# Hybrid Voting Model for Tackling Voter's Apathy in 2023 Governorship Election In Kaduna State

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## Abstract

It is obvious that in 2023 election in Nigeria, only 24.9% of the electorate voted in the presidential poll. To make voting comfortable largely to improve the voters' turnout, this study proposed a robust model with a hybrid approach that comprise the conventional voting and electronic voting that could allow voters to use their cellphones, tabs and computers to cast their votes. The study underpinned by two theories: Democratic theory which assumed that electoral technologies have an impact on improving values such as transparency and citizen participation in governance and Technology Acceptance Theory that postulated by Ajzen and Fischbein which assumed that the positive intention of the technology users to adopt technology could largely improve their productive performance and the attitude of the users to accept the positive product of technology for the reduction of human errors. A multistage sampling technique was used for this study to select six local governments two each from three senatorial districts in Kaduna Sate. Interview were conducted with the cyber security experts and INEC officials in order to assess INEC cyber capacity in receiving, transmitting and storing the data receive from the voters via internet devices. The study found that Hybrid Voting Model could be instrumental in making voting more easily, voters' friendly and consequently tackling the growing challenge of voters' apathy in Nigeria. The study recommends that Nigerian government need to allocate sufficient fund to its ICT department to extent and improve the internet network and penetration to every section of Nigeria.

**Keywords:** Hybrid Voting System, Electoral System, Traditional Manual Voting, Blockchain e-voting, Cyber Security Experts.

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## Introduction

The integrity and credibility of any electoral process depend largely on the extent of providing enabling environment for a popular participation of qualified adult citizens in the process (Holland, 2019). Certain measures are always put in place as initiated and promoted by relevant electoral stakeholders to provide a fertile ground for voters to voice out their decision via voting of a particular political party or candidates of their choice (Idike, 2019). In spite, of the numerous attempts to improve the credibility of the electoral process in Nigeria, the process turns out to be more complex, tedious and boring for demanding prospective voters to undergo several electoral process before reaching a final stage to cast their vote (Conteh, 2023). More so, the scene of polling booths in Nigeria is in most cases bedeviled with violent, crowds and inimical that retard

some registered voters to go out and vote (Ballington, 2021). This among others could justify why significant number of qualified voters prefer to stay at home shunning away from their civic responsibility of voting (Birch, 2021).

But, then again, despite the upsurge of corruption in Nigeria, the deployment of especially information technology has continued to show great positive impacts. For instance, the introduction of Computer Based Test (CBT) by JAMB has played tremendous role in reducing the level of malpractices associated with its UTME examinations (Abubakar & Omotola, 2014). Also, pervasive digitalization of the financial sector that nowadays make banking transactions 24/7 open and 100% online is another thing that must be reckoned with (Alausa, Wasiu, & Akingbade, 2017). It's equally worth mentioning that payment of dividends as well as exchange of certificates between buyers and sellers in the stock markets are done online (Oladele & Oyerinde, 2011).

Gains associated to these, motivated INEC to introduce the smart card reader machines in 2015 general election and subsequently, BVAS in 2023 general election (Franklin, 2004). Indeed, these had go a long way in enhancing the level of credibility and fairness of elections in Nigeria (Joseph, 1997). This may arguable in one way or the other improve voters' confidence on the election process and encourage their participation in politics. Similarly, to make voters' registration easier, faster and user-friendly, INEC introduced online portal for the Continue Voter Registration (CVR). This empowered voter to use their phones, tabs and computers to provide their bio-data and some biometrics information; transfer their registration or apply for replacement of missing PVCs (African Programme, 2023). This experience can equally be applied in voting exercise.

To this extent therefore, this study proposed a robust model with a hybrid approach that comprise of the conventional (manual) voting and electronic voting. Thus, instead of relying solely on the traditional manual voting system, a certain level of blockchain e-voting will be employed to augment the existing system. Indeed, e-voting rooted in blockchain technology with solid cryptographic underpinnings have been widely regarded of having the system that is secure (Routledge, 2012), reduce voting fraud and streamline the voting process (Lakshmi, et, al., 2023), and above all boost voter's turnout (Gray & Caul, 2020). The integrity and validity of the encrypted voting based on blockchain ensure a Non-Interactive Partial Knowledge Range Proof (NIPKRP) based on the Pederson commitment protocol (Agrawal, 2023). Ikundi, (2023) also posited that applying blockchain to electronic voting has the potential to solve many of the problems and concerns that currently plague the electronic voting process in developing economies like Nigeria.

## Literature Review

The concept of electoral technology is wider and broader in scope and more encompassing than internet voting or e-voting which strictly expresses voting via electronic or internet device. To Narasimhaiah (2008) **"**electoral technology are electronic devices use in conducting and managing election, beginning from registration (re-registration) of voters; voting procedure; collation/sorting; transmission of results to the declaration of same". It can also be seen as application of computer and other electronic devices in the management of electoral politics with the sole intent of improvement in the fairness of election. To Franklin (2004) it can also be expressed as application of technology with the purpose of preventing some certain electoral irregularities. Electoral technology can also be defined as application of the ICT devices during

voters' registration, accreditation exercise, vote casting, counting and collation of result and the transmission of data to central collation center for announcement.

To this end thus, electoral technology is the application of computer, internet and other ICT facilities in the pre and post-election exercises largely to receive, store and transmit accurate electoral data devoid of any irregularities for the purpose of improving the conduct and the fairness of election in a country. It is pertinent that with the application of electronic devices for electoral reformation could easily assist in the compilation of all-inclusive electoral register that contain within it the relevant information of all qualified adult citizens. Likewise, with electronic devices possessed the capacity of detecting and checking multiple and under age voting and help in its prevention. More so, stuffing of ballot box with false votes could be checked and stopped via applying electronic devices. Equally, with application of electronic devices falsification of election result could be easily traced and checked.

The hybrid voting model connotes the improve version of traditional voting that required the use of ballot paper to vote. In this context it implies a model of voting in between the ballot paper voting and e-voting. Hybrid voting model can be seen as a system of voting in which some section of society could be allowed to go for traditional or manual voting using ballot paper to poll a vote while another significant number of voters that remain uncomfortable to vote via manual voting by visiting polling zone to vote will be allow to use electronic devices at their disposal to vote from the comfort zone of their home and working place.

Meanwhile, the improved version of hybrid voting model in which voters will be allowed to use electronic devices at their disposal is targeting voters low turn zones during the conduct of election in Nigeria as tertiary institutions that force to go on vocation in the period of election; conflict prone areas that deserted for any civic or productive activities; Nigerian nationals in diaspora that were unable to present themselves for voting in Nigeria; qualified adult citizens who are not interested to leave their productive activities for election and citizens who wanted to shun away from volatile activities in some of the polling zones. Adequate online arrangement should be made by INEC using cyber security experts for these categories of electorate using their cellphone, computers and tabs from the comfort of their home and working places to vote.

Routledge, (2012) electoral process is a multifaceted process that incorporates the decent purposes and required results of election administration, particularly in emerging democracies where elections are often marred by electoral malpractices. In Nigeria, the truth is that the electoral process is immensely characterized by a culture of electoral malpractices. To Nwolise (2007) process electoral relates to the entire cycle ranging from the provision of voter education to the dissolution of the National Assembly. It refers to all the pre- and post-election activities without which an election is meaningless. These include the registration of political parties, review of voters' register, delineation of constituencies, resolution of electoral disputes, return of elected representatives and swearing- in of elected representatives. Any conduct that threatens the electoral process is a subversion of the peoples' sovereignty.

**Theoretical Framework**

To explain the instrumentality of hybrid voting model in order to diminish to a large possible extent the voters' apathy and improve the credibility and the fairness of the poll Democratic Theory and Technology Acceptance Theory were employed. In the first place Democracy Theory, as proposed by (Davis, 2020) assumes that electoral technology has an impact on

improving values such as transparency, accountability and citizen participation in governance. The theory also fundamentally assumed using technology could have the capacity in reduction election electoral irregularities such as stuffing ballot box, multiple voting and proliferation of invalid votes. For this reason, thus, hybrid voting model will go in the same face with theory this is due to the fact that the model was introduce with the intent of improving citizens' participation in the electoral process.

Similarly, Technology Acceptance Theory as pointed out by Fishbein (1998) assumed essentially that how users accept and uses technology. The theory was first developed and popularized by Fred Davis in 1989. Others assumptions of the theory are: the degree to which a user believes that a technology will improve their performance and help them to address complex problems: the positive intention of the technology users to adopt technology largely to improve their productive performance and the attitude of the users to accept the positive product of technology for the reduction of human errors. Thus, the introduction of hybrid voting model and its acceptance is inline of the theory assumption of accepting technology to improve performance and reduce human errors in the conduct of election (Fishbein, 1998).

It is however important to mention that electoral technology in Nigeria has been employed in three out of four electoral cycles largely to improve the conduct and the quality of the entire electoral process in Nigeria. For instance, sophisticated electronic devices had been used to get comprehensive electronic voters register; permanent voters card; Bimodal Voter Accreditation System (BVAS) and IRev Website for electronic transmission of result images (Oyerinde, 2023). Thus, despite, the power given to the country electoral umpire in the recent electoral act to employ the service of electoral technology in any of the electoral cycle, but the only electoral cycle that remain untransformed is the actual voting exercise. Therefore, this study is an empirical attempt on how use to electoral technology on the actual voting exercise to improve not only the quality of election but rather the voting turnout.

**Methodology**

The divergent research design enabled researcher to collect, present and analyse both quantitative and qualitative data independently with the intent of arriving into valid scientific conclusion. A multistage sampling technique was used for this study. This technique involves sampling in successive stages such that at each stage, selection is made by using cluster/ area sample technique. Kaduna State being the case study area has the total population of the registered voters of Four Millions Three Hundred and Fifty-five Thousand One-hundred and Sixty-Eight (4, 355,168). Out of that population, only 1,580,181 turnouts to vote during the 2023 governorship election in the state, amounting to 36.28 % of the total number of the registered voters.

Meanwhile, about Two Million Seven Hundred and Seventy-four Thousand Nine Hundred and Eighty-seven (2,774,987) amounting to 63.71 % of the total voters refused to vote. Thus, the Two Million Seven Hundred and seventy-four Thousand Nine Hundred and Eighty-Seven (2,774,987) that refused to vote during the conduct of 2023 governorship election in Kaduna State constituted the population of the study. The sample size of this study is 400, which is considered to be a representative sampling of the voters who refused to vote during the conduct of 2023 general election in Kaduna State as it conforms to the Taro Yamane sampling criteria, which stated that the sampling size of 400 can adequately represent any population of more than one hundred thousand human population (100,000). The data collected were analysed using

Statistical Packages for Social Sciences research (SPSS). Descriptive statistics of frequency counts, percentages were used to analyze the respondent's bio-data, while mean and standard deviation was used to analyze the research questions. An improved confrontation index from the work of Onwunali *et al*, (2023) as cited by Kaduna, Yusuf, and Yusuf (2024) was used to determine the decision rule of whether to accept or reject the mean value. The index in given thus:

HVM CI = [$HVM_{SA}$ × 5] + [ $HVM_A$ × 4] + [ $HVM_U$ ×3] + [ $HVM_D$ ×2] + [ $HVM_{SD}$ ×1]

Where:

HVM CI = Hybrid Voting Model confrontational index
$HVM_{SA}$ = Strongly Agree
$HVM_A$ = Agree
$HVM_U$ = Undecided
$HVM_D$ = Disagree
$HVM_{SD}$ = Strongly Disagree

The bench mark will therefore be: $\frac{5+4+3+2+1}{5\ (points\ in\ likert\ scale)} = \frac{15}{5} = 3.0$

From the above value, the bench mark of 3.0 was used to determine acceptance of the mean value.

Key Informant Interview was also organized with the cyber security experts and INEC officials in order to assess their capacity in scrutinizing the propose blockchain technology to be used. The project would adopt the Mertens and Hesse-Biber (2012) method as a tool for cross-validation and the verification of facts from multiple sources. Retrieved questionnaires and interviews would be analyzed using partial least squares structural equation modeling (PLS-SEM) and INVIVO software.

## Data Presentation and Analysis

### Qualitative Data Presentation

Fifteen participants from INEC officials working in the ICT unit of the commission were interviewed to ascertain the INEC preparation for conducting election by allowing the voters to use electronic devices at their disposal. Also, another fifteen participants were also interviewed to also ascertain how cybercrimes and the intervention of third party or any sort of election irregularity could be possibly halted during the conduct of election.

### Interview with INEC officials

*INEC Preparation for Hybrid Voting Model:* INEC as independent commission has done a lot to ensure application of electoral technology to reduce to a barest minimum the human errors or rather deliberate irregularities in the conduct of election in Nigeria (Interview, 2024) the preparation for e-voting or rather hybrid voting model as you coined it goes gradual. It started with the introduction of electronic voters' registration in 2003 election, then with using electronic devices to capture biometric data of our prospective voters. We then introduced Smart Card Reader and Permanent Voters Card for the conduct of 2015 and 2019 general election in Nigeria.

The improved version of card reader was also introduced for the conduct of 2023 general election in Nigeria for voters' accreditation purpose. In the recent election we were able to

introduce the idea of transmission of result image from various polling units of the country to our website. This was done largely to improve transparency and fairness of election in Nigeria. Thus, INEC is equal to the task if enough fund is given to us for the conduct of e-voting or rather hybrid voting model (Interview, 2024). INEC could be prepared well if enough fund has been given to the commission for introducing the e-voting machine that accept data from the electorate, training and sufficient orientation to the voters on how to vote using their cellphone or personal PCs (Interview, 2024). It is all about the allocation of sufficient fund to the commission for training, campaign and purchasing the electronic devices but I believed INEC have all the capacity to make all necessary preparation for the conduct of e-voting or rather the hybrid voting (Interview, 2024).

*The Challenges of Hybrid Voting Model:* the most important Challenges for conducting hybrid voting model is lack of sufficient fund to execute the provision of the Hybrid Voting Model (Interview, 2024). We may lack the organizations or relevant experts from the area of cyber security to monitor the conduct of election by allowing voters to send their votes from the comfort of their zone via their personal phones (Interview, 2024). Some of the workers may compromise either to allow the intervention of the third party or letting election irregularities to occur. This may affect the entire integrity of the system (interview, 2024). Lack of facilities allows the network to work properly for the uses of voters to send their vote particularly from the rural area (Interview, 2024). INEC must carefully consider cyber security threats from 'insiders' – staff, candidates and volunteers with authorized access to systems, both within political parties and within organizations such as contractors (Interview, 2024).

**Interview with Cyber security Experts**

Fifteen cyber security experts were also interviewed on how third party intervention could possible prevented through using emerging or blockchain technology. The data from the interview also revealed to us how the cyber security experts could be employ to facilitate sending data from voters at various destinations to electoral umpire and also prevent any sort of election irregularities.

*Conditions Necessary for Hybrid Voting System*: Hybrid voting conditions as you coined it most have similar requirement with e-voting. Among of the necessary conditions that must be provided for hybrid voting to take place are preparation and operation: planning and logistics, training and education; electoral registration (Interview, 2024). Adequate funding and involvement of cyber security experts at different categories must also be provided (Interview, 2024). As electoral systems are valuable targets, they also require readiness for the use of costly technical attacks (Interview, 2024). INEC should plan carefully for the selection of cyber security experts and organizations that will be used during and in the immediate run-up to elections. When successful attacks occurred they should consider pausing non-critical software updates and patches in this period (Interview, 2024). INEC should work closely with existing efforts to secure government data against insiders, such as undertaking anti-fraud programmes run by both public and private actors. There should be use of restrictive access controls where possible and advice electoral stakeholders such as INEC and government officials to limit data access to only those who need it (Interview, 2024).

*Prevention of Third Party Interference for Election Irregularities*: It is pertinent that cyber security experts of high repute are needed to secure the entire exercise. Because some of the attack by third party could be very difficult to be detected and prevented as summarized below:

> While systems are particularly vulnerable to attack when they are connected to the internet, 'air-gapped' systems which are physically isolated from unsecured networks and are not immune to threats. They may still be accessed physically by authorized staff or in polling stations, by voters – or compromised by pre-installed software or update processes. Such attack forms are costlier, but are unlikely to deter a determined state actor (Interview, 2023).

Because the internet is a global network, attacks can come from anywhere, with their origins disguised. Even well-managed systems with regularly updated software and the careful use of security tools such as firewalls and anti-virus software can be vulnerable. Attackers are constantly finding new weaknesses in software and systems that allow them to gain unauthorized access, to read and even change data, or to block access to the systems by authorized users. Attackers also look for opportunities to find and even introduce weaknesses into components and systems supplied to electoral authorities. Therefore, strong cyber security system and experts must be work round the clock to deter all these kind of thread (Interview, 2024).

Individuals with reading and especially writing and administrative access to significant systems should be security vetted to an appropriate level. While nonpartisan security agencies may carry out vetting, for independence reasons, INEC should retain the ultimate decision as to staff appointments not partisan politicians. Many of these forms of attacks are indiscriminate, intending to disrupt or manipulate the outcome of an election, targeting areas such as voter registration, voting exercise or the release of results. Common current attacks of this type affect election agency websites. In carrying out these activities, foreign adversaries generally attempt to propagate doubt about the validity of an election result, rather than secretly change the result itself. Even targeting a single area of a constituency can sow doubt so as question the integrity of broader election processes (Interview, 2024)

*Data Security, Halting Irregularities and prevention of Multiple Voting*: The use of open source software, an Internet Protocol Security (IPSec), employment of a Virtual Private Network (VPN), a Secure Security Layer (SSL), a Transport Layer Security (TLS). and the introduction of firewalls, would go a very long way to guarantee the needed security for e-voting using hybrid voting model. All these put together are likely to be sufficient as a security measure (Interview, 2024). Furthermore, a third party security organization can be involved to enhance security of transmission of data (Interview, 2024). INEC should propose a smart card-based voter's card with biometric authentication for enhanced security and integrity. This prevents multiple registrations and voting (Interview, 2024).

The choice is based on the fact that its microchip would store significantly larger information; it can be password-protected to prevent unauthorized use; it can run RSA encryption as well as being programmed to generate a pair of public/private keys (Interview, 2024). To ensure data security After each election, the voter's card is blocked to prevent further use on the day of the election, nor can it be used through another medium to vote. Thus, over-voting is prevented for authorization and authentication (Interview, 2024). The proposed Hybrid Voting System, by virtue of its electronic nature, simplicity of design, and the user-friendly concept introduced, allows the electorate to have a final look at the various choices made before casting the votes. Thus, the problem of invalid vote is not existing (Interview, 2024). The problem of over-voting or rigging was traced to either the developers' proprietary software or multiple registrations by

voters. Thus stakeholders should scrutinize the software (open source) before use to tie-up all loose ends. Similarly, a smartcard-based voter's card with biometric authentication would reduce multiple registrations and voting. Also during any election, each voter can vote only once after which the voter's card is blocked (unusable for some period of time).

*Skills for Hybrid Voting*: Deploying applications to the mobile devices calls for simplicity, usability and user- friendliness, and the learning curve should not be too steep in order to encourage or attract more users (Interview, 2024). The success factors include: making adequate preparations and get the electorate familiarized with whatever electronic devices to be adopted before being put to use: employing the use of biometric-based voters ' card to solve the problem of over-voting: provision of multilingual ballot to cater for the teaming illiterate population. Similarly, the number of political parties is reduced to a manageable size (5) for simplicity, efficiency, effectiveness and for voters· satisfaction in line with the concept of usability. The adoption of the integrated system is likely to increase the level of participation in the polity because of the ease of voting and its tendency to eliminate electoral fraud (Interview, 2024).

**Quantitative Data Presentation**

**Table 4: Responses on Hybrid Voting Model for Tackling Voters Apathy in Nigeria Electoral Process**

| S/N | Statement | 5 | 4 | 3 | 2 | 1 | $\bar{X}$ | SD |
|---|---|---|---|---|---|---|---|---|
| 1 | Voting could be more easy if voters are allowed to use their personal phones and other devices to vote | 240 (60.0%) | 115 (28.7%) | 23 (5.8%) | 19 (4.8%) | 03 (0.8%) | 4.425 | 0.858 |
| 2 | Voters will be more comfortable if they are allowed to vote from the comfort of their homes and working places | 229 (57.3%) | 127 (31.8%) | 26 (6.5%) | 14 (3.5%) | 4 (1.0%) | 4.407 | 0.838 |
| 3 | Volatile nature of many voting points will make voting exercise more interesting if voters are made to vote without visiting polling zones | 143 (35.8%) | 182 (45.5%) | 43 (10.8%) | 24 (6.0%) | 8 (2.0%) | 4.070 | 0.939 |
| 4 | Many voters can't stay away from their productive activities but they will use their phones to vote from the comfort of their working places | 171 (42.8%) | 156 (39.0%) | 31 (7.8%) | 27 (6.8%) | 15 (3.8%) | 4.102 | 1.051 |
| 5 | Voting exercise will become more interesting if voters are allowed to vote from their devices without traveling to a distance place | 189 (47.3%) | 148 (37.0%) | 27 (6.8%) | 24 (6.0%) | 12 (3.0%) | 4.195 | 1.007 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6 | Voters may prefer buying data via their phone to vote than traveling and queuing in the polling zones to vote | 154 (38.5%) | 159 (39.8%) | 46 (11.5%) | 35 (8.8%) | 6 (1.5%) | 4.050 | 0.992 |
| 7 | Voting could be more participatory if voters are allowed using their personal phones than voting in the polling zone using ballot papers | 191 (47.8%) | 151 (37.8%) | 21 (5.3%) | 27 (6.8%) | 10 (2.5%) | 4.215 | 0.990 |
| 8 | The threat of voters apathy could be reduced to barest minimum by allowing voters to vote from the comfort of their homes and working place | 156 (39.0%) | 166 (41.5%) | 43 (10.8%) | 15 (3.8%) | 20 (5.0%) | 4.057 | 1.047 |
| 9 | Some voters will hardly visit polling zone for fear of been intimidated, killed or tortured | 185 (46.3%) | 162 (40.5%) | 14 (3.5%) | 26 (6.5%) | 13 (3.3%) | 4.200 | 1.006 |
| 10 | Volatile nature of many voting points will be could be reduced to barest minimum if voters are made to vote without visiting polling zones and thereby increasing voters turn-out | 164 (41.0%) | 176 (44.0%) | 30 (7.5%) | 22 (5.5%) | 8 (2.0%) | 4.165 | 0.927 |

*Strongly Agree = 5; Agree = 4; Undecided=3; Disagree = 2; Strongly Disagree = 1;* $\bar{X}$ *= Mean; SD = Standard deviation*; HVM CI: $\frac{5+4+3+2+1}{5\ (points\ in\ likert\ scale)} = \frac{15}{5} = 3$

The data analysis shows that majority of the respondents perceived that voting could be more easy if voters are allowed to use their personal phones and other devices to vote with the mean score of 4.425. The mean value of 4.407, proved that majority also agreed that voters will be more comfortable if they are allowed to vote from the comfort of their homes and working places. Having the mean score of 4.070, the majority of the respondents further agreed that volatile nature of many voting points will make voting exercise more interesting if voters are made to vote without visiting polling zones. The mean value of 4.102 again demonstrated that the respondents largely support the argument that many voters would prefer to stay in their productive activities and use their phones to vote from the comfort of their working places rather than going to the polling units.

Furthermore, the data set in the analysis also showed that majority of the respondent with the high mean value of 4.195 agreed that voting exercise will become more interesting if voters are allowed to vote from their devices without traveling to distance places. The result of 4.050 from the analysis again proved that voters may prefer buying data through their phone to vote than traveling and queuing in the polling zones to vote. Perception of respondents on whether voting could be more participatory if voters are allowed to use their personal phones than voting in the

polling zone using ballot papers also received high perception with mean value of 4.215 indicating that voters' usage of personal phones could make voting participatory. Majority of the respondents also agreed that the threat of voters' apathy could be reduced to barest minimum by allowing voters to vote from the comfort of their homes and working place, some voters will hardly visit polling zone for fear of been intimidated, killed or tortured, and volatile nature of many voting points could be reduced to barest minimum if voters are made to vote without visiting polling zones and thereby increasing voters turn-out with 4.057, 4.200, and 4.165 respectively.

**Discussion of Findings**

From the data presented and analyzed above on the subject studied, the following deductions or findings can be drawn:

i. The study found that voting could be easier if voters are allowed to use their personal phones and other devices to vote. This is due to the fact that 240 of the respondent out of 400 respondents amounting 60% of the total respondents strongly agreed that the entire voting exercise could be more easily if voters could be allowed to vote from the comfort zone of their home and working place. It is factual that discomfort and worry play significant role in making the voters to desert the polling unit as argued by the proponents of voters' fatigue theory.
ii. The study also found that Nigerian electorate supports the introduction of a hybrid approach to electioneering activities. This approach is considered imperative because allowing voters to use their phones and other devices can simplify the voting process by minimizing the physical and material stress associated with traditional voting methods. This is in line with Lakshmi et al. (2023), who argued that a hybrid approach streamlines the voting process.
iii. The study also found that using personal phones for voting could increase participation, reduce voter apathy, and reduce the chances of intimidation, torture, and even loss of lives. This is supported by Fidelis (2022), Marmilova (2023), and Sallal (2023), who found that blockchain-based voting boosts voter turnout. Gray and Caul (2020) stated that it enhances participation and offers an alternative that improves the integrity of the election process.
iv. The study also found that INEC was about to introduce electoral technology to allow our voters to vote anywhere in the country not only at the polling unit you register. This preparation was meant to allow voters voting in the polling zone others than the polling unit they registered. For this reason, INEC required a lot of funds from the federal government to adequately secure its cyber from the intervention of third party also for the prevention of multiple voting during election. Nnamani (2020) submits that enough of fund is needed for the gradual transmission to e-voting for procuring electoral machine, training orientation and cyber security.
v. The study also found that lack of internet facilities that may allow the network to penetrate properly for voters/electorates to vote or send their vote(s) particularly from the rural area may turn out to be major impediment of full implementation of Hybrid Voting Model in some selected areas. This finding corroborate with Donatus, Amaefule, Ikenna, & Ebere (2018) submission where they rightly argued that the major challenge of e-voting is inadequate internet facilities that could provide efficient network for sending and receiving data during the conduct of election. It is pertinent e-voting system required strong networking that could enable transmission of votes from the various polling units

or collation centers (depending on the type of e-voting adopted in the country) to the central collation centers.

vi. The study also found that, to ensure data security after each election, the voter's card should be blocked to prevent further use on the day of the election, nor can it be used through another medium to vote. Thus, over-voting is prevented for authorization and authentication. Okundia (2022) necessary and adequate measures need to be put in place to stop multiple voting and to provide data security before during and after the conduct of election.

vii. The study also found that the use of open source software, such as Internet Protocol Security (IPSec), employment of a Virtual Private Network (VPN), a Secure Security Layer (SSL), a Transport Layer Security (TLS) couple with a third party security firm would guarantee the needed security for e-voting. As rightly argued by Nnamani (2020) emerging technologies, security software couple with a third party could be sufficient enough prevent multiple voting, cybercrime and other related electoral fraud associated with e-voting system.

## Conclusion

In conclusion, since INEC and others necessary electoral stakeholders identified various means in which the conduct and the outcome of election could be improved using certain electoral devices, there is urgent need for employing emerging technology in Nigerian electoral process so as to tackle voters' apathy in Nigerian electoral system. It has been now scientifically established that Hybrid Voting Model turn out to be very strong and robust means of improving voters' participation in the Nigerian electoral process. Also, Hybrid Voting Model could yet again be a step to e-voting in Nigeria, since the approach is not recommended to use for everybody in Nigeria during the conduct of election. As noted in the study, Hybrid Voting Model is meant to use in some specific area and purpose largely to reduce voters' apathy in Nigeria, thus, it could be welcome development meant to address serious problem in the country electoral process.

## Recommendations

It is in the light of major findings of this study that the following recommendations are made.

i. Nigerian government need to allocate sufficient fund to its ICT department or ministry or using communication companies to extent and improve the internet network and penetration to every section of federation particularly rural areas. This is due to the necessity that sufficient networking is required for the application of electoral technology conducting e-voting or in preparation of adopting hybrid voting model for tackling the voters' apathy.

ii. The country electoral umpire that is Independent National Electoral Commission need to have strong ICT department or unit in order to stop the third party intervention or multiple voting when electronic devices are employed for the conduct of election

iii. There is need for intensive orientation to the entire citizenry to aware how to get the minimum requirements and knowledge on how to use phones, PCs and tab to vote during the conduct of election.

**iv.** Sufficient fund is recommended to allocate to the country electoral umpire for procuring of emerging technologies, also for orientation and cybersecurity if hybrid voting could be adopted in conflict turn areas, higher institution of learning, citizens in diaspora and others who don't want leave their productive activities for voting.

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