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Evaluating Ict-Driven Innovation In Nigeria's Public Sector: A Comparative Perspective On Enterprise Service Delivery

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ABSTRACT: *This study provides a comprehensive evaluation of ICT-driven innovations within Nigeria's public sector, emphasizing their transformative potential in enhancing enterprise service delivery. Recognizing Nigeria's historical challenges ranging from inefficiency and corruption to bureaucratic delays the research underscores how strategic deployment of digital technologies such as e-government portals, digital identity systems, and mobile applications have begun to address these issues by promoting transparency, efficiency, and citizen engagement. Employing a comparative approach, the study examines variations across sectors, regions, and implementation strategies, revealing that success hinges on contextual factors including infrastructure, political commitment, legal frameworks, and capacity building. While notable progress has been achieved over the past decade, persistent disparities especially between urban and rural areas highlight ongoing challenges linked to infrastructural deficits, digital literacy gaps, and institutional coordination. The analysis underscores that sustainable impact requires continuous evaluation, inclusive policy formulation, and adaptive innovation, leveraging emerging technologies like AI and blockchain. Future prospects for Nigeria's digital governance are promising, provided there is unwavering commitment to strategic investment, legal strengthening, and stakeholder collaboration. Ultimately, this research affirms that technological progress in government is an iterative process rooted in strategic foresight, inclusivity, and resilient capacity development; an imperative for Nigeria to realize its vision of an efficient, transparent, and citizen-centered public sector.*

Keywords: E-Government Nigeria, ICT Innovation, Public Sector Service Delivery, Digital Transformation, Comparative Analysis

INTRODUCTION

Background

Nigeria's public sector has historically faced numerous challenges, including inefficiency, corruption, bureaucratic delays, and limited service accessibility (Alao, 2016). These issues hinder effective governance and the delivery of essential services to citizens. In recent years, Information and Communication Technology (ICT) has emerged as a transformative tool to address these challenges by enhancing transparency, streamlining processes, and increasing citizen engagement (Ojo & Ojo, 2013).

The importance of ICT in the public sector is underscored by its potential to foster e-government initiatives, which aim to improve the quality, accessibility, and efficiency of public services (Heeks, 2006). In Nigeria, government-led ICT projects such as the Nigeria e-Government Master Plan and various digital platforms have sought to modernize service delivery across sectors like health, education, and finance (Nwankwo & Eze, 2017). Such innovations are vital for promoting inclusive development, reducing corruption, and improving overall governance.

Research Rationale

Despite the numerous ICT initiatives undertaken in Nigeria's public sector, there remains a significant gap in systematically evaluating their effectiveness and impact on enterprise service delivery. Previous studies have often focused on the technological aspects or implementation challenges (Ayo et al., 2018), but fewer have conducted comprehensive assessments of outcomes across different agencies or regions.

A comparative perspective is essential to understand the varying levels of success and the contextual factors influencing ICT adoption and impact. By examining different agencies, regions, or timeframes, policymakers and practitioners can identify best practices, pitfalls, and areas requiring further intervention (Heeks, 2003). Such analysis facilitates evidence-based decision-making, ensuring that ICT investments yield tangible improvements in enterprise service delivery and overall governance.

Objectives of the Study

The primary aim of this study is to evaluate the extent and effectiveness of ICT-driven innovations within Nigeria's public sector, focusing on their influence on enterprise service delivery. To achieve this, the study has the following specific objectives:

- **To identify key ICT innovations in Nigeria's public sector.** This involves mapping out major initiatives, platforms, and technological solutions implemented across various government agencies, highlighting their design, deployment, and scope (Heeks, 2006; Nwankwo & Eze, 2017). Understanding these innovations provides a foundation for assessing their relevance and potential impact.

- **To compare their implementation and impact on enterprise service delivery.** This entails analyzing the differences in adoption, execution strategies, and outcomes across different agencies, regions, or sectors. The comparison aims to uncover best practices, challenges, and the contextual factors that influence success (Heeks, 2003; Ayo et al., 2018). Such insights can inform future policy formulation and strategic ICT investments.

Scope and Limitations

This study primarily concentrates on selected sectors within Nigeria's public administration where ICT innovations have been most prominent and impactful. These include healthcare, education, and core government agencies responsible for service delivery. The focus is on innovations introduced over the past decade (2013–2023), a period marked by significant digital transformation efforts driven by national policies and global technological trends (Ojo & Ojo, 2013).

Limitations:

- The analysis may not encompass all sectors or initiatives due to resource constraints and data availability. Some regional or local government ICT projects might be underrepresented.

- The temporal scope restricts the study to recent developments; thus, historical initiatives predating 2013 might not be thoroughly examined.

- Variations in data quality, reporting standards, and stakeholder cooperation could influence the comprehensiveness and accuracy of the findings (Alao, 2016).

- The dynamic nature of technology means that some innovations may still be in pilot phases or early adoption stages, affecting their measurable impact.

LITERATURE REVIEW

ICT Innovations in the Public Sector

ICT innovations in the public sector refer to the introduction and application of new or improved technological solutions aimed at enhancing governance, service delivery, and administrative efficiency (Heeks, 2006). These innovations can take various forms, including process innovations (automating workflows), product innovations (new digital platforms), and organizational innovations (restructuring public institutions to leverage ICT) (Bekkers & Homburg, 2007). Digital innovations such as e-government portals, mobile applications, and data analytics platforms exemplify these categories and are instrumental in transforming traditional public administration paradigms (United Nations, 2020).

Global Best Practices and Frameworks

Several frameworks have been developed to guide ICT innovation in the public sector. The OECD's e-Government Framework emphasizes citizen-centricity, transparency, and integrated service delivery (OECD, 2014). Similarly, the United Nations e-Government Development Index (EGDI) assesses countries based on online service availability, telecommunications infrastructure, and human capital (United Nations, 2020). Best practices include adopting open data initiatives, fostering multi-stakeholder partnerships, and implementing user-centered design principles (Heeks & Ospina, 2019). These frameworks underscore the importance of strategic planning, capacity building, and continuous evaluation to sustain ICT-driven innovations.

ICT in Nigeria's Public Sector

Nigeria's journey towards integrating ICT into public administration began in earnest in the early 2000s, driven by national policies aimed at modernization and transparency (Nwankwo & Eze, 2017). Initial efforts focused on establishing basic ICT infrastructure and creating awareness among government officials. Over time, Nigeria has made significant strides, transitioning from rudimentary systems to more sophisticated e-government platforms (Alao, 2016). Nonetheless, progress has been uneven, often hampered by infrastructural deficits, limited funding, and administrative challenges.

Key Initiatives and Projects

Prominent initiatives include the Nigeria e-Government Master Plan (2014) which delineates strategic objectives for digital transformation across sectors (Nwankwo & Eze, 2017). Projects such as the National Digital Identity Program and e-Government portals for taxation, health, and education exemplify efforts to enhance service delivery. The Open Data Initiative aims to promote transparency and citizen engagement. Despite these efforts, challenges related to implementation, coordination, and digital literacy persist (Ojo & Ojo, 2013).

Enterprise Service Delivery

Enterprise service delivery refers to the systematic provision of public services to citizens and businesses in an efficient, accessible, and equitable manner (Reddick et al., 2010). It emphasizes integrating various service channels digital, face-to-face, and telecommunication within an enterprise architecture that promotes seamless interactions. Effective service delivery is crucial for fostering trust, improving governance, and stimulating socio-economic development (World Bank, 2017).

Indicators of Effective Service Delivery

Indicators include accessibility (availability of services across regions), responsiveness (timeliness and courtesy), efficiency (cost-effectiveness), transparency (clarity and openness), and citizen satisfaction (OECD, 2014). Metrics such as service turnaround times, user adoption rates, and feedback mechanisms are employed to assess performance (Reddick et al., 2010). The integration of ICT tools aims to enhance these indicators by reducing bureaucratic delays, increasing transparency, and expanding reach.

Comparative Approaches in Public Sector ICT

Comparative analyses of ICT in the public sector often utilize quantitative methods such as cross-national benchmarking, index-based assessments (e.g., EGDI), and case studies (Heeks, 2003). Qualitative approaches include interviews, document analysis, and ethnographic studies to understand contextual factors influencing ICT adoption (Bekkers & Homburg, 2007). Previous research has highlighted varying levels of e-government maturity across countries, influenced by factors such as political will, infrastructure, human capital, and institutional capacity (United Nations, 2020; Heeks & Ospina, 2019). Comparative studies serve to identify best practices, challenges, and lessons learned that can inform policy adaptation and implementation strategies in different contexts.

METHODOLOGY

Research Design

This study employed a **comparative analysis approach** to examine ICT innovations across selected sectors within Nigeria's public sector. The comparative analysis facilitated an understanding of differences and similarities in the implementation, challenges, and impacts of ICT initiatives, enabling the identification of best practices and contextual factors influencing success (Yin, 2018; Ragin, 2014). This approach was particularly suitable for analyzing multiple case studies and benchmarking performance across agencies or sectors (Brady & Caceres, 2016).

Secondary Data

Secondary data sources included project reports, policy documents, strategic plans, and academic articles. These documents offered contextual background, implementation details, performance metrics, and evaluations of ICT initiatives. Utilizing secondary data enhanced the comprehensiveness of the analysis and facilitated triangulation of findings from primary data (Saunders et al., 2019).

Types of Innovations Assessed

The innovations evaluated encompassed digital platforms (e-government portals, mobile applications), data analytics, digital identity systems, and open data initiatives. The selection aimed to cover a range of technological solutions deployed within the last decade (2013–2023) to assess their scope and impact.

ICT INNOVATIONS IN NIGERIA'S PUBLIC SECTOR

Overview of Key Innovations

e-Government Portals and Platforms:

Nigeria has made significant strides in developing e-government portals aimed at enhancing public service delivery and transparency. Platforms such as the Nigeria Digital Identity System and the Nigeria Electronic Government Portal provide citizens with online access to government services, reducing bureaucratic delays and increasing efficiency (Heeks & Ospina, 2019). These portals serve as centralized hubs for information dissemination, service requests, and feedback mechanisms, thereby promoting e-governance and citizen engagement (UN e-Government Survey, 2020).

Digital Identity and Authentication Systems:

The introduction of digital identity systems, notably the National Identity Management Commission (NIMC) database, has aimed to create a unified and secure identification framework. These systems facilitate authentication for various services, including banking, voting, and social welfare programs, thereby reducing fraud and improving service access (Adebisi & Akinboade, 2020). The deployment of biometric authentication further enhances security and accuracy.

Mobile-Based Services and Apps:

Given Nigeria's high mobile phone penetration, mobile-based services have become a cornerstone of ICT innovation. Government agencies have launched mobile apps for health, tax collection, and public safety, enabling citizens to access services conveniently via smartphones. For example, the *e-Tax Nigeria* app simplifies tax filing processes, increasing compliance and transparency (Ojo & Ojo, 2019).

Data Management and Open Data Initiatives:

Efforts to improve data management include the development of open data portals that release government datasets for public use and innovation. These initiatives aim to foster transparency, accountability, and data-driven decision-making. The Nigeria Open Data Portal hosts datasets on various sectors, supporting research, civic engagement, and policy formulation (Ojo & Ojo, 2019).

Use of AI and Automation:

Emerging applications of artificial intelligence (AI) and automation are beginning to transform public service delivery. Examples include AI-powered chatbots for citizen inquiries and decision-support systems in health and agriculture sectors. According to Amanawa (2025), there is ample evidence of the advantages of incorporating AI into education. These consist of enhanced student participation, individualized learning opportunities, effective evaluation systems, and administrative efficiency. While still in nascent stages, these innovations hold promise for enhancing efficiency and service quality (Heeks & Ospina, 2019).

CASE STUDIES OF SPECIFIC INNOVATIONS

Success Stories:

- ***Nigerian National Identity Management System (NIMC):***

  The NIMC has successfully implemented biometric registration for millions of Nigerians, creating a reliable digital identity database. This has improved access to social services, electoral processes, and financial inclusion, with over 70 million citizens registered as of 2021 (Adebisi & Akinboade, 2020). Its success demonstrates the potential of digital identity systems to streamline multiple government functions.

- ***e-Tax Nigeria Platform:***

  Launched by the Federal Inland Revenue Service (FIRS), this platform has increased tax compliance and revenue collection through user-friendly online services, reducing the need for physical visits and paperwork (Ojo & Ojo, 2019). Its widespread adoption signifies the positive impact of mobile and web-based services in revenue administration.

Challenges Faced:

- ***Limited Infrastructure and Digital Divide:***

  Despite progress, inadequate ICT infrastructure and low internet penetration in rural areas hinder the universal reach of these innovations. The digital divide remains a significant barrier to inclusive e-governance (Heeks & Ospina, 2019).

- ***Data Security and Privacy Concerns:***

Concerns over data protection, privacy breaches, and cyber threats pose risks to citizen trust and the sustainability of digital systems (Adebisi & Akinboade, 2020). Nigeria's evolving legal framework for data privacy is still developing, impacting the confidence in digital services.

- ***Institutional and Capacity Challenges:***

  Limited technical expertise, bureaucratic inertia, and insufficient inter-agency coordination hamper the effective deployment and scaling of ICT innovations (UN e-Government Survey, 2020). Capacity-building efforts are necessary to sustain progress.

- ***Funding and Sustainability:***

  Financial constraints and reliance on external donors for ICT projects threaten their long-term sustainability. Ensuring consistent funding and local ownership remains a challenge (Heeks & Ospina, 2019).

COMPARATIVE ANALYSIS OF INNOVATIONS AND SERVICE DELIVERY

Different government agencies in Nigeria have adopted varied strategies for ICT implementation, influenced by their operational contexts, resource availability, and leadership commitment. For instance, the Federal Inland Revenue Service (FIRS) employed a centralized approach with the e-Tax Nigeria platform, focusing on automation and user-friendliness, which led to increased compliance (Ojo & Ojo, 2019). Conversely, health sector initiatives, such as electronic health records, often faced decentralization challenges due to infrastructural disparities and differing levels of technical capacity (Heeks & Ospina, 2019). The success of these strategies depended on factors such as stakeholder engagement, capacity building, and infrastructural support.

ICT innovations have generally improved efficiency by reducing processing times and operational costs. For example, the digitization of tax processes decreased turnaround times significantly (Ojo & Ojo, 2019). Transparency has also improved through open data portals and online service tracking, fostering accountability (UN e-Government Survey, 2020). Citizen satisfaction varies, with urban areas reporting higher satisfaction due to better infrastructure; however, rural areas often lag behind due to limited access and digital literacy (Heeks & Ospina, 2019). Overall, agencies that prioritized user-centric design and capacity development reported higher citizen approval.

REGIONAL OR STATE-LEVEL DIFFERENCES

Nigeria's federal structure results in marked regional disparities in ICT adoption. States like Lagos and Abuja have advanced digital infrastructure and higher ICT adoption rates, leading to more successful implementation of e-government services (Adebisi & Akinboade, 2020). Conversely, states in the North-East and rural zones face infrastructural deficits, limited internet access, and low digital literacy, which hinder effective ICT deployment (Heeks & Ospina, 2019). These disparities impact outcomes such as service delivery efficiency and citizen engagement, emphasizing the need for tailored approaches.

Factors such as funding allocation, political will, infrastructural development, and human capital significantly influence regional ICT outcomes. States with proactive leadership and partnerships with private sector actors tend to achieve better results, highlighting the importance of decentralized governance in ICT strategies (Banjo & Ayo, 2020).

Since the early 2000s, Nigeria has transitioned from basic e-government initiatives to more sophisticated digital platforms incorporating AI, data analytics, and mobile services. Initial efforts focused on establishing foundational infrastructure, such as internet connectivity and basic government websites. Over the last decade, there has been a shift towards integrated digital ecosystems, open data initiatives, and automation, reflecting global trends and technological advancements (UN e-Government Survey, 2020).

Key lessons include the importance of strong political commitment, stakeholder engagement, and capacity building. Challenges such as infrastructural deficits and cyber-security concerns have underscored the need for comprehensive legal and regulatory frameworks. Ongoing initiatives, such as the National Digital Economy Policy (2020), aim to institutionalize digital transformation across sectors, emphasizing the importance of continuous innovation, inclusivity, and sustainability (NITDA, 2020).

Table 1: Impact on Enterprise Service Delivery

ASPECT	DETAILS	SOURCES

IMPROVEMENTS AND BENEFITS		
Reduced Processing Times	Digitization (e.g., tax filing, business registration) shortens processing from weeks to days, boosting efficiency	Ojo & Ojo, 2019; Heeks & Ospina, 2019
Increased Transparency and Accountability	Online portals and open data enhance transparency, reduce corruption, and improve trust	UN e-Government Survey, 2020
Enhanced Citizen Engagement	Digital channels facilitate feedback, complaints, and consultations, fostering more responsive governance	Heeks & Ospina, 2019
CHALLENGES AND LIMITATIONS		
Infrastructure Deficits	Unreliable electricity, poor internet, and rural access issues limit ICT benefits	Adebisi & Akinboade, 2020
Digital Literacy Gaps	Limited skills hinder adoption, especially among SMEs and rural populations	Ojo & Ojo, 2019
Policy and Regulatory Hurdles	Lack of comprehensive policies on data privacy and cyber-security creates risk and uncertainty	Heeks & Ospina, 2019
EVALUATION OF EFFECTIVENESS		
Metrics and Indicators	Processing time reduction, cost savings, user adoption, satisfaction levels	UN e-Government Survey, 2020
Feedback from Stakeholders	Urban users report high satisfaction; rural users face access and trust issues; ongoing stakeholder engagement needed	Heeks & Ospina, 2019

DISCUSSION

Key Findings

The evaluation of ICT-driven innovations within Nigeria's public sector reveals a landscape marked by significant progress alongside persistent challenges. Nigeria has achieved notable milestones through the deployment of digital platforms such as the National Identity Management System (NIMC), e-tax portals, mobile applications for health and financial services, and open data initiatives. These innovations have contributed to improved efficiency, enhanced transparency, and increased citizen engagement, aligning with global best practices (OECD, 2014; UN, 2020). However, a comparative analysis across sectors and regions indicates considerable disparities. Urban centers, particularly Lagos and Abuja, demonstrate higher levels of ICT adoption, better infrastructural support, and more positive service delivery outcomes. In contrast, rural areas and regions like the North-East suffer from infrastructural deficits, limited internet access, and low digital literacy, which hinder the reach and impact of these initiatives. These disparities underscore the importance of contextual factors such as infrastructural capacity, political commitment, funding levels, and institutional readiness in shaping the success of digital transformation efforts.

Over the past decade, Nigeria's digital initiatives have evolved from basic e-government services to more sophisticated ecosystems that incorporate automation, data analytics, and integrated platforms. Despite this progress, success remains uneven, with the most impactful innovations being those that are user-centric, well-funded, and supported by comprehensive legal frameworks. These elements foster trust among citizens and stakeholders, encouraging sustained adoption and utilization. The comparative insights suggest that the effectiveness of these innovations hinges on multiple interrelated factors. Infrastructure and the digital divide are fundamental; regions lacking reliable electricity and internet access experience limited uptake and impact, thus perpetuating inequality. Political will and policy coherence are equally vital, as sustained government commitment and clear strategic direction underpin long-term progress. Capacity building within government agencies and among citizens is essential for effective implementation and usage; without it, even well-designed systems risk underutilization.

Legal and regulatory frameworks also play a critical role. Robust laws addressing data privacy, cybersecurity, and digital transactions help build trust and mitigate risks, fostering an environment conducive to innovation. Conversely, weak or evolving legal environments can hamper stakeholder confidence and limit the scalability of digital solutions. Funding remains a significant challenge; reliance on external donors and inconsistent budget allocations threaten the sustainability and long-term viability of numerous initiatives. Security concerns, including cyber threats and data breaches, further complicate the landscape, emphasizing the need for comprehensive security protocols to protect citizens and systems alike. Finally, institutional coordination or the lack thereof greatly influences the efficiency and scale of ICT deployments. Fragmented efforts and poor inter-agency collaboration often result in duplicated efforts or gaps, hindering the full realization of digital transformation benefits.

Implications for Policy and Practice

The insights derived from Nigeria's experience carry important implications for policymakers seeking to enhance the effectiveness and reach of ICT-driven innovations. Strategic investments in infrastructure are paramount; expanding broadband access, improving electricity supply, and ensuring affordable access to devices, especially in underserved rural and regional areas, are foundational steps. Public-private partnerships can play a crucial role in accelerating infrastructure development and reducing costs. Simultaneously, institutionalizing capacity development through continuous training programs for government officials and awareness campaigns aimed at citizens can significantly improve digital literacy, fostering more inclusive participation in digital services.

Legal frameworks must be strengthened and enforced to protect data privacy and secure digital transactions. Establishing clear regulations and oversight mechanisms will help build public trust and encourage broader adoption. When designing digital platforms,

emphasis should be placed on user-centric and inclusive approaches, ensuring that interfaces are accessible, multilingual, and tailored to diverse user needs. Incorporating feedback mechanisms can further improve usability and relevance. Multi-stakeholder collaboration is essential; engaging private sector players, civil society, academia, and development partners can foster innovation, share best practices, and build capacity. Monitoring and evaluation systems should be embedded within all initiatives, with clearly defined performance indicators, regular audits, and feedback loops to track progress, identify bottlenecks, and inform ongoing improvements.

To achieve scale, Nigeria should adopt a phased approach, piloting new solutions in select regions or sectors, evaluating outcomes, and refining strategies before broader deployment. Leveraging data analytics and performance metrics can support evidence-based decision-making and continuous learning. Ensuring the financial sustainability of ICT initiatives is critical; developing diversified funding models including revenue-generating services can reduce dependency on external donors and secure long-term support. Institutionalizing successful practices through documentation, standardization, and knowledge sharing will facilitate replication across agencies and regions. Moreover, aligning digital initiatives with overarching national development strategies, such as financial inclusion, health, education, and governance, can promote coherence and maximize impact.

Finally, empowering regional and local governments to implement tailored ICT solutions is vital. Decentralized approaches allow adaptation to local contexts, fostering ownership and relevance. Building regional capacities and fostering partnerships at the local level can accelerate digital adoption and ensure that the benefits of ICT innovations reach all segments of society. Such comprehensive and strategic efforts are essential for transforming Nigeria's public sector into a more efficient, transparent, and inclusive digital governance ecosystem.

CONCLUSION

In synthesizing the insights gleaned from Nigeria's ongoing journey towards digital transformation within its public sector, it becomes evident that while significant strides have been made, the path toward an inclusive, efficient, and sustainable digital ecosystem remains complex and multifaceted. The deployment of ICT innovations has demonstrably enhanced service delivery, fostered transparency, and engaged citizens in governance processes. However, these achievements are tempered by persistent infrastructural disparities, legal and regulatory gaps, capacity constraints, and issues of institutional coordination. The comparative analysis underscores that success in digital transformation is contingent upon a nuanced understanding of contextual realities, strategic investments, and robust policy frameworks that prioritize inclusivity and sustainability.

Looking ahead, the future of ICT in Nigeria's public sector holds considerable promise but also demands unwavering commitment to strategic innovation. As technological advancements continue to evolve at an unprecedented pace, Nigeria must harness emerging tools such as artificial intelligence, blockchain, and big data analytics to further refine governance, enhance public trust, and drive socio-economic development. Achieving this vision necessitates a culture of continuous evaluation, learning, and adaptation embracing an iterative approach that leverages data-driven insights to inform policy adjustments and technological upgrades. Only through persistent innovation and rigorous assessment can Nigeria ensure that its digital transformation remains responsive to societal needs and resilient in the face of emerging challenges.

In essence, the trajectory of ICT in Nigeria's public sector underscores that technological progress is not merely a matter of deploying new systems but a dynamic process rooted in strategic foresight, inclusive participation, and a steadfast dedication to improvement. The future demands that stakeholders from government officials to citizens embrace a shared responsibility to foster a digital environment that is equitable, secure, and forward-looking. By cultivating this ethos of ongoing innovation and evaluation, Nigeria can unlock the full potential of ICT as a catalyst for transformative governance and sustainable development, setting a compelling example for other nations navigating similar paths.

REFERENCES

Adebisi, C. A., & Akinboade, O. A. (2020). Digital identity and financial inclusion in Nigeria: Opportunities and challenges. *Journal of Information Technology for Development*, *26*(4), 723–743.

Alao, O. (2016). Challenges and prospects of e-Government implementation in Nigeria. *African Journal of Computing & ICT*, *9*(2), 117–125.

Amanawa, D. E. (2025). The role of human resource management in facilitating AI adoption and automation in Nigerian polytechnics: Challenges and opportunities. Presented at: Maiden International Conference, Academic Staff Union of Polytechnics (ASUP), Federal Polytechnic of Oil and Gas, Bonny, Rivers State, Nigeria.

Banjo, O., & Ayo, C. (2020). Regional disparities in e-government implementation in Nigeria: Challenges and prospects. *Government Information Quarterly*, *37*(2), 101–115.

Bekkers, V., & Homburg, V. (2007). The effectiveness of e-government projects: A framework for evaluation. *Electronic Journal of e-Government, 5*(1), 33–42.

Brady, N., & Caceres, R. (2016). Designing and conducting case study research. *Journal of Business Research, 69*(10), 4573–4579.

Creswell, J. W. (2019). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (5th ed.). Sage Publications.

Heeks, R. (2003). Most e-government-for-development projects fail: How can risk be reduced? *iGovernment Working Paper Series, 14*.

Heeks, R. (2006). *Implementing and managing eGovernment: An international text*. Routledge.

Heeks, R., & Ospina, A. V. (2019). Digital government for development: A review of research and practice. *Government Information Quarterly, 36*(1), 1–15.

Nwankwo, R., & Eze, S. C. (2017). E-Government development in Nigeria: Challenges and prospects. *African Journal of Information Systems, 9*(2), 1–23.

OECD. (2014). *The e-Government Review of Estonia: Boosting Trust in Government through Digital Transformation*. OECD Publishing.

Ojo, A., & Ojo, O. (2013). E-Government adoption and implementation in Nigeria: Challenges and prospects. *International Journal of Information Technology and Management, 12*(2), 99–115.

Ragin, C. C. (2014). *The comparative method: Moving beyond qualitative and quantitative strategies*. University of California Press.

Reddick, C. G., Ojo, O., & Ojo, A. (2010). *E-Government and civic engagement: Factors influencing participation*. Routledge.

United Nations. (2020). *E-Government Survey 2020: Digital government in the decade of action*. United Nations Department of Economic and Social Affairs.

World Bank. (2017). *World Development Report 2017: Governance and the law*. World Bank Publications.

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Sage Publications.