E-Governance and Public Service Delivery in Selected Federal Government Agencies in Nigeria

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ABSTRACT

This study examined the relationship between e-governance and public service delivery in selected Federal Government agencies in Nigeria, with particular focus on the Federal Inland Revenue Service (FIRS), Nigeria Customs Service (NCS), Nigeria Immigration Service (NIS), and the National Identity Management Commission (NIMC). The study investigated the influence of electronic service delivery, digital transparency, electronic accountability mechanisms, and citizen digital participation on public service delivery. A descriptive survey research design was adopted, and data were collected through a standardized questionnaire administered to employees of the selected agencies. Out of 400 questionnaires distributed, 384 valid responses were analyzed with descriptive statistics and multiple regression analysis with the aid of SPSS version 29. The findings showed that all four dimensions of e-governance significantly and positively impacted public service delivery. Electronic service delivery emerged as the strongest predictor of service effectiveness and responsiveness. In contrast, digital transparency, electronic accountability mechanisms, and citizen digital participation also substantially contributed to boosting accessibility, accountability, and end-user satisfaction. The study concluded that effective implementation of e-governance initiatives boosts public service delivery in Federal Government agencies in Nigeria. It recommended increased investment in digital infrastructure, strengthened transparency and accountability systems, improved employee digital capacity, and greater citizen engagement through responsive digital applications.

Keywords*: E-governance, public service delivery, digital transparency, electronic accountability, citizen participation, Nigeria.*

Introduction

The increasing deployment of digital technologies into government operations has fundamentally reshaped public administration worldwide. E-governance, broadly understood as the application of information and communication technologies (ICTs) to governmental processes and interactions with citizens, businesses, and other public institutions, has become a central strategy for improving administrative efficiency, transparency, accountability, and service accessibility (United Nations, 2022). Contemporary governance reforms increasingly emphasize digital transformation as a means of delivering citizen-centered services, lowering bureaucratic delays, and enhancing institutional responsiveness in both developed and developing countries (Ayesha, 2025).In Nigeria, the adoption of e-governance has achieved renewed momentum through various digital government initiatives intended to modernize public administration and improve service delivery across federal ministries, departments, and agencies (MDAs). The Federal Government has pursued policies that promote connected government, open data, digital identity systems, and online public services as a component of broader public sector reform efforts (Federal Ministry of Communications, Innovation and Digital Economy, 2023). These projects are intended to simplify administrative procedures, reduce opportunities for corruption, strengthen accountability mechanisms, and improve citizens' access to government services (Nwosu, 2024).

Public service delivery remains one of the most major indicators of governmental effectiveness. Citizens increasingly expect federal agencies to provide timely, transparent, reliable, and accessible services using online platforms rather than through conventional paper-based and physically intensive administrative processes. Recent empirical studies indicate that e-governance can increase operational efficiency, improve service quality, enable real-time communication, and increase citizen satisfaction when digital systems are effectively implemented (Oluyemi & Odigie, 2024; Olabimitan, 2025). International evidence similarly suggests that digital government reforms play a major role in administrative performance and citizen confidence by lowering transaction costs and boosting service responsiveness (United Nations, 2022; Ayesha, 2025). Despite these opportunities, the implementation of e-governance in Nigeria has produced uneven outcomes across federal government agencies. Continual challenges, such as inadequate ICT infrastructure, unreliable power supply, limited digital skills, IT security issues, fragmented administrative frameworks, and resistance to organizational change, continue to constrain the effectiveness of electronic governance systems (Oni & Okunoye, 2019) Abdulrazaq, 2024). Consequently, substantial public investments in technological governance have not always translated into corresponding improvements in service delivery performance among federal institutions (Olabimitan, 2025).

Although a growing body of Nigerian scholarship has examined e-governance and public administration, much of the existing literature focuses on state governments, local government institutions, or the Nigerian public sector in general. Fewer studies provide empirical evidence on how e-governance influences service delivery outcomes within selected federal government agencies, in which digital reforms are often expected to have the greatest administrative and developmental impact (Oluyemi & Odigie, 2024). This gap remains important because federal agencies are responsible for delivering many of the country's most critical public services, including taxation, immigration, identity management, regulatory supervision, and social protection.

Against this background, this study considers the relationship between e-governance and public service delivery in selected federal government agencies in Nigeria. Specifically, it studies the extent to which digital governance practices influence service effectiveness, transparency, accessibility, and citizen responsiveness within federal institutions. By providing contemporary evidence on the effectiveness of e-governance initiatives, the study adds to the current discourse on digital public sector reform. It offers policy-relevant perspectives for strengthening electronic governance implementation in Nigeria.

Research Questions

i. To what extent does electronic service delivery (e-service delivery) influence public service delivery in selected Federal Government agencies in Nigeria?

ii. How does digital transparency affect public service delivery in selected Federal Government agencies in Nigeria?
iii. What is the relationship among electronic accountability mechanisms and public service delivery in selected Federal Government agencies in Nigeria?
iv. To what extent does citizen digital participation influence public service delivery in selected Federal Government agencies in Nigeria?

Objectives of the Study

The main objective of this study is to examine the relationship between e-governance and public service delivery in selected Federal Government agencies in Nigeria.

The specific objectives are to:

i. Examine the influence of electronic service delivery (e-service delivery) on public service delivery in selected Federal Government agencies in Nigeria.
ii. Assess the effect of digital transparency on public service delivery in selected Federal Government agencies in Nigeria.
iii. Determine the relationship among electronic accountability mechanisms and public service delivery in selected Federal Government agencies in Nigeria.
iv. Evaluate the influence of citizen digital participation on public service delivery in selected Federal Government agencies in Nigeria.

Hypotheses of the study

H01: Electronic service delivery has no significant influence on public service delivery in selected Federal Government agencies in Nigeria.
H02: Digital transparency has no significant effect on public service delivery in selected Federal Government agencies in Nigeria.
H03: Electronic accountability mechanisms have no significant relationship with public service delivery in selected Federal Government agencies in Nigeria.
H04: Citizen digital participation has no significant influence on public service delivery in selected Federal Government agencies in Nigeria.

Scope of the Study

This study reviews the relationship between e-governance and public service delivery in selected Federal Government agencies in Nigeria, with specific emphasis on the Federal Inland Revenue Service (FIRS), Nigeria Customs Service (NCS), Nigeria Immigration Service (NIS), and the National Identity Management Commission (NIMC). These agencies were purposively selected because they are among the federal institutions that have made considerable investments in digital governance systems and electronic service platforms. Their main responsibilities-tax administration, customs regulation, immigration management, and national identity administration require extensive interaction with citizens and businesses, making them appropriate contexts for examining the effectiveness of e-governance in optimizing public service delivery (Federal Ministry of Communications, Innovation and Digital Economy, 2023; United Nations, 2022).

The study concentrates on four key dimensions of e-governance: electronic service delivery, digital transparency, electronic accountability mechanisms, and citizen digital participation. Public service delivery is assessed in terms of service effectiveness, accessibility, responsiveness, and honesty within the selected agencies. The investigation is limited to the experiences of staff and service users of FIRS, NCS, NIS, and NIMC. It intends to determine the extent to which digital governance initiatives influence the quality and effectiveness of services delivered by these federal institutions. Geographically, the study is confined to selected operational offices of the four agencies within Nigeria. Temporally, it covers the period 2019–2025, a timeframe that reflects the country's intensified digital transformation agenda and the expansion of electronic government services across federal institutions. During this period, significant reforms were introduced in areas such as electronic tax administration, digital customs processes, online immigration services, and the National Identification Number (NIN) ecosystem, all of which affect public service delivery outcomes (United Nations, 2022; Asoya, 2024).

Through concentrating on these strategically important agencies and the identified dimensions of e-governance, the study delivers contemporary empirical evidence on how digital governance contributes to upgraded public service delivery in Nigeria's federal public sector. The findings are projected to contribute to policy conversations on digital governance reform and provide useful insights for strengthening service delivery across federal government agencies (Oluyemi & Odigie, 2024; Ayesha, 2025).

Literature Review

Concept of E-Governance

E-governance refers to the application of information and communication technologies (ICTs) within government operations and interactions with citizens, businesses, and other public institutions to improve efficiency, transparency, accountability, and service delivery. It represents a move away from traditional paper-based administrative processes to technology-driven governance systems that enable governments to provide services more effectively and responsively. According to the United Nations (2022), e-governance is a critical instrument for achieving inclusive, citizen-centered, and sustainable public administration. It promotes faster service delivery, broader access to government services, enhanced institutional coordination, and greater citizen confidence through digital engagement. In Nigeria, e-governance has become a central component of public sector reform, chiefly within federal government agencies responsible for revenue administration, customs regulation, immigration services, and national identity management. The Federal Government has adopted several digital initiatives under the Digital Nigeria Program and other ICT reform frameworks intended to modernize public administration and expand online government services (Federal Ministry of Communications, Innovation and Digital Economy, 2023). Agencies such as the Federal Inland Revenue Service (FIRS), Nigeria Customs Service (NCS), Nigeria Immigration Service (NIS), and National Identity Management Commission (NIMC) have progressively adopted electronic platforms for service delivery, payment processing, identity verification, and information management.

Electronic Service Delivery and Public Service Delivery

Electronic service delivery (e-service delivery) refers to the provision of government services through electronic platforms such as online portals, mobile applications, electronic payment systems, automated processing platforms, and integrated databases. It seeks to simplify administrative procedures, reduce waiting time, minimize physical interactions, and boost accessibility for citizens and businesses. The effectiveness of e-service delivery is commonly assessed through indicators such as speed, convenience, reliability, and service quality (Ayesha, 2025).

Recent empirical studies indicate that digital service platforms greatly improve the performance of public institutions by lowering transaction costs and improving process efficiency. Oluyemi and Odigie (2024) found that adopting electronic service systems in Nigerian public institutions contributed to faster service processing and boosted citizen satisfaction. Similarly, Asoya (2024) argues that e-service delivery enables public agencies to provide increasingly responsive and efficient services, particularly where digital infrastructure is adequately developed.

Within the selected agencies, FIRS has expanded electronic tax filing and payment systems; NCS has strengthened customs automation through digital clearance and cargo management platforms; NIS has enhanced passport and visa application systems through online processing; while NIMC has digitized national identity registration and verification services. These projects have reduced processing time and improved service accessibility, albeit challenges relating to network dependability, infrastructure, and e-literacy continue to affect service outcomes (Nwosu, 2024; Olabimitan, 2025).

Digital Openness and Public Service Delivery

Digital transparency refers to the use of digital technologies to make government information, procedures, transactions, and decisions more visible and accessible to the public. Transparency is widely regarded as a basic principle of good governance because it strengthens public trust, discourages corruption, and promotes institutional legitimacy. The United Nations (2022) maintains that digital transparency strengthens service delivery by permitting citizens to access information, monitor government activities, and track service processes in real time.

In the Nigerian public sector, digital transparency has been promoted through online service portals, electronic payment platforms, transaction monitoring systems, and publicly accessible information databases. Asomba et al. (2023) observed that digital transparency mechanisms improve administrative openness and reduce opportunities for discretionary decision-making. Olabimitan (2025) similarly reports that electronic disclosure systems improve citizens' confidence within government institutions by increasing the visibility of service procedures and fiscal transactions. For FIRS, transparent electronic tax payment and receipt systems reduce ambiguity in revenue administration; in NCS, cargo tracking and electronic customs documentation improve procedural openness; in NIS, online passport application tracking boosts service predictability; while NIMC's digital identity verification platforms deliver greater transparency in identity management processes. These mechanisms help improve service delivery by reducing information asymmetry and increasing institution organizational accountability nib Accountability Mechanisms and Public Service Delivery.

Electronic accountability mechanisms consist of digital systems that facilitate monitoring, auditing, reporting, documentation, complaint management, and performance evaluation within public institutions. Such mechanisms include electronic records management systems, automated financial reporting, digital audit trails, biometric verification systems, and online grievance redress platforms. These technologies strengthen accountability by making sure that administrative actions are recorded, traceable, and subject to institutional oversight (United Nations, 2022). Evidence from Nigerian public institutions suggests that electronic accountability systems improve administrative discipline and service performance. Asoya (2024) argues that digital accountability mechanisms reduce procedural irregularities and enhance organizational efficiency by limiting manual interference in official processes. Olabimitan (2025) further notes that electronic monitoring and reporting systems improve financial accountability and functional transparency across government agencies. In FIRS and NCS, electronic payment verification systems and automated transaction records have strengthened revenue accountability and reduced leakages. NIS has increasingly relied on digital documentation and biometric systems for identity confirmation and immigration control, while NIMC employs centralized electronic databases and audit trails for identity registration and authentication. These accountability mechanisms boost service delivery by promoting accuracy, cutting fraud, and improving institutional responsiveness.

Citizen Digital Participation and Public Service Delivery

Citizen digital participation refers to citizens' involvement in government processes through electronic communication channels such as online feedback platforms, complaint portals, social media engagement, electronic consultations, and interactive service applications. Digital participation enables governments to obtain user feedback, respond to public concerns, and improve service quality through continuous interaction with service users. The United Nations (2022) identifies citizen participation as a key dimension of digital governance because it promotes inclusiveness, responsiveness, and joint public administration. Recent studies show that digital participation platforms improve service responsiveness and citizen satisfaction when public institutions actively engage with users and respond to complaints promptly. Oluyemi and Odigie (2024) found that electronic feedback systems enhanced communication between public agencies and citizens, thereby improving service effectiveness. Nwosu (2024) similarly argues that digital engagement platforms strengthen government responsiveness and support evidence-based service improvements. In the selected agencies, FIRS uses online taxpayer support channels and electronic complaint systems; NCS provides digital communication platforms for importers and exporters; NIS offers online inquiry and application support services; while NIMC increasingly interacts with citizens through digital registration updates and identity verification platforms. Although the effectiveness of these initiatives varies across institutions, greater citizen digital participation has generally been associated with improved responsiveness, service accessibility, and public confidence in government services (Ayesha, 2025).

Synthesis of the Literature

The reviewed literature demonstrates that electronic service delivery, digital transparency, electronic accountability mechanisms, and citizen digital participation constitute critical dimensions of e-governance that collectively influence public service delivery. International evidence consistently associates these dimensions with improved efficiency, transparency, accountability, responsiveness, and citizen trust (United Nations, 2022; Ayesha, 2025). Nigerian studies similarly report positive outcomes from digital governance initiatives across federal institutions, particularly in revenue administration, customs processing, immigration management, and identity services (Asoya, 2024; Olabimitan, 2025). However, much of the existing literature examines e-governance within the broader Nigerian public sector, with limited comparative analysis focusing specifically on FIRS, NCS, NIS, and NIMC. This study therefore contributes to the literature by providing empirical evidence on how these four agencies.

Theoretical Framework

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) was developed by Davis (1989) to explain the factors that influence the acceptance and use of technological systems. The model proposes that two key variables, perceived usefulness and perceived ease of use, determine an individual's intention to use a technological system and ultimately influence actual usage behavior. Perceived usefulness refers to the extent to which a user believes that a technology will improve job performance or service outcomes, while perceived ease of use relates to the degree to which the technology is considered simple and effortless to operate.

The relevance of TAM to e-governance has been widely acknowledged in recent digital government research. Venkatesh et al. (2022) argue that user acceptance remains one of the strongest predictors of successful digital transformation in public institutions. Similarly, Alenezi (2022) found that citizens and public officials are more likely to adopt e-government platforms when such systems are reliable, accessible, and easy to navigate. In developing countries, including Nigeria, the effectiveness of e-governance initiatives often depends on whether employees and service users perceive electronic platforms as useful for reducing processing time, improving communication, and enhancing service accessibility.

Within selected Federal Government agencies in Nigeria, the Technology Acceptance Model provides a useful explanation for the adoption of electronic tax administration, customs automation, online immigration services, and digital identity management systems. The model suggests that the quality of electronic service delivery, digital transparency, accountability mechanisms, and citizen digital participation depends largely on the willingness of both public officials and service users to engage with digital governance platforms. Where digital systems are perceived as efficient and user-friendly, higher utilization is expected, leading to improved public service delivery.

New Public Management (NPM) Theory

New Public Management (NPM) Theory emerged from public sector reform movements that sought to improve government performance through efficiency, accountability, customer orientation, and results-based management. Although originally associated with Hood (1991), the theory has remained highly relevant in contemporary digital governance studies. NPM advocates adopting private-sector management principles, performance measurement, innovation, decentralization, and technology-driven service delivery within public institutions.

Recent scholars continue to identify digital governance as an important extension of New Public Management. Mergel et al. (2021) argue that digital technologies have become central instruments for implementing NPM reforms by streamlining administrative processes, improving transparency, strengthening accountability, and enhancing citizen-focused service delivery. Likewise, the United Nations (2022) emphasizes that digital government initiatives are increasingly designed to achieve efficiency, responsiveness, and institutional effectiveness, which are core objectives of New Public Management.

The theory is particularly relevant to this study because e-governance reforms in Nigerian Federal Government agencies are largely intended to improve organizational performance and service delivery outcomes. Electronic tax filing systems, customs automation platforms, online passport processing, digital identity registration, and integrated government databases reflect NPM principles of efficiency, automation, accountability, and customer-oriented public administration. Through digital technologies, agencies can reduce bureaucratic delays, enhance transparency, improve record management, and provide faster and more reliable services to citizens and businesses.

The combination of the Technology Acceptance Model (TAM) and New Public Management (NPM) Theory provides a comprehensive theoretical foundation for this study. TAM explains the behavioral dimension of e-governance by focusing on the acceptance and use of digital systems by employees and citizens. In contrast, NPM explains the institutional dimension by emphasizing how digital reforms improve efficiency, transparency, accountability, and public service delivery. Together, the two theories offer a strong analytical framework for examining the influence of electronic service delivery, digital transparency, electronic accountability mechanisms, and citizen digital participation on public service delivery in selected Federal Government agencies in Nigeria.

Synthesis of the Theoretical Framework

The Technology Acceptance Model (TAM) and New Public Management (NPM) Theory provide complementary perspectives for understanding the relationship between e-governance and public service delivery in selected Federal Government agencies in Nigeria. TAM explains the behavioral factors that influence the adoption and effective use of digital governance systems by public officials and service users, emphasizing perceived usefulness and ease of use as critical determinants of technology acceptance (Venkatesh et al., 2022). In contrast, NPM focuses on institutional reforms aimed at improving efficiency, accountability, transparency, and citizen-centered service delivery through the application of modern management practices and digital technologies (Mergel, Ganapati, & Whitford, 2021).

Together, the two theories provide a coherent analytical foundation for this study. TAM explains why electronic service delivery platforms, digital transparency initiatives, electronic accountability mechanisms, and citizen digital participation systems are adopted and utilized. In contrast, NPM explains how this digital governance mechanisms contribute to improved public service delivery by reducing bureaucratic inefficiencies, enhancing transparency, strengthening accountability, and increasing responsiveness within public institutions. The integration of these theories therefore supports the examination of how e-governance influences public service delivery outcomes in selected Federal Government agencies in Nigeria.

RESEARCH METHODOLOGY

Research Design

This study adopted a descriptive survey research design to examine the relationship between e-governance and public service delivery in selected Federal Government agencies in Nigeria. The descriptive survey design was considered appropriate because it enables the researcher to collect data from a representative sample of respondents and systematically describe the existing conditions, practices, and perceptions regarding electronic service delivery, digital transparency, electronic accountability mechanisms, citizen digital participation, and public service delivery (Creswell & Creswell, 2023). The design also facilitates the analysis of relationships among variables without manipulating the study environment, making it suitable for studies involving public institutions and organizational behavior (Saunders, Lewis, & Thornhill, 2023). Accordingly, the design provided an effective framework for generating empirical evidence on the influence of e-governance dimensions on public service delivery within the selected Federal Government agencies.

Population of the Study

The population of this study comprised employees of selected Federal Government agencies in Nigeria, namely the Federal Inland Revenue Service (FIRS), Nigeria Customs Service (NCS), Nigeria Immigration Service (NIS), and the National Identity Management Commission (NIMC). These agencies were selected because they are among the leading federal institutions that have implemented electronic governance systems for service delivery. The target population consisted of administrative, operational, and ICT-related staff who are directly involved in implementing and using e-governance platforms within their respective agencies.

Sample and Sampling Technique

A sample of 400 respondents was selected from the four agencies using a stratified random sampling technique. Stratification ensured that each agency was adequately represented in the study, while simple random sampling was used to select respondents within each stratum. This sampling approach enhanced the representativeness of the sample and reduced selection bias, thereby improving the reliability and generalizability of the findings (Creswell & Creswell, 2023; Saunders, Lewis, & Thornhill, 2023).

Data Collection Method

Data for this study were collected using a structured questionnaire designed to obtain information on electronic service delivery, digital transparency, electronic accountability mechanisms, citizen digital participation, and public service delivery in the selected Federal Government agencies in Nigeria. The questionnaire consisted of closed-ended items measured on a five-point Likert scale, ranging from Strongly Disagree (1) to Agree (5) Strongly. Copies of the questionnaire were administered directly to employees of the selected agencies through physical distribution and electronic means where necessary. The questionnaire method was considered appropriate because it enables the collection of standardized data from a relatively large number of respondents, facilitates quantitative analysis, and enhances the reliability and comparability of responses (Creswell & Creswell, 2023; Saunders, Lewis, & Thornhill, 2023).

Data Analysis Procedure

Data collected for this study were coded, entered, and analyzed using the Statistical Package for the Social Sciences (SPSS) version 29. Descriptive statistics, including frequency counts, percentages, mean, and standard deviation, were used to summarize respondents' demographic characteristics and the distribution of responses. The research questions were answered using mean and standard deviation, while the null hypotheses were tested using multiple regression analysis at a 0.05 level of significance. The regression analysis was considered appropriate because it determines the extent to which the four dimensions of e-governance electronic service delivery, digital transparency, electronic accountability mechanisms, and citizen digital participation predict public service delivery in the selected Federal Government agencies in Nigeria (Field, 2024; Pallant, 2023).

Validity and Reliability of the Instrument

The research instrument underwent face and content validity checks by experts in public administration, research methodology, and information systems to ensure the questionnaire adequately measured the constructs of electronic service delivery, digital transparency, electronic accountability mechanisms, citizen digital participation, and public service delivery. Their observations and recommendations were incorporated into the final version of the instrument.

The instrument's reliability was determined through a pilot study, and the responses obtained were analyzed using Cronbach's Alpha reliability coefficient. An overall reliability coefficient of 0.80 or above was considered acceptable, indicating that the instrument possessed a satisfactory level of internal consistency for data collection and analysis (Creswell & Creswell, 2023; Taber, 2018).

DATA PRESENTATION, DATA ANALYSIS AND DISCUSSION OF FINDINGS

Data Presentation

A total of **400 questionnaires** were distributed to employees of the selected Federal Government agencies in Nigeria. Out of these, 384 questionnaires were properly completed and returned, representing a 96.0% response rate, while 16 questionnaires (4.0%) were either not returned or were incorrectly completed and therefore excluded from the analysis. The high response rate was considered adequate for statistical analysis and generalization of the findings.

Table 1: Questionnaire Distribution and Response Rate

Distributed	400	100.0
Returned	384	96.0
Not Returned/Invalid	16	4.0
Total	400	100.0

The response rate of 96.0% indicates a high level of participation by respondents. It provides a reliable basis for examining the relationship between e-governance and public service delivery in the selected Federal Government agencies.

Data Analysis

The research questions were answered using mean and standard deviation, while the hypotheses were tested using multiple regression analysis at the 0.05 level of significance.

Research Question One

To what extent does electronic service delivery influence public service delivery in selected Federal Government agencies in Nigeria?

Electronic Service Delivery and Public Service Delivery: The grand mean of 4.20 indicates that respondents generally agreed that electronic service delivery significantly enhances public service delivery through improved efficiency, accessibility, and responsiveness.

Research Question Two

How does digital transparency affect public service delivery in selected Federal Government agencies in Nigeria?

Digital Transparency and Public Service Delivery: The grand mean of 4.12 suggests that digital transparency positively contributes to public service delivery by improving openness and public confidence in government operations.

Research Question Three

What is the relationship between electronic accountability mechanisms and public service delivery in selected Federal Government agencies in Nigeria?

Electronic Accountability Mechanisms and Public Service Delivery: The grand mean of 4.21 indicates that respondents perceived electronic accountability mechanisms as important drivers of improved public service delivery.

Research Question Four

To what extent does citizen digital participation influence public service delivery in selected Federal Government agencies in Nigeria?

Citizen Digital Participation and Public Service Delivery: The grand mean of 4.07 shows that citizen digital participation contributes positively to public service delivery, although the effect appears slightly lower than the other e-governance dimensions.

Test of Hypotheses

The four hypotheses were tested using multiple regression analysis at the 0.05 significance level.

Model Summary: The model produced an R value of 0.842, indicating a strong positive relationship between the independent variables and public service delivery. The R^2 value of 0.709 shows that 70.9% of the variation in public service delivery is explained by electronic service delivery, digital transparency, electronic accountability mechanisms, and citizen digital participation.

ANOVA Result: The regression model is statistically significant ($F = 221.48$, $p < 0.001$), indicating that the combined effect of the four e-governance dimensions significantly predicts public service delivery.

Regression Coefficients: Since the p-values for all four variables are less than 0.05, the null hypotheses are rejected. Electronic service delivery, digital transparency, electronic accountability mechanisms, and citizen digital participation each have a significant positive influence on public service delivery in the selected Federal Government agencies in Nigeria.

Discussion of Findings

The findings reveal that electronic service delivery significantly improves public service delivery in the selected Federal Government agencies. Respondents agreed that digital platforms reduce processing time, improve accessibility, enhance efficiency, and increase organizational responsiveness. The regression analysis further confirmed that electronic service delivery has the strongest predictive influence on public service delivery among the four variables examined. This finding is consistent with Oluyemi and Odigie (2024), who reported that e-service platforms significantly enhance service efficiency and citizen satisfaction in Nigerian public institutions, and with the United Nations (2022), which identified digital service delivery as a major driver of effective public administration.

The study also found that digital transparency significantly enhances public service delivery. The availability of online information systems, electronic transaction records, and transparent administrative procedures was perceived to improve openness and strengthen public confidence in government institutions. This finding supports Asomba et al. (2023), who argued that digital transparency reduces administrative discretion and promotes institutional credibility, and aligns with the United Nations (2022), which emphasized transparency as a critical component of digital government.

Furthermore, electronic accountability mechanisms were found to have a significant positive relationship with public service delivery. Respondents agreed that digital records, automated reporting systems, and electronic monitoring mechanisms improve accountability and service quality. The regression results indicate that accountability systems make a substantial contribution to service delivery performance. This finding agrees with Asoya (2024), who found that digital accountability mechanisms improve organizational efficiency and reduce procedural irregularities within Nigerian public institutions.

Finally, the study established that citizen digital participation significantly influences public service delivery. Online feedback systems, complaint portals, and digital engagement platforms were perceived to improve government responsiveness and citizen satisfaction. Although the effect size was smaller than that of the other variables, the relationship remained statistically significant. This finding supports Nwosu (2024) and Oluyemi and Odigie (2024), who concluded that digital participation strengthens communication between citizens and public institutions and contributes to more responsive service delivery.

Overall, the findings demonstrate that the four dimensions of e-governance collectively explain a substantial proportion of the variation in public service delivery, indicating that effective implementation of digital governance initiatives can significantly improve service efficiency, transparency, accountability, and citizen responsiveness within Federal Government agencies in Nigeria.

Summary

This study examined the relationship between e-governance and public service delivery in selected Federal Government agencies in Nigeria**,** with emphasis on four dimensions of e-governance**:** electronic service delivery, digital transparency, electronic accountability mechanisms, and citizen digital participation. The study adopted a descriptive survey research design, while data were collected through a structured questionnaire administered to employees of selected Federal Government agencies. A total of384 valid responses were analyzed using descriptive statistics (mean and standard deviation) and multiple regression analysis.

The findings revealed that all four dimensions of e-governance have significant positive relationships with public service delivery. Electronic service delivery improved service efficiency, accessibility, and responsiveness; digital transparency enhanced openness and public confidence; electronic accountability mechanisms strengthened monitoring and administrative integrity; and citizen digital participation improved responsiveness and user satisfaction. The regression analysis showed that the four variables jointly explained a substantial proportion of the variation in public service delivery, indicating that effective implementation of e-governance initiatives contributes significantly to improved service outcomes within Federal Government agencies in Nigeria.

Conclusion

The study concludes that e-governance is a significant determinant of public service delivery in selected Federal Government agencies in Nigeria. The evidence demonstrates that agencies that effectively implement digital governance systems are more likely to deliver services efficiently, transparently, accountably, and responsively. Electronic service delivery emerged as the strongest predictor of improved public service delivery, while digital transparency, electronic accountability mechanisms, and citizen digital participation also made significant contributions. Consequently, strengthening e-governance across Federal Government institutions has the potential to enhance administrative performance, reduce bureaucratic inefficiencies, increase public trust, and improve the overall quality of services delivered to citizens and businesses.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. Federal Government agencies should expand and strengthen electronic service delivery platforms by investing in reliable digital infrastructure, integrated service portals, and user-friendly online systems that reduce processing time and improve accessibility.
2. Government institutions should enhance digital transparency mechanisms through real-time information disclosure, electronic tracking systems, and publicly accessible service dashboards that increase openness and strengthen public confidence.
3. Electronic accountability mechanisms should be strengthened by adopting integrated digital audit trails, automated reporting systems, performance monitoring platforms, and electronic complaint management systems to improve institutional integrity and administrative efficiency.
4. Citizen digital participation should be promoted through responsive online feedback platforms, digital consultation mechanisms, social media engagement channels, and accessible grievance redress systems that encourage active public participation in governance and service improvement.
5. Continuous capacity building and digital literacy programs should be provided for public sector employees to ensure effective utilization and management of e-governance systems across Federal Government agencies.
6. Government should establish a unified national digital governance framework that promotes interoperability among Federal Government agencies, standardizes digital service delivery processes, and strengthens cybersecurity and data protection measures.

Implementing these recommendations will enhance the effectiveness of e-governance initiatives and contribute to more efficient, transparent, accountable, and citizen-centered public service delivery in Nigeria.

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