International Journal of Global Affairs , Research and Development (IJGARD) Vol.2, No.2, 2024, 205-215
ISSN 2992-2488

ENHANCING PUBLIC SERVICE DELIVERY THROUGH DIGITAL GOVERNANCE IN NIGERIA: A CRITICAL ANALYSIS OF OPPORTUNITIES AND CHALLENGES

Asoya, M.C

Department of Public Administration, University of Nigeria, Nsukka, Nigeria.

Corresponding e-mail asoyamary@gmail.com

ABSTRACT

The integration of digital technologies into public administration, commonly termed digital governance, represents a paradigm shift in how governments interact with citizens and deliver services. Nigeria, with its vast population and burgeoning digital landscape, has embarked on an ambitious journey to harness this potential through initiatives like the National Digital Economy Policy and Strategy (NDEPS) 2020-2030. This paper provides a critical analysis of Nigeria's digital governance landscape, evaluating its impact on public service delivery. Employing a mixed-methods approach that synthesizes quantitative survey data from public servants with qualitative document analysis, the study assesses the efficacy of current implementations. Findings indicate a strong perceived positive correlation between digital governance adoption and improvements in transparency (80%), accountability (75%), and citizen engagement (85%). However, significant impediments persist, including critical infrastructure deficits, a pronounced digital literacy gap, and fragmented policy frameworks. This paper argues that while the foundational policy vision is sound, its execution is hampered by systemic challenges. By applying theoretical frameworks like the Unified Theory of Acceptance and Use of Technology (UTAUT), the study offers evidence-based recommendations. These include strategic infrastructure investment, robust capacity-building programs, holistic policy harmonization, and innovative public-private partnerships. The research concludes that a concerted, multi-stakeholder approach is essential for Nigeria to realize the transformative potential of digital governance and achieve equitable, efficient, and transparent public service delivery.

Keywords: Digital Governance, E-Governance, Public Service Delivery, Nigeria, NDEPS, Digital Transformation, UTAUT, ICT4D.

1.0 INTRODUCTION

The global digital revolution has fundamentally redefined the interface between citizens and the state, fostering a new era of public administration characterized by efficiency, transparency, and inclusivity. Digital governance, the application of information and communication technologies (ICTs) to transform the efficiency, reach, and quality of public services, is no longer a luxury but a necessity for national development (United Nations Department of Economic and Social Affairs [UNDESA], 2022). For developing nations like Nigeria, it presents a pivotal opportunity to

leapfrog legacy bureaucratic inefficiencies, combat systemic corruption, and accelerate progress toward sustainable development goals.

, Africa's most populous nation and largest economy, faces a unique set of challenges and opportunities. With an estimated population of 220 million, a significant youth demographic, and rapidly expanding mobile penetration, the potential digital dividend is substantial (National Bureau of Statistics [NBS], 2023). Recognizing this, the Federal Government of Nigeria launched the National Digital Economy Policy and Strategy (NDEPS) 2020-2030, a comprehensive roadmap aimed at repositioning the nation as a leading digital economy (Federal Republic of Nigeria, 2020). The policy is structured around eight strategic pillars, encompassing developmental regulation, digital literacy, solid infrastructure, service infrastructure, digital services development, soft infrastructure, digital society, and indigenous content promotion.

Despite this robust policy framework, a discernible gap exists between strategic ambition and operational reality. The implementation of digital governance initiatives across Nigerian ministries, departments, and agencies (MDAs) has been uneven, facing myriad of structural and socio-technical barriers. While anecdotal evidence and government reports often highlight successes, there is a pressing need for independent, empirical analysis to critically evaluate the true impact on service delivery and identify the persistent challenges.

This paper seeks to address this gap. It aims to critically examine the enhancement of public service delivery through digital governance in Nigeria by answering the following research questions:

1. To what extent has the adoption of digital governance improved transparency, accountability, and citizen engagement in Nigerian public services?

2. What are the most critical challenges impeding the effective implementation of digital governance initiatives?

3. How can theoretical models of technology adoption inform strategies to overcome these barriers?

The significance of this study lies in its timely contribution to both academic discourse and policy praxis. It provides an evidence-based assessment of Nigeria's digital transformation journey, offering valuable insights for policymakers, public administrators, and scholars. Furthermore, it contributes to the broader literature on technology adoption in public sector contexts within developing economies.

The paper Is structured as follows: Section 2 reviews relevant literature and theoretical frameworks. Section 3 outlines the mixed-methods methodology. Section 4 presents and analyzes the empirical findings. Section 5 discusses the implications of these findings, and Section 6 concludes with targeted recommendations and directions for future research.

2.0 LITERATURE REVIEW

2.1 Conceptualizing Digital Governance and E-Government

Digital governance and e-government are often used interchangeably, but a nuanced distinction exists. E-government typically refers to the use of ICTs by government agencies to improve information and service delivery to citizens, promote citizen engagement, and make government more accountable, transparent, and effective (World Bank, 2023). Digital governance, a broader and more transformative concept, encompasses e-government but also includes the broader ecosystem of policies, regulatory frameworks, and institutional structures that govern the digital space and facilitate a whole-of-society digital transformation (UNDESA, 2022).

In the Nigerian context, this evolution is evident. The transition from the National e-Government Strategy (NeGSt) to the NDEPS signifies a shift from a focus on online services to a holistic vision for a digital economy where governance is a critical component. This study adopts this broader definition, examining not just the digitalization of services but also the enabling environment required for its success.

2.2 Theoretical Frameworks for Technology Adoption

Understanding the adoption and acceptance of digital governance tools requires grounding in established theoretical models. Two models are particularly relevant: the Technology Acceptance Model (TAM) and the unified Theory of Acceptance and Use of Technology (UTAUT).

Developed by Davis (1989), the Technology Acceptance Model (TAM) posits that an individual's behavioural intention to use a system is determined by two primary factors: perceived usefulness (the degree to which a person believes that using a system would enhance their job performance) and perceived ease of use (the degree to which a person believes that using a system would be free from effort). While foundational, TAM has been criticized for its limited scope in organizational contexts, often overlooking social and environmental influences.

The Unified Theory of Acceptance and Use of Technology (UTAUT), developed by Venkatesh, Morris, Davis, and Davis (2003), integrates elements from eight previous models. It identifies four key direct determinants of usage intention and behaviour:

1. Performance Expectancy: The degree to which an individual believes that using the system will help them attain gains in job performance (similar to perceived usefulness).

2. Effort Expectancy: The degree of ease associated with the use of the system (similar to perceived ease of use).

3. Social Influence: The degree to which an individual perceives that important others believe they should use the new system.

4. Facilitating Conditions: The degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system.

also specifies four moderating factors: gender, age, experience, and voluntariness of use. This model's comprehensive nature makes it highly suitable for analyzing the complex socio-technical environment of public sector digitalization in Nigeria, where facilitating conditions (e.g., infrastructure, training) and social influence (e.g., leadership buy-in) are critical.

2.3 Digital Governance in Nigeria: A Review of Existing Scholarship

research on Nigeria's digital governance landscape presents a mixed but evolving picture. Early studies predominantly focused on the potential benefits and high-level challenges. More recent work has begun to provide critical empirical insights.

Ukwuoma, Williams, and Choji (2022) highlighted the symbiotic relationship between the digital economy and cybersecurity, emphasizing the policy implications for Nigeria's development. They noted that without robust cybersecurity measures, digital governance initiatives are vulnerable, eroding public trust. Similarly, Ferry and Idem (2023), in their analysis of e-governance challenges and prospects, pointed to inadequate funding and power supply as critical infrastructural constraints.

Oghuvbu, Gberevbie, and Oni (2022) provided a structured examination of the challenges and prospects, identifying poor institutional capacity, corruption, and weak legal frameworks as significant hindrances. Their work aligns with that of Ihemadu and Anyiam (2024), who concluded that while e-governance holds immense promise for service delivery in Nigeria, its success is contingent upon overcoming deep-seated structural and institutional barriers.

A common thread In the literature is the identification of challenges, but there is a comparative lack of large-scale empirical studies measuring the perceived impact of digital tools on specific governance metrics like transparency and accountability from the perspective of public servants. This study aims to contribute to filling this gap.

3. **Methodology**

This research employed a mixed-methods sequential explanatory design (Creswell & Plano Clark, 2017). This approach involved first collecting and analyzing quantitative data, followed by qualitative data collection and analysis to explain, elaborate on, and contextualize the quantitative findings. This design was chosen to provide both breadth and depth of understanding.

3**.1 Quantitative Data Collection and Analysis**

A structured online survey was administered to a stratified random sample of 450 public servants across 15 key federal Ministries, Departments, and Agencies (MDAs) in Nigeria, including the Ministries of Health, Education, Interior, and the National Identity Management Commission (NIMC). The MDAs were selected based on their high level of citizen interaction and ongoing digitalization projects.

The survey questionnaire was designed based on constructs from the UTAUT model. It contained sections on:

Demographic information.

· Perceived impact of digital tools on transparency, accountability, efficiency, and citizen engagement (5-point Likert scale).

· Assessment of facilitating conditions (infrastructure, training, support).

· Identified challenges and barriers.

Data collection occurred over eight weeks. Of the 450 surveys distributed, 364 were completed and returned, yielding a response rate of 80.9%. The quantitative data was analyzed using SPSS software (Version 28). Descriptive statistics (frequencies, means, standard deviations) were computed to summarize the data. Inferential statistics, including correlation analysis, were used to examine relationships between variables, such as the link between facilitating conditions and perceived effectiveness.

3.2 Qualitative Data Collection and Analysis

The quantitative phase was followed by qualitative data collection to provide rich, contextual insights. This involved:

1. Semi-structured interviews: 25 interviews were conducted with key informants, including IT directors, permanent secretaries, and project managers within the surveyed MDAs. Interviews focused on implementation experiences, perceived challenges, and suggestions for improvement.

2. Document Analysis: A systematic analysis of policy documents (e.g., NDEPS, National Broadband Plan), government reports, and performance audits related to digital governance initiatives was conducted.

The qualitative data from interviews and documents were transcribed and analyzed using thematic analysis (Braun & Clarke, 2006). This process involved familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. The NVivo software package was used to assist in data management and coding.

3.3 Ethical Considerations

Informed consent was obtained from all participants. Anonymity and confidentiality were guaranteed, and participants were informed of their right to withdraw at any time. Data was stored securely on encrypted servers.

4. Results and Data Analysis

The presentation of results integrates quantitative and qualitative findings to provide a comprehensive picture.

4.1 The Perceived Impact of Digital Governance Adoption

The survey results indicate a strongly positive perception of the impact of digital governance tools among public servants.

Transparency: 80% of respondents (n=291) either agreed or strongly agreed that digital governance has improved transparency in their ministry. Qualitative data elucidated that this was

primarily attributed to the automation of processes, which reduced direct human discretion and created digital audit trails. "The transparency is now built into the system. You can't easily manipulate a process that is fully automated," noted an official from the Ministry of Health.

· Accountability: 75% of respondents (n=273) perceived an improvement in accountability. The introduction of performance dashboards, tracking systems, and publicly accessible service-level agreements were frequently cited as contributing factors.

· Citizen Engagement: This area showed the highest level of perceived improvement, with 85% of respondents (n=309) reporting positive effects. Portals for service requests, status tracking, and feedback mechanisms were seen as revolutionary. "Citizens now have a voice; they can complain online and get a tracking number. It forces us to be responsive," stated an interview participant from a service delivery agency.

Table 1: Perceived Impact of Digital Governance Tools (n=364)

Impact Area	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Transparency	35%	45%	12%	6%	2%
Accountability	30%	45%	15%	8%	2%
Citizen Engagement	40%	45%	8%	5%	2%
Operational Efficiency	28%	42%	17%	10%	3%

4.2 Critical Challenges Impeding Implementation

Despite the positive perceptions, the data reveals significant, interconnected challenges that hinder optimal implementation.

· Infrastructure Deficit: This emerged as the most formidable barrier. While national broadband penetration is reported at 43.5% (NCC, 2023), the qualitative data reveals a stark urban-rural divide and unreliable connectivity even within government offices in urban centers. 78% of survey respondents cited "unstable internet" as a major constraint. Power instability was another critical issue, with many MDAs relying heavily on generators, increasing operational costs. As one IT director lamented, "How can we run a cloud-based service delivery platform when we can't guarantee power for four hours straight?"

· Capacity Building and Digital Literacy: Over 65% of respondents felt they had not received adequate training to utilize new digital systems effectively. This skills gap exists at both the technical level (for IT staff) and the functional level (for end-users). The digital literacy gap extends beyond government to the citizenry, particularly among rural, elderly, and less-educated populations, creating a usage barrier and perpetuating exclusion.

· Policy and Regulatory Fragmentation: The document analysis revealed a complex and often contradictory regulatory landscape. While the NDEPS provides a high-level vision, its implementation is hampered by older, pre-digital regulations that have not been harmonized. A policy officer interviewed cited an example: "A regulation demands physical wet-ink signatures on documents, while the digital policy promotes paperless transactions. We are caught in a legal bind." The absence of a overarching legal framework, such as the stalled National Digital Economy and E-Governance Bill, creates uncertainty.

· Cybersecurity and Data Privacy Concerns: With the implementation of the Nigeria Data Protection Regulation (NDPR), ministries are increasingly aware of their responsibilities. However, many lack the technical and financial resources to ensure robust compliance. Fear of data breaches often leads to excessive caution, stifling innovation. "The fear of a breach makes some officials prefer the old, manual way. It's a risk-averse culture," an interviewee noted.

Table 2: Ranking of Implementation Challenges (Based on Respondent Frequency)

Rank Challenge % of Respondents Citing (n=364)

S/No	Challenges	% of Respondents
1	Unreliable Internet/Power Infrastructure	78%
2	Inadequate Training & Digital Literacy	65%
3	Insufficient Funding/Budgetary Allocation	58%
4	Resistance to Change/Cultural Barriers	52%
5	Fragmented Policy/Legal Framework	48%
6	Cybersecurity and Data Privacy Risks	45%

4.1.3 UTAUT Analysis: Drivers of Adoption

Applying the UTAUT model to the data yielded significant insights:

· Performance Expectancy ($\beta = 0.41$, $p < .001$) and Facilitating Conditions ($\beta = 0.48$, $p < .001$) were the strongest significant predictors of behavioural intention to use digital governance systems. This confirms that public servants adopt these tools primarily when they see a clear benefit to their work and when the necessary technical and organizational support is in place.

· Effort Expectancy was significant but less impactful ($\beta = 0.22$, $p < .05$), suggesting that ease of use is important but secondary to perceived utility and support.

· Social Influence was not a statistically significant predictor in this context. This intriguing finding, corroborated by qualitative interviews, suggests that adoption is driven more by practical individual and organizational considerations than by peer or superior pressure within the Nigerian civil service context.

4.2 **Discussion**

The findings present a paradox that characterizes digital transformation in many developing economies: high recognition of value coexisting with severe implementation constraints. The

strong positive perception of digital tools' impact on transparency, accountability, and engagement validates the core hypothesis of digital governance proponents. It suggests that where systems are implemented, they can indeed act as a catalyst for positive change, reducing opportunities for corruption and making government more responsive.

However, the identified challenges are not merely technical hiccups; they are systemic barriers rooted in Nigeria's developmental context. The infrastructure deficit reflects broader national challenges in power and connectivity. The digital literacy gap mirrors educational inequalities. The regulatory fragmentation indicates deeper institutional weaknesses and siloed governance.

The UTAUT analysis offers a strategic lens for addressing these barriers. The potency of Facilitating Conditions as a predictor underscores that technology adoption cannot be decoupled from its ecosystem. Deploying software solutions without investing in reliable electricity, internet, training, and ongoing technical support is a recipe for failure. This aligns with Heeks' (2002) concept of the "design-reality gap," where ICT4D projects fail due to a mismatch between the assumptions of system designers and the realities of the user environment.

Furthermore, the insignificance of Social Influence suggests that top-down mandates alone are insufficient to drive adoption. Change management strategies must focus on demonstrably improving the work-life of public servants (Performance Expectancy) and making the systems easy to use and well-supported (Effort Expectancy and Facilitating Conditions).

The qualitative findings on regulatory fragmentation highlight a critical often-overlooked aspect: digital governance is as much about governance as it is about digital. It requires modernizing legal and institutional frameworks to enable rather than inhibit digital innovation. The absence of a coherent legal framework creates uncertainty that stifles investment and innovation both within and outside government

5.0 CONCLUSION AND RECOMMENDATIONS

6.1 Summary of Key Findings

This study has demonstrated that Nigeria's digital governance initiatives have yielded measurable improvements in public service delivery, particularly in the domains of transparency, accountability, and citizen engagement. The implementation of the National Digital Economy Policy and Strategy (NDEPS) 2020-2030 has created a policy foundation for digital transformation, though significant implementation gaps remain. The research confirms that while technological adoption is progressing, it is uneven across ministries and geographic regions, with rural areas experiencing substantially lower levels of digital service delivery.

The application of the UTAUT framework revealed that performance expectancy and facilitating conditions are the strongest predictors of technology adoption among Nigerian public servants, highlighting the importance of both perceived benefits and enabling environments. The challenges identified—infrastructure limitations, capacity gaps, regulatory inconsistencies, and cybersecurity concerns—represent interconnected barriers that require coordinated solutions rather than isolated interventions.

5.2 Recommendations

Based on the findings, this study offers the following evidence-based recommendations for enhancing digital governance in Nigeria:

i Infrastructure Development: The government should accelerate the implementation of the National Broadband Plan 2020-2025, with particular focus on rural connectivity. This should include innovative solutions such as low-earth orbit satellite connectivity, solar-powered mobile towers, and community network initiatives. Investment in reliable power infrastructure is equally critical, as digital services cannot function without electricity stability.

iiCapacity Building: Develop a comprehensive digital literacy framework for public servants, with tiered training programs appropriate for different roles, technological familiarity, and educational backgrounds. This should include both technical skills and broader digital citizenship competencies. The government should establish Digital Academy centers in each geopolitical zone, leveraging partnerships with academic institutions and private sector organizations.

iiiPolicy Harmonization: Conduct a comprehensive review of existing legislation and regulations to identify and amend provisions that inhibit digital service delivery. Develop sector-specific digital governance guidelines for health, education, agriculture, and other key service areas. Establish a regulatory sandbox approach to allow for innovation while managing risks.

ivUser-Centered Design: Implement multi-channel service delivery strategies that provide both digital and non-digital access options during the transition period. Establish citizen co-design initiatives to ensure that digital services meet actual user needs rather than technological preferences. Develop accessible interfaces for low-literacy populations and persons with disabilities.

vData Governance: Strengthen implementation of the Nigeria Data Protection Regulation through capacity building for data protection officers, development of sector-specific guidelines, and establishment of clear accountability mechanisms. Balance security requirements with service accessibility to avoid creating digital exclusion through excessive security measures.

viMonitoring and Evaluation: Develop a comprehensive digital governance maturity model with clear metrics and regular assessment cycles. Establish independent oversight mechanisms to ensure that digital initiatives deliver their promised benefits. Create learning systems that capture and disseminate lessons from both successes and failures.

REFERENCES

Abubakar, M., &Dasuki, S. I. (2023). Digital governance implementation in developing countries: A systematic review of barriers and strategies. *Information Technology for Development*, 29(2), 189-214.

Adeyemi, O., &Ojo, T. (2024). Digital literacy and public service delivery in Nigeria: Assessing training needs for the digital era. *African Journal of Public Administration and Management,* 25(1), 45-62.

Asogwa, B. E. (2023). Electronic governance as a paradigm for public administration reform in Africa: Lessons from Nigeria and Kenya. *Government Information Quarterly,* 40(3), 101-118.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340.

Federal Republic of Nigeria. (2020). National Digital Economy Policy and Strategy (NDEPS) 2020-2030. Abuja: Federal Ministry of Communications and Digital Economy.

Ibrahim, A., & Hassan, M. (2024). Infrastructure gaps and digital exclusion in rural Nigeria: Challenges for e-governance implementation. *Journal of African Development Studies*, 17(2), 89-107.

Jumia Group. (2023). Africa E-commerce Report: Digital Transformation Lessons Across Continents. Lagos: Jumia Corporate Publications.

National Bureau of Statistics. (2024). Nigerian ICT Sector Report: Q2 2024. Abuja: National Bureau of Statistics.

Nigeria Data Protection Bureau. (2023). Implementation Guide to the Nigeria Data Protection Regulation. Abuja: Federal Government of Nigeria.

Ogunleye, G. S., &Adekunle, P. A. (2024). Technology acceptance in Nigerian public service: Testing the UTAUT model in e-government contexts. Journal of Administrative Science, 21(1), 78-96.

Olaleye, S. A., & Adebayo, F. O. (2023). Digital governance and service delivery in Nigeria: Prospects and challenges. International *Journal of Public Administration in the Digital Age*, 10(2), 34-52.

Omoju, O. E., &Adesina, T. M. (2024). Bridging the digital divide: Strategies for inclusive e-governance in Nigeria. African *Journal of Information Systems,* 16(1), 112-130.

Oyedele, O., & Mohammed, Z. (2023). Cybersecurity challenges in digital governance implementation: The Nigerian experience. *Journal of Information Technology Security,* 14(3), 45-63.

Thompson, R. L., &Iyawa, G. E. (2024). Comparative analysis of digital governance models in Africa: Lessons from Nigeria, Kenya, and Rwanda. *African Journal of Governance and Development,* 13(1), 67-89.

Ukwuoma, H. C., Williams, I. S., &Choji, I. D. (2022). Digital Economy and Cybersecurity in Nigeria: Policy Implications For Development. *Journal of Cyber Policy and Governance,* 7(2), 134-152.

United Nations Department of Economic and Social Affairs. (2023). UN E-Government Survey 2023: Digital Government in the Decade of Action for Sustainable Development. New York: United Nations.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. MIS Quarterly, 27(3), 425-478.

World Bank. (2023). Digital Governance in Africa: Best Practices and Lessons Learned. Washington, DC: World Bank Publications.

Yusuf, M. O., &Abdulraheem, I. (2024). Public-private partnerships in digital infrastructure development: The Nigerian experience. *Journal of Development and Economic Policies,* 26(1), 23-41.