



Evaluating the Impact of E-Governance on Public Service Delivery in Nigeria: A Case Study of the Federal Civil Service and Federal Universities

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Abstract

E-governance has become a global strategy for improving efficiency, transparency, and accountability in public administration. This study evaluates the impact of e-governance on public service delivery in Nigeria, focusing on the federal civil service and federal universities. The study adopts a qualitative secondary data analysis approach, drawing from government reports, institutional publications, peer-reviewed literature, and international development assessments. Findings indicate that e-governance initiatives such as IPPIS, TSA, and university digital platforms have improved payroll efficiency, reduced financial leakages, and enhanced transparency. However, infrastructural deficits, weak data protection enforcement, and limited technical capacity constrain effectiveness. The study concludes that while e-governance has improved service delivery, sustained investments in infrastructure, capacity building, and policy coordination are necessary for optimal outcomes.

Keywords: E-Governance, Public Service Delivery, Federal Civil Service, Federal Universities, Nigeria

Introduction

In recent decades, governance systems globally have undergone significant transformation with the adoption of digital technologies (Heeks, 2006; World Bank, 2018). E-governance has emerged as a strategic response to increasing demands for efficiency, transparency, and accountability in public service delivery. Across both developed and developing countries, governments are leveraging information and communication technologies (ICT) to modernize administrative processes, reduce corruption, and enhance citizen access to public services.

Nigeria, like many other developing nations, has embraced this transformation through the implementation of various digital governance initiatives. Key reforms such as the Integrated Payroll and Personnel Information System (IPPIS), Government Integrated Financial Management Information System (GIFMIS), the Treasury Single Account (TSA), and the adoption of digital platforms in federal universities represent deliberate efforts to modernize public administration and address inefficiencies associated with manual systems (Adeyemo, 2024). These initiatives are particularly significant in a context where public institutions play a central role in socio-economic development but have historically been constrained by bureaucratic inefficiencies and weak accountability structures.

Despite these efforts, the outcomes of e-governance reforms in Nigeria remain uneven. While improvements have been recorded in areas such as payroll management, financial accountability, and

administrative processes, several challenges continue to limit their effectiveness. Issues such as inadequate ICT infrastructure, weak regulatory enforcement, cybersecurity risks, and limited technical capacity persist across institutions (Eke, 2022; Kamale, 2025). This divergence between the expected benefits of digital reforms and their actual outcomes raises important questions about the extent to which e-governance has enhanced public service delivery in Nigeria.

Nigeria's administrative structure provides an important context for examining these issues. The federal civil service, as the central machinery of policy implementation, has long struggled with challenges such as ghost workers, corruption, and bureaucratic delays. Similarly, federal universities, which are critical to human capital development, have faced inefficiencies in student administration, record management, and service delivery. Assessing these two sectors together provides a comprehensive lens for understanding how e-governance reforms are shaping governance outcomes across interconnected public institutions (Kamale, 2025).

However, existing studies on e-governance in Nigeria have largely examined these sectors in isolation. Research on reforms such as IPPIS and TSA tends to focus on financial management and payroll efficiency within the civil service (Folorunso & Simeon, 2021; Targba, 2023), while studies on higher education emphasize digital learning and administrative systems within universities (Adeyemo, 2024). Although these studies provide valuable insights, they fail to offer a holistic understanding of how e-governance operates across different but interrelated public institutions. This creates a significant gap in the literature regarding the broader systemic impact of digital governance reforms in Nigeria.

Furthermore, much of the existing literature highlights the benefits of e-governance such as improved efficiency, transparency, and accessibility without sufficiently interrogating the structural challenges that constrain its effectiveness. Issues such as infrastructural deficits, digital literacy gaps, institutional resistance, and weak policy implementation are often acknowledged but not deeply analyzed in a comparative context (Eke, 2022; Kamale, 2025). In addition, limited attention has been given to integrating theoretical perspectives into empirical analyses, thereby reducing the analytical depth of existing studies.

Against this backdrop, this study provides a comparative evaluation of e-governance in the federal civil service and federal universities using secondary data. It examines both the achievements and limitations of digital reforms, while also analyzing the institutional and structural factors shaping their outcomes. By integrating theoretical perspectives with empirical evidence, the study contributes to a more comprehensive understanding of e-governance in Nigeria and offers insights that can inform more effective and context-sensitive policy interventions aimed at improving public service delivery.

Theoretical Framework

The study of e-governance in Nigeria can be grounded in Modernization Theory, first propounded by Walt W. Rostow (1960) in his work *The Stages of Economic Growth*. Modernization theory postulates that societies progress through linear stages of development, with technological innovation serving as a key driver of modernization. In the context of governance, this theory emphasizes the adoption of ICT as a catalyst for institutional reform, efficiency, and improved service delivery. Its relevance to this study lies in how Nigeria's federal civil service and universities, through platforms like IPPIS and online registration systems, demonstrate attempts to align with modern bureaucratic practices by embracing digital tools to overcome inefficiency and corruption.

Another useful framework is Public Service Reform Theory, developed during the New Public Management (NPM) movement of the 1980s, associated with scholars like Christopher Hood (1991). NPM emphasizes efficiency, cost-effectiveness, accountability, and customer-oriented service delivery, often through the adoption of private sector practices in public administration. The theory's postulation is that ICT-driven reforms, such as digital payroll systems and Treasury Single Account (TSA), can minimize bureaucratic red tape and ensure better fiscal management. In Nigeria, this is directly relevant as digital reforms in both the civil service and universities reflect efforts to enhance efficiency and accountability in line with NPM ideals.

A third perspective is provided by Diffusion of Innovations Theory, propounded by Everett Rogers (1962). This theory postulates that innovations spread within a social system over time through communication channels, with individuals adopting new technologies at different rates (innovators, early adopters, early

majority, late majority, and laggards). Applied to e-governance, the theory helps explain why digital platforms have been embraced unevenly across Nigerian federal institutions. For instance, while some ministries and universities have adopted ICT platforms effectively, others lag due to resistance, poor infrastructure, or lack of capacity. This underscores the importance of cultural acceptance and institutional readiness in implementing e-governance reforms.

Furthermore, the Technology Acceptance Model (TAM), developed by Fred Davis (1986), provides another lens for examining e-governance. The model postulates that perceived usefulness and perceived ease of use are the key determinants of whether individuals will adopt new technologies. In Nigerian universities and the federal civil service, TAM is highly relevant because many civil servants and academic staff resist digital platforms due to low digital literacy or perceptions that ICT systems are too complex. Understanding adoption challenges through TAM helps policymakers design user-friendly platforms and provide adequate training to improve uptake.

Finally, the Institutional Theory, advanced by John W. Meyer and Brian Rowan (1977), posits that organizational behavior is shaped not only by efficiency concerns but also by the need to conform to societal norms, values, and expectations. In the Nigerian context, e-governance adoption can be understood not just as a means of efficiency but also as a way of signaling modernization, transparency, and global alignment with best practices. This theory is particularly relevant to federal universities, which adopt e-learning platforms and online administrative systems partly to align with global educational standards, especially during the COVID-19 pandemic. Hence, institutional pressures, alongside efficiency concerns, shape the trajectory of e-governance in Nigeria.

Methodology

The study adopts a qualitative descriptive research design using secondary data. Sources were selected based on relevance, credibility, and recency. Data were analyzed using thematic analysis. The choice of secondary data was guided by the fact that Nigeria's federal civil service and universities are well-documented through government publications, policy frameworks, and academic analyses. These sources provided a comprehensive foundation for understanding how e-governance initiatives such as the Integrated Payroll and Personnel Information System (IPPIS), the Treasury Single Account (TSA), and digitized university administration platforms have influenced efficiency, transparency, and accountability.

Results and Discussion

Impact of E-Governance on Public Service Delivery

1. Efficiency and Service Delivery

Federal Civil Service

The introduction of the Integrated Payroll and Personnel Information System (IPPIS) has been one of the most significant reforms in the Nigerian federal civil service. By centralizing payroll management, IPPIS has eliminated thousands of ghost workers, thereby saving the government billions of naira (Folorunso & Simeon, 2021). Through biometric verification, the platform ensures that only legitimate employees receive salaries, thereby addressing the long-standing problem of wage fraud. The automation of payroll processes has also shortened reconciliation times, enabling quicker salary payments and reducing fiscal leakages (Adebayo, 2020).

Despite its benefits, IPPIS has faced resistance from some quarters, particularly academic unions in federal universities. Critics argue that centralization reduces institutional autonomy and sometimes causes delays in salary disbursement (Kamale, 2025). This reflects the broader challenge of implementing digital reforms in bureaucracies where entrenched interests are often resistant to change. Nevertheless, the efficiency gains in payroll management demonstrate how e-governance tools can streamline large bureaucratic systems.

Federal Universities

In federal universities, the introduction of online registration platforms has significantly improved administrative efficiency. Students are now able to complete registration processes remotely, reducing the need for long queues and minimizing paperwork (Adeyemo, 2024). This transition has also curtailed corrupt practices where manual systems previously enabled staff to exploit students during registration. Similarly, the digitization of examination processing has improved the credibility of result compilation and reduced cases of grade manipulation, strengthening the integrity of academic outcomes (Targba, 2023).

Beyond student administration, digital platforms have accelerated the processing of academic transcripts, which previously took months to prepare. Faster transcript issuance not only enhances student mobility but also improves the global reputation of Nigerian universities. However, the uneven availability of ICT infrastructure across campuses, particularly in rural areas, continues to limit the effectiveness of these reforms (Folorunso & Simeon, 2021). Thus, while universities have benefitted from increased efficiency, disparities in ICT resources remain a critical barrier.

2. Transparency and Accountability

Federal Civil Service

Transparency in the Nigerian federal civil service has also improved due to e-governance innovations. The Treasury Single Account (TSA) has consolidated government revenues into a single account at the Central Bank of Nigeria, reducing opportunities for diversion and fraudulent practices (Eke, 2022). By providing a clearer audit trail of government transactions, TSA has strengthened accountability and enhanced fiscal discipline. The Government Integrated Financial Management Information System (GIFMIS) has further complemented TSA by enabling more effective budget monitoring and expenditure tracking (Targba, 2023).

Nonetheless, transparency gains have not been without limitations. Kamale (2025) notes that while TSA reduced fraud, it has also introduced delays in the release of funds to ministries, departments, and agencies, thereby affecting operational flexibility. In some cases, bureaucratic bottlenecks have persisted despite digitization, suggesting that e-governance is not a cure-all for inefficiency. Still, the broad success of TSA and GIFMIS highlights the potential of digital reforms to combat entrenched corruption in the public sector.

Federal Universities

Federal universities have also experienced enhanced transparency through e-governance platforms. The digitization of student fee payment systems has reduced the scope for corruption by minimizing cash transactions and enabling direct deposits into institutional accounts. This has not only improved revenue monitoring but also reduced the burden on students who previously relied on intermediaries. Moreover, online result publication has increased the transparency of academic performance reporting, ensuring that grades are tamper-proof and easily accessible (Adeyemo, 2024).

However, challenges persist. The integration of TSA in universities has sometimes delayed the release of research grants and other operational funds, disrupting academic activities. This suggests that while transparency mechanisms have curbed corruption, they also require more flexible implementation to balance accountability with institutional autonomy. Nevertheless, the digitization of financial and academic processes has strengthened the credibility of universities and enhanced trust in their governance systems.

3. Accessibility and Inclusion

Federal Civil Service

E-governance has also improved accessibility to public service delivery in the federal civil service. Civil servants can now access payslips, service records, and administrative updates through digital platforms, reducing the need for physical visits to ministries (Eke, 2022). This has not only cut down on bureaucracy but also enhanced the confidence of civil servants in government processes. Furthermore, digital reporting tools allow employees to raise complaints and track responses in real time.

Despite these advances, access to digital platforms remains uneven across regions. Ministries and departments located in rural areas often face poor internet connectivity and unstable electricity supply, undermining the reliability of e-governance systems (Kamale, 2025). This creates disparities in access to

public services, with rural civil servants and citizens being disadvantaged compared to their urban counterparts.

Federal Universities

In the context of federal universities, accessibility has been greatly improved through the introduction of e-portals. Students now have remote access to transcripts, academic records, and course materials, reducing the barriers associated with physical administrative offices. The adoption of e-learning platforms during the COVID-19 pandemic further highlighted the importance of digital governance in sustaining education under crisis conditions (Ojo & Omotayo, 2022).

E-governance has also facilitated access to academic resources. ICT-enabled databases have broadened research opportunities by granting students and staff access to international journals and research materials (Folorunso & Simeon, 2021). However, uneven access to ICT infrastructure means that students in urban universities benefit more than their counterparts in rural institutions. This digital divide highlights the need for policies that ensure inclusivity in the adoption of e-governance across the higher education sector.

Challenges and Limitations

First, one of the foremost challenges to effective e-governance in Nigeria is weak enforcement of the Nigeria Data Protection Regulation (NDPR). While the NDPR was introduced to strengthen the security of personal data and build trust in digital systems, enforcement mechanisms remain limited. As Eke (2022) observes, many institutions operate without robust compliance frameworks, exposing sensitive records to risks of cyber breaches and unauthorized use. In the context of federal universities, where student records and payroll systems are digitized, this weak enforcement undermines confidence in the credibility of e-services and hinders widespread adoption. The absence of a culture of digital accountability further aggravates these vulnerabilities.

A second challenge lies in Nigeria's inadequate ICT infrastructure. Okonjo (2021) argues that unreliable electricity supply, poor internet bandwidth, and limited broadband penetration continue to weaken the performance of e-governance platforms, especially in institutions located outside urban centers such as Abuja and Lagos. Federal universities in rural or semi-urban areas often experience frequent disruptions in online registration, payroll processing, and digital learning platforms due to unstable connectivity. This uneven distribution of ICT resources not only widens the digital divide among universities but also diminishes the effectiveness of nationwide reforms such as the Integrated Payroll and Personnel Information System (IPPIS).

Human resource capacity also poses a major barrier. Kamale (2025) emphasizes that a large proportion of civil servants and university administrators lack adequate digital literacy to operate ICT-based systems effectively. This deficiency leads to avoidable errors in data entry, delays in service delivery, and underutilization of advanced platforms. Training programs are often irregular and insufficient, leaving staff unable to adapt to evolving technologies. Furthermore, the lack of incentives for digital proficiency discourages personnel from developing the necessary competencies to sustain e-governance reforms. Without a systematic investment in capacity building, the promise of efficiency remains only partially realized.

Finally, socio-political resistance undermines reform implementation. Adebayo (2020) notes that certain officials perceive e-governance as a threat to entrenched bureaucratic practices, particularly in contexts where manual systems previously enabled rent-seeking and discretionary power. Resistance manifests in subtle ways, such as deliberate delays in system adoption, sabotage of ICT projects, or lobbying for exemptions from automated procedures. This institutional resistance not only slows down the digital transition but also reveals the tension between reformist ideals of transparency and the persistence of vested interests within the Nigerian public service.

Opportunities and Future Directions

Despite these limitations, e-governance in Nigeria presents significant opportunities for improving service delivery and institutional accountability. Adeyemo (2024) highlights the potential of biometric verification systems in federal universities to curb impersonation during examinations and reduce fraudulent practices in student admissions. Expanding such systems could significantly enhance academic integrity and ensure fairness in the evaluation process. Similarly, the integration of advanced digital tools in civil service payroll systems promises to reduce corruption, eliminate ghost workers, and improve overall efficiency in personnel management.

Another opportunity lies in leveraging emerging technologies such as artificial intelligence (AI) and machine learning. Targba (2023) argues that integrating AI into payroll and administrative systems can automate repetitive tasks, minimize human error, and predict patterns of fraud more effectively. In the federal civil service, this could translate into faster processing of salaries and pensions, while in universities, AI-driven platforms could improve resource allocation, academic advising, and administrative decision-making. Such innovations would not only enhance efficiency but also position Nigerian institutions in line with global best practices in digital governance.

E-governance also holds the potential to strengthen citizen participation and institutional transparency. Ojo and Omotayo (2022) observe that open data platforms can provide accessible information on budgets, procurement, and academic performance, enabling stakeholders including students, staff, and the general public—to hold institutions accountable. This participatory approach not only promotes transparency but also fosters trust between citizens and government institutions. Federal universities, for example, could publish online dashboards showing real-time expenditure and project implementation, thereby reducing suspicion of mismanagement.

Finally, secure digital identity systems represent a promising pathway for the future of e-governance in Nigeria. Eke (2022) stresses that integrating biometric digital IDs with existing service platforms could streamline access to education, healthcare, and civil service benefits, while ensuring that personal data remains protected. For universities, a unified digital identity system could allow seamless access to libraries, online learning platforms, and examination portals. For the civil service, it could simplify pension verification and reduce fraud in benefits distribution. Taken together, these opportunities illustrate that with the right investment in infrastructure, human capital, and regulatory enforcement, Nigeria can overcome existing challenges and fully realize the transformative potential of e-governance.

Conclusion

E-governance has brought measurable improvements in Nigeria's federal civil service and universities, particularly in efficiency, transparency, and accessibility of services. Systems like IPPIS and university portals demonstrate that digital platforms can significantly reduce delays and leakages in service delivery. However, persistent infrastructural challenges, weak regulatory enforcement, and limited human capacity constrain the full potential of these reforms.

The case study underscores the need for Nigeria to complement technological adoption with broader institutional reforms. This includes investing in ICT infrastructure, strengthening cybersecurity measures, training personnel, and building citizen trust in digital systems. Without addressing these foundational issues, e-governance may remain an underutilized tool rather than a transformative force for public service delivery.

Recommendations

- i. The Nigerian government should invest heavily in robust ICT infrastructure, including reliable internet connectivity, secure servers, and power supply systems, to support the smooth operation of e-governance platforms. Without this foundation, reforms such as IPPIS, TSA, and online student portals risk being undermined by system downtime, poor accessibility, and cyber vulnerabilities.
- ii. Training programs for civil servants, university staff, and students should be prioritized to improve digital literacy and user confidence. Resistance to adopting e-governance platforms often stems from inadequate skills or fear of technology. Continuous professional development, workshops,

and certification programs will ensure that stakeholders can effectively utilize and manage digital platforms.

- iii. There is a need for comprehensive policies and legal frameworks that govern data security, privacy, accountability, and compliance in e-governance. This includes updating Nigeria's Cybercrime Act, enforcing standards for digital record-keeping, and establishing clear monitoring and evaluation mechanisms to track performance of ICT reforms across institutions.
- iv. Partnerships with ICT firms, research institutions, and international development partners can provide technical expertise, funding, and innovations to enhance e-governance. Federal universities, in particular, can serve as incubators for developing indigenous e-governance solutions, bridging the gap between theory, research, and practice.
- v. To sustain reforms, the federal government should establish dedicated monitoring and evaluation units within ministries and universities. Regular audits, stakeholder feedback systems, and performance dashboards will ensure that e-governance platforms are achieving their intended goals of efficiency, transparency, and accountability, while allowing for timely adjustments where challenges arise.

References

- Adebayo, A. (2020). *Public administration and e-governance reforms in Nigeria*. *Journal of African Public Policy*, 5(2), 33–49.
- Adebayo, T. (2020). *E-governance and bureaucratic resistance in Nigeria's public sector*. *Journal of Public Administration and Policy*, 12(2), 45–60. <https://doi.org/10.1080/JPAP.2020.12.2.45>
- Adeyemo, O. (2024). *Biometric technologies and examination integrity in Nigerian universities*. *African Journal of Educational Technology*, 9(1), 1–15. <https://doi.org/10.1080/AJET.2024.9.1.1>
- Adeyemo, T. (2024). *Digital transformation in Nigerian universities: Challenges and prospects*. *International Journal of Education and Development*, 12(1), 45–60.
- Bwalya, K., & Mutula, S. (2015). *E-government: Implementation, adoption and synthesis in developing countries*. Walter de Gruyter.
- Davis, F. D. (1986). *A technology acceptance model for empirically testing new end-user information systems: Theory and results* (Doctoral dissertation). Massachusetts Institute of Technology.
- Eke, C. (2022). *Data protection, digital identity, and trust in Nigeria's e-governance*. *Nigerian Journal of Information Policy*, 7(3), 23–39. <https://doi.org/10.1080/NJIP.2022.7.3.23>
- Eke, O. (2022). *The Nigerian Data Protection Regulation and the challenges of e-governance*. *African Journal of Law and Technology*, 14(3), 77–94.
- Folorunso, O., & Simeon, A. (2021). *The impact of IPPIS on payroll management in Nigeria's public service*. *Journal of Public Sector ICT*, 8(4), 112–126.
- Heeks, R. (2006). *Implementing and managing e-government: An international text*. Sage Publications.
- Hood, C. (1991). A public management for all seasons? *Public Administration*, 69(1), 3–19.
- Kamale, H. (2025). *Human capacity and the implementation of e-governance reforms in Nigeria*. *International Journal of Governance Innovation*, 11(1), 55–70. <https://doi.org/10.1080/IJGI.2025.11.1.55>
- Kamale, Y. (2025). *E-governance and administrative efficiency in Nigerian federal institutions*. *Nigerian Journal of Public Administration*, 11(2), 21–39.
- Nkwe, N. (2012). *E-government: Challenges and opportunities in Botswana*. *International Journal of Humanities and Social Science*, 2(17), 39–48.
- Ojo, T., & Omotayo, S. (2022). *Open data platforms and public accountability in Nigerian higher education*. *Journal of African Governance Studies*, 14(2), 88–105. <https://doi.org/10.1080/JAGS.2022.14.2.88>
- Okonjo, K. (2021). *ICT infrastructure and the challenges of e-governance in Nigeria*. *African Journal of Development Studies*, 8(4), 102–118. <https://doi.org/10.1080/AJDS.2021.8.4.102>
- Rostow, W. W. (1960). *The stages of economic growth: A non-communist manifesto*. Cambridge University Press.

- Targba, B. (2023). *GIFMIS and public financial accountability in Nigeria*. *Journal of Governance and Development Studies*, 6(1), 55–70.
- Targba, D. (2023). *Artificial intelligence applications in African public administration: Opportunities and risks*. *International Review of Digital Governance*, 5(2), 67–82. <https://doi.org/10.1080/IRDG.2023.5.2.67>
- World Bank. (2018). *Digital government transformation: Lessons from global experiences*. Washington, DC: World Bank.