodology / Parameters	Prediction / Outcome Recorded
	Industry Research		Obi (LP), with an explicit caveat of a possible run-off. Correct.
9	Political Africa Initiative (POLAF) and BusinessDay	Opinion survey of Nigerians' candidate preference.	1st: Atiku Abubakar (PDP); 2nd: Bola Ahmed Tinubu (APC); 3rd: Peter Obi (LP). Incorrect (party ranking); Tinubu placed 2nd rather than 1st.
10	Dataphyte Research	State-by-state “ground-truthing,” combining past voting patterns, turnout, voter-choice homogeneity, and religious homogeneity indices.	1st: Bola Ahmed Tinubu (APC); 2nd: Atiku Abubakar (PDP); 3rd: Peter Obi (LP), with no run-off scenario. Correct.
11	234Intel	Survey of 16,335 Permanent Voter Card holders across all 36 states and the FCT.	1st: Peter Obi (LP); 2nd: Atiku Abubakar (PDP); 3rd: Bola Ahmed Tinubu (APC). Not confident enough to call. Incorrect.

Source. Compiled by the authors from ANAP Foundation, NHRC, KwaKol Research, SBM Intelligence, Bloomberg, Stears, Nextier, Fitch Solutions, POLAF/BusinessDay, Dataphyte Research, and 234Intel pre-election reports (2023).

The variation in predictive accuracy underscores the limitations of polling in a transitional democracy. Many surveys privileged urban, educated, and digitally active respondents, thereby overrepresenting enthusiasm for Obi's candidacy. By contrast, the four organisations that predicted the correct winner each incorporated additional structural parameters, historical turnout trend, regional demography, geographic comprehensiveness (NHRC covered all 774 local government areas; 234Intel covered all 36 states, though the latter still predicted incorrectly), or religious and voter-choice homogeneity indices, as in Dataphyte's state-level ground-truthing. Three of the eleven organisations explicitly acknowledged prediction uncertainty rather than issuing a firm call, reflecting methodological candour. Taken together, the pattern suggests that predictive accuracy in Nigeria's 2023 election was less a function of sample size than of whether a model incorporated ethnic, religious, and rural-urban structural variables alongside stated preference.

Historical Voting Patterns

Historical precedent remains a critical factor in Nigerian elections. Since independence, ethnic, religious, and regional cleavages have consistently influenced voting behaviour (Falola & Heaton, 2008; Sule et al., 2018). Presidential elections since 1979 reveal a recurring pattern of bloc voting along ethno-regional lines, with northern votes, particularly from the North-West and North-East, often proving decisive. The 2019

election, for instance, saw Muhammadu Buhari consolidate support in the core North, while his opponent, Atiku Abubakar, performed comparatively better in the South and among minority northern Christians.

The 2023 election both reinforced and disrupted these trajectories. While Tinubu relied heavily on northern support to secure victory, Obi's emergence reconfigured alignments by mobilising urban voters, Christians, and youths in the South-East and parts of the South-South. Yet despite unprecedented enthusiasm and registration figures (over 87 million eligible voters), turnout dropped to the lowest in Nigeria's history, with fewer than 25 million votes cast. This pattern aligns with the Stears model's projection that Tinubu would prevail under conditions of low turnout (Figure 2), illustrating that historical voting trend, when coupled with turnout dynamics, remains highly relevant to electoral forecasting.

Stears model predicts comfortable Tinubu victory if voter turnout is low

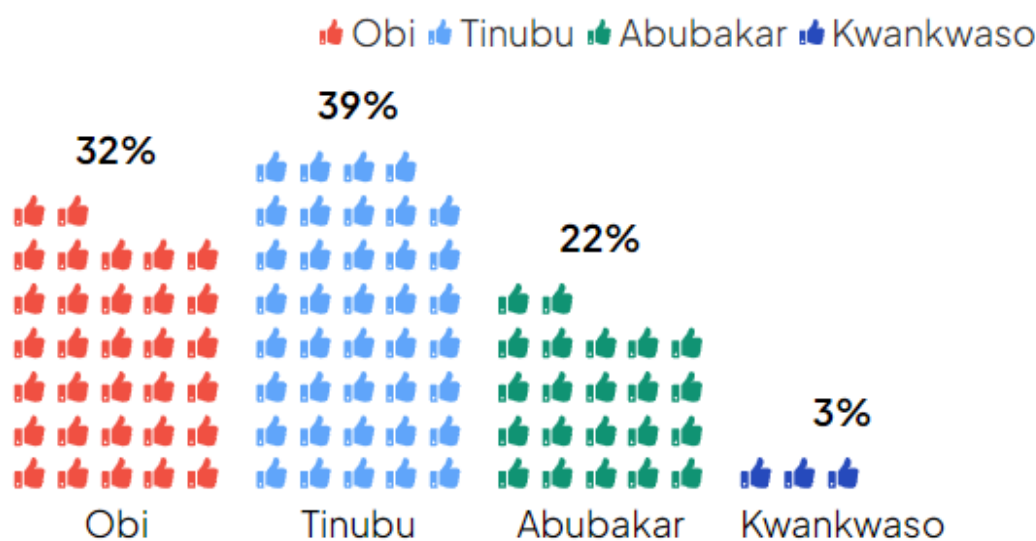


Figure 2. Stears Model Forecast — Tinubu Secures Victory Under a Low Voter-Turnout Scenario.

Source. Stears (2023), cited in Akinola (2023) and Eleanya (2023).

The Stears predictive model forecasts electoral outcomes for four major candidates under a low-turnout scenario, with vote share represented proportionally. The model predicts Tinubu securing a plurality with 39% of the vote, followed by Obi at 32%, Abubakar at 22%, and Kwankwaso at 3%. The seven-point margin between the two

leading candidates suggested a comfortable victory for Tinubu under this turnout scenario, a projection that ultimately materialised.

Expert Assessments

Expert analysis, though often speculative, provided valuable contextual insight. Commentators such as Adibe (2023) identified religion, ethnicity, regionalism, economic hardship, insecurity, intra-party crisis, and the All Progressives Congress's controversial Muslim-Muslim ticket as critical determinants of the election. While these forecasts were less precise than data-driven models, they captured the multidimensional pressure shaping voter decisions, including the destabilising effect of the naira redesign policy and fuel shortages. However, expert prediction largely borrowed from polling data and historical precedent, limiting its independent explanatory value; its contribution lies less in predictive accuracy than in framing the contextual variables that polls and historical data alone may understate.

1. Religion and the salience of the Muslim-Muslim presidential ticket
2. The rise of viable third-force parties and candidates
3. Ethnicity and regionalism
4. Presidential debates and candidate visibility
5. The independence of the electoral umpire and the new Electoral Act
6. Crises and schisms within political parties
7. The burden of history and precedent
8. Insecurity across the federation
9. The influence of money in campaigns
10. Unpredictable or unknown contingent variables

Figure 3. *Ten Determinants of Nigeria's 2023 Presidential Election, adapted from Adibe (2023).*

Together, these interconnected factors underscore the multidimensional nature of Nigerian electoral politics, illustrating how structural, institutional, and contingent elements combine to shape voter behaviour and outcome.

Social Media Trends

The growing penetration of social media has made platforms such as Twitter (now X) influential in electoral forecasting (Bansal & Srivastava, 2018). Sentiment analysis of Twitter data before the 2023 election, drawing on the two-stage residual LSTM model developed by Oyewola et al. (2023), suggests a relatively balanced sentiment distribution across the three leading candidates rather than the lopsided pro-Obi enthusiasm that dominated public discourse and several polls.

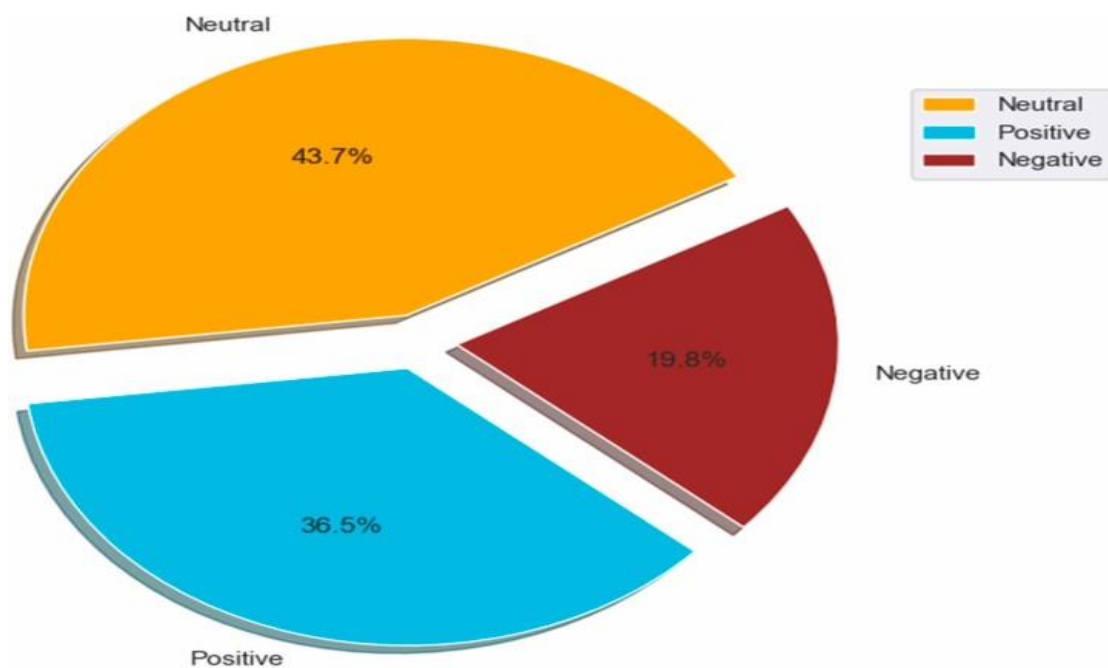


Figure 4. Distribution of Positive, Negative, and Neutral Twitter Sentiment for Atiku Abubakar.

Source. Oyewola et al. (2023).

Neutral sentiment forms the largest share of tweets mentioning Atiku Abubakar at 43.7%, followed by positive sentiment at 36.5% and negative sentiment at 19.8%. Positive sentiment exceeds negative sentiment by 16.7 percentage points, indicating a generally favourable, if measured, online reception.

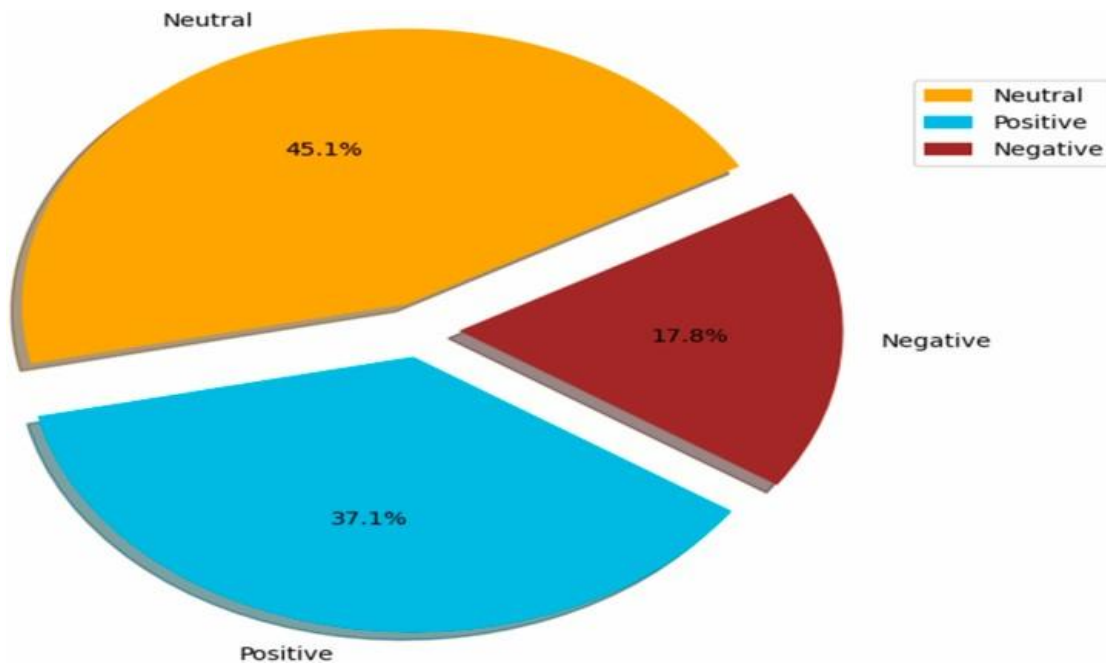


Figure 5. Distribution of Positive, Negative, and Neutral Twitter Sentiment for Peter Obi.

Source. Oyewola et al. (2023).

Neutral sentiment forms the largest share of tweets mentioning Peter Obi at 45.1%, followed by positive sentiment at 37.1% and negative sentiment at 17.8%. Positive sentiment exceeds negative sentiment by 19.3 percentage points, marginally the most favourable profile among the three candidates in terms of the positive-negative gap.

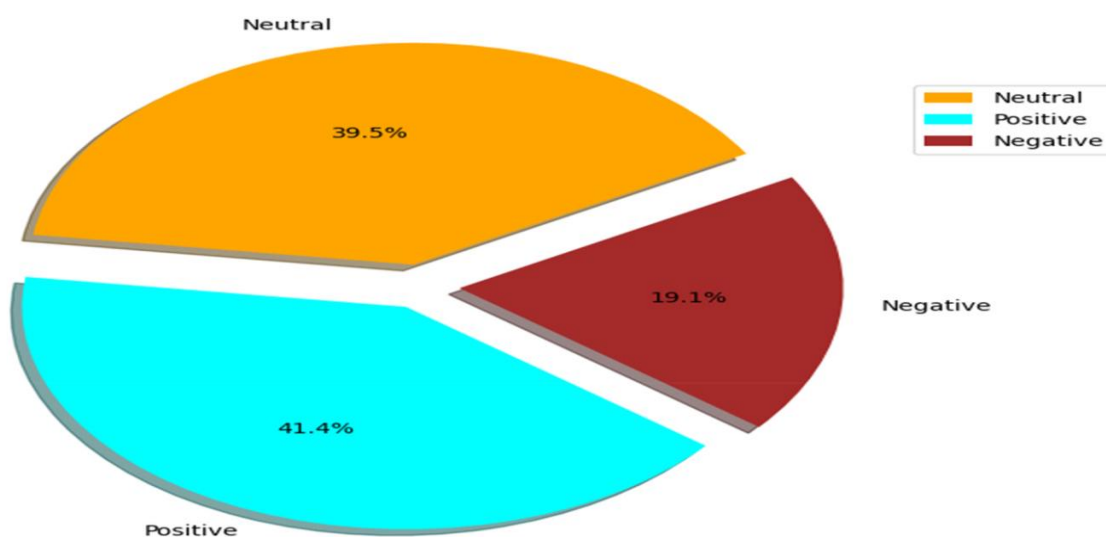


Figure 6. Distribution of Positive, Negative, and Neutral Twitter Sentiment for Bola Ahmed Tinubu.

Source. Oyewola et al. (2023).

Neutral sentiment forms the largest share of tweets mentioning Bola Ahmed Tinubu at 39.5%, followed by positive sentiment at 41.4% and negative sentiment at 19.1%. Positive sentiment substantially outweighs negative sentiment by 22.3 percentage

points, the largest margin recorded among the three candidates and the only case in which positive sentiment exceeds neutral sentiment.

Contrary to the pattern widely assumed during the campaign, in which Obi's online popularity was taken as a proxy for electoral strength, Tinubu recorded both the highest share of positive sentiment (41.4%) and the largest positive-negative margin (22.3 percentage points) among the three leading candidates, a pattern that corresponds with his eventual victory. This finding illustrates that Twitter sentiment, properly disaggregated, can carry genuine predictive signal, but that signal was frequently overridden in public discourse by the sheer volume and visibility of pro-Obi online mobilisation. These findings confirm that while Twitter data cannot substitute for representative sampling, it offers valuable real-time insight into voter sentiment, and that the predictive utility of social media lies in complementing, rather than replacing, conventional forecasting methods.

Nexus Between Predictive Approaches and Electoral Outcome

Synthesising across the four approaches examined, conventional models retain significant, though uneven, relevance. Opinion polls demonstrated mixed accuracy, with only the four organisations integrating contextual structural variables approximating the actual result (Table 1). Historical voting patterns proved indispensable in highlighting the determinative role of the North and the implications of low turnout. Expert analysis offered interpretive depth but lacked independent predictive strength. Social media trend, though methodologically experimental, reinforced conventional indicators once disaggregated by candidate, capturing sentiment dynamics that several headline polling calls overlooked.

This pattern offers partial support for the first proposition (P1), that conventional election-prediction methods were effective in forecasting the 2023 outcome, though their accuracy was highly variable and contingent on methodological design. The second proposition (P2), that social media trend correlates with electoral outcome, is also supported: Tinubu's relative sentiment strength on Twitter corresponded with his eventual victory once sentiment data were properly disaggregated by candidate rather than read as an undifferentiated proxy for online buzz. Taken together, the findings suggest that conventional models remain relevant, but that their predictive validity is enhanced substantially when triangulated with emerging digital tools and contextualised within Nigeria's complex political terrain, a pattern consistent with the specific-case forecasting

improvements documented by Nortey et al. (2015) in Ghana and by Odote and Kanyinga (2021) in Kenya.

DISCUSSION

Performance of Conventional Prediction Methods

The analysis demonstrates significant variability in the predictive accuracy of conventional forecasting approaches, contradicting the optimistic assessment of polling reliability documented in established democracies (Miller & Shanks, 1996). Opinion polls, the most widely used prediction tool, exhibited a 63.6% failure rate, with seven of eleven major polling organisations incorrectly predicting Peter Obi's victory over the eventual winner, Bola Ahmed Tinubu (Table 1). This failure rate substantially exceeds the prediction error typically documented in Western electoral settings (Graefe, 2018), suggesting fundamental methodological limitations specific to Nigeria's complex socio-political landscape. Yet the magnitude of the failure should be read against Prosser and Mellon's (2018) cross-national evidence that polling error has remained large and structurally stable for decades even in mature democracies with far greater survey infrastructure; Nigeria's polling failure is therefore best understood as an amplified instance of a general pattern rather than an anomaly confined to transitional democracies.

These findings align with Carlson's (2015) earlier critique of polling methodology in Nigerian settings, which emphasised sampling bias and data-collection inaccuracy, and with Zhou et al.'s (2021) demonstration, from the 2019 Argentine election, that social-desirability bias can silently distort even a well-resourced pollster's raw data. Our analysis extends this critique by showing that the organisations achieving greater predictive accuracy, the Nigerian Human Rights Community, surveying 19,365 respondents across all 774 local government areas, and Dataphyte Research's state-by-state ground-truthing incorporating historical voting pattern, turnout analysis, and demographic homogeneity indices (Table 1), did so through methodological thoroughness and geographic comprehensiveness of exactly the kind identified by Ojo (2007) and, in the Ghanaian context, by Nortey et al. (2015), as critical to accurate electoral forecasting in diverse political environments.

The Stears model's accurate prediction of Tinubu's victory under low voter-turnout conditions (39% Tinubu, 32% Obi, 22% Abubakar, 3% Kwankwaso, Figure 2) validates

Powell's (2000) institutional-theory emphasis on turnout-based forecasting. This finding contrasts sharply with the social-media-driven expectation that dominated public discourse, supporting Fridy's (2016) argument that conventional demographic and institutional factors retain explanatory power despite digital disruption.

Historical Voting Patterns and Structural Continuities

Historical voting patterns retained their explanatory power in the 2023 election, confirming the continued relevance of socioeconomic theory to the Nigerian electoral scenario (Key, 1966; Nwafor, 2025). The ethno-regional bloc voting that has characterised Nigerian elections since independence remained influential, with Tinubu's victory dependent on substantial northern support despite his southern origin, reinforcing Falola and Heaton's (2008) analysis of persistent regional cleavage, albeit with important modification. Peter Obi's emergence reconfigured this pattern by mobilising urban voters, Christians, and youth across traditional regional boundaries, particularly in the South-East and parts of the South-South, representing what Sule et al. (2018) characterise as emerging cross-cutting cleavage in Nigerian politics. However, the dramatic decline in turnout to approximately twenty-five million votes from an eligible pool of eighty-seven million (Adibe, 2023) represents the lowest participation rate in Nigeria's democratic history, and it is precisely this turnout collapse, rather than any single sampling flaw, that separated the accurate from the inaccurate polling organisations in Table 1.

Social Media and Sentiment Analysis

The disaggregated sentiment findings (Figures 4, 5, and 6), drawn from Oyewola et al.'s (2023) sentiment-analysis framework, reveal a more nuanced picture than the undifferentiated online enthusiasm that characterised much campaign-period commentary. Tinubu recorded the highest positive-sentiment share (41.4%) and the widest positive-negative margin (22.3 percentage points), Obi the second-widest margin (19.3 points), and Atiku the narrowest (16.7 points), with neutral sentiment dominant across all three candidates (39.5% to 45.1%). This distribution, once disaggregated, corresponds more closely with the actual result than the aggregate social-media narrative of an inevitable Obi victory, supporting Tumasjan et al.'s (2010) argument that social-media sentiment analysis can provide accurate real-time indicators of electoral competitiveness precisely where conventional representative sampling is most difficult to achieve.

At the same time, the findings validate concerns raised by Reveilhac et al. (2022) regarding the representativeness of social-media data. Twitter's user base skews toward younger, urban, and more educated demographics, creating a representation gap similar to that affecting opinion polls. This demographic bias helps to explain why the volume and visibility of pro-Obi online mobilisation was widely, and mistakenly, read as a proxy for electoral strength, even though disaggregated sentiment analysis pointed in a different direction; social-media analytics, in other words, still failed to fully capture the rural and older voter preference that ultimately proved decisive, unless read with analytical care rather than at face value.

Expert Analysis and Contextual Factors

While expert assessment lacks the predictive precision of formal quantitative models, it remains valuable for isolating context-specific variables shaping electoral outcome, reinforcing the interpretive framework advanced by Ibeanu (2007). Consistent with this approach, Adibe (2023) identifies religion, ethnicity, regionalism, economic hardship, insecurity, intra-party dynamics, and the Muslim-Muslim ticket as salient explanatory factors (Figure 3), variables that align with the actor-centred analytical orientation advocated by the Centre for Public Policy Alternatives (2015). The analysis confirms Yang et al.'s (2022) observation that the principal value of expert commentary lies in contextualising quantitative findings rather than producing independent prediction; however, the present study extends this argument by showing that systematic integration of expert insight, historical pattern, and disaggregated sentiment analysis together outperformed any single conventional method in isolation, challenging the conventional dichotomy between qualitative and quantitative forecasting in the literature.

Discussion of Research Propositions

Proposition 1: Effectiveness of Conventional Prediction Methods

The study provides partial support for P1, consistent with mixed findings in the comparative electoral-forecasting literature (Boon, 2012; Saeki, 2024). While some conventional approaches, particularly those employing comprehensive sampling and historical analysis, achieved accurate prediction, the majority failed to anticipate Tinubu's victory (Table 1). This mixed performance contrasts with Graefe's (2018) findings on United States presidential elections, where conventional methods demonstrated greater

consistency, suggesting that institutional and social context significantly affects prediction accuracy, and echoing Prosser and Mellon's (2018) broader conclusion that polling error is driven principally by sample representativeness and turnout miscalibration rather than by any single national peculiarity. The 63.6% failure rate reflects systematic bias in sampling methodology that overrepresented urban, educated, and digitally connected demographics while undersampling rural populations and voters embedded in traditional political networks, supporting earlier critique by Ojo (2007) regarding methodological inadequacy in Nigerian polling.

Proposition 2: Social Media Trends and Electoral Prediction

P2 receives meaningful, though qualified, empirical support, extending global findings by Cameron et al. (2016) and Ceron et al. (2014) to the Nigerian context. The disaggregated sentiment distribution on Twitter (Figures 4, 5, and 6) more accurately reflected the competitive nature of the election than the aggregate social-media narrative, with Tinubu's sentiment advantage corresponding to his eventual victory, supporting Olabanjo et al.'s (2023) sentiment-analysis approach to the same election. However, the study also reveals an important limitation consistent with the broader literature on social-media prediction (Chaudhry et al., 2021): raw volume and visibility of online engagement can be mistaken for genuine electoral strength, potentially overestimating a candidate's prospects, as evidenced by the initial overestimation of Obi's chances based on online mobilisation rather than disaggregated sentiment.

Proposition 3: Electoral Determinants and Predictive Analysis

The evidence strongly contradicts P3, demonstrating a clear relationship between key electoral determinants and predictive accuracy and supporting institutional-theory perspectives (Powell, 2000). Organisations incorporating historical voting pattern, demographic homogeneity, religious composition, and turnout analysis achieved markedly higher predictive accuracy than those relying solely on stated preference (Table 1). Dataphyte's successful prediction exemplifies how systematic integration of structural variables enhances forecasting accuracy, validating the multidimensional approach to voting pattern advocated by Nwafor (2025). Its methodology, combining past voting pattern, turnout analysis, voter-choice homogeneity, and religious demography, produced a precise prediction without invoking a run-off scenario, demonstrating the continued relevance of

Nigeria-specific forecasting frameworks that account for ethno-religious and regional dynamics identified by Abdullahi (2015) and Eze (2024).

Research Implications

The study's findings carry important implications for theory, practice, and electoral integrity in Nigeria. Theoretically, the results extend the integrative framework combining rational choice, socioeconomic, and institutional perspectives (Figure 1) by demonstrating empirically that predictive accuracy improves precisely at the point where these three domains are jointly operationalised, historical/structural pattern (socioeconomic and institutional), disaggregated sentiment (individual-level signal), and contextual expert interpretation, rather than where any one domain is relied upon in isolation. This extends theoretical frameworks developed in the Centre for Public Policy Alternatives (2015) and offers a template for future comparative work, including the Ghanaian and Kenyan cases discussed by Nortey et al. (2015), Barkan (2013), Debrah et al. (2019), and Odote and Kanyinga (2021).

Practically, the systematic failure of most polling organisations to predict the actual outcome raises questions about the quality of public information available to voters, political actors, and international observers during the electoral period, consistent with broader concern about media accuracy in transitional democracies. Inaccurate polling can generate false expectation, potentially contributing to post-election dispute and undermining confidence in the democratic process, a risk documented in other African contexts (Kemp, 2024) and echoed in Odote and Kanyinga's (2021) finding that disputes over electoral technology and outcome can themselves become a source of political instability in Kenya. The disconnect between social-media enthusiasm and electoral outcome, evident in the contrast between undifferentiated online sentiment and the actual result, suggests that political communication and expectation management merit systematic policy attention, including clearer public disclosure of polling methodology and sample composition.

The low voter turnout, approximately 29% of eligible voters, despite unprecedented registration, indicates structural barriers to voting that extend beyond prediction accuracy, supporting broader critique of Nigeria's electoral system (Adibe, 2023). The disconnection between electoral enthusiasm, measured by registration and social-media engagement, and actual participation points to institutional failure in facilitating

democratic participation, reinforcing the comparative lesson from Barkan (2013) and Debrah et al. (2019) that procedural and technological reform alone, whether biometric registration, electronic accreditation, or an expanded polling infrastructure, cannot substitute for the deeper institutional and behavioural change required to secure both credible and predictable elections.

Research Limitations and Directions for Future Research

Some limitations constrain this study's findings and point to productive avenues for future research. Reliance on publicly available polling data, some of which lacked methodological transparency, limits systematic evaluation of sampling bias, suggesting the need for primary data collection using experimentally validated sampling methodology adapted to Nigerian settings. The single-case design, while offering detailed insight into the 2023 election, limits generalisability to other electoral cycles or African democracies, supporting the case for comparative analysis across multiple electoral cycles and countries, building on the Ghanaian (Nortey et al., 2015) and Kenyan (Barkan, 2013; Debrah et al., 2019; Odote & Kanyinga, 2021) evidence engaged in this study, to strengthen understanding of when and why conventional prediction methods succeed or fail in transitional democratic contexts.

The social-media analysis focuses exclusively on Twitter (X), potentially missing sentiment patterns on other platforms such as Facebook, WhatsApp, or Instagram that may reach different demographic groups, consistent with limitations identified by Brito et al. (2021). Comprehensive social-media analysis should incorporate multiple platforms and develop methods for weighting their relative influence on different voter segments. Future research should also develop more sophisticated methods for integrating expert analysis into quantitative prediction models, building on the integrative framework presented in Figure 1; while expert insight proved valuable for contextualising electoral dynamics, systematic approaches for incorporating qualitative assessment into statistical models remain underdeveloped, representing an important frontier for methodological innovation in electoral forecasting research on Nigeria and comparable African democracies.

CONCLUSION

The analysis of Nigeria's 2023 presidential election reveals both the continued relevance and the significant limitation of conventional electoral-prediction methods in

transitional democracies, contributing to broader theoretical debate on electoral-forecasting effectiveness. While some methodologically rigorous approaches achieved accurate prediction, the majority of polling organisations failed to anticipate Tinubu's victory (Table 1), highlighting systematic bias in sampling and analytical frameworks adapted uncritically from established democracies.

The study demonstrates the value of hybrid approaches combining traditional polling with historical analysis, disaggregated social-media sentiment tracking, and expert contextual assessment, supporting arguments for methodological pluralism in electoral forecasting (Graefe, 2018). Organisations integrating multiple analytical streams and ensuring geographic comprehensiveness achieved superior predictive performance, suggesting that electoral forecasting in complex political environments requires methodological innovation, exemplified by comparable African adaptations such as the Markov-chain approach developed for Ghana (Nortey et al., 2015), rather than direct application of conventional Western models.

Most importantly, the findings underscore the importance of Nigeria-specific analytical frameworks that account for ethno-religious voting pattern, rural-urban divide, and the influence of traditional political networks, as demonstrated by the superior performance of organisations incorporating these factors (Table 1). As Nigeria's democracy continues to evolve, and as comparative evidence from Ghana and Kenya confirms that technological and procedural reform cannot by itself resolve the deeper institutional sources of electoral unpredictability, electoral forecasting must adapt to capture the unique dynamics of African political contexts while maintaining methodological rigour and predictive accuracy, contributing to broader efforts to strengthen democratic governance in transitional societies. Future scholarship would benefit from comparative, multi-country replication of the integrative framework advanced here, and from primary data collection that combines representative sampling with multi-platform social-media analytics to test the framework's applicability beyond a single electoral cycle.

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Conflict of Interest

There are no conflicts of interest associated with this publication.

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