Electronic Voting and Electoral System in Nigeria: An Assessment of the 2018 Local Government Elections in Kaduna State, Nigeria

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ARTICLE INFO			ABSTRACT

Electronic voting is often seen as a tool for making the electoral process more efficient and for increasing trust in its management. However, the challenges are considerable. If not carefully planned and designed, e-voting may undermine the confidence in the whole electoral process. To this effect, the study, beyond the hype on electronic voting identifies the factors that necessitated the adoption of electronic voting in Nigeria. It also examines the effectiveness of electronic voting and its true impact on electoral transparency and credibility in the Nigeria electoral system. Furthermore, the study assesses the strengths and weaknesses of electronic voting in the electoral process with reference to the 2018 local government election in Kaduna State, Nigeria. Anchored on determinism theory, the study adopts descriptive research design and uses primary and secondary data sources. The primary data was sourced through an in-depth interview while, secondary data was sourced through internet and archive materials. Findings reveal that e-voting is fast, accurate, stress-free, and easy to use; nevertheless, it is highly prone to technical manipulations and human-induced errors. The study recommends that e-voting system should be adopted in Nigeria in order to foster electoral outcomes that are free, fair and credible as, this will in turn culminate into increased political participation and foster democratic growth in Nigeria. The study concludes that, there was a relative significant and positive influence of e-voting on electoral credibility all through the conduct of the 2018 Local Government elections in Kaduna State as, the party in government did not win in all the local government areas as was the norm in the previous elections where manual paper ballot system was used.

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INTRODUCTION

An election is the formal group decision-making system through which a populace chooses a person or multiple persons to preserve public office and has been in operation since the 17th century. Inherent in each election is voting which is the most pivotal system in democratic elections because it is the channel through which government is determined (Diponkar and Ray, 2013). As such, election remains a core tenet of democracy which expostulates that the people, especially the electorates, possess the sovereignty to participate in governance through elected representatives. Furthermore, election is crucial to every democratic system as political participation, electoral transparency and credibility is quintessential to democratic consolidation (Ayeni and Esan, 2018). Thus, for elections to be deemed free and fair; credible and transparent, it presupposes that the voting process had gone unhampered. That is, those who were supposed to vote in the election actually voted and their votes were counted without prejudice. Although election isn't the most effective recipe for democracy, its smooth and easy running especially as regards peaceful regime transition guarantees further investiture of democracy (Lindberg, 2006).

Furthermore, it's far pertinent to factor out that one of the many problems related with democracy in Africa has played out substantially from the attitude of the electoral process; especially in the areas of voters' registration, vote casting, and vote counting (Teague, 2016). The inability of some African countries, Nigeria inclusive, to produce electoral outcomes that are credible and transparent has been a major issue. It suffices to say then that, elections in Africa appear to have simply served as an avenue for the exhibition of all kinds of malfeasant activities driven by lust for political power and economic gains by the so called "representatives". Political actors, particularly politicians, have been found severally involving in electoral irregularities during periods of elections by engaging in all sort of nefarious activities such as snatching of ballot boxes and the destruction of ballot paper, vote buying and manipulation of results (Amuzie, 2015).

Interestingly, using technology in elections including the deployment of e-voting, is a fast emerging global trend that has been embraced by at least 21% of the 123 countries surveyed by the Institute for Democracy and Electoral Assistance (2011), while feasibility studies are ongoing in 57% of the countries (European Centre for Electoral Support, 2021). The quest for better electoral practice particularly, in the aspect of voting has informed the adoption of enhanced Information Communication Technologies (ICT) into the electoral process (Ayeni and Esan, 2018). Across the world, electronic voting means have been employed to increase voter's participation, produce taintless electoral outcome, and further consolidate democratic practices. Nevertheless, this isn't to say that adopted electronic means are perfect, as evident in the alleged Russian involvement in the supposedly hacked US elections of 2016 (Punch 2018, July1). Meanwhile, on the general spectrum, the move towards adopting electronic technologies to governance process has been termed "e- democracy" and more specifically, "e-voting" (peculiar to voting). Succinctly, the notion of digital balloting isn't far-fetched as it entails the use of computer technology in undertaking such activities as voters' registration exercise, vote casting, and vote-counting (Alausa and Akingbade, 2017). According to Amuzie (2015), "electronic voting may be outlined as a scientific methodology of completing electoral processes using an electronic device, machine, internet and other electronic applications." At the fore-front of countries which have experimented with e-voting technologies and have adopted it for elections are the United States, Brazil, India, Estonia, Australia, France, Canada, UAE, Austria, Switzerland, Peru, and Kazakhstan. Meanwhile, countries such as Germany, the Netherlands and Ireland adopted e-voting in their elections initially but later discarded it and opted for the traditional ballot system

(Uzedhe and Okhaifoh. 2016). Justification provided by these countries for discontinuing the use of digital balloting stems largely from security concerns (World Fact Book, 2019). What this suggests is that electronic voting may not be far from manipulation, distortion and falsification due to hacking.

In 2018, the Independent National Electoral Commission in collaboration with Kaduna State government made history by employing the use of Electronic Voting Machines (EVMs) in conducting local government elections held on May 12, 2018. The State became the first in Nigeria and second in Africa to apply electronic voting after Namibia (Premium Times Editorials, 2018). However, the exercise was deemed successful and after the process, the justification given for using of electronic voting in the said elections boiled down to the need to promote transparency and electoral integrity in the Nigeria electoral system. Furthermore, several researches have revealed that election is considered to be a crucial component of modern representative government which is closely linked to the growth of a democratic political order. This hereby presupposes that, where elections are not credible, competitive, free, fair, and acceptable, democracy is malnourished (Diponkar and Ray, 2013; Uzedhe and Okhaifoh. 2016). To this effect, the study, beyond the hype on electronic voting intends to identify the factors that necessitated the adoption of electronic voting in Nigeria. It also examines the effectiveness of electronic voting and its true impact on electoral transparency and credibility in Nigeria electoral system. Finally, the study assesses the strengths and weaknesses of electronic voting in the electoral process with reference to the 2018 local government election in Kaduna State, Nigeria.

Theoretical Framework

The study is anchored on technological determinism, a paradigm evolved through Thorsten Veblen. Technological determinism is an idea that presumes that a society's technology drives the improvement of its social shape and cultural values (Bimber, 1994). In his advance discourse of the concept, Bimber posited that

> "Technological determinism need to keep the records determined by laws or by physical and biological conditions rather than by human will; this makes it deterministic... Technological determinism should be truly technological in meaning. That is, technology should play a necessary part in the way that preceding events or states of the world determine the future... Technology is the medium through which physical laws, some of which can be learnt through science, shape the course of human events (Bimber, 1994)".

Stemming from the statement above, technology is presented as an imperative constant for development. Briefly, technological determinism includes the interaction and interplay between technology and politics. It is of the view that technology widens the option for humans and allows them to do things they have been doing in a better way. Technological determinism seeks to expose technical developments, media or technology as a key mover in history and social change (Kunz, 2006). The first essential elaboration of technological determinism came from the German philosopher and economist Karl Marx, whose theoretical framework was based upon the concept that changes in technology and productive technology are the primary influence on the organization of social relations, and that social relations and cultural practices ultimately revolve around the technological and

economic base of a society. Hence, Marx's position has become embedded in contemporary society, where the concept that fast-changing technologies alter human lives is all-pervasive (Marx and Smith. 1994).

According to Feenberg (2002), technological determinism is anchored on two theses which are; (a). The model of technological development is fixed, moving along one and the same track in all societies (b). Social organization must adapt to technical progress at each stage of development according to 'imperative' requirements of technology. There are various perspectives on technological determinism and how it can be classified – the most common being hard determinism and soft determinism. Hard technological determinists impute the power to produce societal change to technology, and imply that technological development is inescapable and inevitable (Manx and Smith, 1994).

Marx & Smith, (1994) views "agency", as conceived by soft technological determinist, is deeply embedded in the larger social structure and culture - so deeply, indeed, as to divest technology of its presumed power as an independent agent initiating change." Technological determinism has been criticized on several grounds. One prominent theory that stands to challenge its precepts is the social constructivist theory developed by Trevor Pinch and Wiebe Bijker. Social constructivism argues that technology does not follow its own momentum or a rational goal-directed problem solving path but it is instead shaped by social factors (Bijker, 2001). According to Salazar and Holbrook (2008) the main ideas of social constructivist theory includes the following; (a). Technology is seen as a dimension of society rather than external force acting on it from a metaphysical beyond (b). Technology does not follow its own pace but instead is shaped by social factors(c). Technology is open to external forces, negotiation and change, while it is designed. Technological determinism has also been criticized for being irrelevant in explaining how technical change can occur. It only preoccupies itself with the consequences of technological innovation rather than its development. However, this study attempts to justify the instrumentality of electronic voting as a technological medium through which a social-political change in the Nigerian electoral process can be facilitated within the technological determinism paradigm.

Technology has reshaped the world and is increasingly motivated creative minds to explore different ways of improving social services. Considering the monumental impact of technology across several sectors of Nigeria's economy, residents are clamoring for the adoption of digital technology to further improve the nation's democratic governance with the aid of using e-voting platforms. Specifically, Nigerians are eagerly looking ahead to rapid innovation of the electoral management system for greater efficiency, transparency, and elimination of the electoral fraud inherent in the extant manual system. Thus, it is important to fully focus on the deployment of innovative technologies in the electoral process. Our ability to develop innovative applications to solve many other issues may be extended to improve our electoral system through the power of digital technologies. Certainly, innovative ideas to digitalise the electoral process in the country would continue to be appreciated by citizens as a guarantee that the winners in elections reflect the true choices of the electorate, and that their votes are counted as witnessed during the conduct of 2018 local government elections in Kaduna state.

Factors that Necessitated the Adoption of Electronic Voting in Nigeria

Basically, the paramount reason why electronic voting is adopted in elections is because it has the potential to facilitate higher political participation especially as it is deemed to be convenient for voting, coupled with its ability to enhance electoral credibility, transparency and integrity. Several scholars such as Kersting and Baldersheim (2004), Mendez and Trechsel (2005), clearly ascertained that electronic voting is an aspect of e-democracy that can help engender trust in the electoral process and broaden the scope of citizen participation. However, in interrogating the factors that necessitated the adoption of e-voting in Nigeria, several factors were earmarked. According to Hassan (the Commissioner for Logistics and Operations, KADSIECOM) the need to produce an election that is free from electoral irregularities, malpractices and manipulations which had led to the eruption of electoral violence in previous elections underscored the adoption of e-voting in Nigeria during the conduct of the 2018 local government elections in Kaduna state. Furthermore, he revealed that previous elections where the manual paper ballot system was used have been characterized by incidences of electoral bigotry manifesting in diverse forms and degrees. Thus the need to avoid these incidences from recurring and violence from erupting informed the adoption of e-voting; He affirmed that;

> "The main reasons for adopting electronic voting is that in the past, there are were so many manipulations and confusions regarding the manual voting. Manipulations in the sense that the officials and the ad hoc staff were usually influenced either financially or sometimes forcefully. We found that the ballot box could be taken to a house and then they would stock it with the ballot papers of the party they want to win. There were so many instances. Even during the 2015 election, so many people sent videos online where people were stocking the ballot boxes. There was a lot of violence and a lot of people were killed because of election results. You can imagine when people vote for party A, and majority of the people know that they voted for party A; at the end of the day, party B gets declared as the winner then, there would be violence. So when we came on board, the government said election in Nigeria are mired with suspicions, allegations and counter allegations which eventually leads to violence, how do we avoid all this? We then tried to think of ways to introduce technology into the system so that we can try minimizing this kind of problem".

Buttressing Hassan's perspective was the position of Yahaya (the Commission in charge of Planning, Research, Statistics and Training, KADSIECOM). Yahaya ascertained that the need to foster an election that was credible and transparent formed the bedrock of the decision taken by KADSIECOM to adopt e-voting in the local government elections. Suleiman further opined that the e-voting through its technical compositions and characteristics makes it efficient in combating issues of electoral malpractices in elections. By technical compositions, he was referring to the in-built biometric system embedded in the e-voting machines; its Voters Verified Audit Paper Trail (VVPAT) system which enables the votes cast on the machine to be recounted manually; the card authorization system which disallows multiple voting and alien voting; and transmission capacity to automatically send votes cast on the machine to the routine server immediately such votes are cast.

Opening up a fresh perspective to the narrative on what had spurred the adoption of e-voting in Nigeria during the conduct of the 2018 Local Government election in Kaduna state, Rebecca (the Executive Coordinator of the Legal Awareness for Women in Nigeria) a Civil

Society organization that monitored the election asserted that the adoption of e-voting by KADS1ECOM is a significant indication of the gradual embrace of the e-move (the embrace of technology) in electoral process in Nigeria. She averred thus "well it is for progress. We are living in this century of technology; everything is driven by technology so it makes things easier trying to move up to the times to progress." Reflective from the statement is the fact that, there is no denial of the synchrony that exists between politics and technology as established by the proponents of the technological determinism paradigm, the socio-constructivist theorist and the technological acceptance model. Rebecca continued by establishing the fact that e-voting had been adopted in the election because of the problematic nature of the manual paper ballot system experienced in the country. However, some of the highlighted problems of the manual ballot system pointed out by the respondent are not farfetched; as they have been highlighted in several literatures on the discourse. Notably, the point that the paper-ballot has proven ineffective in the conduct of viable elections in the nation is largely emphasized. Furthermore, other presumed factors for the adoption of e-voting by the respondent significantly dwells on the seeming benefits of e-voting which include; fast vote counting and computation process; ease of usage; and simple approaches to vote casting;

The above expressed opinions correspond with the view of Amuzie (2015) who had projected that e-voting affords itself as a feasible and viable solution to the Nigerian electoral process.

> "The Electronic Voting Machines (EVMs) is quite an easy system and offers appropriate work place potency because it is simple to grasp and operate. Given the voluminous technological inadequacies that surrounds Nigeria, this technique presents the most effective escape route...this technique will also facilitate to revive the boldness of individuals towards participation and democracy in Nigeria".

Rili substantially stressed the ease associated with the use of e-voting as the principal factor that led to its (e-voting) adoption in the election. According to him, as against previous elections, the adoption of e-voting was geared towards increasing voters' turnout in the election by KADSIECOM as many electorates have already lost interest in the electoral process because of the undue stress they pass through during voting periods. Hence, the utility of a new technology stirred up the electorate's eagerness to participate in the voting process of the 2018 local government election. Additionally, he said;

> "Our manual voting is very stressful. You need to come and get accredited, after which you go and cast your vote. It is a double process but you know with e-voting, you get accredited after which you could vote. In the first place you cannot be authenticated to vote unless you are eligible to vote that is; you have your Permanent Voters Card (PVC). It is the easiest process we can have. There is no point going for election and spending 8 or 7 hours. It's uncalled for at this 21st century. We are doing that and we are way backward as a nation. It literally takes you less than two minutes. So, people, especially new electorates, will get excited at this and go out to vote".

Speaking further, Ibrahim enjoined the Nigerian Electoral Management Body (EMB) and Independent National Electoral Commission (INEC) to adopt e-voting for the conduct of national elections and every other forms of election. He mentioned that,

> "Nigeria has a population of over one hundred and eightymillion however, much less than twenty million cast their votes during the conduct of election. This is due to the fact that, some people have seen the process as very difficult. Imagine fifty million people want to vote in Nigeria; we can't finish election in one day unless we would disenfranchise a lot of people. So, the earlier we sensitize people to come out and vote, the better is it for INEC to start giving consideration for e- voting because as much as we are spending a lot of money on publicity and orientation for people to come out and vote, we should equally look at the tendency that if all Nigerians decide to come out and vote, our one hundred and eighty million eligible voters, we cannot finish election in one day and any election you can't finish in one day can be suspected for malpractices. So, we need to work in that direction. So electronic voting is ideal and good, it may result in increased participation".

Speaking from a contrary perspective, Sonu asserted that the prospective turnout of voters in the election cannot be linked with e-voting. Thus, it couldn't have formed a rationale for the adoption of e-voting in any election. Rather, as emphasized, voter's turnout is largely determined by the overall performance of the incumbent government and also, the efforts of the political parties to mobilize people to come out and vote in the election. Heaffirmed thus that

> "The turnout of registered voters depends on the overall performance of the party. If you really convince your people to come out, they will and if you don't, they won't come out to vote during election. If the government doesn't perform well and except people are anxious to send the government out, this is the only way they can come out massively to vote... when political parties campaign vigorously and convince people to come out and vote, definitely people will come. Like what we did during the conduct of local government election in Kaduna state, we convinced our people to come out and test the machines, and they did even though their vote didn't count. So the turn out of the voter in election depends on the political party and not on e-voting".

The perspective of Sonu cannot be discarded as it lays claim to the major reason why voters' turnout during elections in Nigeria has been largely regressing. The failures of political office holders to deliver the dividend of democracy to the people largely accounts for why people no longer turn up to vote during elections. Another critical point raised by his position is the increased influence of political parties on voters' mobilization and voters' behaviour in Nigeria. International Press Service (2019) bolsters this position by asserting that political affiliation goes a long way in determining voters turn out and voters' behaviour in election; that is, why voters come out to vote is simply because they want their respective parties to win and not because a particular mode of operation (e-voting) can trigger their interest to vote all of a sudden.

Strengths and Weaknesses of Electronic Voting in the Electoral Process of the 2018 Local Government Election in Kaduna

The use of electronic voting machines in the 2018 local government election in Kaduna definitely had obtainable strengths and at the same time, loopholes that nearly defeated the motivation that sparked off the adoption of e-voting machines in the election. On the Electronic Voting Machine (EVMs), the voting process was less tedious - the vote casting and vote counting was done conveniently without stress. Additionally, EVMs sped up the vote casting and vote counting process compared to the paper ballot system. Specifically, Yahaya ascertained that EVMs were faster, more accurate and easy to use compared to the manual voting system. In the same vein, Rili emphasized that the tendency to have invalid votes which is common with the use of the ballot paper was wiped out. On the part of Hassan, he pointed out that the EVMs are equipped with VVPAT which makes it possible for the result computed by the machine to be revalidated manually. Also, John made it clear that the transmission of the result by the machine was done on a three-way encryption channel such that no hacker will find it easy to crack or manipulate. He further states that, the result produced by the machine could be cross checked in three ways; first,through the final slip produced by the machine after the election ended; two, the VVPAT technology which made it possible to be printed manually so as to be counted in case of unexpected circumstances; and lastly, the machines simultaneously transmitted the result of the vote cast to the server which was monitored as the election went on. Also, human error was reduced to the minimum, and there was reduction in the number of Poll officials employed thereby saving high cost expended on the payment of these ad hoc staff.

Rebecca opines that the e-voting will be cheaper to run in subsequent elections compared to the high cost of printing the manual ballot papers. Furthermore, she pointed out that, the machines were user-friendly and easy to operate. In trying to give a brief description of how simple it was to operate the machine, she stated that

> "After the machine had been authorized with the two authorization cards which were held by two different polling officials, the voter is only expected to select the logo of the political party of choice. After this selection had been made, a larger logo pops up giving the voter the ability to reconfirm that the party he/she intends to vote for has been selected; after this, the voter is expected to press a green button which then confirms that the vote had been cast. Immediately after the green button is pressed, the printer prints out the receipt of the vote which is drop into the ballot box underneath the EVM. In case the voter makes a mistake by choosing the wrong political party when voting, there is also a red button that he can press to cancel the vote and choose again".

Indicative from this is the fact that, the voters had the opportunity to cancel vote should a mistake occurs before it get finally confirmed. Meanwhile, it is pertinent to point out that most of the strength obtainable from the 2018 local government election are in tandemwith the strengths projected by IDEA; these include: faster vote count; accurate result, as the possibility for human error is avoided; efficient handling of the laborious vote counting process; prevention of electoral fraud as results are simultaneously transmitted; and potential or long term saving as ballot papers are no longer printed and less ad hoc staff are required.

The weaknesses that trolled the use of the e-voting machines in the 2018 local government are basically two problems; technical problems and human induced problems. Yero pointed out some of the technical problems as such; that the EVMs could not be used at some rural locations because of the absence of electricity to charge the EVM when the battery was low; and the limited supply of generator set. In addition, Sonu revealed that the machine could not detect if the electronic ballot paper had been properly inserted on it. Where these have been placed improperly, the machines would not print a corresponding receipt to validate votes cast. Furthermore, he pointed out that some of the machines did not respond when switched on and some malfunctioned while the election was on-going. Consequently, the voters were unduly delayed as it took a longer time for such problems to be rectified or change the EVM. The delay in fixing the machine was practically due to the long distant road network to these polling units. Going further, human induced weaknesses as put by Hassan were the external variables that nearly impeded on the credibility of the elections. These factors were deliberate acts perpetrated by humans to sabotage the electoral process. He pointed out that some desperate politicians compromised the election by abducting some of the Electoral Officers (EOs) together with their machines. These people were taken to an undesignated location to vote since the machine could not reject multiple votingbecause of authorization problem. Hassan lamented thus;

> "One of our commissioners was more or less adopted, they told him they were going to kill him if he doesn't play along. They hijacked some electoral officials together with the materials and tried writing what the machine did not record. So the credibility of the machine as far as the use of EVM is concerned is okay; it is the human factor that should be held responsible".

Yakubu buttressed this position by asserting that some EVMs were tampered with, stolen and even burnt by thugs. However, there was also report of sabotage by KADSIECOM's staff that allegedly conspired with politicians to make the election work out in the politicians favor. There were also report of replacement of trained ad hoc staff with persons who were not trained but were members of some political parties at some Polling units. John also concurred to the human induced factors by pointing out that some of the EVMs deployed for use in the election came back without their sim cards. He claimed that the problem of the machines' inability to authenticate voters was human induced as INEC declined to release the necessary materials that would have made voter's authentication possible. Thus, the issue of deliberate sabotage of the machine was the major challenge the electoral umpire faced during the election.

DISCUSSION OF FINDINGS

In identifying the factors that necessitated the adoption of e-voting in Nigeria especially, in the conduct of the 2018 local government elections of Kaduna State, findings revealed numerous factors had spurred the adoption of e-voting as against the manual paper ballot system in the elections. The need to produce an electoral outcome that was devoid of manipulations and any other election irregularities formed the focal rationale for the adoption of e-voting technology in the election. This can be adduced to the perceived failure of the manual ballot system to produce taintless electoral outcomes which had culminated into violence with its devastating aftermath on lives and valuable property in the state. In tandem with this findings are the submission of Egbas (2018) who affirmed that the use of e-voting served as a replacement for the paper ballot system which is highly prone to manipulation. However, as revealed by the study, e-voting is not perfect in itself; it is also

vulnerable to manipulations from experts who know how to tinker with it. Several cases across the world lay claim to this fact; the alleged Russian involvement in the US election of 2016 is a good example.

Significantly, in assessing the strengths and weaknesses of electronic voting in the electoral process with reference to the 2018 local government election in Kaduna State, Nigeria, finding revealed the following strengths of EVMs; (a) It was effective for faster vote count (b) It produced accurate results as the possibility for human error was limited (c) It enhanced convenience of the voters (d) It prevented electoral fraud as results are simultaneously transmitted (f) It was easy to use. In other words, it was user-friendly. (g) It demonstrated a potential for long term saving as ballot papers and less ad hoc staff are required. (h) It completely eliminated the possibility of invalid votes. This means that, all vote cast was counted by the machine. (i) It was equipped with VVPAT technology which allowed for the revalidation of votes counted by the EVMs.

On the other hand, the study revealed the following as weaknesses witnessed in the 2018 local government election of Kaduna State as follows; (a) The EVMs were not adequately protected as they were reports of abduction of the machines by desperate politicians. (c) Some of the EVMs developed technical issues which is common with most electronic devices. (d) The absence of electricity and generator set in some Polling Units (PUs) rendered some of the machines useless after their battery was drained.

RECOMMENDATIONS AND CONCLUSION

Apparently, the study recommends that e-voting system should be adopted in Nigeria in order to foster electoral outcomes that are free, fair and credible. This will in turn culminate into increased political participation and foster democratic growth in Nigeria. Additionally, all loopholes witnessed all through the 2018 local government elections in Kaduna state must be taken into consideration by relevant stakeholders, most importantly, INEC if the adoption of e-voting must be fructify into better electoral praxis in Nigeria.

Conclusively, the study ascertained that there is a relative significant and positive influence of e-voting on electoral credibility during the conduct of 2018 Local Government elections in Kaduna State. This is because, the ruling party did not win in all the local government areas as it used to be the norm in the previous local government elections where manual paper ballot system were used.

REFERENCES:

Alausa, D. W. & Akingbade, L. O. (2017). Electronic Voting: Challenges and Prospects in Nigeria's Democracy. *The International Journal of Engineering and Science (IJES),* 6(5), 67-76. Retrieved from https://wwwtheiies.com/papers/vol6-issue5-electronicvoting

Amuzie, C. C. (2015). Electronic Voting System and Its Role in Ensuring Credible Electoral Process (Nigeria as a Case Study). Proceedings of 17th ISERD International Conference, New York, USA, 15th November, ISBN: 978-93-85832-38

Ayeni, T. P. & Esan, A. O. (2018). The Impact of ICT in the Conduct of Elections in Nigeria. *American Journal zof Computer Science and Information Technology*, 6(14), 1-6 ISSN 2349-3917. Retrieved https://www.imednub.com/articlcs/the-impact-of-ict-in theconduct-of-elections-in-nigeia-php?aid=22

Bijker, W.E. (2001). Understanding Technological Culture through a Constructivist View of Science, Technology And Society. In C. Mitcham (Ed.), Visions of STS: Counterpoints in Science, Technology, and Society Studies (pp. 19-34). Albany: State University of New York Press.

Binber, B. (1994). Three faces of technological determinism. In M.R. Smith & L. Marx (Eds.), Does Technology Drives History? - The Dilemma of Technological Determinism (pp. 79-100). Cambridge (MA), London: MIT Press.

Diponkar, P. & Ray, S. K. (2013). A Preview On Microcontroller Based Electronic Voting machine. *International Journal of Information and Electronics Engineering* Vol. 3.No.2

Egbas, J. (2018). How Government Made Electronic Voting History. Pulse Politics. Retrieved from https://www.pulse.ng/news/politics/el-rufai-how-gov-made-electronic-votinghistory/e5thlep

Feenberg, A. (2002). Transforming Technology: A Critical Theory Revisited. Oxford; New York: Oxford University Press.

Institute for Democracy and Electoral Assistance (2011). Introducing Electronic Voting: Essential Considerations. Policy Paper, Bulls Graphics, Sweden. ISBN: 978-91-86565-21-3

International Press Service (2019). Electronic Voting Comes to Namibia. Global Information Network-Retrieved from http://www.ipsnews.net/2014/l2/electronic-voting-comes-to-namibia/

Kaduna State Independent Electoral Commission (2019). Report of the 2018 Local Government Council Elections in Kaduna State, Nigeria.

Kersting, N. & Baldersheim (2004). Electronic Voting and Democracy: A Comparative Analysis. Palgrave Macmillan Publishers.

Kunz. W.M. (2006). Culture Conglomerates: Consolidation in the Motion Picture and Television Industries. Rowman & Littlefield Publishers. Inc.p. 2. ISBN 0742540669.

Lindberg, S. (2006). Democracy and Elections in Africa. Johns Hopkins University Press, Baltimore USA.

Marx, L., & Smith, M. R. (1994). Introduction. In M. R. Smith & L. Marx (Eds.). Does Technology Drives History7 -The Dilemma of Technological Determinism (pp. ixxv). Cambridge (MA), London: MIT Press

Mendez, F. & Treschel, A. (2005). The European Union and E-Voting: Addressing the European Parliament's Internet Voting Challenge. Routledge Taylor and Francis group, New York and London

Premium Times Editorials (2018). Explainer: understanding Kaduna electronic voting system as state makes history. (2018, May 11). Retrieved from https://www.premiumtimesng.com/features-and-interviews/268084-explainerunderstanding-kaduna-electronic-voting-svstem-as-state-makes-history.html

Punch (2018, July1). INEC and E-voting Option. Punch editorials. Retrieved from https://www.punchng.com/inec-and-e-voting-option

Salazar, M. and Holbrook, A. (2008). Some Notes on Theories of Technolog), Society and Innovation Systems for S&T Policy Studies. CPROST Report 2008.

Teague, V. (2016). Electronic Voting. Proceedings from the First International Joint conference, bregenz, Austria. Springer. Retrieved from https://link.springer.eom/content/pdf/l0.1007%2F978-3-319-52240-1.pdf

Uzedhe, G O. & Okhaifoh, J. E. (2016). A Technological Framework for Transparent E-Voting Solution in the Nigerian Electoral System. *Nigerian Journal of Technology* (NIJOTECH) Vol. 35, No. 3, July 2016, pp. 627 – 636

World Fact Book (2019). Nigeria. Central Intelligence Agency. Retrieved from https://www.cia.gov/librarv/publications/the-world-factbook/geos/ni.html