

# Innovating for Inclusion: Digital Public Infrastructure as a Tool for Equitable Governance in Nigeria

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# EXECUTIVE SUMMARY

This policy brief explores how Digital Public Infrastructure (DPI), including digital ID systems, payment platforms, and data exchange frameworks, can promote equitable governance in Nigeria. Despite rising internet penetration, digital exclusion persists, especially among rural and marginalised populations. Key barriers include limited broadband access, fragmented governance, exclusion of vulnerable groups, and weak data protection. Although Nigeria has relevant policies, such as the National Digital Economy Policy and Strategy (NDEPS), the Data Protection Act, and, more recently, the Nigerian Digital Public Infrastructure (NDPI) Framework, gaps in implementation and coordination hinder their impact. Lessons from global models (India, Estonia, Singapore) and local pilots (Kaduna, Edo, Anambra) demonstrate potential of DPI to drive inclusion and equitable governance. To harness this, Nigeria must expand digital access and literacy, strengthen data protection, invest in infrastructure, foster public-private partnerships, and build institutional capacity. A phased implementation plan is recommended to ensure inclusive and effective adoption of DPI for improved governance and public service delivery.

## Introduction: Overview and Definition of Digital Public Infrastructure (DPI)

The global digital landscape is evolving rapidly, reshaping how citizens access services, engage with institutions, and participate in economic life. As of October 2024, 5.52 billion people, 67.5 percent of the world's population,<sup>1</sup> were internet users, signalling a shift toward digitally connected societies. In Nigeria, approximately 103 million people were online as of January 2024,<sup>2</sup> representing nearly half the national population.

While digital access has expanded, significant gaps persist, particularly among rural communities, women, persons with disabilities, and low-income populations. Many individuals in these groups lack access to the digital tools and infrastructure necessary to engage effectively with governance structures. This digital divide exacerbates inequitable governance, as it restricts access to essential public services and limits citizen participation in decision-making processes.<sup>3</sup> Moreover, inefficient resource allocation and inadequate digital infrastructure hinder governments from delivering services effectively, further widening societal gaps. To bridge these digital divides and foster inclusive governance, governments must leverage the opportunities presented by Digital Public Infrastructure (DPI).

To address these challenges, DPI offers a foundational pathway. DPI refers to interoperable digital systems, such as digital identity, payment platforms, and data exchange frameworks, that facilitate secure and inclusive service delivery at scale. When effectively deployed, DPI enables transparency, efficiency, and equitable access across all segments of society.

In Nigeria, leveraging DPI is essential for advancing inclusive governance. A deliberate approach to defining core metadata, particularly around unique identifiers, is critical. While both the Bank Verification Number (BVN) and the National Identification Number (NIN) serve identity functions, current national policy has positioned the NIN as the primary unique identifier for citizens. Anchoring DPI on the NIN aligns with the Nigerian Digital Public Infrastructure (NDPI) Framework and promotes interoperability across public and private sector systems.

### DPI and Equitable Governance

DPI is a transformative enabler of equitable governance, ensuring that all citizens, regardless of socioeconomic status or geography, can access critical services and participate fully in public life. By integrating secure digital identity, interoperable payment mechanisms, and efficient data exchange, DPI strengthens public institutions and supports inclusive development outcomes.

### What is DPI?

Digital Public Infrastructure (DPI) refers to the foundational digital systems facilitating secure and inclusive public service delivery.<sup>4</sup> It consists of three primary components:

<sup>1</sup> DataReportal. (2024). Digital around the world report: Internet use over time. <https://datareportal.com/global-digital-overview>

<sup>2</sup> Statista (2025). Total number of internet users in Nigeria from 2017 to 2025. <https://www.statista.com/statistics/1176087/number-of-internet-users-nigeria/>

<sup>3</sup> Okocha, D., & Dogo, J. (2023). Digital inclusion in rural areas: Qualitative exploration of challenges faced by people from isolated communities in Southern Kaduna. *ASRIC Journal on Social Sciences and Humanities*, 4, 86–98.

<sup>4</sup> Gates Foundation. (n.d.). Digital public infrastructure. Retrieved February 2025, from <https://www.gatesfoundation.org/our-work/programs/global-growth-and-opportunity/digital-public-infrastructure>

- **Digital Identity Systems:** These provide verifiable, secure access to services. In Nigeria, the NIN is designated as the central national identifier. While systems like the BVN remain relevant within the financial sector, aligning services around the NIN promotes integration and consistency across sectors.
- **Interoperable Payment Platforms:** Digital financial systems allow seamless transactions between individuals, businesses, and the government, essential for services such as Government-to-persons (G2P) payments, digital taxation, and social welfare disbursements.
- **Data Exchange Frameworks:** These systems support secure, privacy-preserving data sharing between institutions, enabling efficient delivery of services in health, education, financial inclusion, and beyond.

## Context and Importance of the Problem

### State of Digital Public Infrastructure in Nigeria

Despite sustained efforts to improve governance and public service delivery, Nigeria continues to face significant challenges in ensuring equitable access to essential services for all its citizens. The digital transformation of governance, while promising, has been uneven and exclusionary, particularly for rural and marginalised populations. Limited infrastructure, fragmented systems, and uncoordinated policies have resulted in a digital governance framework that falls short of delivering inclusive public value.

As of early 2024, nearly half of Nigeria's population had internet access, reflecting significant progress in connectivity. However, disparities in access to digital tools, digital literacy, and infrastructure persist, especially in remote areas where citizens struggle to access services such as national identification, social welfare programs, and digital financial tools. This lack of digital inclusion contributes to systemic governance gaps, weak service delivery, and limited citizen engagement in democratic and economic processes.

Millions of Nigerians remain excluded from formal government services due to a combination of structural, geographic, and digital barriers. Public institutions and service centres are primarily urban-based, leaving rural populations underserved. Despite advances in technology, Nigeria's digital public infrastructure lacks the reach, reliability, and interoperability required for inclusive governance.

Some key challenges include:

- Limited broadband access in rural communities, hindering online service delivery.
- Weak integration of digital identity systems, with many citizens unable to enrol in NIN due to a lack of enrollment centres.
- Underdeveloped government-to-person (G2P) payment systems, restricting social benefit disbursement.
- Fragmented data ecosystems, where agencies operate in silos without effective data sharing or coordination.
- Inadequate data protection frameworks, creating concerns about privacy and security, which in turn reduce public trust in digital systems.

These barriers compound inequality and undermine Nigeria's ability to fully leverage digital tools for transparent, accountable, and inclusive governance.

## Existing Solutions and Why They Have Not Worked

Digital governance in Nigeria is currently fragmented, with multiple agencies such as the Nigeria Digital Public Infrastructure Centre (Ng-DPIC), the National Identity Management Commission (NIMC), the Nigeria Inter-Bank Settlement System (NIBSS), Galaxy Backbone, and the Central Bank of Nigeria (CBN) managing different aspects of digital transformation but lacking effective coordination. While initiatives like Project Bridge and the NDPI Framework aim to expand connectivity and interoperability, their success depends on the operational autonomy of Ng-DPIC and stronger cross-agency collaboration to ensure inclusive and efficient DPI implementation across the country.

The Nigerian government has initiated several policies and institutional frameworks to promote digital transformation. Notable among these are:

- **Nigerian Digital Public Infrastructure (NDPI) Framework (2024):** Recently introduced to establish a national structure for DPI, focusing on digital identity, payments, and data exchange. While it proposes the Nigerian Digital Public Infrastructure Centre (Ng-DPIC) to coordinate implementation, success depends on strong cross-agency collaboration and operational autonomy.
- **National Digital Economy Policy and Strategy (NDEPS) 2020–2030:** Aims to enhance digital literacy and broadband coverage. However, execution has been slow, and rural digital inclusion remains limited.
- **National Identity Management Commission (NIMC) Act (2007):** Mandates NIN as the national identity anchor, yet enrollment remains uneven, and integration with other identity systems (e.g., BVN) is incomplete. Out of an estimated 237 million Nigerians, NIMC had enrolled over 115.9 million individuals as of January 2025.<sup>5</sup>

<sup>5</sup> National Identity Management Commission. (2025). Enrollment dashboard for February 2025. <https://nimc.gov.ng/enrolment-dashboard-february-2025/>

- **Nigeria Digital Financial Services (DFS) Policy:** Supports mobile and digital payment systems but is constrained by high transaction costs and inadequate infrastructure.
- **Data Protection Act (2023):** Establishes a legal framework for data governance, though enforcement and public trust are still low.
- **E-Government Master Plan (2020):** Seeks to digitalise service delivery, but fragmentation across ministries has limited its impact.

Collectively, these policies signal commitment to digital governance, but gaps in implementation, coordination, government agencies working in silos, and public engagement have constrained their effectiveness. Without a unified, citizen-centred approach to DPI that integrates these efforts, the risk of duplication and exclusion persists.

This policy brief aims to demonstrate how Digital Public Infrastructure can serve as a transformative mechanism for equitable governance in Nigeria. Specifically, it seeks to:

- Contextualise DPI within the broader agenda of digital inclusion and public service reform.
- Highlight global and local case studies that illustrate effective DPI implementation.
- Identify policy and implementation gaps within Nigeria's digital governance landscape.
- Propose actionable recommendations to strengthen DPI coordination, enhance inclusion, and promote transparent service delivery.

This brief draws on desk research of national policies (e.g., NDPI Framework 2024, NDEPS 2020–2030), global case studies (India, Estonia, Singapore), subnational initiatives (Kaduna, Edo, Anambra). The synthesis also draws from global best practices and interviews with stakeholders in digital governance.

### India's Stack: Scalable Digital Identity and Payments Infrastructure

India's DPI ecosystem, known as India Stack, integrates digital identity (Aadhaar), digital payments (UPI), and data sharing (DigiLocker). India's Aadhaar is the world's largest biometric ID system, with over 1.3 billion registered users. It provides a unique identification number that enables seamless access to government services, banking, and social benefits.<sup>6</sup> The system has enabled Direct Benefit Transfers (DBT), minimised welfare leakages, and accelerated financial inclusion through biometric authentication. Nigeria's NIN system can benefit from integration with banking and welfare systems, similar to Aadhaar–UPI linkages. Regulatory alignment is needed between NIMC, CBN, and social welfare agencies to enable unified, interoperable platforms.

### Estonia's e-Governance Model: Secure, Interoperable Public Services

Estonia's model features the X-Road interoperability platform, which securely connects databases across government agencies, facilitating 99percent online service delivery. Digital ID and e-Residency systems have enhanced administrative efficiency and public trust.

Contextualising Estonia's model, Nigeria's recently introduced NDPI Framework adopts the X-Road concept through the planned Nigeria Data Exchange (NGDX). Success will depend on the effective coordination of NIMC, Ng-DPIC, Galaxy Backbone, and regulatory oversight from the Ministry of Communications, Innovation, and Digital Economy.

### Singapore's Singpass: Unified Access to Public and Private Services

Singpass enables citizens and businesses to access over 2,000 digital services using a secure, centralised identity system. Components like MyInfo, Corppass, and biometric-enabled apps streamline authentication and reduce fraud. Nigeria's digital identity system could incorporate a unified authentication layer to simplify access. Regulators such as NIMC and the Nigeria Data Protection Commission (NDPC) should define data governance standards and enforce compliance across sectors.

<sup>6</sup> Belorgey, N., & Jaffrelot, C. (2021). *Identifying 1.3 billion Indians biometrically: Corporate world, state and civil society*. *Heidelberg Papers in South Asian and Comparative Politics*, 80, 1–51. [Nicolas Belorgey, Christophe Jaffrelot. Identifying 1.3 Billion Indians Biometrically. Corporate World, State and Civil Society. Heidelberg Papers in South Asian and Comparative Politics, 2021, 80, pp.1-51. 10.11588/hpsap.2021.80.15479. hal-03389153](#)

## Toward a Context-Specific DPI for Nigeria

Global Practice	Application to Nigeria
<b>Government Commitment</b>	Nigeria must ensure full political and institutional alignment behind the NDPI Framework and empower Ng-DPIC with legal and operational autonomy.
<b>Interoperability</b>	Full integration of NIN with banking, education, and social welfare databases is necessary, and requires regulatory coordination between NIMC, CBN, and ministries.
<b>User-Centric Design</b>	Digital services should be mobile-first, multilingual, and inclusive of marginalised communities, including women and Persons with Disabilities (PWDs).
<b>Robust Infrastructure</b>	Broadband expansion and off-grid connectivity should be prioritised in national Information and Communication Technology (ICT) and telecom strategies under the oversight of the Nigerian Communications Commission (NCC).
<b>Data Protection</b>	NDPC must strengthen the enforcement of the Nigeria Data Protection Act and ensure that DPI services embed privacy-by-design principles.
<b>Digital Awareness</b>	National sensitization campaigns, led by the Ministry of Information and supported by civil society, are essential to build digital trust.

To unlock the full potential of Digital Public Infrastructure (DPI) for equitable governance, Nigeria must adopt an integrated, inclusive, and phased approach. The following recommendations outline five strategic pillars essential for effective DPI implementation, aligned with national priorities and global best practices.

### 1. Ensure Inclusive Access to Digital Identity and Services

To ensure inclusive access to digital identity and services, the government should, within the short term (2025–2027), scale up NIN registration by deploying mobile enrollment units and leveraging Primary Health Centres to reach rural populations, women, and persons with disabilities. It should also design mobile-first DPI solutions to capitalise on Nigeria's high mobile penetration, enabling easier access to public services at the last mile. Additionally, launching targeted digital literacy campaigns and providing multilingual support will empower marginalised communities to use digital platforms confidently. These actions are expected to increase citizen participation, reduce service exclusion, and improve the overall uptake of government services.

### 2. Strengthen Legal and Regulatory Frameworks for Data Protection

To strengthen legal and regulatory frameworks for data protection, the government should, in the short term (2025–2027), enforce the Nigeria Data Protection Act (2023) and ensure that all DPI systems adopt privacy-by-design principles. Establishing an independent Data Protection Authority with clear enforcement powers should be prioritised in the medium term (2028–2030) to oversee data governance and ensure accountability. In parallel, targeted public awareness campaigns should be launched to build citizen trust in how data is collected, used, and protected, particularly with the introduction of the NGDX platform. These measures are expected to enhance public trust, improve data security, and increase regulatory compliance across DPI systems.

### 3. Expand Digital Infrastructure in Underserved Communities

To expand digital infrastructure in underserved communities, the government should, within the short to medium term (2025–2030), invest in rural broadband and mobile network expansion through strategic public-private partnerships. It should also, by the medium term (2028–2030), deploy solar-powered internet hubs in off-grid areas and provide subsidies for affordable digital devices to low-income users. Furthermore, integrating DPI access points into existing community institutions such as schools, health clinics, and local government offices will facilitate greater reach and usability. These interventions are expected to bridge the urban-rural digital divide and increase economic participation in remote areas.

#### 4. Foster Public-Private and International Partnerships

To foster public-private and international partnerships, the government should, in the short term (2025–2027), collaborate with FinTechs and telecom companies to co-develop scalable DPI solutions that advance financial inclusion and consider utilising the BVN as an alternative form of ID. It should also, by the medium term (2028–2030), leverage support from global institutions such as the World Bank and UNDP to access technical expertise and funding. Promoting innovation through regulatory sandboxes and encouraging the adoption of open-source, interoperable standards will further ensure flexibility and sustainability. These efforts are expected to drive locally relevant DPI innovations while reducing the fiscal burden on government resources.

#### 5. Build Institutional Capacity for DPI Governance

To build institutional capacity for DPI governance, the government should, within the short term (2025–2027), establish dedicated task forces at both national and subnational levels to oversee implementation, ensure coordination, and drive accountability. Civil servants should, by the medium term (2028–2030), be upskilled through structured training programs focused on digital governance tools and service delivery benchmarks. Additionally, DPI performance should be continuously monitored using data-driven evaluation frameworks and collaborative mechanisms across agencies. These actions are expected to create a more digitally competent public sector, reduce inefficiencies, and enhance service delivery outcomes.

These policy actions should be implemented in tandem with the NGDX rollout and embedded within a structured monitoring and evaluation (M&E) framework to ensure coherence and accountability. By doing so, Nigeria can deliver inclusive, transparent, and efficient governance powered by robust digital public infrastructure.

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The NESG is an independent, non-partisan, non-sectarian organisation, committed to fostering open and continuous dialogue on Nigeria's economic development. The NESG strives to forge a mutual understanding between leaders of thought to explore, discover and support initiatives to improve Nigeria's economic policies, institutions and management. Our views and positions on issues are disseminated through electronic and print media, seminars, public lectures, policy dialogues, workshops, specific high-level interactive public-private sessions and special presentations to the executive and legislative arms of government.

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