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## REMOTE MOBILE VOTING MODEL: A PANACEA TO SURGING ELECTORAL COST AND VOTER APATHY IN NIGERIA

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### Abstract

The persistent high cost of conducting elections, huge voter apathy and low participation +in electioneering periods, restriction of movement of electorates, and general lack of trust are increasingly eroding the tenets of true democracy in Nigeria. These factors have prompted this research. . The aim of the research is to provide a solution to the obvious problems of ever increasing electoral cost and improve voter participation in the Nigeria. Remote Mobile Voting Model (RMVM) was designed and tested, certified as a cure. It is a mobile voting framework that is fast, flexible, cost effective, secured and trusted. Secondary data sources were used extensively. In designing the RMVM, basic components like No Structured Query Language (NoSQL) database management; Global System for Mobile Communication (GSM) phone; Unstructured Supplementary Service Data (USSD) and Application Programing Interface (API). Other components include National Identity Verification Service; Block-chain technology and Socket.i.o. respectively. The careful systematic integration of the basic components has made it possible for eligible voters to vote in real time by dialing a dedicated USSD code. Findings from the study revealed some factors responsible for the constant surging of electoral cost and voter apathy in Nigeria. The RMVM if implemented could cut off up to 99% of electoral expenses and improved participation up to 99% respectively. The study recommends that the (RMVM) should be fully adopted and implemented by all electoral stakeholders as it was designed carefully to consider all peculiarities of a typical electoral process in Nigeria.

*Keywords: RMVM, Apathy, Election, Budget and Cost.*

### 1. Introduction

Election is simply a process in which voters select or choose their representatives and prefer the way and manner they are to be administered or governed in a given area at a time. Elections in most developing countries particularly Nigeria has been marred with such a big amount of irregularities like snatching of ballot boxes, duplication of votes, impersonation and different election offences. Voters in this a part of the globe

have lost interest with the electioneering methods that was obvious within the last election because the election witness low turnout of voters. Thanks to recent advancement in Information communication technology (ICT), electronic option is sourced as another to the normal option method that is paper based. In any electioneering process, voter authentication is important to the quality of the method as solely eligible voters will vote and this could



be drained a clear and economical manner. (Abayomi-Zannu et al 2019)

Michael Brogan (2012) defined electoral expenses as important as the electoral processes themselves. It is a pivot on which all democratic wheels turn upon and are remarkably subject to some internal audit at the Election Management Board (EMBs), and external audit by the national accounting management agency. Properly administered, efficient, and efficient electoral operations are critically vital to the credibility, legitimacy associated degree property of an election. round the world, electoral operations crop up in contexts that are plagued by a singular confluence of political, social, historical, and cultural factors.

The International Foundation for Electoral Systems (IFES) assists election management bodies to arrange and responsibly implement their distinctive operational tasks through all phases of the electoral method. This work includes, however isn't restricted to, elector registration, acquisition, logistics, day operations, investigating and results transmission, budgeting, enfranchisement, out of country choice and different special choice services (IFES, 2021). However, it is expedient to define some existing electoral concepts;

a. **Direct-Recording Electronic (DRE)**

**Balloting Model:** A direct-recording electronic (DRE) voting device records votes by means of a ballot show that is provided with mechanical or electro-optical elements that may be activated by the voter (typically buttons or a touch-screen); that processes information with laptop software; which records balloting knowledge and ballot pictures in memory elements. When the election is over, it produces a tabulation of the balloting knowledge hold on during a removable memory

part and as written copy. The system can also give a way for transmission individual ballots or vote totals to a central location for consolidating and news results from precincts at the central location. These systems use a city district count methodology that tabulates ballots at the place. They usually tabulate ballots as they cast and print the results when the polls are closed. (Kasarbada et al, 1990)

b. **Understanding Electoral Budgeting:**

A election budget is an estimation of revenue associated degree expenses over an election specific amount of your time and is sometimes compiled and re-evaluated on a periodic basis. Electoral budgets is created for workers, security agencies, political parties, electoral management Bodies (EMBs), supply and electoral materials, government, or different miscellaneous. African Election Database (2011). Investopedia (2021) expressed that a budget may be a political economy idea that shows the trade-off created once one smart is changed for one more. In terms of rock bottom line or the tip results of this trade-off a surplus budget means that profits are anticipated, a budget means that revenues are expected to equal expenses, and a deficit budget means that expenses can exceed revenues.

c. **Understanding Electoral Expenditure:**

Abdallah (2019) opined that electoral expenditure is a fund utilized by Election Management Bodies (EMBs) to realize new assets, improve existing ones, or scale back a liability in associated degree election amount. In different words, it's the employment of a resource within the operations of associated degree electoral business.



North South Wales NSW (Electoral Commission, 2019).

- d. **Voter Participation:** Voter participation is an event situation where eligible voters voluntarily go to the polls to cast their votes. This process helps influence public policy either directly or by affecting the selection of persons who make those policies. Though typically associated with voting in elections. (Africa Election Database, 2019)
- e. **Voter Apathy:** Guy Gugliotta (2004) described voter apathy is a situation of whereby in political participation often cited as lack of interest causing low turnout among eligible voters. This phenomenon occurs to some extent across all countries or entities where citizens are able to vote. Voter apathy has led to increased concerns regarding representative democracies because election results do not encompass the entire population who are eligible to vote.
- f. **Voter fatigue** describes a possible cause of voter apathy, which are elections that are held too frequently.
- g. **Remote Mobile Voting Model:** RMVM is an electronic voting model designed for eligible voters to remotely cast their votes with the aid of an electronic mobile device. The mobile device can either be a phone or tablet. Votes are cast by simply dialing a dedicated Unstructured Supplementary Service Data (USSD) code. By implication, votes are cast from a remote location (anywhere) without the traditional monitoring and the physical presence of the electoral officials. It is a combination of integrated system technologies poised at providing a secure and

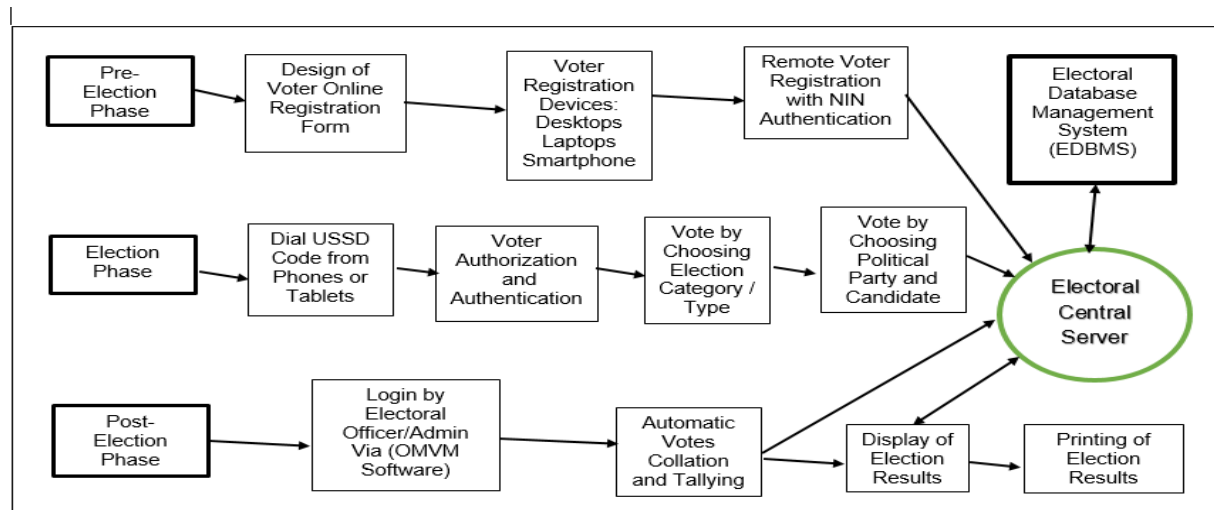
reliable voting process. The system design is excluding of internet voting. (Monday, 2021)

The main focus of this paper is to provide Remote Mobile Voting Model (RMVM) as a potential solution to the incessant electoral problems of surging electoral cost and growing voter apathy in Nigeria. Raghav *et al* (2012) in their work titled “*Designing a Secured Protocol for Mobile Voting through SMS*” did not explain how the proposed protocol could be used to reduce electoral cost and voter apathy during election. The work only emphasized on security and timely delivery of vote. Akshay *et al* (2016) did a work titled “*Secure Mobile E-Voting System*” which emphasized on the type of voting called *Polling Place Voting* where voters go to a designated polling station to cast their vote via a computerized machine. Cost of conducting election and elimination of voter apathy were never mentioned. Moreover, Osayin *et al* (2017) in their work titled “*A Framework for Securing Mobile Voting System Using Unstructured Supplementary Service System (USSD)*” they adopted the USSD architecture of voting where the problem of electoral cost and voter apathy were not mentioned. The objectives were to develop a systematic architecture for mobile voter registration and authentication; to create a robust electoral database structure which ensures free, credible, fair and acceptable elections and to integrate a user friendly technology that facilitate real time mobile voting in Nigeria which saves money and increase eligible voter participation. Considering the unreliability of the paper balloting type of election and the vulnerability of potential eligible voters to attacks and intimidation, it is therefore worth considering the appropriate frameworks and concepts of RMVM as an alternative voting system in Nigeria.

## 2. Methodology

The study involved the review and used of mainly secondary data sources for facts building and background information. However, a framework architecture was developed to help eliminate potential panacea to the surging election cost and as well increase participation during electioneering

activities. The framework architecture was designed to promote remote voting and to practically eliminate the physical appearance of electoral stakeholders such as eligible voters, security personnel, election staff and their ad-hoc at the designated polling booths on election day.



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Figure 1: Framework Architecture for Remote Mobile Voting Model (RMVM)

Source: ED Monday (2021)

Figure 1 show the Remote Mobile Voting Model (RMVM) is an electronic voting model designed for eligible voters to remotely cast their votes with the aid of an electronic mobile device. The mobile device can either be a phone or tablet. Votes are cast by simply dialing a dedicated Unstructured Supplementary Service Data (USSD) code. By implication, votes are cast from a remote location (anywhere) without the traditional monitoring and the physical presence of the electoral officials. It is a combination of integrated system technologies poised at providing a secure and reliable voting process. The system design is excluding of internet voting and it was leveraged on the existing electoral structures as obtainable in Nigeria.

## 3. The Findings

### 3.1 Surging Cost of Conducting Elections:

The Independent National Electoral Commission, INEC (2021) has attributed the high price of conducting elections to prevailing insecurity in most regions of the country and required peaceful existence amongst Nigerians. Similarly, Ayo Baje (2019) alarmed that the ever coiling prices of conducting free, fair, peaceful and credible elections in Nigeria, that might be acceptable to any or all the stakeholders, ought to be a supply of deep concern to well-meaning voters. Independent National Electoral Commission INEC, (2021), stated that it spent N112.9 billion for the exercise back in 2011, N108.8 billion in 2015, however the

Commission budgeted N242 billion as approved in the 2019 elections. (INEC, 2021)

The Election Network (2019) ascertained that the value of elections in the Federal Republic of Nigeria continues to rise exponentially, most that Nigeria's elections became the foremost expensive in the world with the value soaring from a touch on top of N1 billion in 1999 (Nigeria's initial democratic election year) to over N200 billion in 2019.

Farida, Adamu (2019) lamented that the electoral expenditure started at N1.5 billion in 1999 to N29 billion in 2002, N45.5 billion in 2006, N111 billion in 2010, and all the way down to N87.8 billion in 2014. In 2019, President Muhammadu Buhari bestowed a budget of N242 billion for the elections. Till date, the funds given to INEC for the elections stay unaccounted for, similar to those from the previous years.

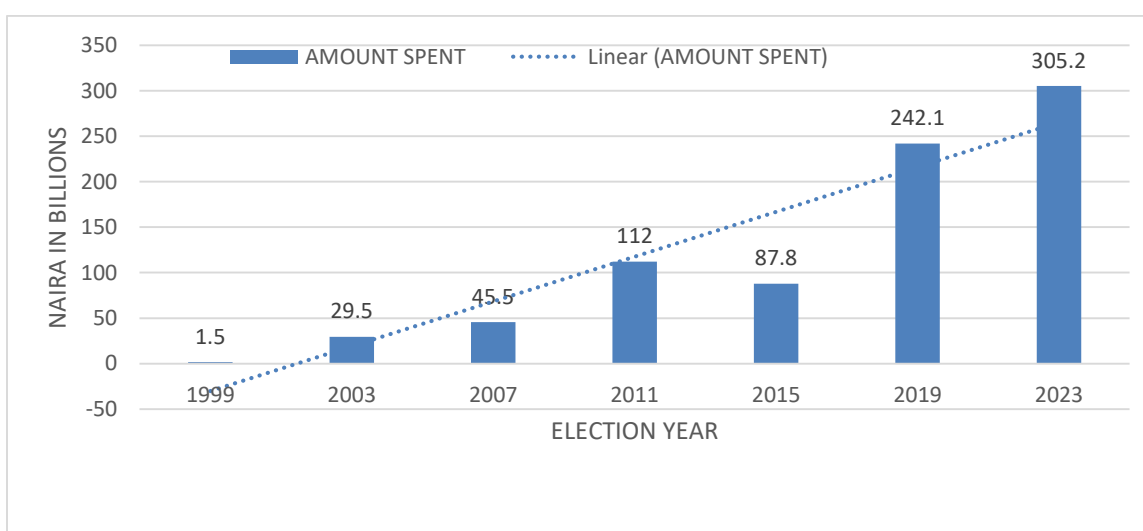


Figure 2: Expenditure of Electoral Budget in Nigeria Between 1999 to 2019 and Projected to 2023. Source: INEC (2021)

Figure 2 represent the overall electoral expenses incurred between 1999 to 2019 in Nigeria. However, the Independent National Electoral Commission (INEC) proposed a whopping sum of 305.2 billion naira for the execution of the 2023 general elections. The Election Network (2019) ran through the electoral budget between 1999 and 2019, INEC received N730.99 billion as fund allocations from the centralized, in step with official documents reviewed by Daily Trust News. Of the huge sum, N450 billion was captured as 'electoral expenditure,' whereas N191.8 billion was cited as 'personnel value,' N36.9 billion 'overhead cost' and N54.7 billion was logged beneath 'capital

expenditure comes. Faces International Magazine (2019) were of the opinion that INEC maintains over 800 offices and 16,000 regular staff nationwide, hire thousands of ad-hoc staff who are mainly corps members, and acquires sensitive materials abroad due to integrity deficit and trust issues in the country. In 2019 according to the Chief Press Secretary to INEC Chairman, Rotimi Oyekanmi, "Nigeria is a big country and the population is quite high. So many things are put in place for elections in Nigeria. We hire a lot of ad-hoc staff for elections. We have the security apparatus. We have the ballot boxes and papers, and other sensitive materials we acquire abroad due to integrity deficit and



*trust issues in the country. A lot of logistics go into elections in Nigeria”*

### **3.2 Factors Responsible for the Increasing Cost of Conducting Elections in Nigeria.**

A lots of immediate and remote factors are responsible for the increasing cost burden of conducting elections in Nigeria. Monday (2021) pointed out some of these factors which are as follows;

#### ***i. Inflation and Continues Naira***

***Devaluation:*** During the 1999 general elections in Nigeria, 1 US Dollars exchanged for 198 Naira. Fast-forward to 2019 1 US Dollar is exchanged for 520 Naira. Therefore, the election materials imported and supplied at that time (1999) has exponentially tripled in price. This has played a significant role in contributing to the general increasing cost of conducting elections in Nigeria

#### ***ii. Dependence on Production and Importation of Electoral Materials:***

Since 1999 election materials have been bought and imported in to Nigeria for the purpose of conducting election. It is on record that most sensitive materials like ballot papers, electronic card reader machine and even the materials for producing the permanent voters card (PVC) were imported at exorbitant cost. For example, Nigeria spend 42billion naira to print ballot papers during the 2019 general elections. This cost is far more than the annual budget of four states of Sokoto, Yobe, Kastina and Kebbi in Nigeria combined

#### ***iii. Incessant Insecurity:*** President Muhammadu Buhari had approved N242.45bn (equivalent to \$672.35m at official exchange rate) to the National Assembly for the 2019

general elections. The breakdown shows that the Office of the National Security Adviser (ONSA) was allocated N4.28bn, Nigerian Security and Civil Defence Corps (NSCDC) N3. 57bn, Nigeria Police Force N30.54bn, Nigeria Immigration Service (NIS) N2.63bn, and Directorate of State Security (DSS) N12.21bn. All these huge amount were budgeted and spent to secure 83 million registered voters. Arithmetically, over half of a million naira is spent to secure one voter from Kidnappers, bandits, unknown gunmen and political thugs in 2019. A total of N52.45bn (26. 49 %) went to security agencies that will police the voting process.

#### ***iv. Corruption and Lack of Accountability:***

Records have shown that corruption and lack of transparency has been the bane of electoral processes in Nigeria. There various allegation of misappropriation of funds, bribery of election officials, party agents, security operatives, political parties, and the incumbent influence of the ruling party to alter the outcome of election. Monies spent during general election in Nigeria are never accounted for.

#### ***v. Multiple Election Day Schedules:***

Election in Nigeria are conducted according to scheduled timetable. They are mostly conducted at weekly intervals in terms of general elections. There are also other states that do not participate in the general National election due to disparity and peculiarities These arrangements



stretched the financial and logistic aspects of conducting a credible election thereby increasing the general cost. For example, a fresh budget is expected from INEC for the conduct of statewide elections as in the case of Anambra, Ekiti and Osun states in Nigeria.

**vi. Election Disputes and Rerun, Runoff and By-elections:** Elections in Nigeria are constantly disputed and Politicians will always lay claims of victory and electoral malpractices. Some of these claims sometimes with legitimate proves and most times without any substantiated evidences. In cases where an election is clearly disputed and unresolved, rerun, runoff or by elections are scheduled to fulfil the constitutional mandate of the electoral law. Financial or monetary budget and expenditures are often made to execute these respective reruns, runoffs and by-elections thereby increasing to the huge expenses incurred in conducting elections in Nigeria. These additional expenses are incurred as a result of printing more ballot papers, deployment of securities, payment of ad-hoc staff etc. For example, there

### **3.3 Factors Responsible for Voter Apathy and Low Participation in the Electoral Processes in Nigeria**

Considering the precedence set in previous general elections with obvious electoral violence, massive rigging, open vote trading and lack of transparency, the present electoral system in Nigeria has created a lack of trust in the minds of citizens to predict winners even before votes are casted. According to Seun Akinyemi (2019) *“President Buhari won the presidential election in 2019 by 18% of Nigeria’s registered voters. Is democracy*

were cases of by-elections in at least one-third of states in Nigeria between 1999 and 2019.

**vii. Non Deployment of Full Electronic Voting Technology:** Nigeria has been conducting elections in the usual traditional way of manual paper balloting until the 2011 elections where electronic card reader (ECR) machine was introduced to validate and authenticate eligible voters. The deployment and use of the electronic system was partial as that was the end as voting are done manually and election results are not electronically transmitted instead manually submitted against all expectations. The non-deployment of full electronic voting has caused more harm than good in Nigeria as election processes and outcomes are manipulated, distorted and interfered with. These uncertainties often usually lead to cancellation of ballots and inconclusive declaration are made. As a result, elections are rescheduled and more increasing financial burden are certainly unavoidable. (Monday, 2021)

*in African country still regarding majority rule?”* Democracy In Africa, DIA (2019) lamented that the citizen apathy situation becomes direr especially when taken into account the numbers that voted for the highest two presidential candidates – Muhammadu Buhari and Atiku Abubakar. Of the 28.6 million that voted, President Muhammadu Buhari of APC, the declared winner got 15,191,847 votes to beat his nearest rival, Atiku Abubakar of PDP who polled 11,262,978 votes. In calculating the percentages of the registered voters, Buhari



and Atiku were voted by a paltry 18.5% and 13.7% of the entire registered voters respectively. Democracy in Africa, DIA (2019) highlighted that citizen apathy in Nigeria is due to many factors, however the subsequent are presumably the foremost important factors obstructive Nigerians from taking part in their country's electoral processes;

i. **Bad governance:** The approach politics and governance is being practiced in Nigeria discourages people from taking part in the electoral processes of governance in Nigeria which is characterized by deceit and unsuccessful guarantees

ii. **Religious Affiliations:** Faith and beliefs hinders a major portion of Nigerians from contributing positively to democratic governance. For instance; Jehovah's Witness faith are nonpolitical supported what they believe the bible teaches. They do not lobby, vote for political parties or candidates, run business office or participate in any action to change government. They believe Jesus Christ educated his disciples not to be a part of the happening of the world. so they see no reason to contribute to political solutions. On the opposite hand, the politicization of Shari'ah additional deepens women's domestication and limits their political donation. During 2019 election, Muslim feminine politicians were quickly reminded of their non-secular obligations by men who controlled the non-secular space. The implementation of Shari'ah served as a tool within the hands of some politicians to discourage women's participation as candidates for public

office and voters in the 2019 elections.

iii. **Political Violence:** The crime, chaotic and violent things that characterize some polling units and collation centers in Nigeria has created worry and distrust among Nigerians. This has led most citizens to neglect their civic duties and responsibilities. Throughout the 2019 elections, political thugs and troopers were allegedly concerned in the disruption of electoral processes at the polling units and collation centers. According to both local and foreign observers over 25 people were killed within the Presidential and National Assembly elections that was held on the 13<sup>th</sup> February 2019

iv. **Lack of Trust in the Election Management Body, INEC:** In most cases, it is not possible for politicians to rig election without INEC officers facilitating it directly or indirectly. This gave some voters the notion that even after they vote, their votes do not count. Winners and losers of elections are determined by some political bigwigs and INEC officers before the contest, Most Nigerians believe, voters solely move to the polls to waste their time. (Democracy In Africa, 2019)

v. **Delays and Tendency for Result Manipulations and Rigging:** Most times fraudulent electoral officers deliberately delay the delivery and announcement of election results thanks to tendencies and prospects to rigging and manipulation of electoral outcome. In this cases like this, most times voters are intimidated or pestered to depart the collation centers. (Democracy in Africa, 2019)

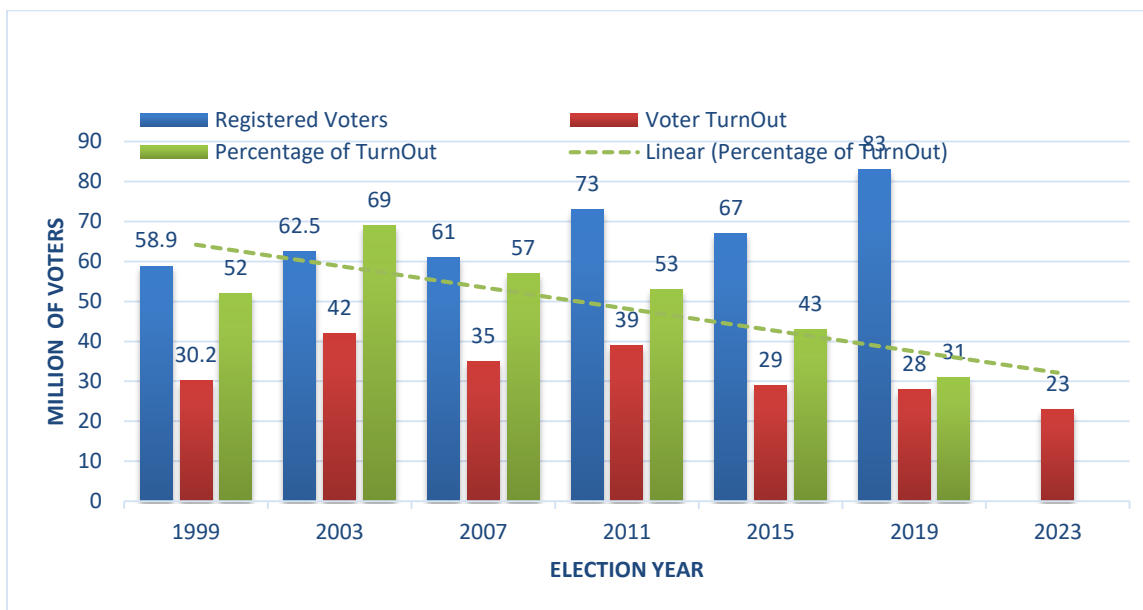


Figure 3: Voter Participation in Presidential Elections in Nigeria Between 1999 to 2019 and Projected in 2023. Source: Democracy in Africa DIA (2019) and INEC (2021)

Figure 3 present voter participation in presidential elections in Nigeria between 1999 to 2019. However, this study predicts a further drop in the voter participation in 2023

general elections as a result of the incessant insecurity situation in various geopolitical regions in Nigeria and also lack of confidence in the electoral processes.

Table 2: Contrast of Election Cost Around the World

S/N	Country	Election Year	Total Registered Voters	Amount Spent Conduction Election
1	India	2014	815 million	\$600m
2	Canada	2010	17.5 million	\$375m
3	United Kingdom	2010	45.6 million	113 million Pounds
4	Kenya	2012	14.3 million	\$427m
		2017	15.3 million	\$499m
5	Australia	2013	14.7 million	\$197.6m
6	Nigeria	2019	83 million	N242bn (\$672.4)
		2023	85 million	N305bn (\$750.8)

Source: Daily Trust, 2021.

Table 2 show the cost of conducting elections in some countries around the world.

Obviously, Nigeria is higher in terms of electoral spending than those of bigger

economies such as Canada, the United Kingdom, and Australia. The total budgetary allocations INEC received from the federal government from 1999 to 2019 was N730.99bn, according to its official

documents. Of this sum, N450bn was captured under ‘electoral expenditure,’ while N191.8bn was ‘personnel cost,’ N36.9bn ‘overhead cost,’ and N54.7bn was ‘capital expenditure projects.’ (Daily Trust, 2021).

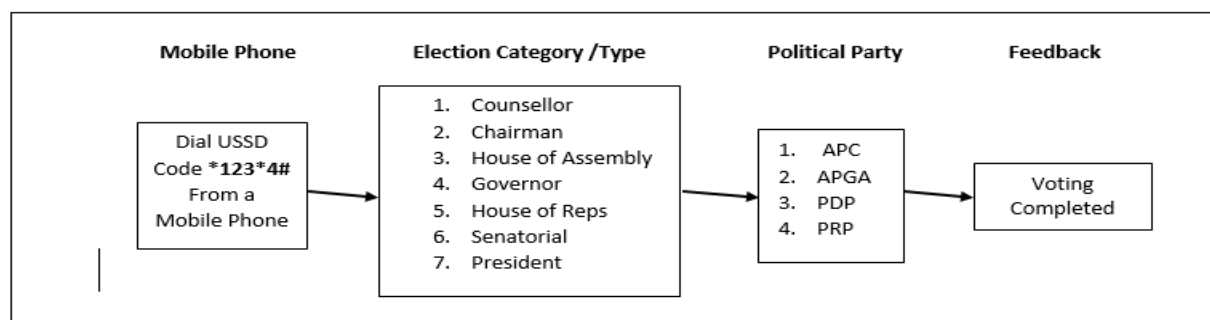


Figure 4: Remote Mobile Voting Process Using the Voter USSD Gateway.

Source: ED Monday (2021)

Figure 4 show the real time process and procedure of voting in a typical election day using the Unstructured Supplementary Service Data technology (USSD). The USSD session is initiated from the eligible voter's mobile phone which last for a maximum of 2 minutes. If the session becomes inactive for a while it terminates automatically. The voter's registration details on the registration platform are tied to a voter's phone number for votes' collation, tallying and result display. The prospective eligible voter dials a dedicated USSD code on a mobile phone (both smart and Non-smart) from a remote location. The SIM Application Toolkit (SAT) communicates with the Electoral Central Server (ECS) to authenticate and verify the voter. If the voter is authenticated and verified registered, an unstructured query

(UQ) is sent to the USSD gateway and then to the application's server.

The USSD gateway present an eligible voter with options to vote based on the available election category / type. After a choice is made on an election category / type, the list of elections that were started by the Election Officer / Admin. is displayed on the voter's mobile phone (both Smart and non-smart). The voter then selects any of the election options and vote for a political party of choice among the list of political parties contesting for the selected election. Once the voter selects the party he/she is voting for, information is saved to the electoral database to ensure that one voter does not vote more than once in a particular election.

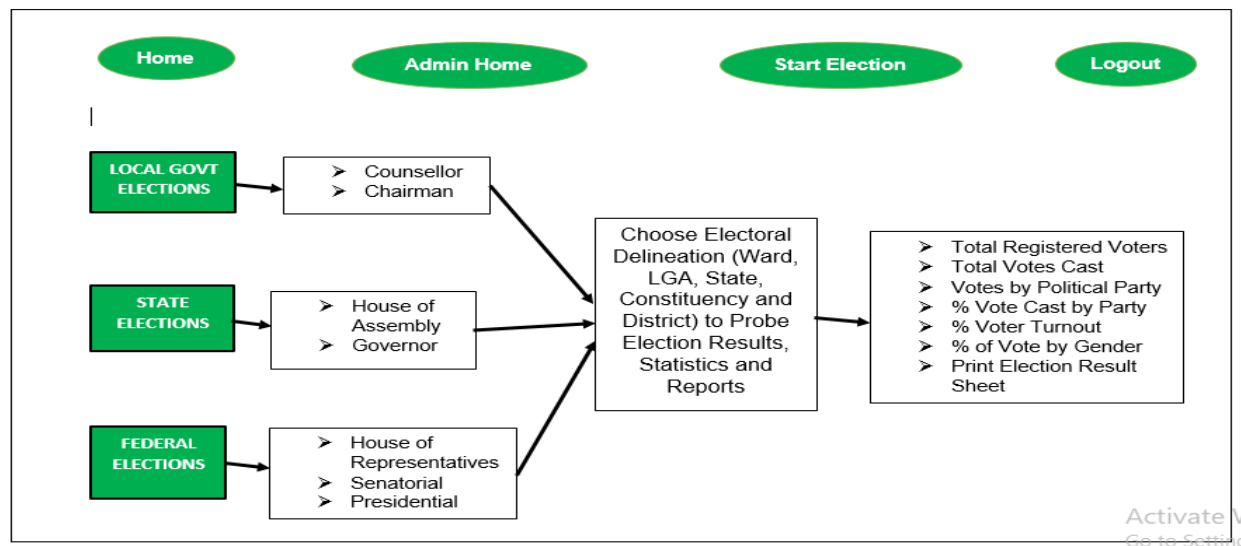


Figure 5: Operationalization of the Online Mobile Voting Monitor (OMVN)

Source: ED Monday (2021)

Figure 4 shows how election results are obtained and displayed instantly on an election day. Depending on the type /category of election that was started. If it is a Local Election, the EO/ Admin clicks on the “Local Election button” and the option for Counsellor and Chairman is displayed. Either of the displayed options is clicked and it direct the EO / Admin. to both Wards or

Local Government Area options. If the either option is clicked, electoral results, statistics and reports are displayed for assessment and appreciation. Afterwards, the result is printed. However, at every click the Electoral Central Server keeps a constant probe on the Electoral Database as shown in Figure 1. respectively. Same process and operation repeated for the other type of elections.

Table 4: Solving of Typical Electoral Problems of Surging Cost and Apathy with Remote Mobile Voting Model (RMVM) In Nigeria

S/N	Contending Electoral Issues in Nigeria	Traditional Paper Ballot Voting	Remote Mobile Voting Model (RMVM)
1	Possibility of faster votes count and tabulation	No	Yes
2	More accurate, fair and acceptable results	No	Yes
3	Increased convenience and Flexibility for voters	No	Yes
4	Increased voter participation and turnout	No	Yes
5	Electoral cost savings	No	Yes
6	Prevention of fraud in polling station and Unit	No	Yes
7	Possibility of greater accessibility	No	Yes



8	Tendency for election day voter intimidation	Yes	No
9	Likelihood of voter movement restriction	Yes	No
10	Diaspora Voting	No	Yes
11	Full elimination of under-aged voting	No	Yes
12	Full elimination of multiple voting	No	Yes

Source: Author's Analysis Based on Trend and Antecedents of Electoral Conducts in Nigeria (2022)

#### 4. Conclusion

The world has actually advanced in the ICT to a juncture where elections are conducted with ease, transparency and decency. Election in modern day democracy should not be an issue of constant and incessant contention, disagreement and crises which in most cases lead to loss of lives and properties as a result. The Remote Mobile Voting Model (RMVM) has provided a simple, cost effective and reliable method and style of conducting elections in Nigeria. It has provisions for all and sundry as diaspora and full rural voting is very possible.

#### 5. Recommendations

- i. The study recommends that the (RMVM) should be fully adopted by all electoral stakeholders as it was designed carefully to consider all peculiarities of a typical electoral process in Nigeria.
- ii. The study recommends that Election Management Bodies (EMBs) like

INEC should be involved in regular and periodic training of both main and ad-hoc staff in the trend of new technology to enhance security and credibility of the electoral processes.

- iii. The study recommends that the National and State Legislatures should design and adopt an electoral legal framework to accommodate remote mobile voting system in the bid to strengthen and institutionalized democracy in the country.
- iv. The study recommends that massive sensitization and awareness campaign of electorates by the Election Management Bodies (EMBs), political parties and Civil society organization on RMV to create trust and confidence back to the electoral system and processes in Nigeria.

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