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Digital Democracy and Elections in Nigeria: An Assessment of the 2023 Governorship Election in Taraba State

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Abstract: Digital democracy is the application of digital technology in election processes. This paper examined the application of digital devices in the 2023 Governorship election in Taraba state. Using Cross Sectional survey research design through the instrumentality of questionnaire, a sample size of 383 was drawn from a Local Government Area from each of the three senatorial zones in the state using stratify and random sampling method. The data of the study is primary and secondarily

driven (internet material, textbooks, Journals, newspapers, magazines, etc.). Using the Statistical Package for the Social Sciences to test the postulated hypotheses statistically, The study found that the adoption of election technology by the electoral umpire is transforming elections through the elimination of manual accreditation and transmission of results without necessarily deepening democracy in Taraba state, giving that the 2023 gubernatorial election was marred by allegation of multiple voting, election results manipulation, and over-voting, resulting in legal actions that the adopted technology was meant to stop. The study also found that factors such as network and operational challenges affected the smooth application of the device in the governorship election. The paper recommends, amongst others, that the Election Management Body should show diligence in adopting the twin technologies during elections. At the same time, thorough training should be provided to both permanent and ad-hoc staff to prevent outside interference, as witnessed in the 2023 elections. Furthermore, Trust is required to adopt and utilise emerging technologies. Thus, the electoral umpire should prioritise building trust among Nigeria's general populace by ensuring transparency in its operations.

Keywords: Democracy, Digital democracy, Bimodal Voter Accreditation System.

Introduction

Globally, elections in every democratic setting have remained a means to power and authority. Nigeria is not an exception since the return to civil rule in 1999 after decades of military dictatorship. In Africa, roughly half of all national-level elections now involve digital devices, most notably biometric voter registration/identification and electronic results transmission (Cheeseman et al., 2018). In this regard, Fischli and Muldoon (2024), citing Bernholz et al. (2021), Forestal (2022), and Simon et al. (2017), advanced that digital technology has in recent decades played a significant role in revitalising democratic government by creating more trust in public institutions, discourage voter apathy by engaging citizens in political participatory as well as enhancing the quality of governance decisions. The role of information and communication technology (ICT) cannot be overemphasised, given that technology guarantees faster and more accurate tasks compared to the manual process. Notably, almost every part of modern society has embraced technology, especially information and communication technology (ICT) and is used daily in many countries for communication, trade, finance, education, work quality, and pleasure (Asaju & Ogar, 2022; Ayeni et al., 2023; Munya, 2022).

The history of the Nigerian electoral process has been characterised by violence stemming from disputes in election outcomes. This pattern has marred every election since the first election of 1964 because of prebendal politics that induced age-long desperation and manipulation of violence by the Nigerian elite in their quest for power. This situation leads to election offences, such as vote buying, political thuggery, or rigging. These actions frequently result in violence, undermining the integrity of the Nigerian electoral process (Ter Abagen & Yusuf, 2023).

While it has been suggested that election technology has great potential to address electoral fraud in Nigeria's electoral system (Mahmood, 2021; Masduki, 2021; Munya, 2022; Okechukwu,

2023; Oladeji, 2023; Olonite et al., 2023; Oyelude & Olojede, 2023; Onyekwelu, 2023), Professor Attahiru Jega, the former chair of the Nigerian Election Management Body, INEC, who led Nigeria's initial use of biometric voting technology stated as follows:

We have made rigging impossible for them (electoral fraudsters) as there is no way the number of votes cast at the polling unit could exceed the number of accredited persons. Such discrepancy in figures will be immediately spotted. This technology made it impossible for corrupt electoral officers to connive with politicians to pad results. The card reader machines will help us address all those irregularities, starting from voter accreditation at all the polling units. The information stored in the card readers and the result sheets taken to the ward levels would be retrieved once there is evidence of tampering [...]. We believe this is an added value to our process; it is something we have not been able to do in the past. Jega, cited in Orji (2015)

This assurance seems optimistic, as INEC budgeted N305,001,824,846.49 billion for the entire election. At the same time, N117,126,413,593.18k billion naira was earmarked for expenses related to electoral technology, making up 39% of the total budget. This indicates that the commission is now ready to accept technology as a powerful instrument of change even though a better technology (BVAS) with multiple functions was introduced to supplant the earlier card Reader device, which has limited operations that make it susceptible to manipulations (Mahmood, 2022).

In Taraba State, the People's Democratic Party (PDP) has controlled the state since 1999 with contentious and questionable victories; how it was challenged by two strong contenders (All Peoples' Congress (APC) and New Nigeria Peoples' Party (NNPP). While the NNPP, as the runner-up, challenged the results at the election tribunal by ordering INEC to review the exercise based on massive rigging after the PDP candidate was declared the winner, the APC candidate accepted defeat (Taraba News, 12 March 2023, p. 3). Against this background, it becomes imperative for this paper to isolate Taraba State and examine digital democracy and election in Nigeria, focusing on the 2023 governorship election.

Research Problem

Free, fair, and transparent elections are critical for establishing democracy in a political system with fraudulent elections, which has previously characterised Nigerian elections. This is a challenge that needs to be addressed for democracy to thrive. Credible elections have eluded Nigeria before now, and the only way that Nigerians can trust the electoral umpire (INEC) is the introduction of technology to curb the excesses of desperate politicians that circumvent the electoral process (Ayeni et al., 2023).

More importantly, it is expected that research like this would add to the body of knowledge on election technology because the problem of fraudulent elections in Nigeria has been highly documented; thus, the need for the assessment of the 2023 governorship election in Taraba State (Oyelude & Olojede, 2023). The manual election process was characterised by corruption, vote

tampering, ballot box snatching, underage voting, widespread fraud, intimidation and harassment. Also related to this problem is that electoral malpractices often lead to legitimate crises, which helps to erode democratic practices. The absence of citizens' zeal to participate in the election is also making it difficult for the entrenchment of the core values of democracy as criminal acts are brazenly perpetrated with a motive of corruption, deceit, or sinister intention in order to impact the election in support of a candidate (Ter Abagen& Yusuf, 2023).

Another problem of the study is the accusations of rigging and overvoting, despite BVAS and IReV's intended purpose to address such concerns in the governorship election. Consequently, at the end of the voting, many INEC officials claimed not to remember their passwords to the IReV portal (Akeaya-inneh, 2023). This is because, even 24 hours after voting had closed, results from several polling units had yet to be uploaded (Suleiman, 2022). However, election monitoring groups like Nigeria Civil Society Situation Room (2023) and the European Union Observer Mission (EOM) reported that the option to use the BVAS offline, enabling results sheets to be uploaded even in situations of weak internet connectivity, failed to function or remained largely unused by those responsible. On this premise, the study seeks to examine the impact of technology on the governorship election in Taraba State, Nigeria.

Research Aim and Questions

Research Questions

1. Was BVAS fully deployed in the gubernatorial elections in Taraba State?
2. To what extent do BVAS and IReV impact the electoral outcome of the recent governorship election in Taraba states?
3. What are the issues and challenges associated with deploying technology in election administration in Taraba State?
4. Are there measures capable of enhancing the credibility of the electoral process in Taraba State?

Objectives of the Study

The broad objective of the study is to examine Electronic Governance and Democratic Consolidation in Nigeria: An Assessment of the 2023 governorship election in Taraba State. Given the issues raised above, the specific objectives are to:

1. Assess the deployment of BVAS in the gubernatorial election in Taraba State.
2. Ascertain the impact of the twin technology (BVAS/IReV) on the electoral outcome of the 2023 governorship elections in Taraba states
3. Examine issues and challenges associated with technology deployment in election administration in Taraba State.

4. Highlight measures capable of enhancing the credibility of the electoral process in Taraba State.

Research Hypotheses

H1: There is no significant relationship between digital democracy and the credibility of the 2023 governorship election in Taraba state

H2: There is a significant relationship between BVAS and the outcome of the 2023 governorship election in Taraba state

Literature Review

Conceptual Underpinning

This section reviewed several perspectives of scholars and academics regarding the digitalisation of democracy, elections, voting and other election-related technologies. A literature review outlines the existing body of knowledge in your relevant area and serves as the foundation for all scholarly research endeavours. Above all, it gives background information, establishes significance, demonstrates dependability, creates room for more investigation, and aids in the researcher's expansion of knowledge in election technology. Therefore, the terms of this paper are digital democracy, election, Bimodal Voter Accreditation System (BVAS), and INEC Result Viewing Portal (IREV).

Garnett and James (2020), in their position on democracy, explained that the democratic sectors include democratic actors such as governments, elected officials, media (and major or online portals), political parties and interest groups, Civil society organisations, International governmental organisations, citizens/voters. The various e-democracy sectors include e-parliament, e-legislation, e-justice-mediation, e-environment, e-voting, e-consultation-participation, e-initiatives, e-petitioning, e-campaigning, e-polling/e-surveying. All these are pointers to the fact that technology and democracy are inseparable.

Cole (2020), as cited by Cinjel and Chujor (2021), observed that digital government has received worldwide acceptance due to the various transformations it has brought in governance; the modern state as an independent government has transited from old analogical practices that used to be slow, weak, and complex to a simplified, fast, and result-oriented practice. This is what digital democracy entails, and it should be seen practically in INEC operations.

Suffice it to say that technology is reshaping democracy even though authoritarian governments have used the growth of new technology to monitor and repress citizens (Shahbaz, 2018). SMS reminders have also been used to provide voters with information on electoral dates (Muldoon, 2022), and websites, SMS, and social media have been used to educate voters on candidate platforms (Moura & Michelson, 2017).

On election, Shuaibu et al. (2017) noted that elections allow the general public to choose leaders directly or indirectly and express their preferred way of being governed. Elections represent

the highest level of democracy, where citizens choose their leaders and representatives to rule them. Similarly, Garnett and James (2018) firmly believe that elections are the most open and widely accepted method for choosing societal leaders. This supposes that the entire process includes activities before, during, and after the election, leading to the selection of political leaders. On a different note, Jinadu (1997) asserts that election connotes ‘the organisation and conduct of elections to elective public (political) offices by an electoral body’.

Deployment of Technology in the 2023 General Elections

Section 60 (3 and 5) of the Electoral Act 2022 states that the presiding officer shall transfer the results, including the total number of missions. The commission, in this case, released the election guidelines 2023, which stipulates r of accredited voters and the results of the ballot in a manner as prescribed by the Com in Paragraphs 18 and 38 that there shall be Mandatory use of the Bimodal Voter Accreditation System (BVAS) and the election transmission of results and upload of results to the IReV portal which is expected to aid in lowering the prevalence of electoral fraud. This is because paper votes are simpler to tamper with than electronic ones.

Furthermore, by facilitating faster and simpler voting, digitalising elections may contribute to a rise in turnout. As Nigeria started to use digital tools for election management in 2006 in anticipation of the 2007 elections, some essential innovations implemented by INEC have impacted the legitimacy of elections (Omotosho & Udeoji, 2020). In order to improve the legitimacy of the elections and address the shortcomings of earlier digital instruments used in their conduct, INEC has now adopted various solutions and methods over the years.

The election of the president and the national assembly (Senate and House of Representatives) are held on the same day, and that of the State governor and House of Assembly comes on a later slated date. This is possibly done to ease the cumbersome nature of election management in Nigeria, despite the robustness of technology to accommodate both elections on the same date (Table 1).

Table 1

Participation Per Local Government in 2023 gubernatorial election in Taraba State

S/N	LGA	PDP	APC	NNPP	SDP
1	Ardo-Kola	16,034	2,342	14,089	1607
2	Bali	16126	7183	15330	497
3	Donga	10470	22493	4135	433
4	Gashaka	5809	4849	3226	122
5	Gassol	10206	3430	42845	3366
6	Ibi	8334	2416	15564	628
S	Jalingo	20769	5994	49424	2381
8	KarimLamido	18140	6583	12323	9240
9	Kurmi	10579	8826	370	47

10	Lau	13368	5079	10196	631
11	Sardauna	18605	21593	9337	155
12	Takum	16858	12281	2958	3909
13	Ussa	6933	23315	103	668
14	Wukari	52024	4387	15230	420
15	Yorro	11880	5396	4056	3553
16	Zing	20182	7299	2898	254
	TOTAL	255,317	143,468	202,082	27,276
	Margin of lead		111,851	53233	228,041
	Total Valid Votes 651,371				
	Rejected Votes 9,120				
	Total Votes Cast 660,491				

Source: <https://www.inecnigeria.org/>

The percentage of votes cast indicates that only 33% of the total registered voters voted for the governor compared to 47% in the 2019 governorship election in the state. There are 168 polling units in Taraba state, while 1,397 BVAS were sent to the state for the elections, given that there were 1685 polling units in 2019. The polling units increased to 3,597, and new voters collected an additional 200 372 Permanent Voters in preparation (<https://www.inecnigeria.org/>).

The 2019 gubernatorial election recorded 906,302 votes, compared to 660,491 in 2023, a difference of 245,811 votes. This is four times the margin between the winner (PDP: 255,317) and the runner-up (NNPP: 202,082). BVAS technology enhanced the accreditation process and real-time transmission of results, bolstering the electoral body's efficiency and fairness. Polling units are vital as results are electronically sent to the INEC server (IReV) after the last vote is cast and publicly announced.

It states that BVAS and its component, IReV, are operated by human beings (INEC staff) with varying knowledge/skills, competencies, competing interests and mistakes, which could consequently make or mar the entire election process. These mistakes, to an extent, might occur due to pressure from a politician deliberately orchestrated to favour a particular party or candidate. This is why Wolf et al. (2017), as cited in Onyekwelu (2023), suggested that biometric technology can prevent some types of electoral fraud but cannot prevent human manipulations and mistakes.

Theoretical Framework

The study adopts Martin Hagen's e-democracy theory. For Hagen (2000), e-democracy is a form of development and reinforcement of democracy that uses new communication technology to strengthen the political power of those often omitted in critical political processes. The theory provides pertinent background for understanding why election technology is necessary and construes e-democracy as a strategic tool to strengthen democratic practices using information and computer technology (ICT). He thinks certain people are usually omitted from making important

political decisions in their countries through unintended but unsatisfactorily explained disenfranchisement.

For Hagen (2000), e-democracy is a form of development and re-enforcement of democracy which uses new communication technology to strengthen the political power of those often omitted in critical political processes across the world, especially in Europe, with uncommon success. Hagen (2000) proposes a typology of e-democracy and distinguishes between Tele-democracy, Cyber-democracy, and Electronic Democratization. The three concepts differ concerning their normative underpinnings, especially in terms of the perception of the role of representative and direct forms of democracy and the level of citizens' political activity.

Furthermore, while the tenets of democracy are narrowed down to a degree of representativeness, promotion and protection of fundamental rights and freedoms, as well as inclusive and comprehensive involvement of citizens in decision-making, the theory is relevant to the study of digital democracy and election because it recommends the use of technology to simplify electoral processes that hitherto were manual and cumbersome. The place of technology in the elections is sacred if the quest for free, fair and credible elections is to be achieved. Most importantly, the advantage over the manual procedure, which is prone to human mistake and manipulation, is that it allows for the quicker, more precise, and timely processing of complicated data. The restriction is not implausible because the communication route is managed and operated by people who are fallible and may easily be persuaded to manipulate the system. However, the theory is ideal for this study since it supports the rationale behind implementing BVAS/IReV in the general elections 2023.

Research Methodology

The research adopts a cross-sectional survey design; thus, data is collected from a sample of the 615,003 population, out of which 383 were chosen using purposive sampling. Both primary and secondary data were collected from the population. A structured questionnaire was developed based on a 5-point Likert Scale. The instrument was pilot-tested on a convenience sample of 20 respondents from Jalingo Local Government, the state capital. Out of the 384 questionnaires, 364 were returned. Secondary data was also collated from INEC official documents, books, journals, magazines and Newspapers.

Sample Size and Participant

The population of the study is the total number of registered voters during the 2023 gubernatorial election in the states. Three local government areas in the state were sampled out of the sixteen according to the geo-political zone: Jalingo (219,222), Sardauna (187, 752), and Wukari (209,029) through the purposive sampling method. Krejcie and Morgan's (1970) statistical tool is used to determine the sample size. The Stratify and Random sampling technique was used to select respondents. The formula states that any figure between 75,000 and 1,000,000 with a corresponding 383 sample size is adopted here. Therefore, a population size of 616,003 has a corresponding sample size 383 at a 95% confidence level and a 5 % margin of error. Thus, the sample size is 383.

Bourley's 1964 formula for proportional allocation was employed in determining the sample size for the questionnaire administration (Table 2).

Table 2

Population and Sample Distribution

LGAs	Reg. Voters	Vote Cast	Percentage of Vote Cast
Jalingo	219,222	78,568	36
Sardauna	187,752	46,690	24
Wukari	209, 029	72,061	34
Total	616,003	179,319	34

Source: Fieldwork (2024).

Instruments and procedures

The study employed both primary and secondary sources of data. The primary data was collated from questionnaires administered to respondents in the three (3) sampled Local Government Areas in the State from each of the three geopolitical zones, as well as a structured interview, which helps reduce the impact of bias in the evaluation process. The secondary data emanates from books, newspapers, journals and online materials.

Data analysis

The method of data analysis is based on the Pearson Correlation, where there is a moderately significant positive relationship between the two variables: D-democracy and credibility of the 2023 governorship election, where Pearson Correlation = 0.609, n = 336, p = 0.000.

Results

Table 3

Frequency Distribution Table

Gender of respondent	Male: 275 (71.6%)	Female: 109 (28.4%)
Age of respondent	18-30 years: 29 (7.6%)	31 years above:335 (87.2%)
Educational qualification	Formal:341 (88.8%)	No-Formal:43(11.2%)
Occupational Distribution of Respondents	Student/ Self-employed: 296 (77%)	Civil/Public Servant: 88 (22.9%)
Status of Electorate	Registered Voter:372 (96.9%)	Non-Registered:12 (3.1%)
Classification of Respondents	Electorate/Party Officials: 366(95%)	INEC Staff: 17 (4.3%)
Marital status	Maried:241 (62.8%)	Single:142@37%)

Source: Fieldwork (2024).

The Table 3 shows that 275 (71.6%), representing most of the sampled respondents, are males, while 109 (28.4%) are female. This wide margin might not be far-fetched from some men's general belief that males are more than females in the state. Of the age of respondents, 29 (7.6%) are under the age of 30, while 335 (87.2%) are between the age of 31 and above. This shows that most of the respondents are knowledgeable enough to know about the technology and the challenges encountered at the polls. 341 (88.8%), representing most respondents, have formal education, while 53 (11.2%) have no formal education. This indicates that most respondents are educated and should contribute to the study with minimal understanding of the subject matter. Most respondents, 296 (77%), are either students or unemployed, while 88 (22.8%) are either civil or public servants. 372 (96.9%) of the respondents are registered voters, while only 12 (3.1%) are not registered voters, which should have influenced voter turnout at the polls. 366 (95%) are electorates or party officials, while only 17 (4.3%) are INEC staff. This implies that the majority of the respondents voted in the polls. Of the respondents, 241 (62.8%) are married while 142 are singles.

Given the data above, their responses to the research questions are contained in Table 4 below:

Table 4

Respondents' Views on the effect of digital democracy on the 2023 gubernatorial elections in Taraba State

Questionnaire Items	SA	A	U	D	SD	Remark
BVAS and IReV were fully deployed at the polling unit	274 (71.4)	31 (8.1)	21 (5.5)	42 (10.9)	16 (4.2)	79.5 Accepted
The technology influenced the outcome of the polls	291 (76.8)	19 (4.9)	39 (10.2)	16 (4.2)	19 (4.9)	81.7 Accepted
There were operational issues with the technology	129 (33.6)	95 (24.7)	53 (13.1)	81 (21)	26 (6.8)	58.2 Accepted
Accreditation was easy and smooth	229 (59)	38 (9.9)	28 (7.3)	23 (6)	65 (17)	69.7 Accepted
Voting commenced and ended early because of BVAS	301 (78.6)	16 (4.2)	11 (2.9)	27 (7)	28 (7.3)	82.8 Accepted
There is increased participation	117 (29.8)	14 (3.6)	19 (5)	79 (20.6)	154 (40.2)	60.8 Disagreed
Election results were declared publicly and transmitted to IReV real time	207 (54.8)	61 (15.9)	17 (4.4)	34 (8.9)	62 (16.2)	70.7 Accepted
Technology guaranteed security of votes cast	218 (56.9)	98 (25.6)	29 (7.6)	27 (7)	11 (2.9)	82.6 Accepted
There was a faster vote count and real-time announcement of the result	295 (77)	29 (2.1)	11 (2.9)	18 (4.7)	22 (5.7)	79.8 Accepted
More accurate results after counting as human error are minimised	268 (70)	42 (11)	12 (3.1)	17 (4.4)	44 (11.5)	81 Accepted

INEC staff were conversant with BVAS	98 (25.6)	17 (4.4)	29 (7.6)	104 (27.2)	135 (35.2)	62.4 Disagreed
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Source: Fieldwork (2024).

The Table 4 clearly shows that most of the respondents agree that deploying technology for the election is the right step in ensuring transparent, free, fair and credible elections in Nigeria. Specifically, 79.5 % of the respondents agree that BVAS and IReV were fully deployed at the polling unit. On the other hand, 81.7% of the respondents affirmed that the technology influenced the outcome of the gubernatorial polls. 58.2% of the respondents also are of the agreement that there were no operational challenges with the operation of the BVAS device by INEC staff. 69.7 % of respondents agree that accreditation was easy and smooth even though they struggled to operate the device. Voting commenced and ended early because of BVAS, according to 82.8 % of respondents, and 60.8% of the respondents disagree that there is no increase in participation compared to the 2019 election. 70.7% of respondents accepted that election results were declared publicly and transmitted to IReV in real-time. Technology is said to guarantee the security of votes cast, according to 82.6% of respondents. 79/8% of respondents accepted that there was a faster vote count and real-time transmission of results to the IReV. On the announcement of results after polls were closed, 81% of respondents, on the other hand, accepted that there was no human error.

Hypotheses Testing

The Pearson correlation and the regression model were adopted to test the hypotheses. The correlation is used to study the relationship between variables and also helps to show its strength and direction (Table 5).

Table 5

The Rule of Thumb for Correlation Coefficient

Coefficient Range	Strength of Association
$\pm 0.91 - \pm 1.00$	Very strong
$\pm 0.71 - \pm 0.90$	High
$\pm 0.41 - \pm 0.70$	Moderate
$\pm 0.21 - \pm 0.40$	Small but definite relationship
$\pm 0.01 - \pm 0.20$	Slight, almost negligible

Source: Culled out from Weiliang et al. (2011).

H1: There is a significant relationship between D-Democracy and the credibility of the 2023 governorship election in Taraba state.

Table 6

Correlations Coefficient for D-democracy and Credibility of the 2023 Governorship Election in Taraba State

		Credibility	D-Demo
Pearson Correlation	Credibility	1.000	.609
	D-Demo	.609	1.000
Sig. (1-tailed)	Credibility	.	.000
	D-Demo	.000	.
N	Credibility	336	336
	D-Demo	336	336

In the correlation (Table 6) between D-democracy and credibility of the 2023 governorship election in Taraba state, the Pearson Correlation coefficient is used to measure the relationship between D-Democracy and credibility of the 2023 governorship election in Taraba state. Table 6 shows that D-Democracy has a 0.609 correlation with the credibility of the 2023 governorship election in Taraba state. Based on the Pearson Correlation, there is a moderately significant positive relationship between the two variables; D-Democracy and credibility of the 2023 governorship election (Pearson Correlation = 0.609, $n = 336$, $p = 0.000$).

Decision: The correlation ($r = 0.609$) between D-Democracy and the credibility of the 2023 governorship election in Taraba state is significant at 0.01. As such, we reject the null hypothesis (H_0) and accept the alternative hypothesis (H_1). Therefore, it can be safely concluded that a statistically moderate significant relationship exists between D-democracy and the credibility of the 2023 governorship election in Taraba state as organised by the Independent National Electoral Commission (INEC).

Table 7

Regression Model Summary^b for the Effect of D-Democracy on Credibility of the 2023 Governorship Election

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.609 ^a	.371	.369	.399	2.029

a. Predictors: (Constant), D-DEMO

b. Dependent Variable: ELECT

The model summary, presented in the Table 7, is similar to the correlation table concerning the R-value and the Pearson correlation coefficient. Meanwhile, the R-square value is the coefficient of determination, indicating a high predictive power of 37.1%, implying that Digital democracy has the ability to determine the credibility of the 2023 governorship election at the rate of 37.1%.

Table 8

ANOVA^a Outcome for Acceptance of D-Democracy

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	31.344	1	31.344	197.152	.000 ^b
Residual	53.101	334	.159		
Total	84.446	335			

a. Predictors: (Constant), D-DEMO

b. Dependent Variable: ELECT

The analysis (Table 8) of Variance (ANOVA) also shows statistical significance at the 5% confidence interval, with the p-value less than 0.05. The superscript b reports significant predictors of the E-governance and the constant. Therefore, the hypothesis that the predictors are not different from zero or insignificant is rejected at the 0.05 level of significance.

Table 9

Coefficients^a

Model	Unstandardised Coefficients		Standardised Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.827	.087		9.471	.000
D-Demo	.602	.043	.609	14.041	.000

a. Dependent Variable: ELECT

Table 9, labelled coefficients, checks the relevance of the independent variable (D-democracy) on the credibility of the 2023 governorship election in Taraba state. The B values represent the estimates of the model, while the Beta value is used to check the model's predictive power. From the above, the Beta value for D-democracy is high (i.e. 60.9%), indicating a very moderate impact on the credibility of the 2023 governorship election in Taraba state, with a p-value less than 0.05.

H2: There is a significant relationship between BVAS and the outcome of the 2023 governorship election in Taraba state.

Table 10

Correlations coefficient for BVAS and the outcome of the 2023 governorship election in Taraba state

		Outcome	BVAS
Pearson Correlation	Outcome	1.000	.346
	BVAS	.346	1.000
Sig. (1-tailed)	Outcome	.	.000
	BVAS	.000	.

N	Outcome	336	336
	BVAS	336	336

Interpretation: Table 10 shows that the correlation between BVAS and the outcome of the 2023 governorship election in Taraba state is small but definite, with the Pearson Correlation coefficient at 0.346.

The R-value: The R-value shows the correlation's direction and strength. The bigger The higher the value, the more significant it is. In this case, there is a Small but definite relationship correlation between BVAS and the outcome of the 2023 governorship election in Taraba state, with $r = 0.346$.

Decision: Based on Table 11, the strength of the correlation between BVAS and the outcome of the 2023 governorship election in Taraba state is small but definite because correlation (r) = 0.346. Therefore, we reject the alternative hypothesis (H1) and accept the null hypothesis (H0). This means there is a significant relationship between BVAS and the outcome of the 2023 governorship election, given that the device curtailed inflated figures, as witnessed in 2019.

Table 11

Regression Model Summary b for BVAS and the Outcome of the 2023 Governorship Election in Taraba State

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.346a	.119	.117	.487	2.211

a. Predictors: (Constant), BVAS

b. Dependent Variable: Election outcome

The coefficient of determination, R Square, is low, showing an 11.7% effect of BVAS on the outcome of the 2023 governorship election in Taraba State (Table 12).

Table 12

ANOVA^a for Acceptance of BVAS

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	10.725	1	10.725	45.312	.000b
Residual	79.055	334	.237		
Total	89.780	335			

Note. Table 12, which is the ANOVA Table, validates the correlation table. The model summary with a p-value less than 0.05 level of significance as reported.

a. Dependent Variable: Election outcome

b. Predictors: (Constant), BVAS

Table 13*Coefficients^a*

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.431	.110		13.018	.000
BVAS	.356	.053	.346	6.731	.000

a. Dependent Variable: Election outcome

Based on Table 13, labelled Coefficients, the relevance of the independent variable (BVAS) on the outcome of the 2023 governorship election in Taraba state is checked. The B values represent the estimates of the model while the Beta value is used to check the model's predictive power. From the above, the Beta value for the BVAS is a Small but definite relationship (i.e. 34.6%), indicating a Small but definite impact on the outcome of the 2023 governorship election in Taraba state, with a p-value less than 0.05.

Discussion

The study recognised that past governorship elections in Taraba state were poorly conducted, given the vast figures released, which have now been reduced drastically as a result of BVAS. Numerous scholars, including Chukwuma and Okpala (2018), Cheeseman et al. (2018), Amao and Ambali (2022), and Idowu (2022), amongst others, have collaborated on this view. The position of Arulogun (2023) and Okechukwu (2021; 2023) all reaffirmed the assertion that BVAS was fully deployed in the gubernatorial elections nationwide even as the only remedy to perennial haphazard elections in Nigeria is the recourse to technology. BIVAS technology is generally seen as a vaccine to vote rigging. This indicates a vast dichotomy between the 2019 elections and 2023 in that INEC's operation was more digitalised as more advanced technologies were deployed for the general elections.

As noted by Ayogu et al. (2019), the position of Dr Chukwuemeka Ezife, former Governor of Anambra state, on the credibility of Nigeria's elections stated that the 1999 elections were controversial but that they were much better than the 2003 elections. People screamed foul about the 2003 elections, but it was infinitely better than the 2007 non-election. The experiences of the 2011, 2015, and 2019 elections cannot be anything different from 2023. Given this badly painted scenario, one can rightly say that the 2023 election is no different, going by the negative opinions raised regarding the election and the petition that challenged the election.

Not employing the BVAS/IReV device is a significant electoral irregularity. Some respondents suggested that minor irregularities were recorded despite INEC's insistence that all eligible voters be accredited with the BVAS (Acheampong, 2023; Akeaya-inneh, 2023). Samson Itodo, Yiaga Africa's Executive Director, who closely monitored the elections, stated that all of the worries raised in the election manipulation risks index (EMRI) were realised during the polls (Itodo, 2022; 2023). These generally pertain to the incapacity of the umpire (INEC) to keep its pledges and curb political shenanigans.

Conclusions and Implications

In this research, we looked at the impact of digital democracy on elections, notably the 2023 governorship election in Taraba state. While the underlying concepts of elections have remained mainly unchanged, Information and Communication Technology (ICT) use in election management has increased dramatically during the previous two decades. The findings abound in implementing election technology with components like BVAS, IReV, EVR, IVED ABIS, eTRAC, and CSRVS. DDCM and AFIS have significantly decreased the occurrence of multiple registrations and fictitious figures to a minimal extent.

Furthermore, just like in other climes, the adoption of such technologies is often accompanied by several challenges, which include, but are not limited to, the inability to differentiate identical twins, the inability to authenticate the faces and fingerprints of some elderly people, old PVCs, and the effect of high temperature on the performance of devices, particularly in the northern states.

Recommendations

Based on the preceding findings and conclusions, the following recommendations are made:

1. Trust is essential to the adoption and use of emerging technologies in elections. Thus, INEC should prioritise building trust among Nigerians because trust is a necessity for the absorption and usage of emerging technologies.
2. INEC must improve its cyber security network to forestall future attacks on its system. The experience of technical glitches in the 2023 election will go down in history as an attempt to sabotage the electoral process because desperate politicians can exploit such avenues to gain power by all means possible.
3. To avoid human errors, INEC should make it a point of duty to hire or employ people of proven integrity as returning officers, and those handling the BVAS should be given all necessary and adequate training on the use and maintenance of the equipment.
4. INEC should subject the BVAS and IREV to stress tests before elections to avoid malfunctions due to workload or environmental factors.
5. Political participation is waning in the state, giving a low turnout; thus, the need to build confidence in the electoral process as a sure strategy to cope with voter apathy and lack of enthusiasm among the electorates.

Suggestions for Future Research

The research was delimited to Taraba state, which cannot be generalised nationwide because of the sample size. It is, however, expected that another research with a broader sample size should be carried out on the same subject matter to increase robustness, reliability and intensity of knowledge because election technology is an emerging field in developing countries, particularly Nigeria, which requires more in-depth research with a wider scope. The study focuses on the

situation in Taraba state, one of the states in the northeast. It might not be easy to generalise the findings on the entire northeast and Nigeria due to the peculiarity of each environment. Furthermore, the findings cannot be generalised to elections conducted by the state electoral commission because the same kind of technology was not adopted.

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Conflict of Interest

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