Challenges and Prospects of Technology Deployment for Elections in Nigeria under the Fourth Republic

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Abstract

This paper explored the challenges and prospects of technology deployment for elections in Nigeria, using qualitative research design and the theory of social construction of technology as its theoretical foundation. The paper relied on semi-structured interviews with 12 purposively selected experts in technology deployment in the electoral process. Findings show that a number of challenges such as environmental factors, inadequate training for handlers of technologies during elections, the high cost of deploying technologies, corruption, and the vulnerability of technologies, etc. continue to beset the deployment of technologies for elections in Nigeria. The paper also found that technology has very good prospects to improve the electoral process in Nigeria; and that there is the need for the gradual introduction of more technologies in future elections in Nigeria. The paper made some recommendations for the need for INEC to deploy a monitoring mechanism for the technologies it deploys for elections; the gradual introduction of more technologies in the electoral process; and the need for political leaders, politicians and the INEC to develop the commitment and political will towards effective deployment of technologies for better elections in Nigeria.

Keywords: Technology Deployment, Election

Introduction

The deployment of technology for elections has been a source of debate the world over, that is, whether the negatives outweigh the positives, or vice versa. Nevertheless, technologies are being deployed by election administrators across the globe today, with the intension to improve the electoral process. There is no doubt that technologies have the prospects to make the electoral process easier and more seamless, and some of the areas where technology may be deployed include the aspects of results collation, ballot counting, voter registration, etc. (Omoleke, 2017). While technologies are deployed to improve the electoral process, Omoleke (2017) avers that there is still the need to carry all stakeholders along in the process, even as politicians and other individuals may also make attempts to frustrate efforts and try to manipulate and compromise these technologies.

In view of the fact that election is the life blood of democracy (Idowu, 2017), it becomes important to constantly seek ways to improve the process. More important, is the fact that elections in Africa are often plagued with series of irregularities (Arnold, 2014). Also, the need to promote electoral credibility has resulted in the introduction and deployment of of technologies in many African countries, Nigeria inclusive. The important place of technologies in election administration is supported by Mumford (1967: 7) when he made the assertion that "I wish…to persuade those who are concerned with maintaining democratic institutions to see that their constructive efforts must include technology itself." As such, many African states including Nigeria, Cote d'Ivoire, Zambia, Ghana and Kenya, among others have resorted to deploy one form of technology or the other for elections (Idowu, 2021).

Areas such as improvement of biometric voter register, automatic vote recording and counting, management of database and verification of voter eligibility etc. are

prominent aspects where technologies are being deployed in the electoral process in Africa (Maendeleo Policy Forum, 2016: 1). Although technology has been touted to hold the capacity to improve the electoral process, there is still some scepticism as to the inherent challenges besetting technologies, which pose a threat to the electoral process (Idowu, 2021; Cheeseman, Lynch & Willis, 2018). This is because, as argued by Cheeseman et al. (2018), and rightly so, technology is not able to resolve all electoral issues.

Given the foregoing background, this paper explores both the challenges and the prospects of technology deployment for elections in Nigeria. This is with the view to provide a clear understanding of the peculiar and general challenges, and proffer practicable recommendations towards overcoming those challenges. By so doing, the prospects of attaining more credible elections with the deployment of technologies in the future, becomes higher.

Theoretical Framework

The paper adopts the theory of social construction of technology propounded in 1987 by Pinch and Bijker. In contrast to the cybernetics model of communications and the technological determinism theories, the theory of social construction of technology posits that technology is not a quick fix to attaining electoral credibility. The theory thus, "Criticises the over reliance" on technology for solving problems associated with elections (Mathe, 2020: 130). Mathe (2020) argues that technology on its own cannot address electoral ills if there is lack of political will to improve the electoral process on the part of those who manage elections, or who make the electoral laws and participate in the process. This implies that in the midst of lack of political will, no amount of technology can solve problems inherent in elections, and produce credible elections.

Given this therefore, Dahl (1989: 339) argues that "the evolving technology is bound to be used somehow, for good or ill. It can be used to damage democratic values and the democratic process or promote them." Rather than see the need to improve electoral process whenever technology is introduced, there is also the possibility to use technology to aid manipulative agenda. This theory therefore, does not perceive technology as 'always to the rescue' of electoral credibility. According to Castells (2004), political institution and democratic processes cannot experience the desired change via reliance on technology alone. This implies that no matter the level of technology deployed for elections, human factors cannot be completely eradicated (Joerges, 1999).

The arguments of the social construction of technology also follows the position that technology is not able to resolve all the challenges associated with poorly conducted elections (Cheeseman, et al. 2018; Gelb and Diofasi, 2019; Idowu, 2021; Idowu and Mimiko, 2020; Nwangwu, et al. 2018). This is as other challenges, mostly man-made are outside of the confines and reach of technology. Humans can therefore introduce and deploy technology to certain aspects of the electoral process, while distracting attention from other aspects that are not technology driven, or that is out of the reach of technology, to manipulate the process. Although this theory falls short by not considering any positive aspects of deploying technology for election administration, it nonetheless, warned of over reliance on technology in the pursuit of electoral credibility. This theory is therefore relevant for understanding the challenges and prospects of deploying technology for elections.

Research Methodology

To explore the challenges and prospects of technology deployment for elections in Nigeria, the paper adopted a qualitative research design. This involved the systematic collection, presentation, and analysis of primary data sourced from semi-structured interviews, including qualitative data from sources such as observations, texts, sounds, documentary evidence, and interviews. Key informant interviewees (KIIs) were purposively selected based on their experiences and expertise on the

subject matter. The KIIs included officials from the election management body, democratic institutions, political parties, civil society organizations involved in the electoral process, and academicians specializing in electoral studies in Nigeria. A total of twelve (12) KIIs were selected, from electoral stakeholders such as INEC, IFES, TEI, YIAGA Africa, and political parties. The data analysis adopted a thematic analytical approach, involving the transcription of recorded interviews and subsequent categorization into thematic groups. The paper prioritizes comprehensive exploration of the topic by integrating insights from both primary and secondary sources. The Table 1 below presents the sample size.

Table 1: KII Distribution and Sample Size

S/N	Respondents' Location/ Affiliation	**Number of Selected Respondents**
1.	The Independent National Electoral Commission (INEC), Nigeria	2 KIIs
2.	The Electoral Institute (TEI) of Nigeria, Nigeria	2 KIIs
3.	YIAGA Africa	1 KII
4.	International Fo undation for Electoral Studies (IFES)	2 KIIs
5.	Election Monitoring and Support Centre (EMSC)	1 KII
6.	Academicians of Electoral Studies in Nigeria	2 KIIs
7.	Officials of Political Parties	2 KIIs
		Total KIIs = 12

Source: The Researcher (Interviews were conducted from October 2, 2023 to November 26, 2023)

Data Presentation and Analysis

Challenges of Technology Deployment for Elections in Nigeria, 2003-2021

All the interviewees for this study alluded to the fact that there are still inherent challenges with the deployment of technology in the electoral process in Nigeria (Interviewees #1-12). According to Interviewee #1, a number of environmental factors pose a challenge to technology deployment for elections in Nigeria. These environmental factors include weather conditions and humidity which affect effective operation of some the technologies (Interviewee #3), the topography and arid terrains make the transportation of the technologies difficult, and due to the nature of the environment, most of the voters' fingerprints are no longer visible to collect their fingerprint (Interviewee #1). Because many of these technologies are foreign and are made in regions that are cool, temperate regions or climate regions like Nigeria affect technology too in the desert areas, some of these technologies may not work (Interviewee #6).

Another challenge identified is that of insecurity. One of the Interviewees argues that "the issue of insecurity, where critical infrastructure of electoral commission is being burned down by arsonist, where their equipment are being carted away by insurgents, bandits or the separatist movement organisation, so, it has also affected their efficiency in terms of election" (Interviewee #1). This challenge was obvious during the 2023 general elections when large number of the BVAS machines were carted away by hoodlums (Interviewee #7). The vulnerability of technologies to manipulations and compromise is another challenge identified by some of the interviewees (Interviewees #1, 5, 6 & 10). This is evident as people try

to take advantage of this vulnerability and attempt to hack the technology driven system, and compromise the electoral process (Interviewee #1). The vulnerability of technologies is often exploited by desperate politicians to manipulate the electoral process in their favour (Interviewees #5, 6 & 10). On the issue of manipulating vulnerability of technology, the abuse of the incident form which the Electoral Commission designed to tackle the challenge posed by inability of SCR to capture finger print during voter registration in 2010 is a case in point.

Interviewees also identified the infrastructural challenge of deployment of technology for elections in Nigeria, as the requisite infrastructure such as adequate network coverage, technical know-how, internet coverage, and electricity, etc. (Interviewees #4, 5, 6, 7, 8, 9, & 10). Interviewee #4 submits that "We are still very backward in terms of hardware. You know, this is a major challenge in the use of technology…A major challenge in the use of technology is electricity, networks, internet are very serious challenge in the use of technology. There are still many areas where there are still no satisfactory internet connectivity." Also, Interviewee #9 posits that the infrastructure gap in the country means limited access to internet, mobile coverage, telecommunication coverage, ICT-digital knowledge. Relating network and internet coverage challenge specifically to its impact on electronic transmission of results proposed by INEC during the 2023 general election, Interviewee #5 avers that "But there are some places that we don't have network, and there is nothing we can do about it. So, even if the law says we should upload results, if there is no network there, there is nothing INEC can do, we have challenges with network too."

The challenge of non-compliance with the use of deployed technologies during elections is also identified by Interviewee #2. Also, Interviewee #3 is of the opinion that a major challenge besetting technology deployment for elections in Nigeria, is the rushed manner in which they are introduced without prior test running in smaller elections. Buttressing on the IREV as an example, the Interviewee argued:

> It is how you introduce technology. I will give you an example. The IREV in which was introduced in smaller elections. The IREV, I think is a good intention from the commission, very good, but the introduction came to national election late and not tested nationally. So, when you have that, it could be a valuable thing, so this thing can come back on you, especially the way you sell it. If I bring something that is working in another country, I have to be careful the way I sell it to you because that thing need to be adapted in my environment, that is when I know, if it is working. So, introducing these technologies in the right way is very good (Interviewee #3).

Interviewees also identified the challenge of trust (trust deficit) among the Nigerian electorates and the various electoral institutions, including the INEC, in which many lack trust in the electoral process (Interviewees #3, 4, 5, 11, & 12). Interviewee #4 posits "We distrust the electoral process, we distrust the people in the Electoral Commission to do transparent things without corruption, partiality, and because we do not also trust our politicians and our politicians do not trust each other, so that is why, we rarely think of any good reasons for technology or electronic voting." The endemic corruption in the Nigerian state was also identified as a major challenge to the effective deployment of technology for elections in Nigeria (Interviewees #3, 5, 6, 7, 8, 9, & 12). Interviewee #5 describes this challenge as "corruption from outside, corruption from inside – getting your staff dedicated not to get compromised is also a major factor. So people now find means to ensure that the technology does not work, or that it does not work in certain areas, while it works in

others, just to make sure that the system gets compromised." In politicians' desperation to win elections at all cost, they can bribe anybody to compromise the system. Corruption also plays out in the procurement procedures of these technologies (Interviewees #6, 7, & 11). Corruption also plays out in a bid to recruit honest, transparent and sincere people who believe in service to their country, including some officials of INEC who work assiduously to compromise the technologies from within, for a token (Interviewees #8, & 9).

The low level of literacy in the country, in which a large number of the populace are illiterate, and therefore, do not understand how these technologies operate, is another challenge identified by interviewee #5. Interviewees also identified the high cost of deploying technologies for elections as a major challenge for Nigeria (Interviewees #5, 9, 10, 11, & 12). Buttressing this challenge, Interviewee #5 avers:

> We actually planned to have some devices that will be purchased and used for just election only. Unfortunately, when the Commission did the budget, before the release of funds, before dollar rate went up. In fact, the Commission could not purchase as much BVAS as planned, so we could not deploy more than 2 per ward as back up. So the initial plan was to have a particular number aside for training, but that didn't happen. So, the Commission now had to use the system that will be used for the main election for training.

Interviewee #9 is of the opinion that technology is drastically driving up the cost of elections in Nigeria, with 40 percent of the last election budget being expended on BVAS (Interviewee #10). Closely related to cost challenge is that of paucity of funding for the deployment of the desired electoral technologies (Interviewees #6, 11, & 12). The lack of adequate trainings for those operating the various technologies was yet another challenge (Interviewees #7, 8, 11, & 12). The issue of training for operators of electoral technologies was very germane, because no matter how sincere somebody is, if he/she is not trained on how to use the technology, it becomes really difficult to yield the dividends of technology (Interviewee #8).

The lack of a clear cut policy/legal framework guiding the deployment of technologies for elections in Nigeria, is also identified as a challenge (Interviewees #9, 10, & 11). According to Interviewee #9,

> So, what we see is that technologies are being rolled out, but there are no clear policies and modalities that guide the deployment of these tools. As we speak, the Commission still doesn't have ICT policy. In such a policy, there are protocols for who is responsible for the device? What are the secretive protocols when there is a likelihood of an attack? What is the response mechanism? These are things that are lacking within the Commission. The second part of the internal is the issue of staff capacity.

Lack of commitment and political will to effectively deploy technology for credible elections (Interviewee #10); the failures and glitches associated with technology itself (Interviewee #5); and community sabotage (Interviewee #7) are also identified as challenges besetting the effective use of technologies for elections in Nigeria. Lack of, or inadequate public awareness on the technologies deployed for elections, also poses a challenge (Interviewee #9). For instance, during the 2023 general elections, "INEC wasn't very clear as to how IREV was going to operate, they kept calling it transmission of results, and people kept hearing e-collation. For them, they thought immediately you vote, it is adding up somewhere. But the commission was not

really clear. As such, people didn't understand what the device was supposed to do, people didn't understand the relevant information around the technology" (Interviewee #9). The political and electoral environments in Nigeria are also a challenge (Interviewees #9, 11, & 12). This is because a country cannot hold an election that is better than the environment in which that election is. To that extent, "the Nigerian political and electoral environment is characterised by bad roads, insecurity, electoral violence, etc. and all of these have a way to impact on the elections, including the technologies deployed" (Interviewee #9).

Prospects of Technology Deployment for Elections in Nigeria, 2003-2021

Interviewees shared their perspectives on the prospects of technology deployment for elections in Nigeria. Many of the interviewees have strong belief in the ability of technologies to deliver better elections in Nigeria (Interviewees #1, 6, 7, 8, 10, 11, & 12). According to Interviewee #6, "I have strong believe in technology because of our environment, because of lack of trust, nobody believes one another, the politicians are like cats and dogs, and INEC engages in so much technologies to be seen to be above board, to be neutral to be seen to be transparent, because politicians will throw a thousand and one accusations that INEC has favoured one party over the other." Another interviewee also buttressed the point further, when he averred that

> I so much believe in them to drive the electoral process, because they have enhanced performance, they have also improved productivity, that have also improved electoral service delivery, you can begin to see new voters urging to come and vote, there was an upsurge in the voters turn out in registration because of technological innovations introduced in terms of registration, campaign and information dissemination, registration turnaround time, credibility, they are given to the citizens of this country (Interviewee #1)

Albeit, other interviewees had faith in technology deployment for elections in Nigeria, but they had some reservations and gave some cautions. For instance, Interviewee #8 posits that there is no problem with technology itself, but with the manner of deployment, and that if technology is deployed in the right manner, many Nigerians will definitely have trust in it. Also, aligning with the foregoing, Interviewee #10 is of the view that while there is absolute confidence in technology, because it deepens electoral trust, one cannot rely absolutely on it because they are machines, and machines do fail. He therefore proposed the need for more safeguards in the use of technology, to avert total disaster in its deployment. For Interviewee #8, there has been some wrongs associated with the use of technology for Nigeria elections in the past, and for technology to make more meaningful impact in future elections, the wrongs must be corrected – INEC needs to correct these gaps in technology in future elections.

Furthermore, most of the interviewees alluded to the fact that there is the need for deployment of more technologies for elections in Nigeria (Interviewees #1, 2, 3, 4, 5, 7, 10, 11, & 12). According to Interviewee #1, more technologies need to be introduced in the electoral process in Nigeria, as the dynamics of electoral process continue to evolve. Among other technologies that should be introduced into the electoral process in Nigeria, he posits that the electronic voting machine should top the list. The area that still needs redeployment of technologies to develop technology solutions and to improve them, according to Interviewee #2, is the area of election logistics. For interviewee #3, more technologies are needed to improve on electronic collation of results, enhance nomination process (whereby there is an application portal or app which makes it easier for political parties to upload after

they have been through their primaries), and electronic voting.

Other areas needing more technological deployment include the areas of transmission of results, diaspora voting, transmission, collation and also electronic voting (Interviewee #4). For Interviewee #5, more technologies are needed in the areas of E-balloting, the result and collation system, and to stabilise on the voter registration system. More technologies are also needed in future elections in Nigeria in order to audit the voter register, enhance the efficiency of election day, for collation and transmission, and for effective public communication with stakeholders (Interviewee #10). Another Interviewee highlighted the areas where the INEC is currently focusing on for more technology deployment in future elections. According to her, "We [INEC] are trying to see how technology can help us in addressing the difficulty in authenticating the elderly, because some people are very old over the face, and the finger...On the result upload system, we are trying to design a backup system, so that if anything happens there is something we can easily fall back on."

Interviewee #10 however noted that, before more technologies are introduced in future elections, "there is the need to spend some few years consolidating on the current technological tools being used, ensuring there is a legal framework in place, ensuring that INEC builds the internal capacity because relying on external vendor is inimical to the independence of the commission and the credibility of the technology." Another Interviewee buttressed on the need for more technological deployment in future elections in Nigeria, when he made the following submissions:

> So to that extent, if you look at the number of able voters that did not vote on the Election Day [in previous elections], you now begin to believe that technology will assist them to vote. All Nigeria security agencies do not vote, the medical team of essential services do not vote, election adhoc workers do not vote, the diaspora, they do not vote. Use technology to do anything and put them together, it would help the process…For now you are aware that, it is only the presidential election that people can vote outside of where they are. If we go further, for House of Representatives, House of Assembly, you must stay where you are, so technology will also help in that extent (Interviewee #1).

Whereas, Interviewee #7 aligns with the opinion that there is the need for more technology deployment in future elections in Nigeria, he nonetheless, stressed the need for caution, considering the many shortfalls and risks such as hacking associated with technology deployment for elections in a more advanced democracy like the US. Taking the prospect of introducing electronic voting system for instance, he avers that "People [Nigerians] still seek assistance with the ATM machines. So, what is the level of penetration of the knowledge and the use of smart phones? When you are going to impose a level of high technology in a low technology environment, you have to calculate the risk you are making. So, my point is that high technology versus low technology environment don't go together."

On the other hand, however, only three of the interviewees begged to differ that more technologies are not required in future elections in Nigeria (Interviewees #6, 8, & 9). According to Interviewee #6, "Given where we have reached, we don't need more technologies. The BVAS, the bimodal voter accreditation device, if the software is upgraded, it can also be used as an electronic voting machine and you can transmit results." For Interviewee #8, there is no need for more technologies in future elections, there is only the need to perfect the existing technologies, correct their shortfalls, train people sufficiently on how to use them, and develop a system that is not

easily bypassed. Interviewee #9 also corroborates the perspective that there is no need for the introduction of more technologies in the electoral process in Nigeria. According to him, the existing technologies can be further strengthened, while the requisite infrastructures are put in place before introducing more technologies in the future, only if the need arises.

Discussion of Findings

The paper sought to achieve two objectives, viz: to identify the challenges of technological deployment for elections in Nigeria; and examine its prospects (technology deployment) for elections in Nigeria. The following findings were made.

i. The study found several challenges to be besetting the deployment of technology for elections in Nigeria. The first of such challenges are identified as environmental factors such as the weather conditions and humidity which are sometimes not conducive for the technologies, thus, impact negatively on their operations. Omoleke' (2017) finding on the challenge of weather on technologies deployed for elections in Nigeria, aligns with this finding. Other environmental factors include the topography and arid terrains in the country, which make transportation of the technologies difficult. The paper also unravelled challenges related to insecurity, vulnerability of technologies to manipulations and compromise (e.g., hacking), corruption and desperate nature of politicians. Uzedhe and Okhaifor (2016) also found corruption as a major challenge. The lack of, or inadequate infrastructure requisite for the deployment of technology, such as poor network coverage, lack of technical know-how, poor internet coverage, and poor and unreliable electricity, etc. are some other challenges confronting the deployment of technology for elections in Nigeria. Previous studies like Ahmed et al. (2015), Omoleke (2017), Idowu (2021), and Okwueze (2022).

Other challenges identified in the paper are non-compliance with the use of deployed technologies, during elections, the rushed manner in which technologies are introduced and deployed, trust deficit (i.e., the lack of trust for the INEC among Nigerian electorates and lack of trust mong politicians). The low literacy level among Nigerian electorates, high cost of deploying technologies, paucity of funds/inadequate funding to the INEC, inadequate training for the handlers of the technologies during elections, and a lack of clear cut policy/legal framework guiding the deployment of technologies for elections in Nigeria, are also identified. The challenge of cost has also been identified by Idowu (2021), and inadequate training identified by Omoleke (2017); Aishatu and Muhammadou (2019); and Ariyo (2020). The paper also reveals that lack of commitment and political will to effectively deploy technology to drive credible elections, the failure and glitches associated with technology, and lack of, or inadequate public awareness on the technologies deployed for election, are other challenges besetting technological deployment for elections in Nigeria. These findings also align with the theory of social construction of technology, upon which this paper is built, which posits that technology is not a quick fix to achieving electoral credibility, and it has inherent challenges associated with it.

ii. The paper revealed the prospects of technology deployment for elections in Nigeria. Findings show that technologies have very good prospects to improving the electoral process and electoral credibility in Nigeria. This finding aligns with those of Nwogu (2015), Kabiru et al. (2017), Nwangwu et al. (2018), Omotayo and Adekunle (2021),

Okwueze (2022). Despite this prospects, the paper finds that there is the need to thread with caution while deploying technologies for elections, due to their tendency to fail. Also, owing to some wrongs that have been associated with the use of technologies in past elections, these wrongs must be first corrected before technologies can make more meaningful impact in future elections.

The paper also found that the country and the INEC need to deploy more technologies for future elections. Some of the areas where more technologies are needed for future elections include the areas of voter register optimisation, results collation, election logistics, and enhancement of political party nomination process. Other areas include transmission of results, diaspora voting, enhancement of the efficiency of election day, effective public communication of stakeholders, and electronic voting. Nwogu (2015), Kabiru et al. (2017), and Nwangwu et al. (2018) also found the need for more technologies in future elections in Nigeria. Findings show that before more technologies are deployed in these areas in the future, the existing technologies must first be consolidated on, and put a legal framework in place. Also, while deploying more technologies for future elections, there is need to be cautious of the inherent risks associated with technological deployment like hacking.

Conclusion

The paper has explored the challenges and prospects of technological deployment for elections in Nigeria, especially as it relates to the periods between 2003 and 2021. Indeed, numerous challenges are associated with the use of technology for elections, nonetheless, they are not insurmountable, and they do not out-weigh the benefits of deploying technologies for elections. Among others, environmental factors (weather, topography, etc.), high cost of deployment, corruption and desperate nature of politicians, infrastructure deficit (poor network coverage, poor internet, etc.), and trust deficit are the challenges which continue to beset technological deployment for elections in Nigeria. Despite these challenges, there is a good prospect of the ability of technology to improve electoral process in future elections in Nigeria, and there is therefore, the need to deploy even more technologies for future elections in Nigeria.

Recommendations

Following the findings made in this paper, the following recommendations are made:

i. INEC must commit to the proper and adequate training of handlers of election technologies in Nigeria's elections
ii. The deteriorating security situation across the country must be immediately nipped in the bud by the Nigerian state to avoid and ameliorate further attacks on election technologies in the country.
iii. INEC, in collaboration of the National Orientation Agency of Nigeria must do more to educate Nigerian electorates on electoral technologies being deployed during elections
iv. INEC, in collaboration with the legislative arm of government and other relevant election stakeholders, must design a clear cut policy/legal framework to guide the deployment of technologies for elections in Nigeria
v. There is the need for INEC to deploy more technologies in future elections in Nigeria, in order to improve electoral credibility
vi. If more technologies such as the electronic voting system must be deployed for future elections, it must not be rushed, first and foremost, the right infrastructures (e.g., good network and internet coverage, reliable electricity, etc.) must be put in

place. This introduction must also be done gradually, rather than rushed.

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