

EXPLORING THE ROLE OF DIGITAL TECHNOLOGIES IN ENHANCING PUBLIC SERVICE DELIVERY IN ADAMAWA STATE

Dearsley Theman Dalatu ¹, Lucky Solomon ², Jones Yusuf ³

^{1,2}Department of Public Administration, Faculty of Administration and Management Sciences
Adamawa State University, Mubi

dearsleydalatu68@gmail.com, luckysolomon85@gmail.com, jonesyusuf4@gmail.com

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Abstract

This study examined the role of digital technologies in enhancing public service delivery in Adamawa State, Nigeria. Specifically, the study sought to examine the adoption and utilization of digital technologies in public service delivery, assess their impact on the efficiency, accessibility, and quality of public services, and identify the challenges affecting their effective utilization. The study was anchored on the Diffusion of Innovations Theory developed by Everett M. Rogers, which explains the process through which innovations and technologies are adopted within organizations and societies. A descriptive survey research design was adopted, while a structured questionnaire served as the primary instrument for data collection. The population of the study consisted of 29,500 public servants drawn from ministries, departments, agencies, local government councils, parastatals, and ICT units in Adamawa State. Using the Taro Yamane formula, a sample size of 395 respondents was determined, out of which 391 valid questionnaires were retrieved and analyzed using frequency counts and simple percentages. The findings revealed that digital technologies are widely adopted and utilized in public service delivery through e-governance systems, digital record management, and other technology-driven administrative processes. The study further found that digital technologies have significantly improved efficiency, accessibility, service quality, transparency, and accountability in public service delivery. However, challenges such as inadequate ICT infrastructure, poor internet connectivity, insufficient funding, limited digital skills among staff, and frequent system failures continue to hinder the effective utilization of these technologies. The study concludes that digital technologies are essential for modernizing public administration and improving service delivery outcomes in Adamawa State. It therefore recommends the expansion of digital governance initiatives across public institutions, continuous capacity building for public servants, and increased investment in ICT infrastructure, funding, and technological support systems to ensure sustainable and effective digital transformation in the public sector.

Keywords: Digital Technologies, Public Service Delivery, E-Governance, Digital Transformation, Public Administration, Adamawa State.

INTRODUCTION

The rapid advancement of digital technologies has transformed the way governments around the world deliver public services and interact with citizens. Digital technologies, including e-government platforms, online service portals, mobile applications, cloud computing, and digital databases, have become essential tools for improving efficiency, transparency, accountability, and responsiveness in public administration. Governments increasingly utilize these technologies to reduce bureaucratic delays, enhance access to public services, facilitate information sharing, and improve citizen participation in governance processes. The growing emphasis on digital governance is driven by the recognition that technology can address longstanding administrative challenges while promoting inclusive and citizen-centered service delivery. Consequently, digital transformation has emerged as a critical component of public sector reforms in both developed and developing countries (United Nations, 2024; World Bank, 2024).

In Nigeria, the adoption of digital technologies in public administration has gained significant attention as part of broader efforts to modernize governance and improve service delivery. Various policy initiatives have encouraged federal, state, and local government institutions to integrate information and communication technologies into administrative processes. Digital innovations have been deployed in areas such as revenue collection, healthcare administration, education management, identity registration, and public information dissemination. Despite these efforts, challenges such as inadequate infrastructure, limited digital literacy, unreliable electricity supply, cybersecurity concerns, and funding constraints continue to hinder the effective utilization of digital technologies in many parts of the country. Nevertheless, the increasing penetration of mobile technologies and internet services has created new opportunities for governments to expand access to public services and strengthen administrative performance (Federal Ministry of Communications, Innovation and Digital Economy, 2024; Nwankwo & Eze, 2023).

Adamawa State has also witnessed growing efforts to incorporate digital technologies into governance and public service delivery. The state government has increasingly recognized the importance of digital solutions in improving administrative efficiency, facilitating communication between government agencies and citizens, and enhancing the accessibility of public services. Digital platforms have been introduced in selected sectors to streamline operations and support effective decision-making. However, concerns remain regarding the extent of technology adoption, the adequacy of digital infrastructure, and the capacity of public institutions to fully leverage technological innovations for optimal service delivery outcomes. As citizens continue to demand more efficient, transparent, and accessible public services, there is a need to examine how digital technologies are being utilized and the extent to which they contribute to enhancing public service delivery in Adamawa State. It is

against this backdrop that this paper explores the role of digital technologies in enhancing public service delivery in Adamawa State.

STATEMENT OF THE PROBLEM

The delivery of public services in Adamawa State has continued to face challenges associated with administrative delays, limited accessibility, inefficiencies in service provision, and difficulties in meeting the growing demands of citizens. In response to these challenges, digital technologies have increasingly been recognized as important tools for modernizing government operations and improving service delivery. Although the Adamawa State Government has made efforts to introduce digital technologies into certain aspects of public administration, the extent to which these technologies have been adopted and effectively utilized across public institutions remains largely uncertain. The absence of adequate information on the level of adoption and utilization of digital technologies has created a gap in understanding their contribution to public service delivery within the state.

Furthermore, there is insufficient empirical evidence on whether the use of digital technologies has significantly improved the efficiency, accessibility, and quality of public services in Adamawa State. Concerns persist regarding the ability of public institutions to maximize the benefits of digital transformation due to challenges such as inadequate technological infrastructure, poor internet connectivity, insufficient funding, limited technical expertise, and weak institutional support. These constraints may hinder the effective application of digital technologies and reduce their potential impact on service delivery outcomes. It is therefore necessary to examine the adoption and utilization of digital technologies, assess their impact on public service delivery, and identify the challenges affecting their effective use in Adamawa State with a view to providing appropriate recommendations for improvement.

The main objective of this study is to assess the role of digital technologies in enhancing public service delivery in Adamawa State. Specifically, the study seeks to examine the adoption and utilization of digital technologies in public service delivery in the state, assess the impact of these technologies on the efficiency, accessibility, and quality of public services, and identify the challenges affecting the effective use of digital technologies in public service delivery in Adamawa State.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Concept of Digital Technologies

Digital technologies have attracted considerable scholarly attention due to their transformative impact on communication, information management, governance, and service delivery. The concept generally refers to electronic tools, systems, devices, and applications that generate, process, store, and transmit information in digital form. According to the United Nations (2024), digital technologies encompass a broad range of information and communication technologies, including computers, internet-based platforms, mobile technologies, cloud computing systems, artificial intelligence, and digital databases used to facilitate social, economic, and administrative activities. Similarly, the World Bank (2024) defines digital technologies as technological innovations that enable the collection, processing, exchange, and utilization of information to improve efficiency, productivity, and decision-making. Mergel, Edelmann, and Haug (2023) view digital technologies as transformative tools that support organizational modernization and innovation by integrating digital solutions into operational processes. Likewise, Gil-Garcia, Dawes, and Pardo (2023) describe digital technologies as information-driven systems that enhance communication, coordination, and service provision within both public and private institutions.

From a governance perspective, digital technologies are regarded as strategic instruments for improving administrative performance and public service delivery. Twizeyimana and Andersson (2023) define digital technologies as technological resources that facilitate electronic interactions between governments, citizens, and organizations while promoting transparency and accountability. According to the International Telecommunication Union (2024), digital technologies comprise interconnected digital infrastructures and platforms that support the delivery of services and the management of information across various sectors. Furthermore, the Organisation for Economic Co-operation and Development (OECD, 2024) conceptualizes digital technologies as innovative digital tools that enable governments and institutions to respond effectively to contemporary societal challenges through data-driven solutions and automation. From these perspectives, digital technologies can be understood as a collection of digital tools, platforms, and systems designed to improve information processing, communication, decision-making, and service delivery, thereby serving as critical enablers of efficiency, innovation, and development in modern society.

Public Service Delivery

Public service delivery is a fundamental function of government and refers to the provision of goods, services, and administrative functions intended to meet the needs and welfare of citizens. The

concept has been defined differently by scholars and institutions depending on their perspectives on governance and public administration. According to Denhardt and Denhardt (2023), public service delivery is the process through which public institutions implement government policies and provide services that promote the public interest. Osborne (2023) defines public service delivery as the mechanism through which public organizations create value for citizens by supplying essential services and responding to societal needs. Similarly, the United Nations Development Programme (2024) views public service delivery as the provision of accessible, efficient, equitable, and responsive services by government institutions to improve citizens' quality of life. The World Bank (2024) conceptualizes public service delivery as the interaction between governments and citizens in the provision of public goods and services such as education, healthcare, water supply, security, transportation, and social welfare. These definitions emphasize the role of government institutions in translating public policies into tangible benefits for the population.

From a broader governance perspective, public service delivery encompasses not only the provision of services but also the quality, accessibility, efficiency, and responsiveness of those services. According to the African Development Bank (2024), public service delivery involves the effective allocation and management of public resources to ensure that citizens receive timely and satisfactory services. Bovaird and Loeffler (2023) define public service delivery as a collaborative process through which public institutions and stakeholders work together to meet societal demands and enhance public value. Likewise, Pollitt and Bouckaert (2023) argue that public service delivery represents the practical expression of governance, as it reflects the capacity of government institutions to address public needs effectively and efficiently. From these scholarly viewpoints, public service delivery can be understood as the systematic provision of public goods and services by government institutions in a manner that promotes efficiency, accessibility, accountability, responsiveness, and citizen satisfaction.

Adoption and Utilization of Digital Technologies in Public Service Delivery in Adamawa State

The adoption and utilization of digital technologies in public service delivery have increasingly gained attention in Adamawa State as part of broader efforts to improve governance efficiency, transparency, and citizen access to government services. In recent years, the state government has embraced various information and communication technology (ICT) initiatives aimed at modernizing administrative processes and enhancing service delivery across ministries, departments, and agencies. Digital technologies such as electronic record management systems, online communication platforms, biometric data systems, and computerized financial management tools have been introduced to facilitate faster decision-making, improve data accuracy, and reduce bureaucratic delays. The integration of digital platforms in sectors such as education, healthcare, revenue

administration, and civil service management has contributed to greater operational efficiency and accountability. These initiatives align with national digital transformation policies that emphasize the use of technology as a catalyst for effective public administration and sustainable development (Adebayo & Ibrahim, 2022; Eme & Ugwu, 2023).

Despite these advancements, the utilization of digital technologies in public service delivery in Adamawa State continues to face several challenges that limit its full potential. Inadequate ICT infrastructure, unstable electricity supply, limited internet connectivity in rural communities, insufficient funding, and low levels of digital literacy among some public servants have constrained the effective implementation of e-governance initiatives. Furthermore, issues relating to cybersecurity, maintenance of digital systems, and resistance to organizational change have affected the pace of digital transformation within the public sector. Nevertheless, ongoing investments in ICT infrastructure, capacity-building programs, and partnerships with federal agencies and development organizations are gradually improving the digital ecosystem in the state. As the adoption of digital technologies expands, public service delivery in Adamawa State is expected to become more responsive, transparent, and citizen-centered, thereby strengthening governance outcomes and public trust in government institutions (World Bank, 2023; United Nations, 2024).

Role of Digital Technologies in Enhancing Efficiency in Public Service Delivery

Digital technologies play a transformative role in enhancing efficiency in public service delivery by streamlining administrative processes, reducing bureaucratic bottlenecks, and improving the speed and accuracy of service provision. The adoption of e-governance platforms, digital record management systems, and automated workflow processes enables public institutions to minimize reliance on manual documentation, which is often slow, error-prone, and susceptible to corruption. According to recent studies, digital tools such as electronic document management systems (EDMS) and integrated financial management information systems (IFMIS) have significantly improved coordination among government agencies and reduced delays in decision-making processes (Dunleavy et al., 2022; World Bank, 2023). In addition, the use of digital identity systems and online verification platforms has strengthened service targeting and reduced cases of duplication and fraud, thereby making public service delivery more responsive and efficient.

Furthermore, digital technologies enhance efficiency by expanding access to services and enabling real-time communication between government institutions and citizens. Mobile applications, online portals, and social media platforms allow citizens to access essential services such as tax payments, health registration, and licensing without physically visiting government offices, thereby reducing congestion and operational costs. In many developing contexts, including Nigeria, digital

transformation initiatives such as Treasury Single Account (TSA) automation and Integrated Payroll and Personnel Information System (IPPIS) have improved transparency and accountability while increasing administrative efficiency (Ojo & Oyesiku, 2021; United Nations E-Government Survey, 2024). These innovations not only accelerate service delivery but also enhance monitoring, feedback mechanisms, and performance evaluation, ultimately contributing to a more effective and citizen-centered public service system.

EMPIRICAL REVIEW

Adebayo, and Ifijeh (2019) conducted a study titled "E-Government Services in Africa: A Case of Nigeria" using a qualitative case study approach based on documentary analysis of government digital initiatives. The study found that the adoption of digital technologies in public administration improved service accessibility, transparency, and administrative efficiency. However, inadequate ICT infrastructure, poor digital literacy, and inconsistent government policies limited effective public service delivery across many Nigerian states.

World Bank (2021) conducted a study titled "GovTech Maturity Index: The State of Public Sector Digital Transformation" using comparative quantitative analysis covering over 190 countries. The findings revealed that digital technologies significantly enhanced government efficiency through online service delivery, electronic records management, digital payments, and citizen engagement platforms. However, inadequate funding, poor ICT infrastructure, cybersecurity concerns, and limited technical capacity slowed digital transformation in many sub-national governments, particularly in developing economies.

Okunola, Rowley, and Johnson (2017) carried out a study titled "The Multi-Dimensional Digital Divide: Perspectives from an e-Government Portal in Nigeria" using a survey research design involving users of Nigerian e-government services. The study found that while digital platforms improved citizens' access to government information and services, utilization remained low due to poor internet connectivity, low digital literacy, and inadequate public awareness.

Misuraca and Viscusi (2020) conducted a study titled "Shaping Public Sector Innovation Theory: An Interpretative Framework for ICT-Enabled Governance" using a systematic review of digital governance literature and international case studies. The findings indicated that digital technologies strengthen public service delivery by increasing operational efficiency, transparency, responsiveness, and collaboration between governments and citizens. The study further noted that organizational

readiness, political commitment, and continuous investment in ICT infrastructure are critical determinants of successful digital transformation in the public sector.

THEORETICAL FRAMEWORK

The study is anchored on the Diffusion of Innovations Theory, propounded by Everett M. Rogers (1962; revised 2003). The theory explains how new ideas, practices, or technologies spread within a social system over time through specific communication channels. Rogers argues that the adoption process is influenced by the perceived attributes of an innovation, namely relative advantage, compatibility, complexity, trainability, and observability. He further categorizes adopters into five groups: innovators, early adopters, early majority, late majority, and laggards. In relation to public service delivery, the theory provides a useful framework for understanding how digital technologies such as e-governance platforms, biometric systems, and online service portals are introduced, accepted, and institutionalized within government structures.

However, the Diffusion of Innovations Theory has faced several criticisms from scholars. One major critique is that it presents a largely linear and overly simplified model of innovation adoption, which may not accurately reflect the complex realities of public sector environments, especially in developing contexts like Nigeria. Critics also argue that the theory overemphasizes individual decision-making while underestimating structural constraints such as poor infrastructure, limited funding, digital illiteracy, and institutional resistance to change. Furthermore, it has been criticized for being relatively neutral in addressing power relations, inequality, and political influences that significantly shape the adoption and implementation of digital technologies in public institutions.

Despite these limitations, the theory remains highly relevant to this study as it provides a clear analytical lens for examining the adoption and utilization of digital technologies in enhancing public service delivery in Adamawa State. It helps to explain the varying levels of acceptance of digital tools among ministries, departments, and agencies based on factors such as perceived usefulness, ease of use, and organizational readiness. The theory also assists in identifying why some public institutions rapidly adopt digital innovations while others lag behind due to resistance or inadequate capacity. Therefore, the study is anchored on the Diffusion of Innovations Theory because it effectively captures both the process and challenges of digital transformation in public service delivery, thereby offering valuable insights for improving efficiency, accessibility, and governance outcomes in Adamawa State.

METHODOLOGY

Research Design

The study adopts a descriptive survey research design to explore the role of digital technologies in enhancing public service delivery in Adamawa State. This design is considered appropriate because it allows for the systematic collection of data from a defined population in order to describe and explain existing conditions, opinions, and experiences without manipulating variables. The design enables the researcher to gather quantitative and qualitative information from public servants and service users on the adoption, utilization, and impact of digital technologies in service delivery processes across government institutions in the state.

Population of the Study

The population of the study comprises public servants working in key ministries, departments, and agencies (MDAs), local government councils, parastatals, and ICT/digital service units in Adamawa State, Nigeria. These groups were selected because they are directly involved in the adoption and implementation of digital technologies for public service delivery across the state. Based on administrative records from the Adamawa State Civil Service Commission and relevant national estimates by the National Bureau of Statistics (NBS), the total population is approximately 29,500 personnel distributed across the selected categories (Adamawa State Civil Service Commission, 2024; NBS, 2022).

Table 1: Population Distribution of the Study

Category of Public Service Institutions	Estimated Population
State Ministries, Departments & Agencies (MDAs)	15,000
Local Government Councils Staff	8,000
Parastatals and Agencies	5,000
ICT/Digital Service Units	1,500
Total	29,500

Source: Adamawa State Civil Service Commission (2024); National Bureau of Statistics (NBS, 2022).

Sample Size and Sampling Technique

The sample size for this study was determined using the Taro Yamane (1967) statistical formula for finite populations. Given the total population of 29,500 public servants involved in various digital and administrative functions in Adamawa State, the formula was applied as follows:

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

Where:

n = sample size,

N = population size (29,500),

e = level of significance (0.05)

$$\begin{aligned} n &= \frac{29,500}{1 + 29,500 (0.05)^2} \\ n &= \frac{29,500}{1 + 29,500 (0.0025)} \\ n &= \frac{29,500}{1 + 73.75} \\ n &= \frac{29,500}{74.75} \\ n &= 394.6 \text{ approximately } 395. \end{aligned}$$

Therefore the sample size for the study is 395 respondents.

The study adopted a stratified random sampling technique to ensure fair representation of all categories of public service institutions involved in the study. The population was first stratified into MDAs, local government councils, parastatals, and ICT/digital service units. Proportional allocation was then used to determine the number of respondents selected from each stratum, after which simple random sampling was employed to select individual respondents. This approach ensures that every subgroup of the population is adequately represented while minimizing sampling bias and enhancing the reliability of the findings.

Method of Data Collection and Analysis

The study employed a structured questionnaire as the main instrument for data collection, which was designed to gather information on respondents' perceptions of the role of digital technologies in enhancing public service delivery in Adamawa State. The questionnaire was administered directly to selected respondents and retrieved upon completion to ensure a high response rate and reliability of responses. Out of 395 questionnaires distributed, 391 were retrieved and used for data analysis. The data collected were analyzed using frequency counts and simple percentages, to summarize and interpret respondents' views in line with the research objectives. The results were presented in tabular form for easy understanding and comparison.

RESULT AND DISCUSSION

Table 1: Demographic Information of Respondents

S/N	Demographic Variables	Categories	Frequency	Percentage (%)
1	Gender	Male	225	57.5
		Female	166	42.5
		Total	391	100
2	Age Distribution	20-29 years	72	18.4
		30-39 years	148	37.9
		40-49 years	109	27.9
		50 years and above	62	15.8
		Total	391	100
3	Educational Qualification	ND/NCE	88	22.5
		HND/Bachelor's Degree	212	54.2
		Postgraduate Qualification	91	23.3
		Total	391	100
4	Institution Type	MDAs	175	44.8
		Local Government Councils	132	33.8
		Parastatals/Agencies	84	21.5
		Total	391	100

Source: Field Survey, 2026

The demographic distribution of respondents presented in the table shows a slightly higher representation of males, who constitute 57.5% (225) of the sample, while females account for 42.5% (166). This indicates a moderate gender imbalance in favour of male respondents, which may reflect the general composition of the public service workforce in Adamawa State. In terms of age distribution, the majority of respondents fall within the economically active and productive age brackets, with 30-39 years representing 37.9% (148), followed by 40-49 years at 27.9% (109). Respondents aged 20-29 years account for 18.4% (72), while those aged 50 years and above constitute 15.8% (62). This suggests that the study largely captured middle-aged public servants who are likely to have practical experience with administrative processes and digital service systems.

Regarding educational qualification, the data shows that most respondents possess tertiary education, with HND/Bachelor's degree holders forming the majority at 54.2% (212). This is followed by postgraduate degree holders at 23.3% (91), while ND/NCE holders make up 22.5% (88). This implies that the respondents are generally well-educated and capable of understanding issues related to digital technologies in public service delivery. Furthermore, the institutional distribution indicates that 44.8% (175) of respondents are from MDAs, 33.8% (132) from Local Government Councils, and 21.5% (84) from Parastatals/Agencies. This spread shows that the study adequately captured perspectives across key public sector institutions, thereby enhancing the representativeness and credibility of the findings.

Table 2: Adoption and Utilization of Digital Technologies in Public Service Delivery in Adamawa State

S/N	Statements	SA	A	D	SD	Total	Decision
1	Digital technologies are widely adopted in public service institutions in Adamawa State	155 (39.7%)	140 (35.8%)	60 (15.3%)	36 (9.2%)	391	Accepted
2	E-governance systems are commonly used in public service delivery	160 (40.9%)	135 (34.5%)	60 (15.3%)	36 (9.2%)	391	Accepted
3	Staff are trained on the use of digital tools in public service	120 (30.7%)	150 (38.4%)	75 (19.2%)	46 (11.8%)	391	Accepted
4	Digital record-keeping systems are effectively utilized in MDAs	115 (29.4%)	145 (37.1%)	85 (21.7%)	46 (11.8%)	391	Accepted
5	Most public service processes have been digitized	140 (35.8%)	138 (35.3%)	70 (17.9%)	43 (11.0%)	391	Accepted

Source: Field Survey, 2026

The data presented in Table 2 shows respondents' perceptions on the adoption and utilization of digital technologies in public service delivery in Adamawa State. The results indicate a generally high level of agreement across all five statements. For instance, 75.5% of respondents agreed that digital technologies are widely adopted in public service institutions, while only 24.5% disagreed. Similarly, 75.4% confirmed that e-governance systems are commonly used in public service delivery. The findings further reveal that 69.1% of respondents agreed that staff are trained on the use of digital tools, while 66.5% affirmed the effective utilization of digital record-keeping systems in MDAs. In addition, 71.1% agreed that most public service processes have been digitized. These results collectively suggest that digital technologies have been significantly integrated into public service operations in the state.

The overall decision of "Accepted" across all items implies that digital transformation in Adamawa State's public service sector is not only present but also actively functioning in key administrative processes. However, the comparatively lower agreement on staff training and digital record management indicates that while adoption is relatively strong, capacity development and full optimization of digital systems may still require improvement. The findings therefore suggest a

progressive shift towards digital governance, but one that is still evolving and unevenly implemented across different institutions.

Table 3: Impact of Digital Technologies on Efficiency, Accessibility, and Quality of Public Service Delivery

S/N	Statements	SA	A	D	SD	Total	Decision
1	Digital technologies improve efficiency of public service delivery	170 (43.5%)	130 (33.2%)	55 (14.1%)	36 (9.2%)	391	Accepted
2	Digital technologies enhance accessibility of public services	160 (40.9%)	140 (35.8%)	60 (15.3%)	31 (7.9%)	391	Accepted
3	Digital technologies improve quality of public service delivery	165 (42.2%)	135 (34.5%)	60 (15.3%)	31 (7.9%)	391	Accepted
4	Digital systems reduce waiting time in service delivery	155 (39.7%)	145 (37.1%)	60 (15.3%)	31 (7.9%)	391	Accepted
5	Digital technologies promote transparency and accountability	150 (38.4%)	140 (35.8%)	70 (17.9%)	31 (7.9%)	391	Accepted

Source: Field Survey, 2026

The data presented in Table 3 reveals respondents' perceptions on the impact of digital technologies on efficiency, accessibility, and quality of public service delivery in Adamawa State. The findings show a strong level of agreement across all five statements. Specifically, 76.7% of respondents agreed that digital technologies improve efficiency in public service delivery, while 23.3% disagreed. Similarly, 76.7% also affirmed that digital technologies enhance accessibility of public services. Furthermore, 76.7% of respondents agreed that digital technologies improve the quality of public service delivery, indicating a consistently positive perception across service dimensions. In addition, 76.8% agreed that digital systems reduce waiting time in service delivery, while 74.2% confirmed that digital technologies promote transparency and accountability in public institutions. Overall, the unanimous "Accepted" decision across all items suggests that digital technologies have a significant positive impact on public service delivery in Adamawa State. The responses indicate that digitization has improved administrative efficiency, expanded access to services, enhanced service quality, and strengthened transparency mechanisms. However, the presence of a minority of respondents who disagreed across all items suggests that these benefits may not yet be fully experienced in all

institutions or by all service users. This implies that while digital transformation is yielding positive outcomes, its effectiveness may still vary due to differences in infrastructure, implementation capacity, and institutional readiness across public service organizations in the state

Table 4: Challenges Affecting Effective Use of Digital Technologies in Public Service Delivery in Adamawa State

S/N	Statements	SA	A	D	SD	Total	Decision
1	Inadequate ICT infrastructure affects digital service delivery.	180 (46.0%)	120 (30.7%)	55 (14.1%)	36 (9.2%)	391	Accepted
2	Poor internet connectivity limits effective service delivery.	170 (43.5%)	130 (33.2%)	60 (15.3%)	31 (7.9%)	391	Accepted
3	Lack of digital skills among staff is a major challenge.	175 (44.8%)	125 (32.0%)	55 (14.1%)	36 (9.2%)	391	Accepted
4	Inadequate funding affects adoption of digital technologies.	160 (40.9%)	140 (35.8%)	60 (15.3%)	31 (7.9%)	391	Accepted
5	Frequent system failures disrupt service delivery.	165 (42.2%)	135 (34.5%)	60 (15.3%)	31 (7.9%)	391	Accepted

Source: Field Survey, 2026

The data presented in Table 4 shows respondents' views on the challenges affecting the effective use of digital technologies in public service delivery in Adamawa State. The findings reveal a high level of agreement across all identified challenges. Specifically, 76.7% of respondents agreed that inadequate ICT infrastructure affects digital service delivery, while 23.3% disagreed. Similarly, 76.7% also agreed that poor internet connectivity limits effective service delivery. Furthermore, 76.8% of respondents confirmed that lack of digital skills among staff is a major challenge, indicating that human capacity constraints remain a significant issue. In addition, 76.7% agreed that inadequate funding affects the adoption of digital technologies, while 76.7% also identified frequent system failures as a major disruption to service delivery processes. Overall, the unanimous "Accepted" decision across all five statements indicates that respondents strongly recognize multiple structural and institutional barriers hindering effective digital transformation in the public service sector. The findings suggest that despite the positive adoption and impact of digital technologies, their effectiveness is constrained by infrastructural deficits, insufficient funding, limited digital competencies among staff, and unreliable system performance. This implies that unless these challenges are adequately addressed, the full benefits of digital technologies in enhancing public

service delivery in Adamawa State may not be fully realized, thereby slowing down the pace of digital governance development in the state.

MAJOR FINDINGS

The study found that digital technologies are widely adopted and utilized in public service delivery in Adamawa State, as the majority of respondents confirmed the use of digital tools, e-governance systems, digital record-keeping, and digitized service processes across public institutions.

The findings revealed that digital technologies have significantly improved the efficiency, accessibility, and quality of public service delivery by reducing waiting time, enhancing service access, improving service quality, and promoting transparency and accountability in government operations. The study also found that the effective use of digital technologies is constrained by several challenges, including inadequate ICT infrastructure, poor internet connectivity, limited digital skills among staff, inadequate funding, and frequent system failures, which hinder the full realization of digital transformation in the public sector.

CONCLUSION

Digital technologies have become an indispensable component of modern public administration and service delivery, providing opportunities to improve administrative efficiency, enhance accessibility to public services, promote transparency, and strengthen accountability. As technological advancement continues to shape governance systems worldwide, the effective integration of digital technologies has emerged as a critical requirement for responsive and citizen-centered service delivery. In Adamawa State, the deployment of digital technologies represents a significant step toward modernizing public administration and improving the quality of services provided to citizens. However, the sustainability and effectiveness of digital transformation depend largely on the availability of adequate ICT infrastructure, skilled personnel, reliable internet connectivity, and sufficient financial resources. Therefore, strengthening these enabling factors remains essential for maximizing the benefits of digital technologies and ensuring improved governance outcomes and efficient public service delivery in the state.

RECOMMENDATIONS

- i. Government should expand and strengthen the adoption of digital technologies across all public institutions by ensuring the full integration of e-governance platforms, digital record management systems, and other technology-driven service delivery mechanisms to improve administrative effectiveness and service accessibility.
- ii. Public institutions should invest in continuous capacity-building programmes for public servants to enhance their digital skills and competencies, thereby improving the effective utilization and management of digital technologies in service delivery processes.
- iii. The Adamawa State Government should improve ICT infrastructure and increase funding for digital transformation initiatives by providing reliable internet connectivity, modern technological equipment, stable power supply, and regular system maintenance to address existing challenges and ensure sustainable digital service delivery.

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