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E-governance and the Performance of Independent National Electoral Commission (INEC): A Case study of Abia State Commission

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Abstract

Using a descriptive case study approach, the study investigates the relationship between e-governance and the performance of the Independent National Electoral Commission (INEC) in Abia State, Nigeria. It examines the impact of information and communication technology (ICT) on INEC's performance, how e-governance technologies have improved service delivery, and the constraints hindering its adoption. The population includes INEC officials, polling agents, registered voters, and political party representatives. Data collection involved structured questionnaires, with quantitative data subjected to inferential statistics, including regression and ANOVA. Results reveal a significant relationship between ICT and INEC's performance ($p<0.05$, $r= -0.923$), with e-governance implementation positively impacting service delivery ($p<0.05$). However, several challenges were identified, including a lack of ICT infrastructure, resistance to change, and inadequate funding. To harness e-governance's full potential, stakeholders must invest in ICT infrastructure, offer training programs, secure funding, and develop a clear policy framework, among other initiatives. These efforts can contribute to a more efficient, transparent, and credible electoral process, fostering a more inclusive and accountable democratic system.

Keywords*: Governance, E-governance, Information Communication System, Service Delivery and INEC.*

Introduction

Electronic governance (e-governance) has become increasingly crucial in modernising government operations and service delivery. E-governance pertains to the utilisation of information and communication technology (ICT) for the enhancement of the efficiency, efficacy, and openness of governmental procedures (Richard & Eme, 2015; Holzer & Schwester, 2011). E-governance has gained widespread acceptance as a means of improving service delivery and promoting good governance in various sectors, including electoral management. The integration of ICT in government has become necessary to address the challenges posed by the traditional mode of operation as the effectiveness and efficiency of the conventional approaches became more apparent.

Many affluent countries now rely on e-governance as a political instrument for measuring the effectiveness of their governments (Sunday, 2014). In addition, several policy frameworks have been implemented by governments around the world to reform the public sector by reorganising structures, systems, and processes that improve service delivery to citizens through the use of information and communication technologies (ICT) (Adeyeye & Aladesanmi, 2010). Therefore, to effectively achieve the objective of improving service delivery, leveraging ICT to plan and execute government policies has become imperative.

According to the e-governance report of 2004, E-governance helps create a unified structure that provides guidance in the public sector, encourages cooperation between agencies and departments, and strengthens partnerships with the private sector and the general public in implementing the implementation of public policy. The objective of e-governance extends beyond the mere conversion of conventional information into digital format and its accessibility through online portals, providing computer systems to government officials, or automating erstwhile practices onto an electronic platform. Rather, it involves a fundamental reevaluation of the current methods of government operations with the aim of enhancing processes and integration, as posited by Beluchi (2020) and Aliyu (2021).

The integration of Information and Communication Technology (ICT) in the realm of electronic government has brought about a significant transformation in societal structure, values, culture, and business practices. This is achieved by harnessing the capabilities of ICT as a tool for the routine operations of government (Fang, 2002; Alshehri & Drew, 2010). The implementation of e-governance in electoral management bodies (EMBs) has led to significant improvements in the conduct of elections, such as accuracy and speed of vote counting, reducing the likelihood of human error and fraud, and enhancing voter confidence in the electoral process (Piotrowski & Kostopoulos, 2021).

The Independent National Electoral Commission (INEC) is the official entity tasked with coordinating and executing electoral processes within the Nigerian jurisdiction. As with many other electoral management bodies (EMBs) around the world, INEC has increasingly adopted e-governance practices to enhance the integrity and efficiency of electoral processes. One state in Nigeria where INEC has implemented e-governance practices in Abia State. Abia State is located in the southeastern region of Nigeria and has over 2.8 million people. The state has a history of electoral violence and malpractice, and the introduction of e-governance practices by INEC is seen as a step towards addressing these issues.

Recent studies have shown that adopting e-governance practices by EMBs can lead to significant improvements in the conduct of elections. For instance, a survey by Piotrowski and Kostopoulos (2021) found that using e-voting systems can improve the accuracy and speed of vote counting, reduce the likelihood of human error and fraud, and enhance voter confidence in the electoral process. Similarly, a study by Ssemugabi et al. (2021) found that using mobile technology can improve the accuracy of voter registration and reduce the cost and time required for voter registration.

Given the increasing integration of ICT in service delivery and electoral processes, examining the relationship between e-governance and the performance of the Independent National Electoral Commission (INEC) in Abia State is necessary. This study therefore aims to evaluate the impact of e-governance on the efficiency, effectiveness, and transparency of electoral processes in Abia State.

Statement of the problem

Service delivery is a crucial aspect of the public sector, as it involves developing and delivering user-focused services that meet user expectations and needs (Mutali, 2008). Quality service

delivery requires services to be available, timely, dependable, reliable, usable, useful, credible, and responsive (Kundenbindun, 2008). The adoption of e-governance technologies by the federal government of Nigeria aims to improve service delivery and enhance connectivity between the government and the people. With this goal in mind, the Independent National Electoral Commission (INEC) has implemented new laws to encourage the use of technology in electoral processes.

The Independent National Electoral Commission (INEC) is a critical institution that significantly ensures free and fair elections in Nigeria. Over the years, the adoption of e-governance technologies by the Nigerian government has aimed to improve service delivery and enhance connectivity between the government and its citizens. INEC has also introduced policies to support technological advancements in its activities, but the effectiveness of these initiatives remains uncertain. Implementing e-governance technologies in Nigeria has been associated with numerous challenges, such as inadequate infrastructure, lack of technical expertise, inadequate funding, and security threats (Aliyu, 2021). In addition, INEC's implementation of e-governance technologies in election management has encountered several challenges, such as equipment malfunction, contested machine integrity, hacking threats, poor staff training, and illiteracy, among others (Beluchi, 2020). For instance, during the 2019 general election in Nigeria, there were several reports of card reader breakdown in several polling units, leading to undue delays in the accreditation process by INEC staff. The malfunctioning of card readers and other electoral hurdles necessitated the need for this study.

The use of information and communication technologies (ICTs) in governance and elections has been shown to increase citizens' access to government information and activities (Kurt, 2003). In addition, ICTs have been utilised in election management to eliminate multiple registrations and other forms of election rigging (Beluchi, 2020). However, implementing ICTs in election management has encountered some challenges, such as equipment malfunction, contested machine integrity, hacking threats, poor staff training, and illiteracy, among others.

Despite the adoption of e-governance technologies and policies by INEC, there are concerns about their effectiveness in enhancing the commission's performance. Consequently, there is a need to evaluate the impact of e-governance on INEC's performance and to identify strategies to improve its effectiveness. Therefore, this study explores how e-governance initiatives have influenced INEC's service delivery in Abia State and identify challenges and opportunities for further improvement.

Objectives of the study

The study investigates the relationship between e-governance and the Independent National Electoral Commission (INEC) performance in Abia State. The specific objectives of the study are:

i) To evaluate the relationship between information and communication technology (ICT) and the performance of INEC in conducting free and fair elections in Abia State.
ii) To explore the extent to which INEC's implementation of e-governance technologies has improved its service delivery, enhanced citizen engagement, and promoted democratic processes in Abia State.
iii) To evaluate constraints (such as inadequate infrastructure, lack of technical expertise, inadequate funding, and security threats) to adopting e-governance by INEC in Abia State.

Research questions

i) How does the adoption and use of ICTs by INEC relate to its performance in conducting free and fair elections in Abia State?

ii) To what extent has the implementation of e-governance technologies by INEC improved its service delivery, citizen engagement, and democratic processes in Abia State?
iii) What are the key constraints to adopting e-governance technologies by INEC in Abia State?

Literature review

Conceptual framework

The utilisation of e-governance represents a crucial mechanism for enhancing the operational efficiency of the Independent National Electoral Commission (INEC). According to Fukuyama (2013), governance refers to the capacity of a government to establish and implement regulations and deliver public amenities, regardless of whether the government is democratic or not. Furthermore, e-governance pertains to the utilisation of information technology to facilitate expedited communication between the government and citizens and to improve the quality of public service delivery and government agency operations (Choudrie et al., 2012).

The primary motivation for E-governance's introduction into government processes has been to improve service delivery. Access to government information and services might be improved by the use of modern information and communication technology (Fang, 2002). E-governance may be defined in a number of ways, but at its core, it is the use of information technology to increase the efficiency with which government agencies and individuals can exchange information and work together to improve public services.

The adoption of e-governance has the potential to enhance the operational efficiency of INEC by mitigating bureaucratic bottlenecks and promoting transparency and accountability. This, in turn, has been found to significantly reduce corruption incidents, as the World Bank reported in 2016. However, in order to attain this objective, it is imperative that INEC adopts e-governance policies that enable the dissemination and execution of government initiatives, streamline the transmission of information from the government to the populace, and curtail the expenses associated with transactions, workforce, time, and infrastructure required for effective governance (Savic, 2006).

The conceptual framework highlights the relationship between e-governance and the performance of INEC in Abia State. The independent variable, e-governance, is expected to positively affect the dependent variable, the performance of INEC in Abia State. In addition, the mediating variables, which include improved communication between INEC and the public, increased transparency and accountability in the electoral process, reduced bureaucratic bottlenecks in government operations, and cost savings, are expected to facilitate the relationship between e-governance and the performance of INEC in Abia State.

Recent studies have shown that e-governance has a significant impact on the performance of government agencies, including INEC. For instance, Adigun et al. (2021) found that e-governance positively affects the performance of government agencies in Nigeria. Similarly, Oluwadare et al. (2020) reported that e-governance has a significant impact on the performance of government agencies, including INEC. The mediating variables highlighted in the framework have also been identified in previous studies. For instance, Oyewole and Adebayo (2019) found that increased transparency and accountability in the electoral process are essential for improving the performance of INEC in Nigeria. Additionally, Baffoe and Boateng (2020) reported that reduced bureaucratic bottlenecks in government operations could improve the efficiency and effectiveness of government agencies.

This conceptual framework provides a theoretical basis for understanding the relationship between e-governance and the performance of INEC in Abia State and highlights the mediating variables that can facilitate this relationship.

Scope of Electronic Governance

The utilisation of information and communication technologies (ICTs) to enhance the provision of government services and information to citizens and businesses is referred to as e-governance. E-governance pertains to a broad spectrum of undertakings, which involve furnishing online services, constructing digital channels for communication, and executing technology-driven resolutions to enhance government operations.

One aspect of the scope of e-governance is the provision of online services. This includes the development of online portals and websites that allow citizens and businesses to access government services and information. These services may consist of online payment systems, online registration systems, and online application systems for government licenses and permits (World Bank, 2016).

Another aspect of e-governance is the development of digital platforms for communication. The utilisation of social media handles, such as Twitter and Facebook, to distribute information and foster interaction with members of the public is encompassed within this. It also includes the development of mobile applications that allow citizens to interact with government agencies and access government services on-the-go (UNESCO, 2005).

In addition, e-governance involves the implementation of technology-based solutions for improving government operations. This includes using electronic voting systems, biometric identification systems, and digital record-keeping systems to streamline government processes and reduce the incidence of fraud and corruption (UNESCO, 2005).

However, the scope of e-governance is not without limitations. One of the primary obstacles is the phenomenon of the digital divide, which pertains to the inequitable distribution and utilisation of information and communication technologies among diverse societal groups (Heeks, 2001). Other challenges include the cost of implementing and maintaining e-governance systems, data privacy and security concerns, and the need for adequate infrastructure and skilled personnel to implement and manage these systems (Choudrie et al., 2012). The scope of e-governance encompasses a wide range of activities aimed at improving government services and operations through the use of ICTs. While the benefits of e-governance are numerous, challenges such as the digital divide and the cost of implementation and maintenance must be addressed to ensure that e-governance systems are effective and sustainable.

Benefits of Electronic Governance

E-governance, or electronic governance, offers a multitude of advantages that have the potential to revolutionise the manner in which governments function and engage with their constituents. E-governance has several advantages, such as:

- Improved efficiency: E-governance enables governments to deliver services more efficiently by reducing bureaucratic bottlenecks and streamlining processes. This can lead to cost savings, reduced processing times, and faster delivery of services.
- Increased transparency: E-governance makes it easier for citizens to access government information, policies, and decisions, which can promote transparency and accountability. This can help reduce corruption, promote good governance, and enhance public trust in government.
- Enhanced citizen participation: E-governance enables citizens to participate more actively in government decision-making processes, such as through online consultations, voting, and feedback mechanisms. This can help increase citizen engagement, promote democracy, and improve the quality of decisions made by government.
- Improved service delivery: The implementation of e-governance can enhance the quality of services provided by governments to their citizens through the provision of more

accessible information and services. This can be achieved through the utilisation of online payment systems, e-filing of taxes, and online application processes for licenses and permits.

- Increased innovation: E-governance can encourage the development of new and innovative solutions to public problems by promoting the use of technology and digital platforms. This can lead to more efficient, effective, and sustainable ways of delivering public services.

These benefits have been recognised by many governments around the world, leading to increased investment in e-governance initiatives. For example, the Indian government has implemented various e-governance initiatives, such as the Digital India program, with the objective of converting India into a society that is digitally empowered and a knowledge-based economy (Government of India, n.d.). Similarly, the government of Estonia has developed a comprehensive e-governance system that enables citizens to access a wide range of government services online (Estonian Ministry of Foreign Affairs, n.d.). Thus, e-governance has the potential to transform the way governments operate and interact with citizens, leading to increased efficiency, transparency, citizen participation, service delivery, and innovation.

Challenges of Implementing Electronic Governance

Electronic governance (e-governance) has been identified as a tool for promoting good governance, enhancing service delivery, and improving citizen participation in government processes. However, the implementation of e-governance has been characterised by several challenges.

- ***Technological infrastructure:*** One of the major challenges of implementing e-governance is the lack of adequate technological infrastructure, such as computers, internet connectivity, and power supply. The aforementioned is notably conspicuous in emerging nations, where the availability of technology is restricted, and internet connectivity is inadequate (Ali & Ahsan, 2021).
- ***Resistance to change:*** Another challenge of implementing e-governance is the resistance to change by government officials and citizens. This is because the adoption of e-governance requires a shift from traditional ways of doing things, which some people may be reluctant to embrace (Kasimin and Zainuddin, 2017).
- ***Data privacy and security:*** The use of electronic systems in governance raises concerns about data privacy and security. The electronic storage and transmission of sensitive government and citizen data can be vulnerable to cyberattacks and data breaches, leading to privacy violations and identity theft (Choudrie et al., 2012).
- ***Digital divide:*** The concept of the digital divide pertains to the uneven allocation of technological resources and internet connectivity across various societal factions. This can lead to the exclusion of certain groups, particularly the poor and less educated, from accessing e-governance services (Ali and Ahsan, 2021).
- ***Funding and sustainability:*** Implementing e-governance requires significant investment in technology, infrastructure, and human resources. Governments may not always have the necessary resources to invest in e-governance, leading to challenges in funding and sustaining e-governance initiatives (Kasimin and Zainuddin, 2017).

Although e-governance holds promise for enhancing government procedures and the provision of services, it is not exempt from encountering obstacles. The challenges associated with the implementation of e-governance must be effectively addressed by governments to fully realise the advantages of this approach.

Information Technology and Public Service Delivery in Nigeria

The utilisation of Information Technology (IT) possesses the capacity to bring about a significant transformation in the dispensation of public services within Nigeria. Over the past few years, there has been an increasing acknowledgement of the significance of information technology (IT) in enhancing the efficiency, efficacy, and quality delivery of public services. The Nigerian government has made significant efforts to leverage IT in various sectors, including healthcare, education, finance, and governance.

One of the main benefits of IT in public service delivery is improved efficiency. IT can automate processes, reduce bureaucracy, and eliminate paperwork, which can lead to faster service delivery and lower costs (Akintoye et al., 2020a). For example, using electronic payment systems to pay salaries and pensions to civil servants in Nigeria has reduced the incidence of fraud and delayed payment (Oyedele et al., 2019).

Information Technology can also improve the effectiveness of public service delivery. It can enhance the accuracy and completeness of data, facilitate decision-making, and enable better monitoring and evaluation of public services (Babajide et al., 2020). For example, the use of electronic medical records in healthcare has been shown to improve the quality of patient care and outcomes (Akande et al., 2021).

Information Technology can also improve the quality of public service delivery. It can enhance the accessibility, reliability, and responsiveness of public services and enable citizens to provide feedback and engage with service providers (Ali et al., 2020). For example, the use of social media and mobile applications in governance has enabled citizens to report issues, provide feedback, and participate in decision-making processes (Ibrahim et al., 2021).

However, the implementation of IT in public service delivery in Nigeria is not without challenges. One of the main challenges is the lack of infrastructure and connectivity. Many parts of Nigeria lack reliable electricity and internet connectivity, which can limit the effectiveness of IT solutions (Adebowale et al., 2020). Another challenge is the lack of technical expertise and capacity. Many public servants lack the necessary skills and training to effectively use IT solutions, limiting their adoption and effectiveness (Ajibade, Ibietan, & Ayelabola 2017).

Information Technology (IT) has the potential to transform public service delivery in Nigeria by improving efficiency, effectiveness, and quality. However, to fully realise these benefits, there is a need for significant investment in infrastructure, capacity building, and stakeholder engagement. The Nigerian government must prioritise the implementation of IT solutions and provide the necessary resources and support to ensure their success.

Application of ICT to Promote Governance and Productivity in the Public Sector

The utilisation of Information and Communication Technology (ICT) possesses the capability to enhance governance and productivity within the public sector. Information and Communication Technology (ICT) refers to the utilisation of digital technology to manage information and enhance communication. Providing crucial services to the populace is the public sector's responsibility, and the utilisation of information and communication technology can augment the efficacy of service delivery.

One of the main benefits of ICT in the public sector is the improvement of governance. ICT can promote transparency, accountability, and citizen participation in government activities (Aderonmu et al., 2020). For example, the use of online portals and social media platforms can enable citizens to provide feedback, participate in decision-making, and hold government officials accountable. ICT can also improve the efficiency and effectiveness of government operations by automating processes and reducing paperwork.

ICT can also improve productivity in the public sector. It can enhance collaboration and information sharing among government agencies, leading to faster and more efficient service delivery (Oyewole and Adebayo, 2019). For example, using cloud-based platforms and digital communication tools can facilitate real-time collaboration among government officials and stakeholders. ICT can also enable data collection, analysis, and dissemination, which can inform decision-making and improve the quality of public services.

Nevertheless, implementing Information and Communication Technology (ICT) in the governmental sphere is not without obstacles. One of the primary obstacles is the insufficiency of infrastructure and resources. Many public sector organisations in developing countries like Nigeria lack the necessary infrastructure and resources to fully leverage the benefits of ICT (Oyewole and Adebayo, 2019). Another challenge is the lack of technical expertise and capacity. Many public sector employees lack the necessary skills and training to effectively use ICT solutions, which can limit their adoption and effectiveness.

Electronic Governance and Independent National Electoral Commission (INEC)

E-governance applies to the utilisation of information and communication technologies (ICTs) to enhance the efficiency, efficacy, transparency, and accountability of governmental procedures and the provision of services. Governments across the globe, Nigeria inclusive, have extensively embraced e-governance as a means of improving citizen involvement and engagement in governance, expanding access to government services and information, and advancing good governance principles.

INEC has embraced e-governance as a means of enhancing the credibility and transparency of the electoral process, improving voter education and participation, and ensuring timely and accurate election results.

One of the main applications of e-governance in INEC is the use of electronic voting systems. Electronic voting involves the use of ICTs to capture and tabulate votes in real-time, which can reduce the incidence of electoral fraud, increase the speed and accuracy of vote counting, and enhance the transparency of the electoral process (Ikechukwu, 2020). INEC has piloted electronic voting in some local government elections and is exploring the possibility of using electronic voting in future general elections (Iwu, 2019).

Another application of e-governance in INEC is using ICTs to improve voter education and participation. INEC has developed mobile applications, websites, and social media platforms to disseminate information on voter registration, polling locations, election dates, and candidates' profiles. These platforms have increased citizens' awareness of their electoral rights and responsibilities and enabled them to participate more actively in the electoral process (Adebowale et al., 2020).

E-governance has also been used to enhance the transparency and accountability of the electoral process. For example, INEC has developed an online portal for the public to access information on the election process, including voter registration, polling locations, and election results. This has improved the transparency of the electoral process and enabled citizens to hold INEC accountable for its actions (Oyewole and Adebayo, 2019).

Despite the potential benefits of e-governance in INEC, there are also challenges to its implementation. These include the need for robust ICT infrastructure, the cost of implementing and maintaining e-governance systems, and the risk of cyber threats and attacks (Akintoye et al., 2020b). There is also a need for capacity building and training for INEC staff and election observers to effectively utilise e-governance tools and platforms (Oyeyinka and Ajagbe, 2018).

E-governance can potentially improve the efficiency, effectiveness, transparency, and accountability of INEC and enhance the credibility of the electoral process. However, to fully realise the benefits of e-governance, there is a need for continued investment in ICT infrastructure and capacity building and the development of robust cybersecurity measures.

Challenges and successes of e-governance during the 2019 general election

The 2019 general election in Nigeria was a significant step towards achieving e-governance in the country, but it also highlighted several challenges that need to be addressed to ensure a seamless and more transparent electoral process. The use of technology such as card readers and PVCs contributed to the election's relative fairness, even though technical problems and human errors marred their effectiveness (Abiodun, 2020). The adoption of e-governance measures in the 2019 general election revealed both successes and challenges that should be addressed for future elections. Successes include:

- Increased transparency and deepening of democracy in Nigeria through the use of technology (Abiodun, 2020).
- The card reader and PVCs contributed to the achievement of the "one man, one vote" principle by preventing double registration and multiple voting attempts.

Whereas challenges include:

- Technical issues such as faulty card readers, delays in accreditation and voting, and the inability of polling officials to operate the equipment effectively (Abiodun, 2020).
- The persisting use of manual voting in some areas compromised the credibility of the electoral process and fueled mistrust among the Nigerian public (Ojetunde, 2019).

To address these challenges and further improve Nigeria's e-governance in future elections, there is a need for more comprehensive e-voting procedures and better training for electoral officials on the operation and maintenance of voting technology. Furthermore, consistent investment in electoral infrastructure, increased transparency, and measures to minimise election rigging and manipulation will be essential in building trust and encouraging higher voter turnout in future Nigerian elections.

Empirical literature

The integration of information and communication technologies (ICTs) in governance has emerged as a fundamental aspect of government operations and service provision. The integration of e-governance technologies has emerged as a pivotal aspect in the modernisation of governmental apparatus, furnishing a shared framework and orientation throughout the public domain and amplifying cooperation within and between public sector entities, establishments, and populace. E-governance refers to the utilisation of technology to revolutionise government operations, enhance efficacy, optimise service delivery, and foster democratic principles (Richard & Eme, 2015; Holzer & Schwester, 2011).

The importance of e-governance in promoting democratic processes cannot be overemphasised. According to Aliyu (2021), e-governance provides a platform for citizens to participate in governance, enhances transparency and accountability, and promotes good governance. The use of ICTs in election management has also been shown to increase citizens' access to government information and activities (Kurt, 2003). Nigeria's Independent National Electoral Commission (INEC) has adopted e-governance technologies to enhance its service delivery, citizen engagement, and democratic processes.

Several studies have examined the relationship between e-governance and the performance of INEC. For example, a study by Ademiluyi and Oyewunmi (2019) examined the impact of e-

voting on the conduct of elections in Nigeria. The study revealed that e-voting has the potential to improve the credibility and transparency of elections and reduce incidents of electoral malpractice. However, the study also identified challenges such as the cost of acquiring and maintaining e-voting infrastructure, security concerns, and technical issues.

The study conducted by Ajayi and Adejumo (2021) investigated the effects of e-governance on the provision of services in Nigeria. According to the findings of the research, electronic governance has the capability to augment the provision of services, foster openness, and enhance the involvement of citizens. However, the study also identified challenges such as inadequate infrastructure, inadequate funding, and limited technical expertise.

In the context of INEC, the use of ICTs in election management has encountered some challenges. For instance, the 2019 general election in Nigeria experienced card reader breakdown in several polling units, leading to undue delays in the accreditation process by INEC staff. The malfunctioning of card readers and other electoral hurdles necessitated the need for this study, which examines the relationship between e-governance and INEC performance using Abia State as a case study.

Theoretical framework

This study is grounded in a theoretical framework that centres on the concept of e-governance and its effects on the performance of the Independent National Electoral Commission (INEC) in Abia State. The emergence of e-governance can be attributed to utilising Information and Communication Technologies (ICTs) in the public sector, representing a novel concept. Bhatnagar (2004) defines e-governance as the utilisation of ICTs to enhance the government's efficiency, effectiveness, transparency, and accountability in delivering services and executing its functions.

The notion of electronic governance is underpinned by various theoretical frameworks, such as the theory of innovation diffusion, the theory of digital divide, and the institutional theory. According to Rogers (2003), the theory of diffusion of innovation posits that the acceptance of novel technology is contingent upon its perceived utility and simplicity of operation. The theory of digital divide emphasises the significance of mitigating the imbalanced accessibility and utilisation of information and communication technologies (ICTs), particularly in emerging nations (Norris, 2001). The institutional theory posits that the adoption and implementation of e-governance is influenced by both formal and informal institutions, as highlighted by DiMaggio and Powell (1983).

The impact of e-governance on the performance of INEC in Abia State can be analysed through the lens of the public service performance theory. This theory posits that the performance of public organisations is influenced by several factors, including organisational structure, leadership, human resources, and the use of technology (Rainey & Bozeman, 2000). In the context of this study, e-governance can be seen as a factor that influences the performance of INEC by improving its communication with the public, increasing transparency and accountability in the electoral process, reducing bureaucratic bottlenecks in government operations, and leading to cost savings.

The theoretical framework for this study underscores the importance of e-governance in improving the performance of INEC in Abia State. The framework is informed by several theories, including the diffusion of innovation theory, the digital divide theory, the institutional theory, and the public service performance theory.

Research Methodology

The research design for this study was the descriptive case study approach. This design aims to explore the relationship between e-governance and the performance of the Independent National Electoral Commission (INEC) in Abia State, Nigeria. The case study method allows for an in-depth analysis of a specific context, making it suitable for this study. The area of study is in Abia State (Central Senatorial District) – comprising of Ikwuano LGA, Isiala Ngwa North LGA, Isiala Ngwa South LGA, Umuahia North and Umuahia South LGAs, Nigeria, focusing on the INEC offices, polling units, and other relevant stakeholders within the district. The population of the study include INEC officials, polling agents, registered voters, and political party representatives within Abia State. The sample size for this study, according to Glenn's (1992) Table for sample size determination, was one hundred and thirty-four (134), representing about 47% of the total population. Thus, a sample size of 134 participants was chosen for the study. This sample size was adequate enough to properly represent the people and allow for a meaningful analysis of the research questions. A stratified random sampling technique was employed in selecting the participants. The population was divided into strata based on the roles of the participants (INEC officials, polling agents, registered voters, and political party representatives), and random sampling was carried out within each stratum to ensure an equal representation of all groups. Data was collected using a structured questionnaire to gather quantitative data on e-governance and INEC's performance. Participants were eligible for inclusion in the study if they were at least 18 years old, were residents of Abia Central Senatorial District, and had participated in the electoral process as an INEC official, polling agent, registered voter, or political party representative. The quantitative data collected through questionnaires were analysed using descriptive statistics, including frequencies, percentages, means, and standard deviations. The data were also subjected to inferential statistics, such as regression and analysis of variance (ANOVA), to identify any significant differences between groups.

Results and discussion

The demographic analysis of the participants in this study revealed the following: The age distribution of the respondents indicated a predominantly young to middle-aged population, with the majority (35%) of participants falling within the age bracket of 30-39 years. This was followed by the 18-29 years age group (24%), 40-49 years age group (21%), 50-59 years age group (9%), and the least represented age group was 60 years and above, accounting for only 11% of the respondents (Figure 1). In addition, the analysis of years of service of the respondents revealed varied experience levels among the participants. Most respondents (62%) had worked in the commission for nine years or more, indicating significant experience and expertise. Meanwhile, 26% of the respondents had been working in the commission for 4-8 years, and the least experienced group, consisting of 12% of the respondents, had been working in the commission for 0-3 years (Figure 2). These demographic results provide a better understanding of the sample population's characteristics and help to contextualise the findings on e-governance and the performance of the Independent National Electoral Commission (INEC) in Abia State. The participants' age distribution and years of service indicate a mix of both younger and older individuals, as well as varying levels of experience within the commission, which could potentially affect their perspectives on e-governance and the overall performance of INEC in Abia State.

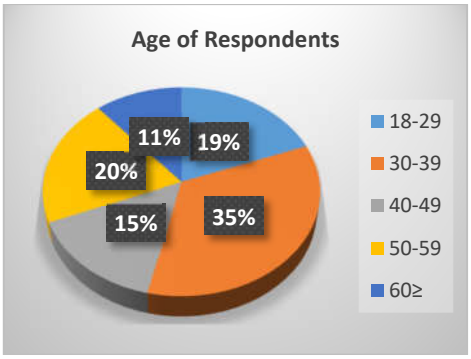

Figure 1: Respondents' Age

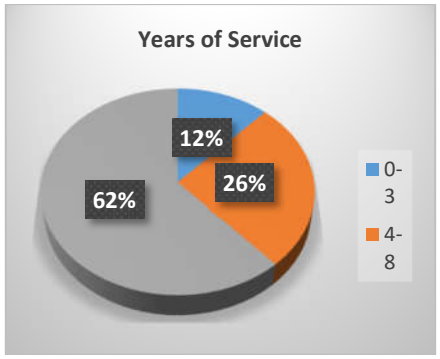

Figure 2: Respondents' years of service

Table 4.1: Pearson moment correlation analysis between ICT and INEC Performance

Variables		ICT	INEC Performance
ICT	Pearson Correlation	1	-.923**
	Sig. (2-tailed)		.000
	N	100	100
INEC Performance	Pearson Correlation	-.923**	1
	Sig. (2-tailed)	.000	
	N	100	100

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.2: Regression Analysis

Summary

R	R square	Adjusted R^2	Std. Error of the Estimate
0.89[a]	0.75	0.77	0.34

a. Predictors: (Constant), E-governance

ANOVA

	Sum of Square	df	Mean Square	F	Sig.
Regression	4.51	1	4.51	32.2	0.000[b]
Residual	1.23	9	0.14		
Total	5.74	10			

a. Predictors: (Constant), E-governance
b. Dependent Variable: INEC Performance

The results of this study indicate that there is a statistically significant relationship between the use of ICT and the performance of INEC in Abia State ($p<0.05$, $r= -0.923$) (Table 4.1), supporting the findings of previous research conducted by Aliyu (2021). Additionally, the study found that the implementation of e-governance had a significant impact on the performance of INEC in terms of service delivery ($p<0.05$) (Table 4.2). This finding aligns with the work of Aliyu (2021) and Beluchi (2020), who reported improvements in organisational performance, data collection, decision-making, operational efficiency, productivity, and communication due to the adoption of e-governance. However, the study also identified several challenges affecting the adoption of e-governance by INEC, as reported by 83.7% of the respondents. These challenges include a lack of ICT infrastructure, resistance to change, inadequate funding, and insufficient security of manpower to manage ICT facilities, among others. These findings are

consistent with previous studies conducted by Ibrahim et al. (2020), Adah (2015), and Richard (2015), who reported similar challenges in the implementation of e-governance in Nigeria.

Conclusion

In conclusion, this study has provided valuable insights into the relationship between e-governance and the performance of the Independent National Electoral Commission (INEC) in Abia State, Nigeria. The results indicate that the adoption of ICT and the implementation of e-governance have a significant positive impact on the performance of INEC, particularly in terms of service delivery. These findings align with previous research conducted by Aliyu (2021) and Beluchi (2020), which demonstrated the potential of e-governance to improve organisational performance, data collection, decision-making, operational efficiency, productivity, and communication. However, despite the apparent benefits of e-governance, the study also identified several challenges that must be addressed to fully realise its potential. These challenges include a lack of ICT infrastructure, resistance to change, inadequate funding, and insufficient security of manpower to manage ICT facilities, among others. Overcoming these challenges will require a concerted effort from various stakeholders, including the government, INEC, political parties, and the public, to create an enabling environment for the successful implementation of e-governance.

Efforts to address these challenges should focus on investing in ICT infrastructure, offering training and capacity-building programs for INEC officials, securing sufficient funding, developing a clear policy framework, promoting internal collaboration and sourcing strategies, and enhancing the security of ICT facilities. By addressing these challenges, INEC can better leverage the benefits of e-governance to improve its performance, enhance service delivery, and ensure a more transparent and credible electoral process in Abia State and beyond. Ultimately, the successful adoption of e-governance in Nigeria's electoral system will contribute to the strengthening of democracy, the promotion of good governance, and the enhancement of public trust in the electoral process. In an era of rapid technological advancements and increasing public demand for transparency, the importance of embracing e-governance to improve the performance of INEC and other public institutions cannot be overstated. By addressing the identified challenges and harnessing the full potential of e-governance, Nigeria can pave the way for a more efficient, transparent, and credible electoral process, ultimately fostering a more inclusive and accountable democratic system.

Recommendations

Recommendations to improve E-governance and the Performance of the Independent National Electoral Commission (INEC) include:

i) Investing in ICT infrastructure to provide adequate resources for the effective implementation of e-governance.
ii) Offering training and capacity-building programs to INEC officials to enhance their technical skills and facilitate their adaptation to new technologies.
iii) Securing sufficient funding to support the adoption of e-governance and the necessary infrastructure.
iv) Developing a clear policy framework and demonstrating political will to support the implementation of e-governance in INEC.
v) Promoting internal collaboration and sourcing strategies to encourage the sharing of best practices and effective implementation of e-governance initiatives.
vi) Enhancing the security of ICT facilities and providing sophisticated backup storage devices to safeguard vital organisational information, as recommended by Bayo (2019).

vii) By addressing these challenges, INEC can better leverage the benefits of e-governance to improve its performance, enhance service delivery, and ensure a more transparent and credible electoral process in Abia State and beyond.

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