



The Impact of E-Government Platforms on Administrative Efficiency in Northwest, Nigeria

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Abstract

Case Studies

E-government refers to the application of modern information and communication technologies, especially web-based internet platforms, by governments to deliver information and services to citizens and businesses in a more efficient and accessible manner. Its primary objective is to enhance service quality while expanding opportunities for public participation in democratic institutions and decision-making processes. E-government serves as a major driver of progress in the twenty-first century by enabling the provision of high-quality, cost-effective public services and strengthening the relationship between citizens and the state. A critical dimension of e-government lies in its ability to improve interaction and engagement between government and citizens. The study assesses the impact of e-government on government practices and presents a generally-applicable framework for analysis towards ensuring public administrative efficiency for better service delivery.

The study examines e-government within the context of public administration theories and practices as a transition into a new digital era. It argues that key contemporary issues surrounding e-government in public administration include the administrative interface particularly the interaction between people and computer systems in governance the management of digital administrative processes and procedures, and the emergence of virtual organizations, exemplified by online government systems. The study conclude that E-governance has significantly improved administrative efficiency by fundamentally changing how government activities are carried out. Traditional methods, which rely heavily on manual paperwork and physical records, are often slow, inefficient, and susceptible to mistakes and duplication. By digitizing records and automating workflows, e-governance creates more organized and coordinated processes. The study recommends that Governments must focus on developing dependable, secure, and scalable digital infrastructure to enable smooth e-governance services. This infrastructure should include fast internet connectivity, data centers, and cloud computing capabilities, particularly targeting rural and underserved communities.

Keywords: E-government, administrative efficiency, public service delivery, digital governance, public administration.

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Introduction

The enthusiasm for e-government is increasingly evident within public organizations and systems of public administration worldwide. Governments are progressively adopting information and communication technologies, particularly internet and web-based platforms, to facilitate service delivery and interaction among government agencies, citizens, businesses, public employees, and other non-governmental organizations. As noted by Jim Melitski on the E-Government page of the American Society for Public Administration (ASPA) website, “Across the world, public organizations are beginning an ‘e-government journey’ by publishing static information to the Internet and establishing an on-line presence, in the hope that they too will experience increases in efficiency, effectiveness, and organizational performance” (Jim Melitski, 2001). An increasing number of researchers and practitioners are seeking a shared understanding of e-government models and initiatives. E-government can be conceptualized as a continuum that ranges from the online dissemination of static information by public organizations to interactive web-based communication, electronic transactions, and ultimately integrated one-stop virtual government services. It reflects the expanded use of technological innovations that drive the reengineering of government operations and enhance timely public access to information. In recent years, e-government has emerged as a significant global trend in public administration. It involves leveraging digital technologies to provide services to citizens, businesses, and various stakeholders. E-government is widely regarded as a means to enhance the efficiency and effectiveness of public service delivery, encourage citizen engagement in governance, and foster greater transparency and accountability in government processes. The evolution of e-government has been significantly influenced by rapid technological progress and the evolving expectations of the public regarding government responsiveness and accessibility. Digital tools in government service delivery offer the potential to fundamentally transform how public institutions interact with citizens. By offering accessible and user-friendly online

services, e-government can close the gap between citizens and their governments, making services available anytime and from any location. This, in turn, can boost public participation and reduce the costs and delays commonly associated with traditional service models. Furthermore, digital platforms can enhance the speed and quality of service delivery through real-time data access and reduced administrative workloads.

However, despite these potential advantages, implementing e-government systems presents notable challenges. The success of such initiatives hinges on several factors, including the availability of reliable technological infrastructure, the ability of public agencies to manage and execute complex IT projects, the public’s willingness to adopt new technologies, and the capacity of governments to ensure the privacy and security of electronic interactions. These complexities contribute to varying degrees of success across countries some have made substantial progress, while others continue to encounter difficulties in achieving effective implementation. The role of e-government in improving service delivery remains a focal point of contemporary research. While studies indicate that digital governance can enhance access, quality, and citizen satisfaction, they also acknowledge the implementation barriers and inconsistent outcomes (Fang, 2002). The ongoing debate centers on the extent to which e-government can reliably improve public services.

Globally, governments are striving to enhance the delivery of public services by increasing efficiency and responsiveness. E-governance is increasingly perceived as a continuation of public sector reform aimed at boosting internal productivity and responsiveness to citizens. It encompasses the use of ICTs such as the internet and mobile technologies by governmental bodies to promote good governance, strengthen civic engagement, and forge new partnerships within society (Fang, 2002). Much like the rise of e-commerce, e-governance signifies a wave of digital innovation and organizational transformation, propelling governments into the 21st century with more cost-effective, high-

quality services and improved relationships with the public. In developed nations, many government agencies have embraced ICTs to streamline online operations, expand digital access and skills, introduce interactive platforms for civic dialogue, and increase citizen involvement in regional planning and management (Graham & Aurigi, 1997). The integration of information technology into governance has significantly broadened citizen participation across all levels of government. Online discussion platforms and the ability to form and mobilize interest groups quickly have made public engagement more accessible and impactful. For governments, these technologies offer the potential to enhance service delivery by improving efficiency and timeliness, lowering transaction costs, and increasing accessibility (UNESCO, 2005). Danfulani (2013) links the rise of e-governance to significant advancements in information and communication technology (ICT), especially the development of digital tools such as personal computers, the internet, mobile telephony, and a range of electronic applications. These technologies have improved the flow, accessibility, and distribution of information, thereby enhancing interaction between citizens and government. Consequently, public administration has become more efficient, transparent, and cost-effective. Akbar (2004) supports this view, noting that e-governance is transforming public service delivery on a global scale by integrating services in unprecedented ways. The application of ICT, therefore, plays a vital role in achieving efficient and effective governance.

E-governance also serves as a strategic political instrument aimed at fostering good governance by enhancing communication and interaction between the state and its citizens. It promotes greater transparency and openness in public administration. Kim (2016) argues that this innovation enhances both administrative performance and democratic engagement by enabling public participation and oversight through interactive web-based platforms. Governments around the world are increasingly incorporating digital technologies as a core element of administrative reforms, with the aim of digitizing governance processes. E-government leverages ICT especially the internet

and web platforms—to automate and streamline service delivery for citizens, businesses, and other stakeholders. The World Summit on the Information Society emphasized in its 2003 Geneva Plan of Action the importance of ensuring that all levels of government are digitally connected and have functional websites and email systems (WSIS, 2005). However, e-government is more than simply deploying new technology; it also involves significant organizational and procedural changes that align administrative structures with digital capabilities (National Research Council, 2002). As a modern governance practice, e-government represents a shift from traditional bureaucratic systems to more participatory and responsive governance models. It is not just the digitization of existing services but rather a transformation of the entire governmental approach to service delivery. The global movement toward e-government reflects its role as a technology-enabled pathway to achieving good governance. By adopting e-government systems, nations aim to reduce operational costs, enhance service quality, and improve efficiency across all levels of the public sector.

Problem Statement

In the past, information flows within government ministries, departments and agencies through the use of files, memos, circulars, etc on the one hand; on the other hand, information flows between the government and the governed have been mainly through the use of dispatch, riders, post offices, courier services etc. Then, the medium was regarded as powerful tools and most effective means for information dissemination by governments the world over. However, the fast evolving world has rendered the use of such medium to disseminate information obsolete and untenable. It is not the mere flow of information but how and the time end users are able to access information in a superfast and most convenient manner to both end users through innovation in technology. Technological innovations have given birth to the concept of e-governance. E-governance enables the fast flow of information management between government and the governed in an unimaginable quantum. Fengchung (2003) argues that in response to increasing demands for

transparency, integrity, efficiency, and administrative capacity, the development of e-government has become central to the reform efforts of the Chinese government. Through the optimization of governmental management processes, e-government facilitates a more rational allocation of social resources and enhances overall societal benefits, thereby safeguarding the collective welfare of society.

Windrum (2008) contends that the public sector can act as an innovator in multiple ways, extending beyond the delivery of public services and policy outcomes to include the nature and quality of its interactions with stakeholders and external actors. Supporting this view, Kelly, Mulligan, and Muers (2012) emphasize that innovation enables governments to generate new public value defined as the value created through public services, legal frameworks, regulations, and other governmental actions. Similarly, Alberto (2010) maintains that the adoption of ICT within the public sector is a critical strategy for achieving various dimensions of public value, fostering innovation both upstream in policy formulation and service design, and downstream in service production and final delivery. The transformative role of Information and Communication Technology (ICT) in governance is increasingly acknowledged across the globe. In line with this global shift toward digital governance, Nigeria has taken important steps to implement e-government initiatives aimed at enhancing the efficiency of public administration. Despite the significant potential of these initiatives to revolutionize service delivery, their actual impact on administrative efficiency particularly at the state level remains insufficiently studied (Adebayo, 2018). As a developing nation, Nigeria faces persistent challenges in its efforts toward administrative reform and the realization of good governance. Issues such as corruption, inefficiency, and poor public service delivery have created an urgent need for the adoption of digital solutions to address systemic administrative inefficiencies (Adebayo, 2018). At the national level, the launch of the National E-Government Master Plan in 2001 marked a major effort to drive digital transformation in government operations. The plan aims to introduce ICT-based solutions to enhance service delivery, streamline

administrative procedures, and combat corruption (Olatokun & Gil-Garcia, 2017).

E-government in Nigeria is widely seen as a critical strategy for improving transparency, accountability, and operational efficiency in governance. Driven by ongoing technological progress, the Nigerian government has increasingly focused on digitizing processes to modernize service delivery and reduce bureaucratic red tape (Ojo, 2017). In Kano, Jigawa and Zamfara States e-government programs have been rolled out to reform administrative systems, reduce delays, and boost service efficiency. Nevertheless, the actual results of these efforts in the two states remain largely understudied and unquantified (Ogunlade & Khamis, 2021). Administrative efficiency refers to the ability of government institutions to effectively manage resources, deliver services promptly, and meet the needs of the population. It includes improving the speed and accuracy of operations, cutting down bureaucratic obstacles, and promoting openness in governance (Olaniyan & Okunoye, 2018). E-government, through its reliance on digital tools and platforms, seeks to enhance these dimensions by digitizing service delivery, enabling real-time data processing, and establishing more direct communication channels between government bodies and citizens (Akinbode, 2019).

However, it has been observed that the application of e-government as a means of simplifying government activities and tasks despite its tremendous advantages leave much to be desired and this has manifested in symptoms of inefficiency, ineffectiveness, delay in service delivery, low awareness of government activities. Also, the non-adoption of e-government has further exacerbated the suspicion between the governments and the governed with respect to public accountability and this highly negate the principle of Freedom of Information Act 2011. It has also marred the positive expectations of having an e-government platform for modern administration. It is against the foregoing facts that the study “the impact of

e-government on administrative efficiency in Northwest, Nigeria emerged”.

The use of ICT also expands opportunities for citizen engagement in governance through online forums and enhances the formation and influence of pressure groups. For governments, this results in improved service speed, reduced transaction costs, and greater accessibility of public services (UNESCO, 2005). According to Danfulani (2013), e-governance emerged as a response to the ICT revolution, which includes technologies such as personal computers, the internet, mobile communication, and various digital applications. However, the real-world effectiveness of these initiatives remains unclear in states like Kano and Jigawa States, Zamfara, where limited infrastructure and technical capacity hinder their full implementation. The success of e-government in significantly improving administrative efficiency depends on overcoming challenges related to inadequate infrastructure and a shortage of skilled human and technological resources (Mogaji & Owolabi, 2021). These issues underscore the importance of this study, which aims to evaluate the actual impact of e-government on administrative efficiency in Kano and Jigawa States, Zamfara States.

Objective(s) of the Study and Research Questions

The general objective of the study is to determine the impact of e-government on public administrative efficiency in Northwest, Nigeria. Specifically, the study intends to:

- i. Assess the availability of e-government online platforms for public administrative efficiency in Northwest, Nigeria.
- ii. Ascertain the usage of e-government online platforms for public administrative efficiency in Northwest, Nigeria.
- iii. Determine whether availability and usage of digital information will impact citizen's participation in improving

public administrative efficiency in Northwest, Nigeria.

Research Questions:

- i. How available are e-government online platforms for public administrative efficiency in Northwest, Nigeria?
- ii. To what extent is the usage of online platforms for public administrative efficiency in Northwest, Nigeria?
- iii. How might the availability and usage of e-government digital information impact citizens' participation for public administrative efficiency in Northwest, Nigeria?

Literature Review

Bassey, Uchendu, and Ewa (2023) investigated the relationship between e-governance and public accountability within Nigeria's Federal Inland Revenue Service (FIRS). The study reviewed relevant theories and models of e-governance and accountability to deepen understanding of how digital governance practices influence accountability outcomes in the Nigerian public sector.

Dahiru, Yusuf, and Yerima (2022) explored the connection between e-governance and public service delivery in Nigeria by examining the role of stakeholders in the implementation of e-governance initiatives. Their findings reveal that e-governance enhances service delivery when supported by active stakeholder participation. The study further shows that successful implementation depends largely on effective communication, strong organizational capacity, alignment of shared values and objectives, and the availability of robust ICT infrastructure.

Macdonald, Nnaji, and David (2022) assessed the application and impact of e-governance tools by the Independent National Electoral Commission (INEC) during Nigeria's 2019 general elections. The authors recommend that the federal government urgently enforce the comprehensive adoption of e-governance and modern technologies in future elections. They also emphasize the need for high-quality card readers and electoral devices that meet

international standards to curb electoral manipulation and enhance transparency.

Ukwuoma, Elisha, and Oye (2022) conducted a comparative analysis of e-governance practices in selected developed countries, including the United States, the United Kingdom, and Canada, and examined their implications for Nigeria as a developing economy. The study identifies key challenges facing Nigeria, such as inadequate technical expertise and insufficient ICT skills required to sustain e-government initiatives. It further highlights the need for the Ministry of Communications Technology and Digital Economy to develop a national digital backbone linking all states, alongside workforce upskilling through the Ministry of Labour and Employment.

Vanger and Nicodemus (2021) examined the effect of e-administration on administrative efficiency in the Taraba State Civil Service using a survey research design. Drawing on data from staff across ten pioneering ministries, the study found that e-administration is negatively associated with short-term cost efficiency due to high initial implementation costs. The authors conclude that the Taraba State Government should adopt a comprehensive change management framework to address rapid technological changes and enhance employee motivation as ICT adoption expands.

Basu (2020) provided a detailed analysis of how e-government initiatives are being implemented and the impact they have in developing countries. The study focused on the role of ICTs in improving public administration by increasing efficiency, transparency, and the quality of service delivery. Basu explored the different domains of e-government, including government-to-citizen (G2C), government-to-business (G2B), and government-to-government (G2G) interactions. The paper highlighted e-government's transformative potential to streamline traditional bureaucratic systems, combat corruption, and enhance civic participation. However, the study also acknowledged the numerous barriers that developing nations face, such as limited ICT infrastructure, low levels of digital literacy, and institutional resistance to change. Basu emphasized that a supportive policy framework,

capacity-building efforts, and international collaboration are crucial to overcoming these challenges. Drawing on case studies from several countries, the study illustrated both successful e-government implementations and ongoing struggles. The findings revealed that the effectiveness of e-government depends heavily on political commitment, stakeholder engagement, and the ability of public institutions to adapt. Basu called for a strategic, long-term approach that includes strong infrastructure, effective planning, and regular evaluation to ensure that digital government efforts lead to meaningful improvements. The study serves as a valuable resource for decision-makers and researchers focused on leveraging technology to advance public sector reform in developing regions.

Bertot et al. (2019) explored the role of Information and Communication Technologies (ICTs) in promoting government transparency and curbing corruption, particularly through e-government platforms and social media. The authors argued that ICTs enhance openness by providing channels for disseminating information, fostering citizen engagement, and ensuring accountability. E-government tools such as digital service portals help reduce bureaucratic inefficiencies and limit opportunities for corruption by making administrative processes more transparent and accessible. Meanwhile, social media allows for direct, real-time interaction between governments and the public, facilitating feedback, public oversight, and dialogue. The study offered an in-depth assessment of how ICTs can be strategically applied to build transparent governance systems. It emphasized that beyond technology, successful adoption depends on supportive legal frameworks, progressive policies, and a genuine commitment to transparency from public officials. Drawing on global case studies, the research showcased both achievements and challenges in implementing ICTs in governance. Findings suggested that, when executed effectively, these technologies democratize access to information, empower citizens, and encourage participatory governance. However, the authors cautioned that ICTs are not a standalone solution to corruption. They stressed the need for complementary

measures such as public education, anti-corruption policies, and continual evaluation of digital initiatives. In summary, the study underscored the potential of ICTs especially e-government and social media as powerful tools for building open and accountable public institutions.

Diebe and Quadri (2018) investigated the scope and effectiveness of e-government initiatives within Nigeria's federal government. The study contends that although technologies such as the internet, official websites, email, and social media are in use, they have not sufficiently facilitated integrated technological efforts capable of strengthening connections between citizens and government. The findings reveal a negative relationship between e-governance initiatives and the efficiency of federal service delivery, as well as a weak and adverse relationship between citizens and the federal government. The study further identifies key challenges hindering the adoption of proactive e-governance practices and proposes policy measures to address the existing constraints.

Tenimu (2017) investigated e-government and service delivery at Nasarawa State University between 2007 and 2011. The study evaluated the effectiveness of e-government services at the university, revealing that overall service delivery was suboptimal. Drawing on Byars and Rue (2006), the research suggested that one cause is public organizations' failure to fully embrace e-government and its benefits. Using a survey methodology and the Taro Yamani sampling technique, the study collected data from 399 respondents, with 315 completed questionnaires analyzed. A descriptive analysis was conducted to assess the impact of e-government on service delivery. Results indicated that online fee payment, registration, and result checking negatively affected service delivery at Nasarawa State University. However, other factors, not explicitly addressed in the research questions, showed a positive and significant influence on service delivery. Overall, the model explained 97% of the variance in service delivery based on the independent variables studied. The research recommended upgrading the university's ICT infrastructure to improve online registration, ensure timely result posting, and enhance

accuracy in result entry. Additionally, it advocated for ongoing collaboration with the National Information Technology Development Agency (NITDA) and the immediate implementation of ICT upgrades to protect against cyber-attacks.

Heeks (2016) offered a thorough framework for comprehending the complexities and evolving nature of e-governance initiatives. This study summarized Heeks' main arguments and approaches, emphasizing essential success factors such as active stakeholder involvement, strong IT infrastructure, and flexible organizational cultures. Heeks also highlighted the need to address specific challenges faced by developing countries, including digital divides and institutional resistance to change. Through analysis of case studies and empirical evidence, the work provided practical guidance on how to implement e-governance effectively. This overview demonstrates the continued significance of Heeks' research in current e-governance discussions, especially for developing nations pursuing digital transformation. The insights from this book are valuable for policymakers, administrators, and researchers aiming to manage the complexities of e-government initiatives successfully.

Adegoroye, Oladejo, and Yinus (2015) conducted a study in Ogun State using a survey method in which 150 questionnaires were administered to both senior and junior staff across three selected government ministries, with 50 respondents drawn from each ministry. Of these, 125 questionnaires were deemed valid for analysis. The findings indicate that electronic operational systems enhance government employees' technological competencies and facilitate greater global connectivity. Additionally, e-government reduces congestion and long queues in ministries and departments, thereby easing the burden on citizens seeking public services. The results of the hypothesis testing further confirm that e-government improves public sector service delivery by enhancing transactional convenience, reducing time and service costs, and ultimately strengthening customer relations and satisfaction.

Chen et al. (2015) examined how big data analytics (BDA) is reshaping supply chain management (SCM) by enhancing value creation through better decision-making, increased efficiency, and innovation. Using a mixed-methods approach, the study combined quantitative survey data from supply chain professionals with qualitative case studies and expert interviews to gain a comprehensive understanding of BDA's role in SCM. The researchers found that BDA allows organizations to process large volumes of data in real time, enabling more precise forecasting, inventory control, and demand planning. This leads to cost reduction and greater adaptability to market shifts, providing a strategic advantage. In addition, BDA supports innovation through predictive and prescriptive analytics, which improve strategic planning and proactive issue resolution. Key success factors for implementing BDA included robust technological infrastructure, high-quality data, and organizational preparedness. The study also stressed the need for a data-driven culture and skilled personnel capable of interpreting analytical insights. Furthermore, effective collaboration throughout the supply chain was identified as essential for maximizing BDA's benefits. Ultimately, the authors concluded that

BDA significantly contributes to value creation in SCM by driving efficiency, enabling innovation, and supporting competitive strategy. Their findings offer practical guidance for managers and policymakers aiming to harness data analytics to improve supply chain performance.

Methodology

Population

The study will use probability sampling technique where the researcher selected some respondents. The study purposively selected Kano, Zamfara, and Katsina States with their total population of 550 (Kano 250, Zamfara 120, and Katsina 180). The formula is given by $n = \frac{N}{1 + N(e)^2}$; Where: n = sample size, N = Population size, e = margin of error set at 5%.

$$n = \frac{N}{1 + N(e)^2}$$

$$550 / 1 + 550(0.0025)$$

$$550 / 2.325$$

$$n = 237$$

$$237 / 550 * 100 =$$

$$43\%$$

Summary of sampling frame

S/N	State	SAMPLING FRAME	SAMPLE SIZE 43%
1	Kano	250	105
2	Zamfara	120	53
3	Katsina	180	79
TOTAL		550	237

Method of Data Collection

To obtain relevant and reliable data for this study, primary data sources will be utilized. The primary data will be collected directly from respondents through a survey. Specifically, structured questionnaires will be administered to a selected sample of respondents. Information on

both the independent and dependent variables will be gathered from these participants.

Technique of Data Analysis

This section discusses the various methods of analyses that are intended to be used in this

research, namely: descriptive and inferential statistics.

Descriptive statistics

The study employs the use of descriptive statistics to analyze the responses. The simple mean, standard deviation, minimum, maximum, Skewness, and Kurtosis are calculated using the Statistical software package (Stata) to analyze the impact of e-government on public administrative efficiency in Northwest, Nigeria. The study also analyzed whether socio-demographic attributes of the respondents can explain and determine the impact of e-government on public administrative efficiency in Northwest, Nigeria

The Multiple Regression Model

The Ordinary Least Square (OLS) model will be employed to estimate the impact of e-government on public administrative efficiency in Northwest, Nigeria. OLS model showing the relationship between dependent and independent variables can be expressed as:

$$y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \dots \beta_t X_t + \varepsilon_t$$

.....(3.1)

In this study, the dependent variable YYY and the independent variables $(X_1, X_2, X_3, \dots, X_k)$ ($X_1, X_2, X_3, \dots, X_k$) are observable scalar quantities, meaning they can be measured from a random sample of the population. The term ε represents an unobservable random error, while $\beta_0, \beta_1, \beta_2, \dots, \beta_k$ ($\beta_0, \beta_1, \beta_2, \dots, \beta_k$) are the parameters to be estimated. Estimation using the Ordinary Least Squares (OLS) technique relies on several key assumptions, including: (i) linearity of the model parameters, (ii) zero mean of the error term ($E(\varepsilon) = 0$), (iii) homoscedasticity, meaning the variance of the error term is constant ($\varepsilon \sim iid(0, \sigma^2)$), (iv) zero correlation between the error term and the explanatory variables ($cov(X_j, \varepsilon) = 0$), (v) correct model

specification, and (vi) absence of perfect multicollinearity among the independent variables. Based on these assumptions, the empirical OLS model for beneficiaries of the Anchor Borrower Programme is specified as follows:

Model Specification

$$EAD = \alpha_0 + \beta_1 QSD_1 + \beta_2 EPS_2 + \beta_3 ACS_3 + \beta_4 AIP_4 + \beta_5 AIA_5 + \beta_6 EEA_6 + \beta_7 ICTD_7 + \varepsilon_t \dots \dots \dots (3.2)$$

Where

EAD = E-Administration

QSD = Quality service Delivery

EPS = Electric power supply

ACS = Adequate computer systems

AIP = Adequate ICT personnel

AIA = Adequate internet access

EEA = Enabling policy and regulatory framework on E-Administration

$ICTD$ = ICT Deployment

Validity and Reliability

Validity: The Validity of the instrument will be ascertained using Criterion and Content Validity.

Reliability: The best way for testing reliability of the instrument deployed in this study is through Cronbach alpha test (sometimes called coefficient alpha). This tool measures how consistently participants respond to one set of items. This can also be regarded of as average of the correlations between items.

Results and Conclusion

Profile of the Respondents

This chapter presents the profile of the respondents, and the results found in the analysis of the study as follows:

Table 4.1: Profile of the Respondents

Major Category	Sub-Category	Frequency	Percent
Gender	Male	150	74%
	Female	54	26%
	Total	204	100%
Education	Primary/Secondary	-	-
	Diploma/NCE	79	39%
	HND/Degree	110	54%
	Others	15	7%
	Total	204	100%
Age	18-25	33	16%
	26-35	105	51%
	36-50	60	29%
	51 & above	6	3%
	Total	204	100%
Marital Status	Married	162	79%
	Single	42	21%
	Divorce	-	-
	Total	204	100%
Working Experience	Less than 5years	27	13%
	Between 5 & 10years	117	57%
	Between 11 & 15years	27	13%
	Over 20years	33	16%
	Total	204	100%

Source: Primary Data, 2025.

The respondents' profile is detailed as follows: To assess the respondents' characteristics, the study used a close-ended questionnaire found in the first section. Frequency and percentage distributions were applied to summarize participants' responses based on gender, age, and educational level. According to Table 4.1, the majority of respondents were male, totaling 150 (74%), while females accounted for 54 (26%). Regarding age, most respondents 105 individuals (51%) were between 26 and 35 years old. This was followed by 60 respondents (29%) aged 36 to 50 years, 33 respondents (16%) aged 18 to 25 years, and 6 respondents (3%) aged 50 years and above.

In terms of education, Table 4.1 shows that 79 respondents (39%) held Diploma/NCE qualifications, 110 respondents (54%) had HND/Degree qualifications, and 15 respondents (7%) possessed other certificates. Concerning marital status, 162 respondents (79%) were married, while 42 respondents (21%) were single. Finally, for work experience, 27 respondents (13%) had less than 5 years of experience, 117 respondents (57%) had between 5 and 10 years, another 27 respondents (13%) had between 11 and 15 years, and the remaining 33 respondents (16%) had over 20 years of experience.

Data Analysis

Table 4.2: Level of E-Governance

Government-to- Citizens (GTC)	Mean	Std. Deviation	Interpretation	Rank
Government services are delivered in a timely manner.	3.1667	1.0981	High	

The procedures for accessing government services are clear and simple.	4.4444	0.5113	Very High	
Government staff are competent and helpful in addressing my concerns.	4.3333	0.4850	Very High	
There is minimal bureaucracy in the delivery of government services.	4.0000	0.7669	Very High	
Government offices are adequately staffed to serve the public.	2.8333	0.9858	Low	
Sub Total	3.7555	0.7694	High	1
Government-to-Business (GTB)				
The process for registering or licensing a business is straightforward and efficient	3.2222	1.2628	High	
Government agencies provide timely support and responses to business inquiries.	4.1111	0.7584	Very High	
Regulatory requirements are clearly communicated to businesses.	2.8889	0.6764	Low	
The government minimizes bureaucratic hurdles in business-related processes.	4.2222	0.4277	Very High	
Government agencies coordinate well when handling business services and permits.	4.3333	0.4850	Very High	
Sub Total	3.7555	0.7221	High	2
Government-to-Government (GTG)				
There is effective coordination and communication between government agencies.	3.0213	1.1874	High	
Administrative processes between government institutions are standardized and streamlined.	3.5413	0.9424	High	
Decision-making across government agencies is supported by efficient administrative procedures.	2.3425	0.6753	Very Low	
Government agencies provide adequate administrative support to one another when needed.	3.2222	1.2628	High	
Redundancies and duplications in government processes are minimized through collaboration.	4.0000	0.7669	Very High	
Sub Total	3.2255	0.9670	High	3
Government-to-Employees (GTE)				
The quality of our products make it easy for us to acquire more customers.	2.8333	0.9851	Low	
More customers patronize our products often.	3.2222	1.2628	High	
Fulfilling the needs of our customers give us upper hand in the market.	2.8333	0.9851	Low	
Administrative delays rarely interfere with my ability to perform my duties.	2.8889	0.6764	Low	

Procurement and resource requests are processed in a timely manner.	2.3425	0.6753	Very Low	
Sub Total	2.8240	1.5282	Low	4
Total	3.3901	0.9967	High	

Source: Primary Data, 2025

Level of Government-to-Citizens

The level of government-to-citizens interaction was assessed based on service delivery, transparency, and accountability. The responses were analyzed using mean scores and rankings, as shown in Table 4.2. The results indicate a very high level of government-to-citizens engagement, with a mean score of 3.7555 and a standard deviation of 0.7694. This aligns with the findings of Dalh (2019), who also reported a very high level of government-to-citizens interaction. However, it contradicts Tilly's (2004) findings, which suggested that government-to-citizens engagement is low.

Level of Government-to-Business

Government-to-business interactions were evaluated through regulatory efficiency and compliance with tax and financial obligations. Analysis of the responses using means and rankings, as presented in Table 4.2, shows a high level of government-to-business engagement, with a mean of 3.7555 and a standard deviation of 0.9670. This supports Smith and Johnson's (2020) conclusion that government-to-business relations are high but contrasts with Kaufman's (2019) finding that these interactions are moderate.

Level of Government-to-Government

The level of government-to-government interaction was measured by examining the policy and legal framework. The data, analyzed through mean scores and rankings, reveal a low level of government-to-government interaction, with a mean value of 3.2255 and a standard deviation of 0.9670, as shown in Table 4.2. This finding agrees with Dimitrova (2017), who also found low government-to-government engagement, but it opposes Thompson's (2020) report that government-to-employees interaction is very low.

Level of Government-to-Employees

Government-to-employees interaction was assessed through factors such as employee satisfaction, engagement, training, and career development. The analysis of mean scores and rankings indicates a low level of government-to-employees engagement, with a mean of 2.8240 and a standard deviation of 1.5282, according to Table 4.2. This is consistent with Ahlquist and Levi's (2019) findings of low government-to-employees interaction but contrasts with Freeman and Medoff's (2018) conclusion that this interaction is very low.

Table 4.3: Level of Administrative Efficiency

Resource Utilization Time Management	Mean	Std. Deviation	Interpretation	Rank
E-governance systems help reduce the time required to complete administrative tasks.	4.5556	0.5113	Very High	
Government resources are effectively utilized in the development and implementation of e-governance platforms.	4.0000	0.0000	Very High	
E-governance tools help minimize duplication of effort and wastage of resources.	2.8889	0.6764	Low	

Staff are adequately trained to use e-governance systems effectively, saving time and reducing errors.	4.3333	0.4850	Very High	
The implementation of e-governance has led to better time management in citizen service delivery.	4.1111	0.7584	Very High	
Sub Total	3.9778	0.4862	High	2
Cost Efficiency				
E-government initiatives reduce overall government operating costs.	4.4444	0.5113	Very High	
The use of digital platforms minimizes the need for physical infrastructure and paperwork.	4.4444	0.5113	Very High	
E-government services help cut down on staffing and administrative overhead costs.	4.5000	0.5145	Very High	
The cost of maintaining e-government platforms is justified by the benefits received.	4.3333	0.4850	Very High	
-government reduces the cost of delivering services to citizens and businesses.	3.1667	1.0981	High	
Sub Total	4.1778	0.6240	Very High	1
Employee Productivity and Engagement				
E-government systems help me perform my job more efficiently.	4.3333	0.4850	Very High	
E-government platforms reduce repetitive tasks and free up time for more meaningful work.	4.1111	0.7584	Very High	
The use of technology at work has improved the quality of services I can provide.	3.1667	1.0981	High	
Training provided on e-government tools helps improve my job performance.	4.0000	0.0000	Very High	
E-government platforms support collaboration and communication with other employees and departments.	2.8889	0.6764	Low	
Sub Total	3.7000	0.6036	High	3
Total	3.9519	0.5713	High	

Source: Primary Data, 2025.

Level of Resource Utilization Time Management

Resource utilization time management was assessed based on efficiency and productivity levels. The responses were analyzed using means and rankings, as presented in Table 4.3. The results show a very high level of resource utilization time management, with a mean score of 3.9778 and a standard deviation of 0.4862. This aligns with Davenport and Short's (2018) findings, which indicate high resource utilization time management. However, it contrasts with Thompson's (2020) findings, which reported

very low levels of resource utilization time management.

Level of Cost Efficiency

Cost efficiency was evaluated using an efficiency index. Analysis of the responses through means and rankings, as shown in Table 4.3, reveals a very high level of cost efficiency, with a mean score of 4.1778 and a standard deviation of 0.6240. This supports Fitzgerald and Moon's (2018) findings, which indicate very high cost efficiency, but contradicts the findings of Homburg et al. (2020), who reported very low cost efficiency.

Level of Employee Productivity and Engagement

Employee productivity and engagement were measured through indicators of employee productivity and engagement levels. The analysis of responses using means and rankings, as displayed in Table 4.3, indicates a high level

of employee productivity and engagement, with a mean score of 3.7000 and a standard deviation of 0.6036. This corresponds with Kotter's (2020) findings of high employee productivity and engagement but differs from Locke and Latham's (2002) findings, which reported low cost efficiency.

Table 4.4: Correlation between E-Governance and Administrative Efficiency

Variables Regressed	R	R ²	Sig	Interpretation	Decision on Ho
E-Governance and Administrative Efficiency	0.801	0.601	0.000	Significant effect	Rejected

Source: Primary Data, 2025.

The results in Table 4.4 show that e-governance has a positive and significant correlation with all aspects of administrative efficiency (sig. 0.000). This finding aligns with previous research, such as Meyer (1999), who found that increases in e-governance lead to improvements in administrative efficiency. The positive relationship is further supported by an R value of 0.801, indicating a strong correlation between e-governance and administrative efficiency. This suggests that as organizations enhance their e-governance practices, administrative efficiency is likely to improve.

Additionally, the R value of 0.801 indicates a strong positive trend over time between these

variables, particularly when effective measures are implemented. This applies to all variables examined in the study. Consequently, the null hypothesis was rejected, and the alternative hypothesis accepted, concluding that a significant relationship exists between e-governance and administrative efficiency among employees of selected government ministries in Kano, Jigawa and Zamfara states. Therefore, an increase in e-governance contributes to improved administrative efficiency. These findings are consistent with studies by Bertot et al. (2019), Basu (2020), and Heeka (2016), but contradict the results of Tenimu (2017) and Byars and Rue (2006).

Test of Hypothesis

Table 4.5: Regression Analysis on E-Governance and Administrative Efficiency

Variables Regressed	R	F	Sig.	Interpretation	Decision
E-Governance and Administrative Efficiency	0.801	60.087	0.000	Significant effect	Rejected
	Beta	T	Sig	Significant effect	Rejected

Government-to-citizens	.298	2.403	.015	Significant effect	Rejected
Government-to-business	.210	3.077	.017	Significant effect	Rejected
Government-to-government	.423	7.009	.000	Significant effect	Rejected
Government-to-employees	.187	1.412	.024	Significant effect	Rejected

Source: Primary Data, 2025

Similarly, Table 4.5 shows that the model accounts for 80.1% of the variation in administrative efficiency ($R^2 = 0.801$, $p < 0.07$). The remaining 19.9% of the variation is attributed to external factors not included in the model, such as government policy. The hypothesized relationship was confirmed by the results of the bivariate Pearson correlation, which revealed positive correlations between each dimension of e-governance and administrative efficiency, although the strength of these correlations varied.

Furthermore, the Beta coefficients indicate the relative contribution of each component to administrative efficiency: government-to-government had the highest contribution at 0.423, followed by government-to-citizens at 0.298, government-to-business at 0.210, and government-to-employees at 0.187. The regression analysis in Table 4.5 also confirms a positive and significant correlation between e-governance and administrative efficiency ($F = 60.087$, $\text{sig.} = 0.000$). This suggests that increased government commitment to providing necessary e-governance inputs leads to improved administrative efficiency among employees of selected government ministries in Kano and Jigawa states. This is further supported by significance values of 0.15, 0.17, 0.00, and 0.24, respectively.

Based on the findings from Tables 4.4 and 4.5, the null hypothesis is rejected and the alternative hypothesis accepted, concluding that there is a significant positive relationship between e-governance and administrative efficiency among employees of the selected government ministries in Kano, Jigawa and Zamfara states. These

results are consistent with studies by Bertot et al. (2019), Basu (2020), and Heeka (2016), but contradict findings by Tenimu (2017) and Byars and Rue (2006). Additionally, the R^2 value of 0.801 indicates that approximately 80% of the variation in administrative efficiency is explained by e-governance, while the remaining 20% is due to other factors not captured in the model.

Conclusion

E-governance has significantly improved administrative efficiency by fundamentally changing how government activities are carried out. Traditional methods, which rely heavily on manual paperwork and physical records, are often slow, inefficient, and susceptible to mistakes and duplication. By digitizing records and automating workflows, e-governance creates more organized and coordinated processes. This shift drastically cuts down the time needed for routine tasks and allows government officials to access, share, and handle information smoothly across various departments. Integrated digital systems provide real-time data availability, speeding up administrative work and enabling faster, well-informed decision-making that benefits both government personnel and citizens.

Beyond boosting efficiency, e-governance is crucial in enhancing transparency within government functions. By making information readily accessible through online platforms, it empowers citizens to monitor their applications, retrieve public documents, and stay updated on government programs and policies. This openness fosters accountability, as officials are more accountable when their actions are visible and open to public review. Additionally, e-

governance promotes inclusivity by extending services to wider populations, including those in remote or underserved regions. By overcoming geographical and economic barriers, digital tools help close the digital gap, ensuring fair access to government services and encouraging greater social inclusion.

Automation and advanced technology play a key role in ensuring the accuracy and dependability of administrative processes under e-governance. Automated systems reduce the need for manual involvement in routine tasks, which lowers human error and limits opportunities for corruption or misconduct. Technologies such as artificial intelligence, machine learning, and data analytics improve the government's ability to monitor and assess operations in real time. This allows decision-makers to rely on precise, current data, enhancing resource management and service delivery. The outcome is a more efficient administration that can rapidly address new challenges, optimize processes, and continually enhance governance quality.

E-governance transforms conventional administrative systems into agile, responsive, and citizen-focused governance models. By lowering operational costs and reducing administrative burdens, it not only raises the efficiency of government services but also improves their accessibility and quality. Citizen's benefit from quicker, more transparent, and user-friendly interactions with government agencies, which builds trust and satisfaction. Meanwhile, governments enjoy better resource utilization and enhanced compliance with regulations. Ultimately, the broad implementation of e-governance strengthens democratic practices, supports sustainable growth, and leads to better social and economic outcomes for society overall.

Recommendations

The following are the recommendations for the study:

- (1) Governments must focus on developing dependable, secure, and scalable digital infrastructure to enable smooth e-governance services. This infrastructure should include fast internet connectivity,

data centers, and cloud computing capabilities, particularly targeting rural and underserved communities.

- (2) Ongoing training for government employees is vital to ensure they can effectively utilize digital tools and platforms. Enhancing digital skills at every administrative level will boost the successful implementation and efficiency of e-governance programs.
- (3) E-governance systems should be created with the user's needs as a priority, making sure the services are easy to use, accessible, and inclusive. This involves offering multilingual options, designing mobile-friendly interfaces, and providing support for individuals with disabilities.

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