Understanding the Impacts of Electoral Technologies on Nigeria's Electoral System

Adeleke S. Ogunmokun[1*], Oluwatoyin S. Ayanlade[2], Titilayo O. Olaposi[2]

[1]Department of Information, Communication, and Technology/Voter Registry (ICT/VR), Independent National Electoral Commission (INEC), State Headquarters, Osun State, Nigeria

[2]African Institute for Science Policy and Innovation, Obafemi Awolowo University, Ile-Ife, Osun State, Nigeria

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ABSTRACT

This study investigated the impacts of electoral technologies on Nigeria's electoral system, with the aim of finding out the role of technology on having an improved electoral system in Nigeria. The study was carried out in the six (6) State offices of the Independent National Electoral Commission (INEC) in the southwest geopolitical zone of Nigeria (comprising Lagos, Oyo, Ogun, Osun, Ondo, and Ekiti states), and also at the national head office of INEC, Abuja. Primary data were collected using semi-structured key informant interviews, observation methods, and from 240 copies of structured questionnaires, administered in the Information and Communication Technology/Voter Registry (ICT/VR), and Electoral Operations (EOps) departments of the commission. The questionnaire elicited information on the impacts of electoral technologies on Nigeria's electoral system, such as single voter registration, transmission speed, among others. Semi-structured key informant interviews of one of the top managers were carried out to assess the manager's views about the impacts of electoral technologies on the electoral system in Nigeria. The binary logistic regression model (Cox & Snell R^2 of 0.662 and Nagelkerke's R^2 of 0.883, Model Coefficients Omnibus Test of 31.264) indicated that the predictors reliably predict Nigeria's electoral system. It was evident that the Transmission Speed of electoral data and election results ($\beta = 2.826$, $p<0.05$) and Single Voter Registration ($\beta = 2.815$, $p<0.05$) among others, were positive, signifying significant impacts of electoral technologies on Nigeria's electoral system. The study concluded that INEC should pursue an improved continuous use of electoral technologies.

Keywords: Electoral technologies, Electoral system, Technology impact

INTRODUCTION

One of the notable and large-scale paradigm shifts in human endeavours that caused ripples in the world of work across the globe was the Industrial Revolution of the 18th century. It was facilitated by the introduction of new technologies and power sources, resulting in a drastic surge in productivity and efficiency (Allen, 2009; Mokyr, 2009). In this 21st century, technology is still unbelievably benefitting mankind at an awe-inspiring pace, with its obvious impacts being felt and seen in the development of new vaccines, gene editing, robotic surgery, and remote patient monitoring across the field of healthcare services delivery; in the deployment of AI-powered learning platforms, virtual reality (VR) and augmented reality (AR) across educational and academic field; and the adoption of video conferencing, remote collaborative platform, and social media in the field of communication. The implausible opportunity to connect people in real-time, no matter how far apart they are anywhere in the world is simply innovating (Allen *et al.,* 2023; Baker *et al.,* 2023; Chen *et al.,* 2023; Dai *et al.,* 2023; Flum *et al.,* 2023; Howard *et al*., 2023; UNESCO, 2023; Wu *et al*., 2023). This trend has also spread across the area of electoral system, its management and administration.

The deployment of technology to improve the electoral system in democratic climes across the globe is on the rise and fast becoming a topic of discussion (Loeber, 2020). The deployment of election voting technologies into the Brazilian electoral system in the mid-1990s has been linked with many positive outcomes (Gilmore, 2012; Avgerou, 2013; Aranha *et al.*, 2016; Reis *et al.*, 2020; Risnanto *et al*., 2020). For instance, switching from paper ballots to voting technology had successfully reduced the possibility of perpetrating electoral fraud, and thus reduced errors, thereby enfranchising millions of electorates (Zucco Jr *et al*., 2016). Therefore, the introduction of enabling technologies to manage electoral processes in different democratic states around the world has been promoted as a critical strategic move toward upgrading electoral integrity. Regardless of their capabilities, the most crucial and vital component of any electoral technologies is the extent to which they are appropriate and applicable to the system in which they are deployed (Osemwota, 2019).

Several studies had already outlined potential impacts, challenges of the technologies, cost-effectiveness, and their abilities to earn and enjoy public confidence, among others, as fundamental issues that needed to be carefully and typically considered when deciding on the new or any enabling electoral technologies to adopt into the electoral system (Haque *et al.*, 2020).

LITERATURE REVIEW

Electoral technologies

Lijphart *et al.* (2007) opined that the emergence of a series of technological innovations like Cyber-citizenship, E-politics, and Web-democracy, among others, encouraged the development and deployment of electronic information processing networks, to help shape and determine the political environment all over the world. In the late 1800s, a set of electoral technologies invaded the electoral space to bring about new political representation, as standardized and government-issued electronic ballots were deployed together, with voting machines, to create a free and fair election (Anderson and Kreiss, 2013).

These narratives were said to have informed the projection aimed at developing an online voting system, an E-poll project that enabled voters to be identified according to their voting site via fingerprint recognition sensor system, touch-screen electronic device, server technology to absorb and manage traffic data generated by electoral population, bar-coded electoral cards, voting ship with holograms, optical pen on a computer screen to facilitate vote counting system at the poll, the possibility of voting over the telephone or using magnetic cards or electronic communication through World Wide Web, all supported by the expanding use of computer science technologies (Lijphart *et al*., 2007).

According to Bridgewater (2018), the terms electoral technology and election technology are used interchangeably, implying that both electoral technologies and election technologies convey the same meaning. Electoral technologies are technologies characterized by their input and output. They are viewed as black-boxed technologies because their implementations are usually not transparent, yet they are technologies deployed to simplify the complex and costly electoral process.

All forms of technologies, usually diverse sets of hardware, software, ICT-related, electronics, digital, internet enabling, and other equipment, deployed by the election management bodies into each phase of the electoral cycle, to manage electoral activities and processes, in order to ensure a free and fair election, and the delivery of electoral services are conceptualized as electoral technologies (Haque and Carroll, 2020).

These electoral technologies have been studied by different scholars under various topics such as ICT in Elections (Micheni *et al.*, 2018), Voting technologies (Jones, 2003; MIT, 2019), Technologies in Elections (McCormack, 2016), Electronic Elections (INEC-Trainers' Guide, 2022), I-voting (Heiberg *et al.*, 2011), E-voting (Gibson *et al*., 2016), Digital technologies in elections (Russell *et al*., 2018), Counting technology in elections (Loeber, 2020), among others.

Mugica (2015) outlined two main bottlenecks that the deployment of electoral technologies has had to overcome, the first of which was that election is too simple a process to require the help of technology, meaning how could mere counting of ballot papers and declaration of a winner in an election become a complicated issue? The second stand view, of course, was a direct converse of the first one, which is that deploying technologies into the election administration was a total waste of time, as the electoral process was too difficult and complex to be handled by the computer system, essentially speaking, technologies were not secured or potent enough to manage elections. Mugica (2015) further argued that the two views were flawed in that the complexity, the importance of elections to democracy, and the usual huge size of democracies were enough reasons to deploy technologies into managing elections to enjoy the benefits that technologies could bring.

Considering the Election Automation Maturity Model pictographically depicted in Figures 1a and 1b, electoral legal framework is relaxed to accommodate high-level

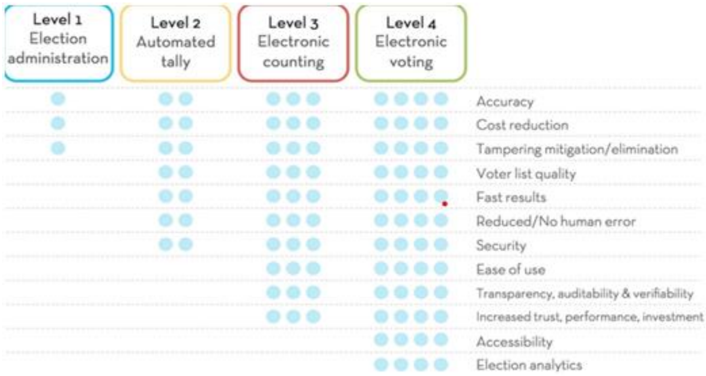

Figure 1a: Election automation maturity model.

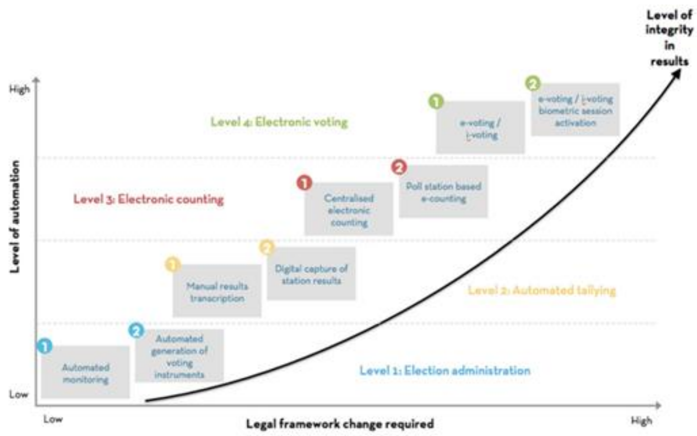

Figure 1b: Election automation benefit.

Source: (Mugaca, 2015)

electronic automation in four (4) major levels in the electoral system: election administration level, votes tallying, votes counting level, and vote casting level; the degree of the integrity in the results produced in such an election would be drastically heightened. Electronic automation could also aid voter inclusivity among illiterate voters, by making the voting interface of the voting machine user-friendly. This notion was duly and supportively emphasised by Figure 1a, where ease of use was outlined as one of the foremost benefits that would be enjoyed when technologies are deployed into election management and processes. Thus, the deployment of technologies into every aspect of electoral systems, according to Mugica (2015) was done with the view to:

i. Making the electoral process secure: The security of the manual polling system is low, and each stage of manual balloting is vulnerable to human error and tampering. However, automating the polling system would tamperproof the system and rig it of human errors, by heightening the security of the polling procedures from 10 to 1,000 depending on the level of automation.

ii. Increasing the accuracy of the voting process: Computerising voting, counting, collation, and the total electoral process would naturally reduce human factor-induced errors to a greater or lesser degree.
iii. Improving electoral process' speed: Considering the Republic of Philippines where, before the electoral procedure was automated, it usually took 6 weeks to produce official results, however, it now took them less than 12 hours, after their elections were automated in 2010.
iv. Ensuring the privacy of balloting: Information Technology's complexity-built randomisation algorithms deployed at polling stations usually ensure that votes cast are stored un-sequentially.
v. Making auditing of voting easier: Manual balloting is known to leave a weak audit track, in fact, with little or no needed statistics. However, a well-designed electoral technology, like voting machines, would produce multiple copies of every data point electronically and in paper form, making it difficult to circumvent.
vi. Making electoral services accessible to the people and facilitating massive voter turnout: The penetration of technologies like mobile phones, smartphones, computers, and the likes, into our daily lives, has already, in a way, exposed voters to the friendliness of the user interfaces of electoral technologies. This has helped in making voting more accessible to the voting populace. It has been discovered that voters of all age groups find it easier to vote electronically; even illiterate voters found it easier to vote electronically, as they simply could cast their votes by touching the faces or colour of the party they want to vote for. Electronic voting technologies could also make voting possible for all kinds of disabilities unassisted. The deployment of audio voting machines, and other special controls, would enable disabled voters to easily cast their votes. All these would increase massive voter turnout, strengthening the inclusivity of all voters.
vii. Enhancing the electoral processes' integrity, especially the polling system: With manual balloting, one could not rule out the possibilities of altering, forgetting, losing, or damaging paper ballot papers. However, with an automated electoral system, these outlined challenges would be eradicated, as many digital and paper duplicates of data from each polling centres are created to prevent data loss.
viii. Reducing the cost of the election: It was discovered in previous studies that due to the initial investment in electoral technologies, the cost per voter per election was reduced significantly. The instance of Smartmatic, one of the largest electoral technologies companies in the world, attested to the fact that the cost per voter per election had reduced by between 15% and 50%, resulting from the automation of the electoral process.
ix. Ensuring sustainability: According to the Election Automation Maturity Model, developed by Smartmatic-sponsored researchers, after studying how electoral commissions of over 70 democracies were deploying electoral technologies (Figure 1a), it was discovered that deploying an automated electoral process in India eliminated the manual election environmental adverse effects.

METHODOLOGY

This study focused on the State headquarters of the Independent National Electoral Commission (INEC) in the Southwestern region of Nigeria and the Federal Capital Territory (FCT), Abuja. The Southwestern region comprises Osun, Oyo, Lagos, Ogun, Ekiti, and Ondo states. This study area was purposively selected to understand the electoral process in the INEC of Southwestern region and the headquarters that all instructions come from.

When it comes to superintending electoral technologies, technology-related policymaking, and implementation in INEC, two departments are key players. These departments are Information, Communication and Technology/Voter Registry (ICT/VR) and Electoral Operations (EOps). That is why these departments were also purposively selected for this study.

Both primary and secondary data were used for this study. The primary data were collected using questionnaires, observations, and semi-structured interview methods. A set of questionnaire was designed and given to one hundred and five (105) respondents from the ICT/VR departments in the six selected states and FCT Abuja, with an equal number (15) from each state. Similarly, one hundred and forty (140) respondents were purposively selected from the Electoral Operations department, with an equal number (20) from each state and the FCT. Therefore, in total, two hundred and forty-five (245) respondents participated in the study.

The questionnaire were used to elicit information on the impacts of electoral technologies on Nigeria's electoral system using the following underlisted variables, as adopted by Alvarez *et al.*, 2011; Haque and Carroll 2020; and Marjorie and Reuben, 2020, measured using Yes or No. The resulting data were then analysed with Binary Logistic Regression Analysis. The investigated variables were:

a) Impacts on Candidate Registration System

i. Minimization of Errors
ii. Data Manipulation
iii. Single Registration

b) Impact on Transmission System

i. Transmission Speed
ii. Reduction of Rigging
iii. Openness of transmission
iv. Integrity of Results

c) Impacts on the Credibility of the Electoral System

i. Inclusiveness
ii. Transparency
iii. Accountability
iv. Trust and Confidence

d) Impacts on Perceived Reliability by Voters or Voter Confidence

i. Technical factors: -Voter technical education -Voter familiarity with Technology
ii. Media reportage on the electoral technology
iii. Use of Technologies

The impacts, as shown above, were broadly categorized as impacts on the candidate registration system, impacts on the transmission system, impacts on the electoral system, and impacts on perceived reliability.

To validate the findings from the questionnaires, one of the Heads of Departments in the selected departments at the headquarters was engaged in personal oral interviews. Secondary data for this study was sourced from the websites, reports, and publications that are relevant to the study.

RESULTS AND DISCUSSION

Out of a total number of two hundred and forty-five (245) copies of questionnaires distributed to the respondents, only two hundred and twenty (220) were retrieved. This shows that the study's survey response rate is 89.80% (Table 4.0).

It was found that 75.5% of the respondents were in the range of 35 to 50 years (Table 5.0), implying that the respondents of this study are Generation X. Individuals whose age range is between 35 and 35 are considered Generation X (Johnson and Smith, 2022). This is a category of people distinguished because they have experienced the most profound social upheavals and technological advancements in human history. They have also been found to be extremely comfortable with technology and have made significant contributions to its advancement (Oblinger, 2003; Casalegno *et al*., 2022; Wahyuningsih *et al*., 2022). It, therefore, follows that 75.5% of the respondents to the study's survey were informed by moderate technological knowledge, to say the least.

Table 4.0: Analysis of the questionnaire distribution and retrieval rate by states

S/N	State	Number of Distributed copies of Questionnaires	Number of Retrieved copies of Questionnaires	Response Rate (%)
1	Ekiti	35	32	91.43
2	Osun	35	35	100
3	Oyo	35	35	100
4	Ondo	35	35	100
5	Ogun	35	24	68.57
6	Lagos	35	26	74.29
7	FCT	35	33	94.29
	Total	**245**	**220**	**89.8**

Table 5.0: Socio-demographic characteristics of the respondents

Characteristics		Frequency	Percentage (%)
Gender	Male	169	76.8
	Female	51	23.2
Age	<20	0	0
	21-34	23	10.5
	35-50	166	75.5
	51-65	31	14.1
	>65	0	0
Expertise in Electoral technologies	Novice	1	0.5
	Intermediate	25	11.5
	Advanced	192	88.1

Impact of Electoral Technologies on Nigeria's Electoral System

A total number of fifteen (15) impact variables presented were classified into four (4), and were investigated. The said impacts and their classes are thus listed below: (i) Minimization of Errors, (ii) Data Manipulation, and (iii) Single Voter/Candidate Registration, classified as *Impacts on Candidate Registration System*; (iv) Transmission Speed, (v) Reduction of Rigging, (vi) Openness of transmission, and (vii) Integrity of Results, classified as *Impacts on Transmission System*; (viii) Inclusiveness, (ix) Transparency, (x) Accountability, and (xi) Trust and Confidence, classified as *Impacts on the Credibility of the Electoral System*; (xii) Voter technical education, (xiii) Voter familiarity with technology, (xiv) Media reportage on the electoral technology and (xv) Use of Technologies, classified as the *Impacts on Perceived Reliability by Voters or Voter Confidence*.

To investigate the relationship between predictor variables listed in Table 6.0 and the binary dependent variable, which is the impact of electoral technologies on the electoral system, a binary logistic regression was conducted. The dependent/outcome variable is the Impact of Electoral Technologies on the Electoral System, and the independent/predictor variables are the presented impact categories/variables of the study. Logistic Regression was used for the analysis because the dependent/outcome variable is categorical. The Binary Logistic Regression became adequate because the responses were of the Yes or No category.

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Before running a regression analysis, a multicollinearity test was conducted using a correlation matrix. Table 6.0 shows the correlation coefficients between the predictor variables in the model. There is no case with a correlation value greater than 0.5, so there is no significant correlation between any of the predictor variables. This confirms that there is no multi-collinearity in the model.

In determining the model's capacity to predict the impact of electoral technologies on Nigeria's electoral system, an Omnibus test was also carried out as shown in Table 7.0, expressed as Model $\chi^2(15) = 31.264$. $p< 0.05$. This shows that the model is a good fit for the data because the Chi-square value is significantly greater than zero (Field, 2009).

The Chi-square value in Table 7.0 is more than 0, which shows that the model is a good fit for the data. The Wald statistic is more than zero and has a significant value of less than 0.05, thus the predictor is significant for our model. Table 8.0 shows that the model explains 66.2% to 88.3% of the total variance in the Impact of electoral technologies on the electoral system.

The Exp(B) value in Table 9.0 and Table 10.0 shows the effect of that predictor variable on the model. The higher the value, the more effect the predictor has on the model's outcome.

Table 6.0: Level of multicollinearity among predictors variables

	Constant	ME	DM	SR	TS	RR	OT	RI	IN	TR	AC	TC	TE	TF	MR	TU
Constant	1															
ME	-0.049	1														
DM	0.048	-0.297	1													
SR	-0.064	0.184	0.025	1												
TS	-0.051	0.132	-0.133	0.051	1											
RR	-0.095	0.023	-0.006	-0.035	-0.006	1										
OT	-0.048	0.015	-0.359	0.15	-0.022	0.042	1									
RI	-0.255	0.031	0.164	0.065	-0.034	-0.029	-0.076	1								
IN	-0.047	0.298	0.023	0.198	0.842	-0.019	0.059	0.036	1							
TR	-0.122	-0.191	-0.024	-0.15	0.012	-0.012	-0.287	0.033	0.064	1						
AC	-0.23	0.135	-0.015	0.183	0.232	-0.039	0.108	0.028	0.239	0.028	1					
TC	-0.113	-0.078	-0.129	-0.292	-0.044	0.029	-0.089	-0.031	0.072	0.113	0.012	1				
TE	-0.069	-0.244	0.109	0.075	0.056	-0.075	-0.157	0.025	0.021	-0.157	-0.081	-0.063	1			
TF	-0.073	0.234	-0.251	0.042	0.131	0.058	-0.127	-0.059	0	0.027	-0.017	0.021	0.044	1		
MR	-0.233	-0.004	-0.026	-0.035	-0.014	0.028	-0.056	0.033	-0.062	0.098	-0.033	0.092	0.068	0.044	1	
TU	-0.111	-0.018	0.005	0.067	-0.104	-0.027	-0.005	0.077	-0.289	0.003	-0.434	-0.001	0.051	-0.259	0.085	1

KEY: *Min_Errors(ME), Data_manipulation(DM), Single_registration(SR), Transmission_Speed(TS), Reduce_Rigging(RR), Open_Transmission(OT), Result_Integrity(RI), Inclusiveness(IN), Transparency(TR), Accountability(AC), Trust_Confidence(TC), Technical_Edu(TE), Tech_familiarity(TF), Media_reportage(MR), Tech_Use(TU).*

Table 7.0: Omnibus test of model coefficient for the study

Omnibus Tests of Model Coefficients

		Chi-square	Df	Sig.
	Step	31.264	15	0.008
Step 1	Block	31.264	15	0.008
	Model	31.264	15	0.008

Table 8.0: Model summary showing the amount of impact variance explained by the regression model

Step	Cox & Snell R Square	Nagelkerke R Square
1	0.662	0.883

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According to Table 9.0 only five impacts were statistically significant, namely: Single Registration of Voters {β = 2.815, SE = =1.137, Wald = 6.135, p<0.05), with an odds ratio of 16.695 (95% Cl = 1.80-154.89)}, Reduction of Rigging {(β = -0.66, SE=0.313, Wald=4.459, p<0.05), with an odds ratio of 0.517(95% Cl =0.28-0.954)}, Inclusiveness {(β =2.558, SE=1.092, Wald=5.491, p<0.05)}, with an odds ratio of 12.907 (95% Cl =1.52-109.628), and Accountability {(β =1.187, SE=0.539, Wald=4.855, p<0.05), with an odds ratio of 3.276 (95% Cl =1.14-9.412).

Therefore, Single Registration of Voters, Transmission Speed of Election Results and Electoral Data, Reduction of Rigging, Inclusiveness, and Accountability were all significant and positive impacts of the electoral technologies on Nigeria's Electoral System.

The probabilistic effects of these impacts on Nigeria's Electoral System are such that if an electoral technology improves 'Single Registration of Voters' for instance, it is 16.695 times more likely to have a positive and significant impact on Nigeria's Electoral System. The results, therefore, showed that the predictor variable 'Single Registration of Voters' was a significant predictor of the outcome.

Table 9.0: The Model for all contributing impacts on the electoral system

Variables in the Equation									
		B	S.E.	Wald	Df	Sig.	Exp(B)	95.0% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	Min_Errors	2.099	1.26	2.776	1	0.096	8.16	0.691	96.425
	Data_manipulation	-0.579	0.702	0.679	1	0.41	0.561	0.142	2.22
	Single_registration	2.815	1.137	6.135	1	0.013*	16.695	1.8	154.89
	Transmission_Speed	2.826	1.102	6.578	1	0.010*	16.878	1.947	146.297
	Reduce_Rigging	-0.66	0.313	4.459	1	0.035*	0.517	0.28	0.954
	Openness of _Transmission	1.409	1.22	1.334	1	0.248	4.091	0.375	44.676
	Result_Integrity	0.206	0.314	0.431	1	0.511	1.229	0.664	2.273
	Inclusiveness	2.558	1.092	5.491	1	0.019*	12.907	1.52	109.628
	Transparency	0.073	0.9	0.007	1	0.935	1.076	0.184	6.278
	Accountability	1.187	0.539	4.855	1	0.028*	3.276	1.14	9.412
	Trust_Confidence	-1.396	0.79	3.119	1	0.077	0.248	0.053	1.166
	Technical_Edu	-1.366	1.244	1.204	1	0.272	0.255	0.022	2.925
	Tech_familiarity	-0.641	0.522	1.509	1	0.219	0.527	0.189	1.465
	Media_reportage	-0.101	0.311	0.105	1	0.745	0.904	0.491	1.663
	Tech_Use	-1.378	0.997	1.912	1	0.167	0.252	0.036	1.778
	Constant	-1.871	0.929	4.058	1	0.044	0.154		

Key: Min_Errors(ME), Data_manipulation(DM), Single_registration(SR), Transmission_Speed(TS), Reduce_Rigging(RR), Open_Transmission(OT), Result_Integrity(RI), Inclusiveness(IN), Transparency(TR), Accountability(AC), Trust_Confidence(TC), Technical_Edu(TE), Tech_familiarity(TF), Media_reportage(MR), Tech_Use(TU).

*Notes: *p<0.05* denotes the statistical significance at a 0.05 error level.

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Table 10.0: Regression model Using the four general variables

	B	S.E.	Wald	df	Sig.	Exp(B)	95.0% C.I.for EXP(B)	
							Lower	Upper
Candidate Registration System	-0.981	0.79	1.542	1	0.214	0.375	0.08	1.763
Transmission System	-1.606	1.339	1.438	1	0.231	0.201	0.015	2.771
The Credibility of the Electoral System	1.364	1.303	1.096	1	0.295	3.912	0.304	50.306
Perceived Reliability by Voters	0.526	0.597	0.778	1	0.378	1.693	0.526	5.452
Constant	0.907	2.062	0.193	1	0.66	2.477		

In the same manner, the variables were summed up according to their earlier divisions or categories. The credibility category had the highest positive impact according to Table 10.0, with an odds ratio of 3.912.

Qualitative Result and Discussion

As earlier stated, semi-structured key informant interviews with one of the top managers were carried out in the study. It was conducted to assess the manager's views about the impacts of electoral technologies on electoral process in Nigeria.

One of the Deputy Directors (System Analyst) serving as a Head of the Division of ICT/VR in INEC State Headquarters in one of the selected states was interviewed. The respondent was of 45-50 years age range, female by gender. Her academic qualifications were a B.Sc. in Computer Science and a Master of Business Administration (MBA). She has a professional qualification from the Nigeria Computer Society (NCS) and Computer Professionals of Nigeria (CPN). Having served for twenty-three (23) years as a System Analyst in the ICT/VR Department of INEC, the respondent regarded herself as an expert in the field of electoral technologies with 23 years of professional experience. Semi-structured questions were used to guide an interview with her.

A total number of fifteen (15) impacts were presented to her to find out her opinions relative to Nigeria's electoral system. The presented impacts were (i) Minimization of Errors (ii) Data Manipulation (iii) Single Voter/Candidate Registration (iv) Transmission Speed (v) Reduction of Rigging (vi) Openness of transmission (vii) Integrity of Results (viii) Inclusiveness (ix) Transparency (x) Accountability (xi) Trust and Confidence (xii) Voter technical education (xiii) Voter familiarity with technology (xiv) Media reportage on the electoral technology and (xv) Use of Technologies.

The respondent agreed that being able to minimize electoral errors, preservation of the integrity of election results, speedy transmission of electoral data and results, accountability across board, transparency of electoral processes, and rigging reductions were the impacts of electoral technologies on Nigeria's system. This implies that she affirmed only six (6) impacts as being significant. Her concluding thought was that Nigeria's electoral system would record improved successes in future elections, only if the Commission would improve on the continuous use of electoral technologies, by adopting more appropriate electoral technologies. Moreover, she emphasized the need to de-monopolise technical know-how so that senior technical staff of the Commission could be adequately empowered to deliver their job excellently.

CONCLUSION

This study conclusively established that electoral technology's impacts on the electoral system could be significant. Single Registration of Voters, Transmission Speed of Election Results and Electoral Data, Reduction of Rigging, Inclusiveness, and Accountability were all significant with positive impacts of the electoral technologies on Nigeria's Electoral System.

POLICY RECOMMENDATIONS

The study recommends that INEC should improve on the continuous use of electoral technologies, whose impacts have been found to be significant, in every possible aspect of electoral service delivery and processes. The electoral commission should also look beyond improving the continuous use of already adopted electoral technologies, and bring in more technologies to automate other aspects of electoral processes and activities, in order to positively impact the entire electoral process in Nigeria significantly.

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