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Implementing Digital Governance for Improved Public Service Delivery

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ABSTRACT

***Purpose**: This study examines the implementation of digital governance and its impact on public service delivery in Lagos during 2024, focusing on accessibility, efficiency, transparency, and citizen satisfaction.*

***Subjects and Methods:** The research employed a mixed-methods approach using a convergent parallel design. Quantitative data were collected through questionnaires distributed to 250 residents who had experience using digital public services, while qualitative data were obtained from semi-structured interviews and focus group discussions involving policymakers, ICT administrators, public service officers, and citizens. Quantitative data were analyzed using SPSS through descriptive and inferential statistics, while qualitative findings were examined using thematic analysis.*

***Results:** The findings indicate that digital governance improved administrative efficiency, service accessibility, and procedural transparency. However, infrastructural instability, internet affordability, limited digital literacy, and institutional resistance continued to hinder implementation effectiveness. Efficiency emerged as the strongest factor influencing citizen satisfaction.*

***Conclusions:** Sustainable digital governance requires inclusive infrastructure development, institutional adaptation, and continuous digital literacy improvement.*

INTRODUCTION

The 21st century has witnessed a rapid expansion in the application of digital technologies across governance systems worldwide (Alfarizi & Heryadi, 2024). Governments at all levels are increasingly recognizing the transformative potential of digital governance to improve service delivery, strengthen accountability, and foster inclusive participation (Das, 2024). In both developed and developing contexts, digital tools are reshaping the relationship between citizens and the state.

Nigeria, Africa's most populous nation, faces persistent challenges in governance, particularly in ensuring equitable, transparent, and efficient delivery of public services. According to Akuche & Akindoyin (2024), bureaucratic bottlenecks, corruption, inadequate infrastructure, and limited access to information have historically undermined citizens' trust in government institutions. These obstacles are especially pressing in Lagos, the country's commercial and population hub, where rapid urbanization places immense pressure on public services.

Lagos, with over 20 million residents, presents a unique case for studying the implementation of digital governance. As one of Africa's largest cities, Lagos is a center of economic opportunity but

also a space where inequality, congestion, and service delivery deficits are highly visible. The government has therefore prioritized leveraging digital platforms to address inefficiencies and improve citizen engagement in governance processes (Falco & Kleinhans, 2018; Janssen & Estevez, 2013).

Digital governance in this context refers to the use of information and communication technologies (ICTs), including mobile applications, e-government portals, and data-driven platforms, to modernize bureaucratic functions and enhance service provision (Benkhadra, 2022). In Lagos, initiatives such as online tax systems, digital land registration, e-health services, and electronic complaint platforms have been introduced to streamline interactions between the state and the public.

Dawes (2008) and Dunleavy et al. (2006) said that, the rationale for adopting digital governance lies in its potential to reduce the administrative complexities that often discourage citizens from accessing services. Traditional paper-based systems, characterized by long queues and delays, are gradually being replaced by digital platforms that promise efficiency and transparency. Citizens can now pay taxes, apply for permits, or report issues without physical contact, thus reducing opportunities for rent-seeking practices.

From a theoretical perspective, digital governance aligns with the principles of New Public Management (NPM) and good governance, which emphasize efficiency, accountability, and responsiveness. Poudel (2024) and Androutsopoulou et al. (2024) said that, these frameworks underscore the need for governments to adopt private-sector models of service delivery, where digital tools enable real-time monitoring and citizen feedback.

Implementing digital governance in Lagos also highlights structural challenges. Issues such as poor digital literacy, unequal access to the internet, inadequate infrastructure, and institutional resistance can limit the effectiveness of reforms (Omweri, 2024; West, 2015; Rao et al., 1999). For many marginalized communities, particularly those in informal settlements, digital platforms remain inaccessible, risking the deepening of social inequalities.

While digital platforms can improve access to services, their effectiveness depends on the reliability of government institutions behind them. A poorly managed digital system may replicate offline inefficiencies or even worsen citizen frustration. Ensuring sustainability therefore requires not only technical innovation but also organizational change and capacity-building among public officials.

Another critical factor in the Lagos case is political will. The successful implementation of digital governance often hinges on leadership commitment to reform and a willingness to embrace transparency (Medel-Ramírez et al., 2023). In Lagos, government initiatives like the Smart City project reflect growing recognition of the role technology can play in shaping urban governance and service delivery.

The experiences of Lagos also offer important lessons for other Nigerian states and African cities facing similar governance challenges. By examining successes and setbacks in Lagos, policymakers can better understand how digital governance can be scaled, adapted, and institutionalized within diverse socio-political contexts.

This study therefore seeks to explore the implementation of digital governance in Lagos, Nigeria, with a focus on its impact on public service delivery. By analyzing the outcomes of digital initiatives, the study will evaluate whether digital tools have enhanced efficiency, transparency, and citizen satisfaction, while also identifying the barriers that continue to hinder progress. This introduction sets the stage for a critical assessment of how digital governance is reshaping urban governance in Africa's largest city.

LITERATURE REVIEW

Digital governance has emerged as a critical innovation in contemporary public administration, emphasizing the integration of information and communication technologies (ICTs) into government processes to enhance transparency, efficiency, and accountability. Scholars such as Luna-Reyes & Gil-Garcia (2014) argue that digital governance represents not only a technological

shift but also an institutional transformation that redefines citizen–state interactions. In many global contexts, e-government platforms and digital service delivery systems have demonstrated the capacity to reduce bureaucratic delays, minimize corruption, and foster citizen participation.

In Africa, digital governance is gaining traction as governments seek to overcome longstanding governance deficits. Studies by Bhuiyan (2011) highlight that-African states are increasingly investing in ICT infrastructure to modernize administrative systems and provide more accessible services. However, the effectiveness of these initiatives is often constrained by infrastructural deficits, weak regulatory frameworks, and digital divides (Khasseh & Jatoi, 2022; Mutula, 2008). Countries such as Rwanda, Kenya, and South Africa have recorded significant progress in e-government adoption, yet challenges of inclusivity and sustainability remain pressing concerns across the continent.

Studies by Auwalu & Bello (2023) note that, urban governance in Lagos has increasingly integrated digital solutions to address the pressures of rapid urbanization and the growing demand for efficient public services. These measures aim to streamline administrative processes, reduce opportunities for rent-seeking, and foster greater citizen engagement (Makamo & Ngwamba, 2024). Nonetheless, scholars caution that without adequate infrastructural investment and inclusive policies, digital governance risks deepening existing inequalities by privileging digitally literate and connected populations (Colding et al., 2024)

The theoretical foundations of digital governance in Lagos align with global discourses on New Public Management (NPM) and good governance, which emphasize efficiency, accountability, and responsiveness. However, as emphasized by Cordella & Bonina (2012), the success of digital governance depends not only on technological adoption but also on institutional capacity, political will, and cultural acceptance. This literature review underscores that while Lagos has made notable strides in adopting digital governance for service delivery, challenges of sustainability, inclusivity, and institutional adaptation persist. These debates provide the analytical framework for assessing the outcomes and limitations of digital governance initiatives in Lagos, Nigeria.

METHODOLOGY

This study employed a mixed-methods research design to examine the implementation of digital governance and its implications for public service delivery in Lagos, Nigeria. The mixed-methods approach was selected because it enables the integration of quantitative and qualitative data to provide a more comprehensive understanding of complex governance phenomena (Creswell & Plano Clark, 2018). Quantitative methods were used to measure citizens' perceptions regarding accessibility, efficiency, transparency, and satisfaction with digital governance services, while qualitative methods were applied to explore the institutional, technological, and socio-cultural factors influencing implementation outcomes. Through this integration, the study was able to capture both measurable trends and contextual experiences related to digital governance practices in Lagos.

Research Design

The study adopted a convergent parallel mixed-methods design in which quantitative and qualitative data were collected during the same phase of the research process and analyzed independently before being integrated during interpretation. According to Creswell (2014), this design is appropriate when researchers seek to compare statistical findings with qualitative insights to strengthen the validity of interpretations. In the context of this research, the quantitative strand focused on assessing citizens' experiences with digital governance platforms, whereas the qualitative strand explored perspectives from policymakers, ICT specialists, and frontline public service providers. The integration of both approaches was essential because digital governance involves not only technical efficiency but also institutional readiness, citizen trust, political commitment, and infrastructural capacity. Quantitative data alone would not sufficiently explain why some digital initiatives succeed while others encounter resistance or low adoption. Similarly, qualitative data alone would not provide measurable evidence regarding patterns of public satisfaction or accessibility. The mixed-methods design therefore enhanced analytical depth and enabled triangulation of findings.

Research Location and Context

The research was conducted in Lagos, Nigeria, which represents one of Africa's most rapidly urbanizing metropolitan areas and a leading center of digital governance initiatives in the country. Lagos was selected because it has become a focal point for e-government reforms aimed at improving public service delivery through digital technologies. Government initiatives such as online tax administration systems, digital land registration, electronic health services, and citizen complaint portals have transformed interactions between the government and the public. The urban complexity of Lagos also makes it an important context for examining the opportunities and limitations of digital governance. The city experiences high population density, infrastructural inequality, traffic congestion, and varying levels of internet accessibility. These conditions create both incentives and challenges for the implementation of digital governance reforms. The research focused on citizens who actively use digital public service platforms as well as institutional actors involved in policy implementation and technological management. This context enabled the study to evaluate how digital governance functions within a large and socially diverse urban environment.

Population and Sample

The quantitative population consisted of residents of Lagos who had experience using government digital platforms for accessing public services. These services included online tax payment systems, digital licensing applications, e-health services, and electronic complaint mechanisms. A purposive sampling technique was initially used to identify individuals familiar with digital governance platforms. Subsequently, stratified sampling was applied to ensure representation across demographic characteristics such as age, gender, educational background, and occupation. A total of 250 respondents participated in the quantitative survey. This sample size was considered adequate for identifying trends in citizen satisfaction and digital governance usage patterns. Respondents were selected from different districts within Lagos to ensure broader representation of urban experiences. For the qualitative component, the study used purposive and snowball sampling techniques to identify informants with relevant expertise and experience. The qualitative participants consisted of government policymakers, ICT administrators, frontline public service officers, and citizens actively engaged with digital governance systems. In total, 20 informants participated in semi-structured interviews, while two focus group discussions involving community members were conducted to obtain collective perspectives regarding the effectiveness and inclusivity of digital services.

Data Collection Techniques

The study utilized multiple data collection techniques to strengthen the reliability and comprehensiveness of findings. Quantitative data were collected using structured questionnaires distributed to residents who had experience accessing digital public services. The questionnaire employed a Likert-scale format to measure perceptions regarding efficiency, accessibility, transparency, trust, and user satisfaction. Questions were designed based on concepts derived from digital governance literature and public service delivery frameworks. Before full distribution, the questionnaire was subjected to a pilot test involving 25 respondents to ensure clarity, consistency, and reliability. Feedback from the pilot process was used to revise ambiguous questions and improve instrument validity. The final questionnaire was distributed both physically and electronically to accommodate respondents with different levels of digital accessibility. Qualitative data were collected through semi-structured interviews and focus group discussions. Semi-structured interviews allowed participants to provide detailed explanations regarding the implementation process, institutional barriers, infrastructural limitations, and citizen responses to digital governance reforms. The interview format also enabled flexibility in exploring emerging themes during the discussion process. Focus group discussions were conducted to capture shared community experiences regarding digital governance accessibility and service delivery. These discussions explored issues such as digital literacy, internet affordability, trust in government systems, and perceived inequalities in digital access. Observational techniques were also employed to examine how digital governance platforms functioned within public service environments, including the accessibility and responsiveness of online systems.

Data Analysis Techniques

Quantitative data were analyzed using descriptive and inferential statistical techniques. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize respondent perceptions regarding digital governance implementation. These analyses provided insights into levels of satisfaction, accessibility, transparency, and efficiency associated with digital public services. Inferential statistical analysis was also conducted to identify relationships between demographic variables and digital governance adoption. Chi-square tests and regression analysis were employed to examine whether factors such as age, educational background, and income influenced the use and perception of digital governance platforms. Statistical analysis was conducted using SPSS software to ensure systematic data processing and interpretation. Qualitative data obtained from interviews and focus group discussions were analyzed using thematic analysis following the framework proposed by Braun & Clarke (2006). The analysis process involved data transcription, coding, categorization, and theme development. Recurring themes such as institutional resistance, infrastructural challenges, digital literacy limitations, citizen trust, and governance transparency were identified and interpreted in relation to the research objectives. The integration of quantitative and qualitative findings occurred during the interpretation stage. This process enabled the comparison of statistical patterns with participants' lived experiences and institutional perspectives. The triangulation of findings strengthened the analytical rigor of the study by ensuring that interpretations were supported by multiple forms of evidence.

Validity and Reliability

Several strategies were employed to ensure the validity and reliability of the research. For the quantitative component, instrument reliability was tested using Cronbach's Alpha to assess internal consistency. A reliability coefficient above 0.70 was considered acceptable for the study. Content validity was ensured through expert review of the questionnaire by scholars in public administration and digital governance. For the qualitative component, credibility was enhanced through member checking, where participants were given opportunities to verify the accuracy of interview interpretations. Triangulation was also applied by comparing findings from interviews, focus group discussions, observations, and survey data. This approach minimized researcher bias and strengthened the trustworthiness of interpretations. Transferability was enhanced by providing detailed descriptions of the research context, participants, and procedures, enabling future researchers to assess the applicability of findings to other urban governance settings. Dependability was ensured through systematic documentation of the research process, including data collection procedures, coding decisions, and analytical steps. These measures collectively enhanced the methodological rigor of the study and strengthened confidence in the research findings.

RESULTS AND DISCUSSION

Demographic Characteristics of Respondents

Before presenting the main findings, it is academically appropriate to describe the demographic profile of respondents. This helps explain the social background of participants involved in the survey and strengthens the credibility of the quantitative analysis.

Table 1. Demographic Characteristics of Survey Respondents (n=250)

Variable	Category	Frequency	Percentage (%)
Gender	Male	138	55.2
	Female	112	44.8
Age	18–25 years	64	25.6
	26–35 years	92	36.8
	36–45 years	58	23.2
	Above 45 years	36	14.4
Education	Secondary School	41	16.4
	Diploma/Bachelor	157	62.8
	Postgraduate	52	20.8

Main Digital Service Used	Online Tax Services	76	30.4
	Licensing Services	61	24.4
	E-Health Services	54	21.6
	Complaint Platforms	59	23.6

Source: Field Survey Data, 2024

The data indicate that respondents were dominated by citizens aged between 26–35 years (36.8%), suggesting that younger adults were the most active users of digital governance platforms in Lagos during 2024. The majority of respondents also possessed diploma or bachelor-level education backgrounds, indicating relatively higher exposure to digital technology and online public services.

Citizen Access to Digital Governance Platforms

The findings indicate that digital governance platforms increasingly became part of public service delivery mechanisms in Lagos during 2024. Citizens reported frequent use of online systems for tax payments, licensing services, healthcare registration, and complaint reporting. The quantitative findings suggest that digital systems improved convenience and reduced procedural delays for many users, although accessibility remained uneven across social groups.

Table 2. Citizen Perceptions of Accessibility and Usability of Digital Governance Platforms in Lagos

Indicator	Agree (%)	Neutral (%)	Disagree (%)
Digital services are easier than manual procedures	71	16	13
Government platforms are accessible anytime	65	19	16
Online systems reduce waiting time	74	12	14
Digital platforms are easy to understand	56	21	23
Internet cost affects access to services	79	9	12

Source: Field Survey Data, 2024

The findings demonstrate that digital governance platforms generally improved public access to government services by simplifying administrative procedures and reducing the need for direct physical interaction with public offices. Citizens perceived online systems as more practical and time-efficient, particularly for routine administrative activities such as payments, registration, and complaint submission. Nevertheless, the effectiveness of these platforms remained influenced by unequal digital capacity among users. Internet affordability, limited technological understanding, and differences in digital literacy levels continued to shape the accessibility of online public services across different social groups. These conditions indicate that although digital governance reforms contributed positively to service modernization in Lagos during 2024, challenges related to inclusiveness and technological accessibility still affected the broader implementation process.

One participant explained:

> *"Things are definitely better now compared to a few years ago because many government services can already be accessed online. People no longer need to spend the whole day waiting at government offices for simple documents or registrations. But internet costs are still high for many families, especially those depending on prepaid mobile data every day. Some residents also struggle to understand how the systems work because the instructions are sometimes confusing. Older people usually ask younger relatives or cybercafés to help them complete the online process. So even though the technology exists, not everybody can use it comfortably without assistance."* (Participant 4, Citizen User, 2024)

Another participant highlighted inequalities in digital accessibility:

> *"Younger people adapt more quickly because they already use smartphones and online applications regularly. The challenge is bigger for older citizens or people living in low-*

income areas where internet access is unstable. Some users stop the process halfway because the connection suddenly disappears or because they cannot afford enough mobile data. There are also people who still trust face-to-face services more than online systems. They worry about making mistakes or losing money during online payments. This shows that digital governance is improving, but access is still unequal in some communities." (Participant 9, Focus Group Participant, 2024)

These findings demonstrate that digital governance improved public access to services in Lagos during 2024, although infrastructural and literacy-related inequalities continued to shape citizen experiences.

Efficiency and Transparency in Public Service Delivery

The second aspect examined in this study concerns the influence of digital governance on administrative efficiency and institutional transparency. Quantitative findings indicate that citizens generally perceived digital systems as improving service speed, procedural monitoring, and administrative openness.

Table 3. Public Perceptions of Efficiency and Transparency in Digital Governance (2024)

Indicator	Agree (%)	Neutral (%)	Disagree (%)
Digital systems speed up service delivery	76	13	11
Online systems reduce corruption opportunities	61	21	18
Government platforms improve transparency	66	17	17
Complaints are processed faster online	58	24	18
Digital governance improves accountability	63	19	18

Source: Field Survey Data, 2024

The findings indicate that digital governance contributed positively to improving administrative efficiency and institutional transparency within public service delivery processes in Lagos during 2024. Citizens generally perceived online systems as capable of simplifying bureaucratic procedures, improving service responsiveness, and increasing access to administrative information. The implementation of digital platforms also strengthened procedural monitoring because many public service activities could be tracked electronically. However, public perceptions toward accountability and corruption reduction remained relatively cautious, suggesting that technological modernization alone was not sufficient to fully resolve institutional challenges within public administration. These findings demonstrate that while digital governance improved procedural efficiency, the effectiveness of implementation continued to depend on institutional responsiveness, system reliability, and the ability of government agencies to maintain consistent service quality.

A government ICT administrator stated:

> *"The digital systems introduced in 2024 changed many administrative processes inside government institutions. Before that, most procedures relied heavily on paper files, and delays happened very often because documents moved slowly between offices. Right now, applications and service requests can be tracked directly through the system dashboard. Supervisors can immediately identify pending requests or unresolved complaints. Citizens also receive notifications regarding their application status, which creates more pressure for agencies to respond quickly. Even though technical problems still occur sometimes, the systems have improved efficiency and reduced unnecessary administrative complications."* (Participant 12, ICT Administrator, 2024)

Another public service officer explained:

> *"Digital governance has made some government procedures more transparent because many activities are now recorded automatically in the system. Citizens can verify payments, check application status, and follow complaint responses without depending completely on service officers. Previously, information was difficult to trace because most records stayed inside offices. The online systems make monitoring easier for both*

citizens and supervisors. At the same time, people expect quicker responses because they believe digital systems should work faster than manual procedures. This creates additional pressure on institutions to improve their responsiveness continuously." (Participant 15, Public Service Officer, 2024)

Despite these improvements, several respondents expressed concerns regarding technical reliability and service consistency.

One participant noted:

> *"There are times when government websites become very slow or stop working completely, especially during busy periods when many users access the system at once. Some citizens experience failed payments or problems uploading documents, and this creates frustration because they have to repeat the process several times. Because of these interruptions, some people still prefer visiting government offices directly even though the online systems are supposed to make services easier. The digital platforms are clearly faster than the old manual procedures, but infrastructure problems still affect public confidence in the systems."* (Participant 6, Citizen User, 2024)

These findings indicate that digital governance contributed positively to efficiency and transparency in Lagos during 2024, although technical reliability remained an important challenge affecting citizen experiences.

Barriers to Digital Governance Implementation

The mixed-methods findings identified several structural barriers limiting the effectiveness of digital governance implementation during 2024. The most significant challenges included poor internet connectivity, electricity instability, high internet costs, limited digital literacy, and institutional resistance.

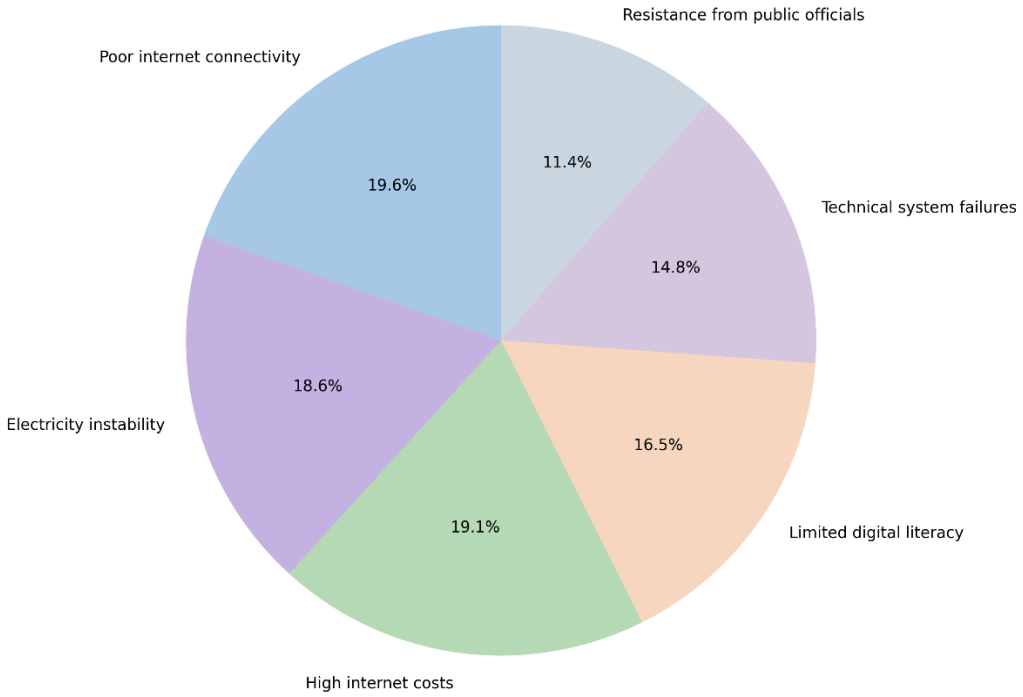

Figure 1. Major Challenges Affecting Digital Governance Implementation in Lagos

The data demonstrate that infrastructural limitations remained the dominant obstacle affecting digital governance implementation in Lagos during 2024. Approximately 81% of respondents identified poor internet connectivity as a major challenge, while 77% reported electricity instability as another significant barrier. Qualitative findings further explain how these infrastructural limitations affected both citizens and institutions.

A policymaker explained:

> *"Digital governance cannot function effectively if internet connectivity and electricity infrastructure remain unstable. In some districts, residents can access online systems more easily because connectivity is relatively stronger and digital devices are more available. But in lower-income communities, many people still struggle to afford smartphones, stable internet access, or enough mobile data for online services. This creates inequality because only certain groups benefit fully from the reforms. Government institutions need stronger investment in infrastructure and public digital education programs if digital governance is expected to become more inclusive in the future."* (Participant 18, Government Policymaker, 2024)

Institutional resistance also emerged as a significant challenge during implementation. One public service officer remarked:

> *"Not every public officer immediately accepted the transition from manual administration to digital systems. Some workers were already comfortable with traditional procedures and found it difficult to adapt to new technologies and monitoring mechanisms. There were also concerns that digital systems would expose inefficiency or reduce informal practices that existed previously in some offices. Training programs helped improve adaptation gradually, but resistance still appeared in several departments during the early implementation period. Institutional reform requires changes in organizational culture, not only the introduction of new technology."* (Participant 14, Public Service Officer, 2024)

The mixed-methods findings identified several structural barriers limiting the effectiveness of digital governance implementation during 2024. The most significant challenges included poor internet connectivity, electricity instability, high internet costs, limited digital literacy, and institutional resistance. These findings indicate that infrastructural and socio-economic limitations continued to affect the sustainability of digital governance reforms in Lagos.

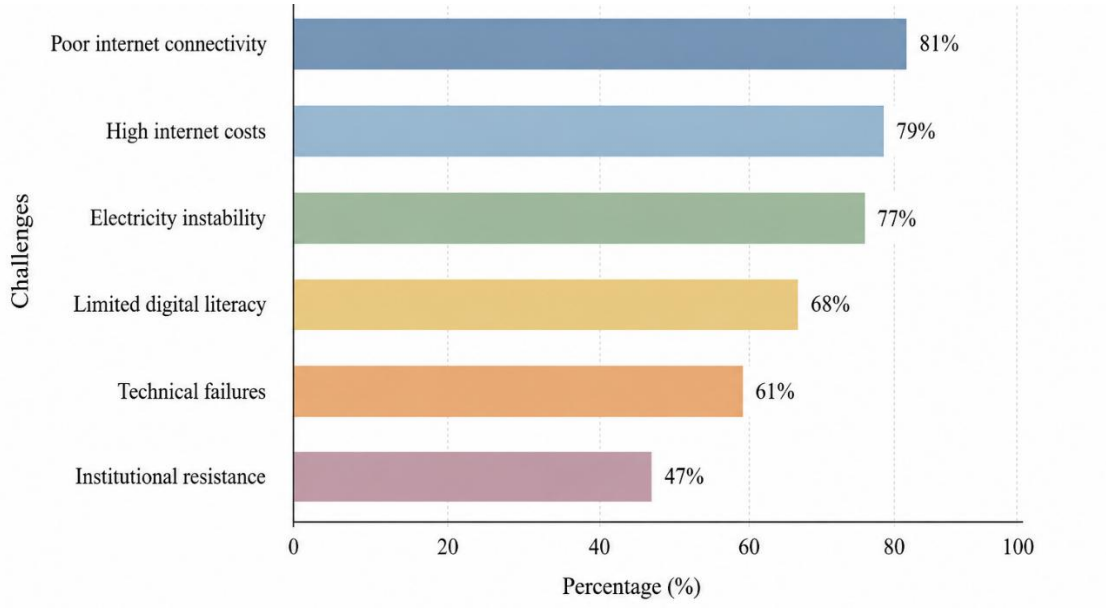

Figure 2. Main Challenges Affecting Digital Governance Implementation in Lagos

The figure illustrates that poor internet connectivity and high internet costs emerged as the most dominant barriers affecting digital governance implementation in Lagos during 2024. Electricity instability also remained a major concern, reflecting the dependence of digital public services on stable infrastructural support. In addition, limited digital literacy and technical failures continued to influence citizens' ability to access online public services effectively.

Focus group participants additionally emphasized the challenges experienced by elderly citizens and low-income communities. One participant stated:

"Many residents still require assistance when using online government platforms, especially older people who are not familiar with digital applications. Some users become confused when they are asked to upload documents or complete online verification processes. In poorer communities, people sometimes share devices or depend on internet cafés to access government services. This creates additional expenses even though digital governance is supposed to make administration easier. Accessibility should not only mean that the technology exists, but also that people can actually use it confidently and consistently." (Participant 7, Focus Group Participant, 2024)

These findings demonstrate that the effectiveness of digital governance in Lagos during 2024 depended not only on technological innovation, but also on infrastructural readiness, institutional adaptation, and inclusive digital literacy initiatives.

Themes Emerging from Qualitative Interviews

To strengthen the integration of mixed-methods findings, qualitative interview themes can also be summarized in a thematic table.

Table 4. Major Themes Identified from Interviews and Focus Group Discussions

Theme	Key Issues Identified
Accessibility	Internet affordability, uneven connectivity, digital literacy gaps
Efficiency	Faster processing time, reduced queues, simplified procedures
Transparency	Easier monitoring, digital records, reduced face-to-face interaction
Institutional Challenges	Staff resistance, technical adaptation difficulties
Infrastructure Problems	Electricity instability, server disruptions, weak internet networks
Public Trust	Concerns about payment failures and data security

Source: Interview and Focus Group Data, 2024

The qualitative findings demonstrate that efficiency and accessibility emerged as the most dominant themes discussed by participants. Nevertheless, infrastructural instability and uneven digital literacy remained recurring concerns throughout the interviews.

Reliability Test of Research Instrument

Prior to conducting the primary statistical analysis, the study evaluated the reliability of the questionnaire instrument to ensure the consistency and stability of measurement across all research variables. Reliability testing was carried out using Cronbach's Alpha through SPSS analysis. This procedure was important to confirm that the questionnaire items were sufficiently consistent in measuring respondents' perceptions regarding digital governance implementation in Lagos during 2024.

Table 5. Reliability Statistics of Research Variables

Variable	Number of Items	Cronbach's Alpha
Accessibility	5	0.812
Efficiency	5	0.846
Transparency	4	0.791
Trust	4	0.774
User Satisfaction	5	0.838

Source: SPSS Output, 2024

The reliability findings demonstrate that all research variables possessed satisfactory levels of internal consistency, indicating that the questionnaire instrument was appropriate for measuring perceptions related to digital governance implementation. The consistency of responses across accessibility, efficiency, transparency, trust, and user satisfaction variables suggests that the instrument was capable of capturing stable and reliable respondent evaluations. These findings strengthen the credibility of the quantitative analysis and support the use of the collected data for further descriptive and inferential statistical testing within the study.

Descriptive Statistics Analysis

To obtain a broader understanding of respondents' perceptions toward digital governance implementation in Lagos during 2024, descriptive statistical analysis was conducted using SPSS. The analysis focused on measuring central tendencies and response variation across the main research variables, including accessibility, efficiency, transparency, trust, and user satisfaction. This procedure was intended to identify the general pattern of public perceptions regarding the effectiveness of digital governance services.

Table 6. Descriptive Statistics of Main Research Variables

Variable	Mean	Standard Deviation
Accessibility	3.68	0.81
Efficiency	3.84	0.76
Transparency	3.51	0.88
Trust	3.29	0.93
User Satisfaction	3.72	0.79

Source: SPSS Output, 2024

The descriptive analysis indicates that respondents generally expressed favorable perceptions toward the implementation of digital governance in Lagos during 2024. Public evaluations were particularly positive regarding the ability of digital systems to improve administrative efficiency and simplify access to government services. At the same time, perceptions related to trust appeared relatively more cautious, reflecting continuing public concerns regarding system reliability, digital security, and institutional responsiveness. The variation in responses across the examined variables also suggests that citizen experiences with digital governance were influenced by differences in accessibility, technological familiarity, and confidence in government digital systems.

Chi-Square Analysis

Inferential statistical analysis was conducted to examine the relationship between demographic characteristics and public engagement with digital governance platforms in Lagos during 2024. The Chi-Square test was used to identify whether variables such as age and educational background significantly influenced the frequency of digital governance usage and perceptions regarding accessibility of online public services. This analysis was important for understanding how socio-demographic factors shaped citizen interaction with digital governance systems.

Table 7. Chi-Square Analysis of Demographic Factors and Digital Governance Usage in Lagos

Variable Relationship	Chi-Square Value	df	Sig.
Age × Frequency of Usage	18.472	6	0.005
Education × Accessibility	14.936	4	0.011

Source: SPSS Output, 2024

The Chi-Square findings demonstrate that demographic characteristics significantly influenced public engagement with digital governance platforms during 2024. Age was found to affect the frequency of digital governance usage, indicating that younger citizens tended to engage more actively with online public service systems compared to older age groups. Educational background also influenced perceptions regarding accessibility, suggesting that respondents with higher educational attainment generally experienced fewer difficulties in navigating digital governance platforms. These findings reinforce the qualitative interview results, which highlighted that technological familiarity, digital literacy, and educational exposure played important roles in shaping citizen experiences with digital public services in Lagos.

Regression Analysis

Multiple regression analysis was conducted to examine the factors influencing citizen satisfaction toward digital governance implementation in Lagos during 2024. The analysis focused on assessing the influence of accessibility, efficiency, transparency, and trust on public perceptions

of digital governance services. Statistical analysis using SPSS was employed to identify the relative contribution of each variable to citizen satisfaction.

Table 8. Regression Analysis of Factors Affecting Citizen Satisfaction

Independent Variable	Beta	t-value	Sig.
Accessibility	0.318	4.826	0.000
Efficiency	0.401	5.937	0.000
Transparency	0.216	3.441	0.001
Trust	0.287	4.118	0.000

The regression findings demonstrate that all examined variables contributed positively to citizen satisfaction toward digital governance services. The analysis indicates that citizens tended to value digital governance systems that were efficient, accessible, transparent, and capable of building public confidence. Among the examined variables, efficiency emerged as the most influential factor shaping public satisfaction, suggesting that citizens primarily associated successful digital governance with faster procedures and reduced administrative complexity. Accessibility and trust also played important roles in shaping positive public perceptions, while transparency strengthened perceptions of accountability and institutional openness within digital public service systems.

Table 9. Regression Model Summary

Model Summary	Value
R	0.742
R Square	0.551
Adjusted R Square	0.539

The model summary indicates that the regression model demonstrated a relatively strong relationship between the independent variables and citizen satisfaction. The findings suggest that the combination of accessibility, efficiency, transparency, and trust provided substantial explanatory power in understanding public satisfaction toward digital governance implementation in Lagos during 2024. This result indicates that citizen satisfaction was not shaped by a single factor alone, but rather by the interaction of technological accessibility, administrative responsiveness, institutional transparency, and public confidence in government digital systems.

Integrative Quantitative–Qualitative Interpretation

The integration of SPSS statistical findings with qualitative interview data demonstrates that digital governance implementation in Lagos during 2024 produced measurable improvements in administrative efficiency and service accessibility. The findings also reveal persistent structural inequalities associated with internet affordability, infrastructural instability, and uneven digital literacy levels. The statistical findings showing lower trust scores were reinforced by interview participants who expressed concerns regarding payment failures, unstable internet connectivity, and data security. The significant relationship between age and digital governance usage corresponded with qualitative findings indicating that younger citizens adapted more easily to digital systems than older populations. The combined quantitative and qualitative findings indicate that while digital governance reforms improved public service delivery in Lagos during 2024, the sustainability of these reforms depends on infrastructural development, institutional responsiveness, and inclusive digital literacy initiatives.

Discussion

Digital Governance and the Improvement of Public Service Delivery

The findings of this study demonstrate that digital governance implementation in Lagos contributed positively to improving public service delivery during 2024 (West, 2015; Ilawagbon & Ajisebiyawo, 2024; Babarinde, 2024; Ogu et al., 2024; Wright et al., 2024). Citizens increasingly relied on digital platforms for accessing taxation services, licensing systems, healthcare registration, and public complaint mechanisms. The quantitative findings indicate

that respondents generally perceived online public services as more practical, accessible, and efficient compared to conventional administrative procedures. These findings support the arguments of Luna-Reyes & Gil-Garcia (2014) that digital governance transforms interactions between citizens and public institutions by simplifying bureaucratic procedures and strengthening administrative responsiveness. The reduced dependence on face-to-face administrative interaction also reflects the broader transition from conventional bureaucracy toward technology-oriented governance models associated with New Public Management and digital-era governance frameworks discussed by Dunleavy et al (2006).

The findings further indicate that digital governance strengthened procedural efficiency and institutional transparency within public service delivery processes. Citizens generally perceived online systems as capable of reducing administrative delays, simplifying service procedures, and improving access to administrative information. Public officials also acknowledged that digital platforms improved institutional monitoring because service requests, complaint submissions, and application processes could be tracked electronically (Fusi & Feeney, 2018; Engin & Treleaven, 2019; Matlala, 2024). These findings are consistent with the arguments of Janssen & Estevez (2013), who argued that platform-based governance enhances efficiency and accountability through digital monitoring mechanisms. The implementation of digital systems also reduced opportunities for procedural manipulation because administrative activities became more traceable within electronic platforms. According to Ilieva et al. (2024) Public perceptions regarding transparency and accountability remained relatively cautious, indicating that technological modernization alone cannot fully resolve institutional inefficiency without corresponding improvements in organizational responsiveness and service consistency.

The regression findings also demonstrate that efficiency emerged as the strongest predictor of citizen satisfaction toward digital governance implementation in Lagos during 2024. Citizens primarily associated successful digital governance with faster administrative procedures, reduced waiting times, and simplified access to public services. Accessibility, transparency, and trust also contributed significantly to public satisfaction, indicating that effective digital governance depends not only on technological functionality but also on institutional credibility and responsiveness. These findings correspond with studies by Sharma et al. (2022) which emphasized that citizen trust and service responsiveness remain central to sustaining long-term engagement with digital governance systems.

Structural and Institutional Challenges in Digital Governance Implementation

Despite the positive contribution of digital governance to public service delivery, the findings reveal that several structural barriers continued to limit the effectiveness of implementation in Lagos during 2024. Poor internet connectivity, electricity instability, high internet costs, and limited digital literacy emerged as the dominant challenges affecting public access to digital services. These findings align with studies by Rao et al. (1999) and Reddick et al. (2020) which identified infrastructural inequality as a major obstacle affecting digital transformation in developing countries. The findings indicate that digital governance systems remain highly dependent on stable technological infrastructure and affordable internet access to ensure effective public participation.

The qualitative interview findings further demonstrate that infrastructural instability reduced public confidence in digital governance systems. Technical failures, unstable servers, interrupted payment systems, and weak internet networks frequently disrupted online service access and created frustration among users. In some situations, citizens preferred returning to conventional face-to-face administrative procedures because online systems were considered unreliable during busy service periods. These conditions suggest that the sustainability of digital governance reforms depends heavily on the government's ability to strengthen digital infrastructure and maintain reliable technological systems capable of supporting continuous online service delivery.

Institutional resistance also emerged as a significant implementation challenge. Several interview participants explained that some public officials were reluctant to adapt to digital administrative systems because of technological unfamiliarity and concerns regarding increased institutional monitoring. These findings support the arguments of Cordella and Bonina that successful digital

governance implementation depends not only on technological adoption but also on institutional adaptation and organizational culture. Administrative transformation therefore requires continuous staff training, institutional restructuring, and leadership commitment to digital reform processes (Trushkina et al.,2020; Irani et al., 2023; Evitha, 2024).

Demographic Inequality and Citizen Adaptation toward Digital Governance

The findings indicate that demographic characteristics significantly influenced citizen interaction with digital governance platforms in Lagos during 2024. Younger and more educated respondents demonstrated higher levels of engagement and greater ease in navigating online public service systems compared to older or less educated groups. These findings reinforce the qualitative interview results, which emphasized that technological familiarity, educational exposure, and digital literacy strongly shaped citizen capacity to interact effectively with digital governance platforms. Similar observations were identified by Pawluczuk et al. (2021) who argued that digital governance benefits are often distributed unevenly because of differences in digital literacy and technological access.

The findings further reveal that accessibility remained uneven across social groups because internet affordability and limited technological understanding continued to influence citizen experiences with digital public services. Interview participants explained that elderly citizens and residents from low-income communities often required assistance when completing registration procedures, uploading documents, or accessing online verification systems (Berridge et al., 2019; Fields et al., 2019). These conditions demonstrate that the existence of digital governance platforms alone does not automatically ensure inclusive public participation. Citizens must also possess the technological capacity and economic resources necessary to interact effectively with online systems.

The integration of quantitative and qualitative findings demonstrates that digital governance implementation in Lagos represented an important step toward modernizing urban public administration during 2024. Digital systems improved procedural efficiency, expanded public access to government services, and strengthened institutional monitoring mechanisms. However, the effectiveness of these reforms remained constrained by infrastructural instability, socio-economic inequality, uneven digital literacy, and institutional adaptation challenges. These findings suggest that sustainable digital governance reforms require a combination of technological investment, administrative reform, inclusive digital education, and infrastructural development to ensure broader and more equitable citizen participation in digital governance systems.

CONCLUSION

Digital governance implementation in Lagos contributed positively to improving public service delivery during 2024 through enhanced administrative efficiency, accessibility, and institutional transparency. Citizens generally perceived digital platforms as more practical and responsive compared to conventional bureaucratic procedures, particularly in taxation, licensing, healthcare registration, and complaint services. The study also revealed that efficiency, accessibility, transparency, and trust significantly influenced citizen satisfaction toward digital governance systems. The effectiveness of implementation remained constrained by infrastructural instability, high internet costs, uneven digital literacy, and institutional resistance. Demographic factors such as age and educational background further influenced citizen engagement with digital governance platforms. The integration of quantitative and qualitative findings indicates that sustainable digital governance reforms require not only technological innovation but also inclusive infrastructural development, institutional adaptation, and continuous digital literacy initiatives to ensure equitable public participation and long-term governance effectiveness.

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