NIGERIA PAYMENTS SYSTEM VISION 2028

Empowering People, Connecting Markets, Growing the Economy.

CENTRAL BANK OF NIGERIA

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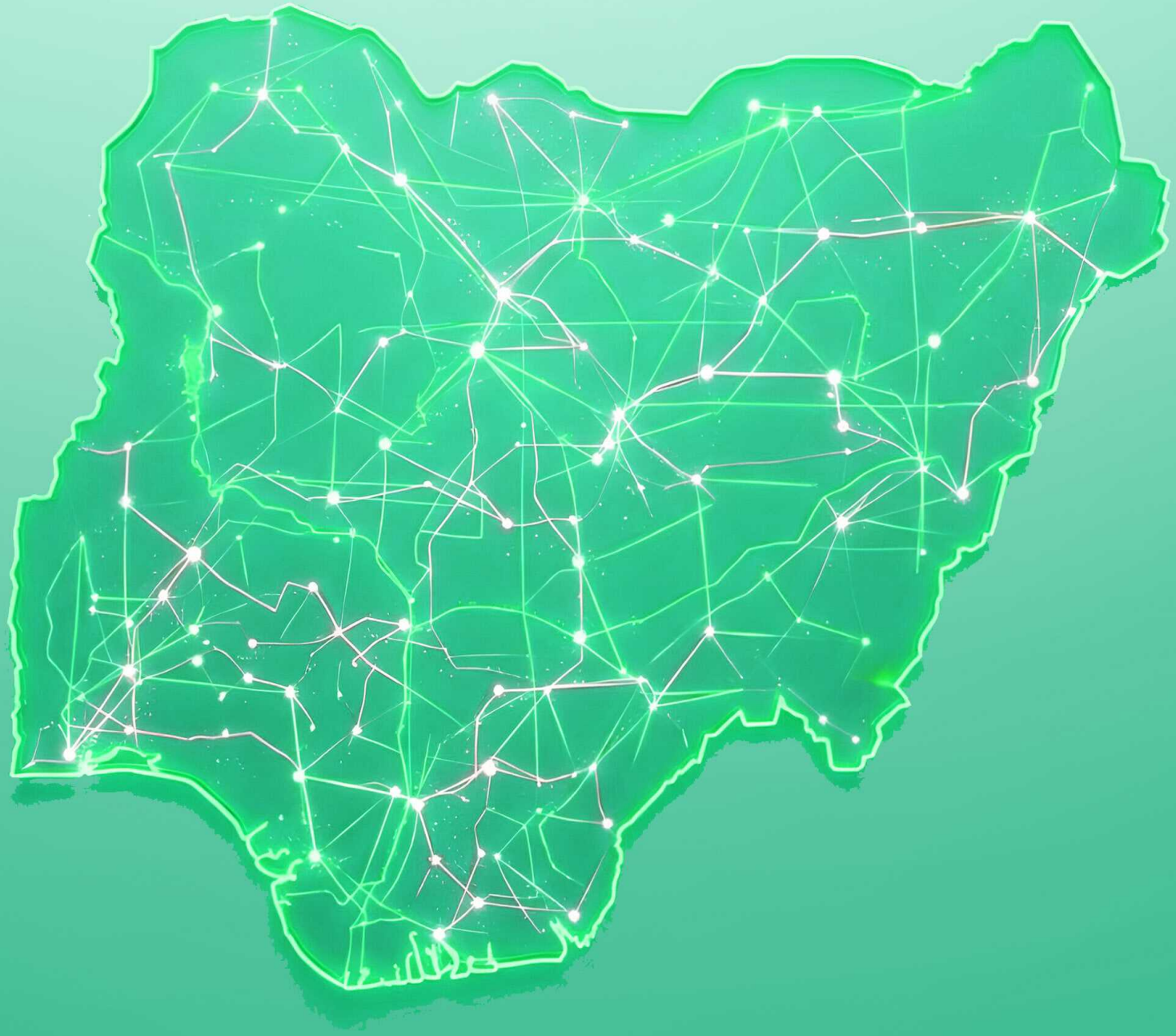

Foreword

Nigeria's payments ecosystem has, over the past decade, evolved into one of the most dynamic and innovative in the world, often setting the pace in areas such as real-time payments, digital adoption, and fintech-led transformation. While this progress has not always been fully reflected in global narratives, its impact on financial inclusion, economic activity, and system resilience is significant and widely felt within our domestic economy.

At a time when the speed, security, and reach of payments increasingly define the competitiveness of economies, Nigeria's experience demonstrates the value of sustained investment in innovation, infrastructure, and inclusion.

The Nigeria Payments System Vision 2028 (PSV 2028) builds on this strong foundation. It sets out a forward-looking agenda to consolidate Nigeria's position, deepen the efficiency and inclusiveness of our payments infrastructure, and strengthen the country's role within the global financial system. At its core, this Vision recognizes that a modern, efficient, and trusted payments system is fundamental to economic growth, financial stability, and overall economic competitiveness.

PSV 2028 reflects our commitment to a payments landscape that is secure, inclusive, and resilient, while remaining responsive to ongoing developments in technology and financial services. It is designed not only to meet the demands of today's economy but also to anticipate future shifts in commerce and financial intermediation. A robust payments system will continue to support financial inclusion, lower transaction costs, improve efficiency, and enable seamless participation

in both domestic and cross-border economic activity.

This Vision is anchored on six guiding principles - Interoperability, Security, Inclusion, Innovation, Trust, and Collaboration - which will shape all initiatives under the framework. These principles reflect our determination to ensure that every Nigerian, across urban and rural communities, can access secure and efficient payment solutions. In parallel, PSV 2028 prioritizes stronger cross-border integration and alignment with international standards, positioning Nigeria to play an important role in supporting intra-African trade and the evolving global payments ecosystem.

Nigeria's progress to date has been substantial. Under the Payments System Vision 2025 (PSV 2025), the country recorded significant growth in electronic payments, expanded access to digital financial services, and increased participation across the ecosystem.

These developments have contributed to improved service delivery, reduced transaction costs, and broader financial inclusion. However, as the scale and complexity of the system continue to increase, the next phase requires a more coordinated, resilient, and forward-looking approach.

Accordingly, PSV 2028 sets clear strategic priorities: modernizing payments infrastructure, strengthening regulatory and supervisory frameworks, accelerating the adoption of digital financial services, and fostering deeper collaboration across stakeholders.

These priorities are essential to maintaining system integrity while supporting innovation, investment, and inclusive economic growth.

Successfully delivering this Vision will depend on sustained collaboration across the ecosystem, including financial institutions, fintechs, technology providers, academia, regulators, and users of payment services. The Central Bank of Nigeria remains committed to providing the policy direction and enabling environment required to support this transformation.

I extend my sincere appreciation to all stakeholders whose insights and contributions have shaped this Vision. As implementation begins, I am confident that PSV 2028 will serve as an important enabler of inclusive growth, strengthened resilience, and Nigeria's continued advancement within the global payments landscape

Mr. Olayemi Cardoso
Governor, Central Bank of Nigeria.

Preface

The Nigeria Payments System Vision 2028 (PSV 2028) represents an important step in Nigeria's ongoing efforts to modernize and strengthen its payments and financial ecosystem. Building on the foundation established under the PSV 2025, this Vision reflects a continued commitment to creating a payment system that is resilient, inclusive, innovative, and globally competitive.

Implementation of PSV 2025 delivered measurable progress across the payments landscape, including expanded adoption of electronic payments, improved financial inclusion, and enhanced system resilience. These outcomes were made possible through strong partnerships among banks, payment service providers, regulators, and other stakeholders in both the public and private sectors.

Collectively, we addressed critical issues of customer protection, risk management, compliance, governance, and supervision, and supervision, resulting in significant growth in transaction volumes, improved service quality, and reduced costs. Looking toward 2028, the focus of the Vision is on harnessing technological innovation and global best practices to further strengthen and modernize Nigeria's payment landscape. A number of foundational vb initiatives like contactless payments, open banking, the regulatory sandbox, and the Central Bank Digital Currency (CBDC have already been introduced. The PSV 2028 seeks to deepen and scale these initiatives, while also assessing and adopting new technologies capable of expanding the reach, functionality, and quality of financial services.

In this regard, the Vision considers the responsible application of emerging technologies that can expand and enrich financial services. These include advanced blockchain applications, broader use cases for the CBDC and other digital instruments with payment capabilities, implemented within a robust regulatory, supervisory, and risk-management framework.

These innovations are intended to enhance security, interoperability, and user experience across the payments ecosystem, while ensuring that payment services remain accessible to all Nigerians, irrespective of location or socio-economic status, and are effectively integrated with regional and global financial networks.

The successful implementation of PSV 2028 will depend on sustained collaboration among financial institutions, Fintech innovators, regulators, and users. Through, coordinated action, the payment ecosystem can support inclusive growth, reinforce trust, and align with international standards. The Vision therefore represents not only a strategic roadmap, but a shared national commitment to strengthening Nigeria's digital payments infrastructure as a foundation for a broader economic development.

I extend my sincere appreciation to all who contributed to the development of PSV 2028. Their expertise and insights have been invaluable. As implementation commences, continued collaboration will be essential to realising a payment system that is innovative, resilient, and inclusive

Dr. Muhammad Sani Abdullahi
Deputy Governor, Economic Policy
Central Bank of Nigeria.

Acknowledgements

The successful development of the Payments System Vision 2028 (PSV 2028) document is a testament to the unwavering dedication, expertise, and collaborative spirit of all stakeholders involved. We wish to express our profound gratitude to:

1. **The Governor of the Central Bank of Nigeria** for his leadership and strategic guidance, which provided the overarching framework for this Vision.

2. **The Deputy Governor, Economic Policy,** for guiding policy coherence and ensuring that the PSV 2028 is aligned with global best practices while remaining responsive to domestic priorities.

3. **Financial Institutions and Industry Associations,** whose invaluable insights and practical perspectives enriched the document and ensured its relevance to the evolving payments and financial ecosystem.

4. **Development Partners,** for their technical support, knowledge sharing, and continued commitment to fostering innovation and financial inclusion.

5. **Other Stakeholders,** including Fintech innovators, regulatory bodies, and subject-matter experts, for their active engagement and constructive feedback throughout the process.

This Vision was developed through sustained engagement, careful deliberation, and a shared commitment to strengthening Nigeria's payments system.

These collective efforts have helped lay the foundation for a secure, inclusive, and efficient payments ecosystem capable of supporting economic growth and expanding access to financial services across the country.

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Acronyms and Abbreviations

A2A:	Account-to-Account Payments
AfCFTA:	African Continental Free Trade Area
Afreximbank:	African Export-Import Bank
AI:	Artificial Intelligence
ALMPO:	Association of Licensed Mobile Payment Operators
ALTON:	Association of Licensed Telecoms Operators of Nigeria
AML/CFT:	Anti-Money Laundering/Combating the Financing of Terrorism
AML	Anti-Money Laundering
API	Application Programming Interface
ATM	Automated Teller Machine
AU	African Union
AUC	African Union Commission
BCM	Business Continuity Management
BCP	Business Continuity Planning
BdF	Banque de France
BIS	Bank of International Settlement(s)
BNM	Central Bank of Malaysia
BoT	Bank of Thailand
BSD	Banking Supervision Department
BVN	Bank Verification Number
CBDC	Central Bank Digital Currency
CBIS	Central Bank of Israel
CBK	Central Bank of Kenya
CBN	Central Bank of Nigeria
CBNO	Central Bank of Norway
CBUAE	Central Bank of UAE
CCIRD	Corporate Communications and Investor Relations Department
CCT	Conditional Cash Transfer
CDD	Customer Due Diligence

Acronyms and Abbreviations

CeBIH	Committee of e-Banking Industry Heads
CFT	Countering the Financing of Terrorism
CHBO	Committee of Heads of Bank Operations
CMD	Compliance Department
CPF	Countering Proliferation Financing
CPFID	Consumer Protection and Financial Inclusion Department
CPMI-IOSCO	Committee on Payments and Market Infrastructures–International Organization of Securities Commissions
DFISD	Development and Finance Institutions Supervision Department
DLT	Distributed Ledger Technology
DPIA	Data Protection Impact Assessment
DTS 2030	Digital Transformation Strategy (2030)
e-CNY	Digital Yuan (China's CBDC)
ECOWAS	Economic Community of West African States
EFInA A2F	Enhancing Financial Innovation & Access - Access to Finance Survey
e-KYC	Electronic Know Your Customer
EP	Economic Policy
eNaira	Nigeria's Central Bank Digital Currency
EU	European Union
EUR	Euro
FATF	Financial Action Task Force
FCCPC	Federal Competition and Consumer Protection Commission
FCY	Foreign Currency
FIDO2	Fast Identity Online 2
Fintech	Financial Technology (used as a descriptor/short-hand term)
FIs	Financial Institutions
FMD	Financial Markets Department
FMIs	Financial Market Infrastructures

Acronyms and Abbreviations

FPRD	Financial Policy and Regulation Department
FSPs	Financial Service Providers
FSS	Financial System Stability
FX	Foreign Exchange
G2P	Government-to-Person
GBP	Great British Pound
GDP	Gross Domestic Product
GDPR	General Data Protection Regulation
GPI	Global Payments Innovation (SWIFT GPI)
HKMA	Hong Kong Monetary Authority
ID	Identification/Identity
IMF	International Monetary Fund
IMTOs	International Money Transfer Operators
IP	Intellectual Property / Internet Protocol
IPA	Innovations for Poverty Action
IPS	Instant Payments System
IRIS	Infrared Imaging System
ISO 20022	International Standard for Payment Messaging
ISO 22301	International Standard for Business Continuity Planning (BCP)
ISO 27001	International Standard for Information Security Management
ITD	Information Technology Department
JTOC	Joint Token Oversight Committee
KPI	Key Performance Indicator
KYC	Know Your Customer
LGA	Local Government Area
LoRa	Long Range
LSD	Legal Services Department
MAS	Monetary Authority of Singapore

Acronyms and Abbreviations

MDA	Ministry, Departments, and Agencies
MiCA	Markets in Crypto-Assets (EU Regulation)
MMOs	Mobile Money Operators (implied context)
MobileID	Mobile Identification
MoE	Ministry of Education
MOU	Memorandum of Understanding
MPD	Monetary Policy Department
MRF	Mutual Recognition Framework
MSC	Merchant Service Charge
MSMEs	Micro, Small, and Medium Enterprises
MTOs	Money Transfer Operators
MTTD	Mean Time to Detect (incidents)
MTTR	Mean Time to Remediate/Respond (incidents)
NCC	Nigerian Communications Commission
NDEPS	National Digital Economy Policy and Strategy 2020-2030
NDIC	Nigeria Deposit Insurance Corporation
NDPA	National Data Protection Act 2023
NDPC	Nigeria Data Protection Commission
NERDC	Nigerian Educational Research and Development Council
NFEM	Nigerian Foreign Exchange Market
N-FFIC	National Fraud Fusion & Intelligence Centre
NFIS	National Financial Inclusion Strategy
NFIU	Nigerian Financial Intelligence Unit
NFOS	National Financial Ombudsman Service
NGN	Nigerian Naira (currency code)
NIBSS	Nigeria Inter-Bank Settlement System
NiDCOM	Nigerians in Diaspora Commission
NIMC	National Identity Management Commission
NIN	National Identification Number

Acronyms and Abbreviations

NINAuth	National Identification Number Authentication
NIP	NIBSS Instant Payments
NIP-Grid	National Intelligent Payment Grid
NIST	National Institute of Standards and Technology
NOA	National Orientation Agency
NQR/QR	Nigeria Quick Response / Quick Response
NSC	Nigeria Settlement Cloud
NYSC	National Youth Service Corps
ODR	Online Dispute Resolution
ONSA	Office of the National Security Adviser
OFISD	Other Financial Institutions Supervision Department
OTP	One-Time Password
PAD	Presentation Attack Detection
PAPSS	Pan-African Payment and Settlement System
PBoC	People's Bank of China
PENCOM	National Pension Commission
PFMI	Principles for Financial Market Infrastructures
PI	Priority Initiative
PIN	Personal Identification Number
POS	Point of Sale
PSD2	Payment Services Directive 2
P-SOC	National Payment Security Operations Centre
PSPD	Payments System Policy Department
PaSSD	Payments System Supervision Department
PSPs	Payments Service Providers
PSV2025	Payments System Vision 2025
PSV2028	Payments System Vision 2028
PSV	Payments System Vision (Implied context: Transformative Initiatives)
PTSPs	Payments Terminal Service Providers

Acronyms and Abbreviations

PWDs	People with Disabilities
QoS	Quality of Service
RACI	Responsible, Accountable Consulted, Informed (Matrix)
RBA	Reserve Bank ofAustralia
RegTech	Regulatory Technology
RMD	Risk Management Department
ROI	Return on Investment
RPW	Remittance Prices Worldwide
RSD	Research Department
RSV	Reserve Department
RTGS	Real Time Gross Settlement
SADC	Southern African Development Community
SANEF	Shared Agent Network Expansion Facilities
SARB	South African Reserve Bank
SBSE	Central Bank of Sweden
SDGs	Sustainable Development Goals (UN)
SEC	Securities and Exchange Commission
SIM	Subscriber Identity Module
SIMD	Strategy and Innovation Management Department
SLA	Service Level Agreement
SME	Small and Medium-sized Enterprise
SMEDAN	Small and Medium Enterprises Development Agency of Nigeria
SNB	Swiss National Bank
SOC	Security Operations Center
SSA	Sub-Saharan Africa
SupTech	Supervisory Technology
SWIFT	Society for Worldwide Interbank Financial Telecommunication
T+1	Transaction Plus One Day
T-Bills	Treasury Bills
TIN	Tax Identification Number
TLP	Traffic Light Protocol
UN SDGs	United Nations Sustainable Development Goals
UN	United Nations
UNCDF	United Nations Capital Development Fund
UPI	Unified Payments Interface (India)
UPSL	Unified Payments Services Limited
USD	United States Dollar
USDC	USD Coin (a fiat-backed stable coin designed to maintain a value of $1
USDT	Tether (a stablecoin)
USSD	Unstructured Supplementary Service Data
VASPs	Virtual Asset Service Providers
WAMI	West African Monetary Institute
XC	Cross-Currency (IMF platform/ledger)
YoY	Year-over-Year

Executive Summary

Nigeria has emerged as one of Africa's leading payment system markets, recording sustained progress in the adoption of digital payments and the modernisation of its financial infrastructure. While these gains are significant, the transformation of the payments ecosystem remains a continuous process. The Payments System Vision 2028 (PSV 2028) sets out a forward-looking framework to consolidate existing progress, address emerging risks, and position Nigeria's payment system to operate effectively within an increasingly digital, interconnected, and globalised financial landscape.

Before 2007, Nigeria's economy was predominantly cash-based, with over 60% of adults excluded from formal financial services. High transactions costs, limited banking infrastructure, security concerns, and low levels of digital literacy constrained financial inclusion and impeded economic activity. In response, the CBN launched the Payments System Vision 2020 (PSV 2020) in 2007, followed by the Cashless Nigeria initiative in 2012, marking a strategic shift toward electronic payments.

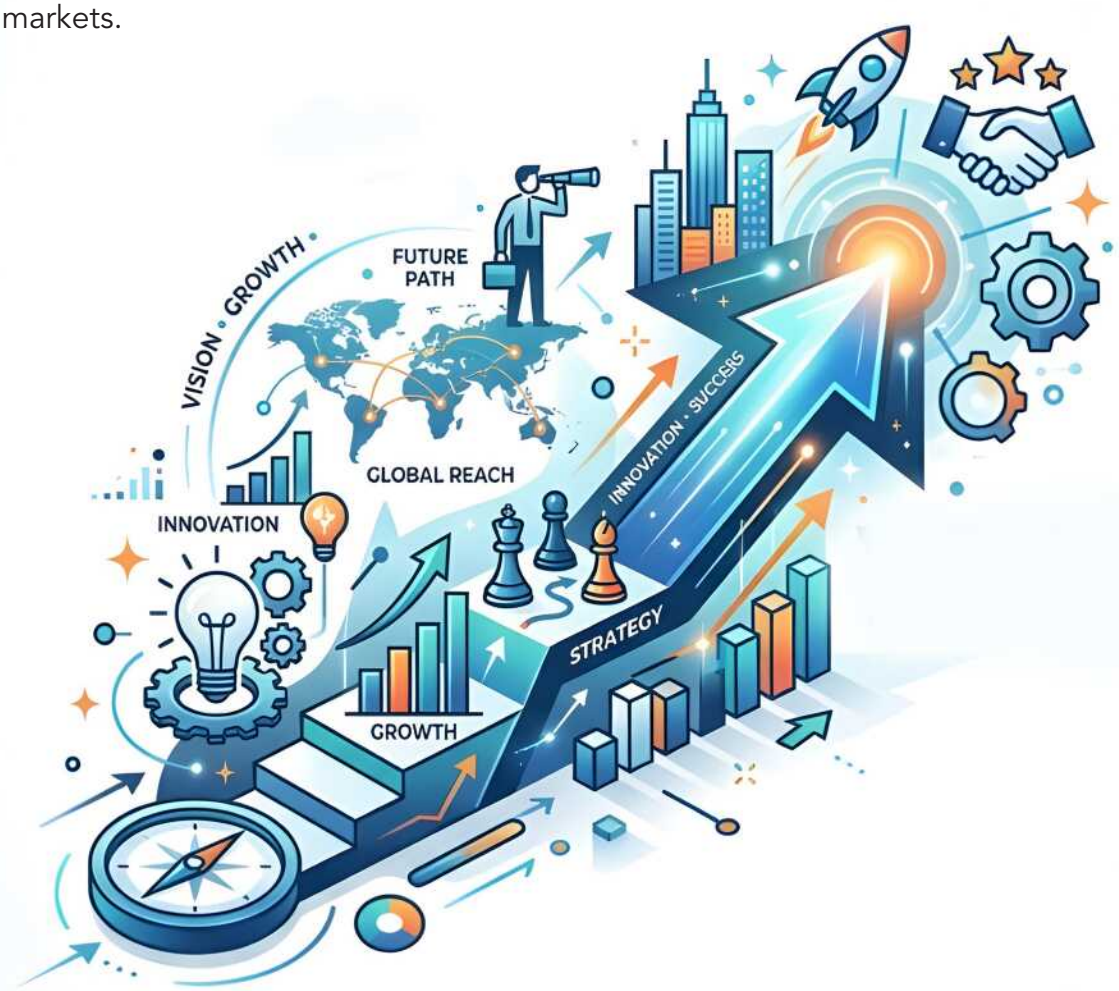
Building on this foundation, the Payments System Vision 2025 (PSV 2025) was introduced to consolidate progress, tackle emerging issues, and enhance adoption, safety, innovation, reliability, and resilience within the payment ecosystem. The implementation of PSV 2020 and PSV 2025 contributed to the expansion of electronic payment channels, strengthened collaboration across stakeholders, and the evolution of a more inclusive and future ready financial system.

PSV 2028 advances this trajectory by defining clear outcomes aimed at strengthening infrastructure resilience, deepening digital inclusion, enhancing consumer protection, and accelerating the adoption of emerging technologies. It also prioritises improved cross border payment efficiency and the integration of digital currencies and regional settlement mechanisms to enhance Nigeria's regional and global competitiveness.

By 2028, Nigeria's payment system is expected to reflect higher reliability, broader and more inclusive access, stronger consumer safeguards, enhanced cyber resilience, and alignment with global standards. Through these targeted interventions, PSV 2028 positions the payments ecosystem to support sustainable economic growth, promote financial stability, and advance the country's transition toward a modern, digitally enabled economy.

Vision for 2028

To operate a secure, inclusive, innovative, and interoperable payments system ecosystem that supports Nigeria's economic development and integrates effectively with regional and global financial markets.



The mission of the PSV 2028 is to advance Nigeria's payment systems into a globally competitive and future-ready landscape through the following objectives:

- Strengthening regulatory and supervisory oversight to safeguard the financial system and enhance consumer protection.
- Fostering innovation through enabling policies and responsible adoption of technology-driven solutions.
- Promoting financial inclusion by reducing access gaps and empowering underserved populations.
- Ensuring efficiency and full interoperability across payment platforms, with expansion into regional and international jurisdictions.
- Driving collaborative stakeholder engagement for shared responsibility and sustainable growth.

Guiding Principles

The PSV 2028 framework is anchored on six core principles:

(a) **Interoperability as Default** - Ensure that all payment rails are built based on open standards that enable frictionless value flow across platforms, institutions, and borders.

(b) **Security by Design** - Implement comprehensive risk, security, and fraud controls across all processes to protect consumers and maintain systemic stability.

(c) **Inclusion First** - Make universal, affordable access the baseline; especially for women, youth, MSMEs, rural and low-literacy users.

(d) **Innovation with Purpose** - Adopt modern technologies (e.g APIs, ISO 20022, AI and CBDC where fit-for-purpose) to enhance convenience, efficiency, and competitiveness.

(e) **Trust through Transparency** - Institutionalize clear SLAs, open dashboards, data-rights enforcement, and consistent redress to earn public confidence.

(f) **Collaboration for Scale** - Foster alignment among regulators, operators, states, civil society, and other stakeholders around shared outcomes and coordinated execution.

Strategic Themes and Goal Alignment

The PSV 2028 is structured around five (5) strategic themes, namely:

(c) Infrastructure, Interconnectivity, and Interoperability

(b) Digital Inclusion, Consumer Protection, and Financial Literacy

(d) Innovation, Digital Assets, and Emerging Technologies

(a) Cross-border Payments and CBDC Integration

(e) Regulation, Risk Management, and Cybersecurity

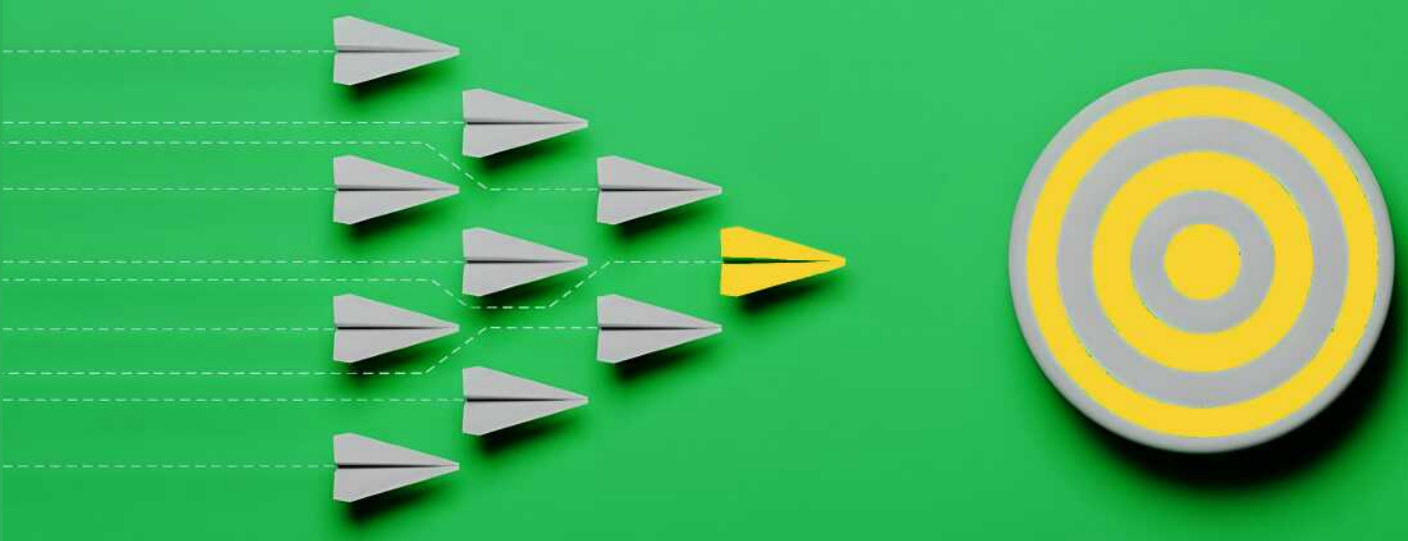
Through these themes, the Vision aims to expand digital inclusion rates, enhance infrastructure availability and interoperability, lower costs of cross-border payments and integrate CBDC and other relevant digital assets by 2028. The payments vision explicitly supports NFIS's 3.0 target of reducing financial exclusion leveraging on one of the thematic areas of the vision, Digital inclusion, consumer protection and financial literacy. The scheme also integrates digital ID, cloud-native infrastructure, and ISO 20022 migration, aligning with NDEPS pillars on digital platforms and cybersecurity.

Implementation Governance and Performance Framework

The PSV 2028 establishes joint working groups across its thematic areas, bringing together public and private sector stakeholders to coordinate technical standards, promote regulatory harmonization, and pilot innovative payment projects. These efforts are supported by defined monitoring, evaluation, and cybersecurity frameworks to ensure effective implementation.

Overall, the PSV 2028 provides a comprehensive roadmap for Nigeria to become a country of significant interest in digital financial services, through sound regulation, inclusive innovation, and resilient infrastructure.

By deepening collaboration and adopting emerging technologies within a robust framework, the Vision seeks to enhance payment system efficiency, reduce financial exclusion and reinforce the stability of Nigeria's digital financial ecosystem as the country progresses towards 2028.



PART 1: CONTEXTUALIZING NIGERIA'S PAYMENTS SYSTEM

1. Introduction and Context

1.1. Background and Rationale for Payments System 2028

Drawing on its mandate under the CBN Act 2007 and BOFIA 2020, the CBN presents PSV 2028 as the strategic catalyst for Nigeria's digital economic resurgence. Building on the successes of the Payments System Visions 2020 and 2025, the PSV 2028 seeks to address emerging challenges and leverage technological advancements to support Nigeria's evolving financial landscape.

The rationale for PSV 2028 is rooted in the critical role that payment systems play in economic development. A robust and secure payments infrastructure is essential for effective monetary policy implementation, financial stability, and the facilitation of commerce. Recognizing this, CBN has set out to modernize the payments system to meet the demands of a digital economy, improve user experience, and ensure resilience against systemic risks.

Key motivations include:

a) Strengthening financial inclusion by expanding access to digital payment channels across underserved populations.

b) Promoting innovation and competition among financial technology providers while maintaining regulatory oversight.

c) Enhancing cybersecurity and fraud prevention mechanisms to safeguard consumer trust and system integrity.

d) Improving interoperability and efficiency across payment platforms to reduce transaction costs and delays.

e) Aligning with global best practices and standards to position Nigeria competitively in the international financial system.

The PSV 2028 framework is guided by national policy objectives that emphasize availability, reliability, affordability, and risk mitigation. It also reflects the CBN's commitment to fostering a payments system that supports inclusive growth, economic resilience, and sustainable development.

1.2. Global Trends in Payments System Modernization

Modernization of payments system is a global priority driven by the need for greater efficiency, security, financial inclusion, and economic resilience.

The following key trends characterize the evolving landscape:

a) Shift Toward Cashless Transactions: There is a marked global increase in the use of non-cash payment methods[1]. From 2017 to 2020, cashless transactions per person rose significantly, especially in low and middle-income countries (LMICs), where the figure nearly doubled[2].

This shift is driven by digital innovation and was accelerated by the COVID-19 pandemic.

1. *Penn Carey Law. (2022). Digital Finance, Financial Inclusion and Gender Equality: Strategies for Economic Empowerment of Women. Legal Scholarship Repository.*
2. *Adeniji, F. P., Adewole, D. A., Bello, S., Ekirapa, E., Aweko, J., Kiberu, V. M., Opio, C., Waiswa, P., & Fawole, O. I. (2025). How prepared is Nigeria digital payment for health workers? A landscape analysis. BMC Health Services Research, 25(1).*

b) **Strengthening Legal and Regulatory Frameworks:** The global payments landscape has seen significant regulatory evolution over the past decade, driven by the need for security, transparency, and consumer protection in an increasingly digital economy. According to the World Bank's Global Payment Systems Survey (2024), 81% of countries now have comprehensive payment system legislation, a dramatic rise from 46% in 2007. These frameworks underpin financial stability by enhancing system oversight, transparency, and consumer protection, while fostering innovation and inclusion.

c) **Rise of Real-Time Payment Systems:** Instant account-to-account fund transfers are being adopted globally to facilitate real time payments[3] . These systems improve liquidity management[4] and reduce transaction costs for both consumers and businesses.

d) **Expansion of Digital Financial Services:**[5] Digital payments, mobile money, and internet banking have surged globally, particularly in emerging markets, transforming access to financial services. In Sub-Saharan Africa, mobile money has outpaced traditional banking, offering secure and convenient solutions to previously unbanked populations. Nigeria mirrors this trend with remarkable growth across multiple financial institutions; bank-led digital services, mobile money adoption and microfinance bank-led initiatives have positioned Nigeria as a leading player in Africa's digital finance revolution, bridging gaps in financial access and creating a more inclusive, resilient payment ecosystem.

e) **Emergence of Fintech and Alternative Payment Models:** Fintech innovations such as Buy-Now-Pay-Later (BNPL), peer-to-peer lending, and digital wallets are transforming access to credit and payments. These models are especially impactful for underserved groups, including youth and rural populations.

f) **Development of Central Bank Digital Currencies (CBDCs):** Many central banks are exploring or piloting CBDCs to enhance monetary policy transmission, reduce reliance on cash, and improve cross-border payments. These initiatives are part of broader efforts to modernize national payment infrastructures.

g) **Focus on Cross-Border Payment Efficiency:** Global cross-border payments are undergoing transformation to reduce friction, lower costs, and improve speed. Innovations such as stablecoins and blockchain-based systems are being explored to address inefficiencies in international transactions.

h) **Enhanced Cybersecurity and Risk Management:** As digital payments grow, so does the emphasis on cybersecurity. Regulatory bodies are implementing stronger safeguards to protect against fraud, data breaches, and systemic risks.
Regional Integration: There is considerable effort towards the facilitation of seamless digital payments across Africa with the introduction of PAPSS.

1.3. Review of PSV 2025: Achievements and Lessons

The PSV 2025 was launched by the Central Bank of Nigeria (CBN) to provide a strategic roadmap for the modernization and expansion of Nigeria's payments ecosystem. Its core objectives included enhancing electronic payment adoption, improving system safety and reliability, fostering financial inclusion, and supporting economic growth.

The PSV 2025 marked a major turning point in Nigeria's journey toward a modern, inclusive, and trusted payments ecosystem. It consolidated gains from PSV 2020; expanding

3. *Banco Central do Brasil. (2025). The Effect of Instant Payments on the Banking System (Working Paper No. 619).*
4. *Mastercard. (2024). High speed, high stakes: Navigating liquidity in an era of volatility.*
5. *Aron, J., & Muellbauer, J. (2019). The Economics of Mobile Money: Harnessing the Transformative Power of Technology to Benefit the Global Poor. Oxford Martin School Policy Paper.*

instant payments, institutionalizing the Bank Verification Number (BVN), and establishing stronger regulatory oversight of payment service providers. Between 2020 and 2025, PSV 2025 catalyzed remarkable digital growth: formal inclusion rose from 56% to 64%[6], BVN enrolments surpassed 66 million, and dispute-resolution timelines for card and web transactions shortened considerably.

6. *Access to Financial Services in Nigeria (A2F): 2023 Survey Report.*

Despite these gains, deeper structural issues remain: a widening trust deficit, uneven financial literacy, and persistent exposure to fraud and cyber-attacks, which limit the depth and sustainability of inclusion. The PSV2028 Pillar 2 builds squarely on these insights.

1.3.1. Key Achievements Under PSV 2025

a) Agent Networks: The country boasts 1.9–2.0 million agents across all LGAs. Yet challenges persist around liquidity, over-concentration of access points, service quality, and availability.

b) Identity and Financial Inclusion: BVN became the backbone of digital KYC, reaching 66 million unique IDs in 2025, linking accounts and wallets across banks and electronic money issuers. It enabled verification consistency and fraud deterrence, forming the foundation for interoperable digital identity.

c) Privacy and Data Protection: Enactment of the Nigeria Data Protection Act (2023) established statutory safeguards for consumer data. Several financial institutions faced sanctions for breaches, signaling growing accountability.

d) Consumer Protection and Dispute Resolution: CBN's Consumer Protection Framework[7] (CPF 2016) and Regulations 2019[8] were operationalized with Service Level Agreements (SLAs) mandating ATM chargeback resolution within 24 hours and POS/Web failed transaction reversals within 72 hours. These measures reduced average resolution times, particularly in the banking segment.

Agent-principal relationships have also been strengthened with the new Exclusivity and Location Requirements[9] in the 2025 agent banking operational guidelines which also mandate payment terminals' geo-tagging[10].

e) Digital Literacy Initiatives: Pilot financial-literacy programs, curriculum collaborations with NERDC, and radio outreach improved awareness of rights and risks; albeit on a limited, urban-focused scale.

f) Industry Coordination: The payments ecosystem expanded under clearer licensing categories; banks, MMOs, PSSPs, super-agents, PSBs, creating a structured but dynamic marketplace that encouraged innovation while maintaining oversight.

g) Infrastructure Enhancement: The CBN initiated a review of core payments infrastructure and switching platforms to ensure scalability and resilience in meeting growing transaction demands.

h) Innovation and Emerging Technologies: These include the deployment of contactless payment solutions such as NFC and QR codes enabled payment systems; the exploration of Blockchain technologies, including the Central Bank Digital Currency (CBDC) for the Naira; and the development of frameworks for Virtual Asset Service Providers (VASPs) and Initial Coin Offerings (ICOs) in collaboration with the Securities and Exchange Commission.

i) Open Banking and API Standardization: A roadmap for Open Banking was created, including the definition of standardized APIs.

j) Regulatory Sandbox: Implementation of the Regulatory Sandbox Operations focusing on emerging technologies in financial services while promoting financial inclusion, competition, innovation and consumer protection while allowing regulatory flexibility.

7 CBN (2016). Consumer Protection Framework 2016
8 CBN (2019). Consumer Protection Regulations 2019
9 CBN (2025). Guidelines for the Operations of Agent Banking in Nigeria
10 CBN (2025) Migration to ISO 20022 Standard for Payment Messaging and Mandatory Geo-Tagging of Payment Terminals

k) Financial Inclusion Expansion: The Agent Banking initiative was strengthened to extend basic financial services to underserved and unbanked populations.

l) Data and Security Improvements: This includes identification of big data use cases to support economic analysis; review of minimum-security requirements for banks, and enhancement of multi-layered user authentication standards.

m) Fraud Prevention and Consumer Protection: The continued use of and expansion of the Bank Verification Number (BVN) system, introduction of multi.

n) Factor authentication in transaction processing and back-office operations of PSPs, and continuous fraud awareness and education campaigns are among landmark achievements geared towards fraud prevention and consumer protection. Also, licensed operators were mandated to improve consumer experience through faster dispute resolution mechnisms.

o) Interoperability and Compliance: Interoperability remained a guiding principle, with periodic assessments and license renewals for Payment Service Providers to ensure compliance.

p) Payments System Policy Oversight Strengthening: The establishment of the Payments System Policy and Supervision Departments to enhance payments system policy development, innovation and supervision.

1.3.2. Lessons Learned

a) Regulatory agility: This is essential to keep pace with rapid technological changes and emerging financial innovations.

b) Collaboration with industry stakeholders: Fosters more inclusive and sustainable payment solutions.

c) Consumer trust and protection: Must remain central to system design and implementation.

d) Data-driven decision-making: Analytics are critical for policy formulation and system optimization.

e) Continuous infrastructure upgrades: These are necessary to maintain system reliability and accommodate future growth.

1.4. Diagnostic Assessment of Nigeria's Payment Ecosystem.

Nigeria's payments ecosystem is undergoing a structural shift from legacy rails to an integrated, digital-first infrastructure. The introduction of the National Payment Stack (NPS) in June 2025, replacing NIBSS Instant Payments (NIP) and built on ISO 20022 positions the system for faster, more secure, and interoperable transactions at scale, in a market already processing over a quadrillion naira in e-payments and riding on more than 200 million mobile subscriptions.

This transition is anchored by CBN's strategic direction under PSV 2025 and subsequent initiatives, which prioritizes open banking, the eNaira, agent banking, regulatory sandboxes, interoperability, and stronger consumer protection, supported by a National Payments.

Scorecard to track infrastructure, efficiency, reach, and trust across the ecosystem. A vibrant Fintech ecosystem now processes a significant share of digital transactions, with embedded finance and open banking reshaping how consumers and MSMEs access financial services, and funding flows into Nigerian Fintechs showing resilience despite wider African headwinds.

Agent banking and mobile wallets have extended formal finance into rural and underserved communities, yet exclusion, low literacy, and product mismatches remain pronounced for women, youth, informal workers, and MSMEs, even as rising cyber threats, legacy scalability constraints, and regulatory complexity pose real risks.

The core task for PSV 2028 is to harness this momentum to deliver a more inclusive, trusted, and globally competitive payment system, while systematically tightening cybersecurity, simplifying the regulatory environment, and deepening pro-poor financial inclusion.

1.5. Key Challenges and Opportunities (2026–2028 Horizon)

1.5.1. Challenges

a) Infrastructure Deficiencies: Unreliable power, weak internet, and inadequate POS/ network coverage, especially in rural and underserved areas, undermined seamless digital transactions and service delivery.

b) Low Financial Literacy: With approximately 26% of bankable adults still financially excluded, many Nigerians lack the knowledge and confidence to use digital payment tools safely and effectively.

c) Cybersecurity and Fraud Risks: Increasing incidents of identity theft, social engineering (e.g. phishing), and unauthorized transactions continue to erode user trust, underscoring the need for stronger security and consumer protection.

d) Regulatory Complexity: An evolving and fragmented regulatory environment continues to make it challenging for Fintechs and innovators to operate, and for regulators to maintain effective oversight, ensure compliance, and adapt supervisory frameworks to emerging technologies.

This highlights the need for greater harmonization and clarity across the ecosystem.

1.5.2. Opportunities

a) Mobile and Digital Expansion: Over 200 million mobile subscriptions create a strong foundation to scale mobile payments and drive last-mile financial inclusion.

b) Strategic Roadmaps (PSV 2025 & PSV 2028): PSV 2025 established core enablers (open banking, eNaira, agent banking, big data, security and interoperability) while PSV2028 deepens inclusion, boosts innovation, strengthens infrastructure and cross-border rails, and enhances consumer protection and digital identity.

c) Collaborative Ecosystem: Active engagement between CBN, regulators, banks, PSPs, Fintechs,and consumer groups enables co-creation of a resilient, future-ready payment system.

d) Global Competitiveness: Alignment with global standards positions Nigeria's payment system to attract international partnerships, investments, and deeper regional integration.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2. Vision, Mission And Strategic Objectives.

2.1. Mission Statement

To strengthen regulatory oversight, foster innovation, promote financial inclusion, and ensure the safety, efficiency, and interoperability of Nigeria's payment systems through collaborative stakeholder engagement and forward-looking policy frameworks.

2.2. Vision Statement.

To build a secure, inclusive, innovative, and globally competitive payment ecosystem that empowers Nigeria's digital economy and enhances financial resilience.

2.3. Thematic Areas.

a) Cross-Border Payments and CBDC Integration.

i) Facilitate seamless regional and international payment flows.
ii) Align with ECOWAS and Pan-African Payment and Settlement System (PAPSS).
iii) Pilot cross-border use cases for eNaira and other CBDCs.
iv) Promote FX innovation using digital currencies.
v) Ensure interoperability with global payment systems.

b) Digital Financial Inclusion, Consumer Protection and Financial Literacy.

i) Expand access to digital financial services for underserved populations.
ii) Strengthen consumer protection frameworks and complaint redress mechanisms.
iii) Promote financial literacy and digital education campaigns.
iv) Support gender and youth inclusion in digital finance.
v) Leverage mobile platforms and agent networks for last-mile delivery.

c) Infrastructure, Interconnectivity and Interoperability.

i) Modernize core payment infrastructure for scalability and resilience.
ii) Ensure interoperability across banks, payment service providers and Fintechs.
iii) Promote real-time payments and open API standards.
iv) Enable cross-platform integration (e.g., BVN, NIN, SIM).
v) Support regional and global connectivity for trade and remittances.

d) Innovation, Digital Assets and Emerging Technologies.

i) Regulate and integrate stablecoins and tokenized assets.
ii) Develop frameworks for Virtual Asset Service Providers (VASPs).
iii) Promote innovation through regulatory sandboxes and open banking.
iv) Explore AI, blockchain, and programmable payments.
v) Foster responsible innovation and ethical tech deployment.

e) Regulation, Risk Management, and Cybersecurity.

i) Strengthen regulatory oversight and supervisory technology (SupTech).
ii) Establish a National Payment Security Operations Centre (P-SOC).
iii) Enhance AML/CFT frameworks and fraud response protocols.
iv) Improve inter-agency coordination (CBN, SEC, NDPC, EFCC, etc.).
v) Promote cybersecurity awareness and sector-wide resilience.

2.4. Expected Outcomes and National Impact (Targets)

These outcomes reflect the strategic ambitions of Nigeria's PSV 2028 across the five thematic areas as follows:

a) System Performance and Reliability.
   i) Adopt 99.999% system uptime as the performance benchmark for licensed operators.

   ii) Target 95% transaction success rate and ≤1% chargeback-to-volume ratio.

   iii) Maintain ≤30 seconds response time for customer-facing channels and ≤10 seconds for switch-to-issuer communications.

b) Interoperability and Standards.
   i) By 2026, undertake a review of compliance level with the 2025 deadline for 100% ISO 20022 migration for system-wide compatibility.

   ii) Achieve 100% interoperability across all licensed Payment Service Providers (PSPs).

   iii) Implement Open APIs and localized standards to reduce fragmentation and enhance seamless integration.

c) Data and Analytics.
   i) Deploy a robust industry-wide data management system for transaction volume, value, latency, disputes, and throughput.

   ii) Enable real-time analytics for planning, compliance, and performance monitoring.

d) Cybersecurity and Resilience
   i) Institute industry-wide CISA Cyber Performance Goals (CPGs) tracking.

   ii) Establish a National Security Operations Center (SOC) and fraud intelligence sharing platform.

e) Financial Inclusion.Work with partners and stakeholders to increase formal financial inclusion to 95% by 2028, with targeted outreach to underserved regions.

   i) Grow percentage of adults using digital payments from 52%[11] to 80% through the customer-centric products that are accessible, fast and reliable.

   ii) Deploy micropayment solutions and offline-capable wallets to bridge digital access gaps.

   iii) Launch nationwide financial literacy campaigns focused on basic banking, complaints handling, and redress.

f) Cross-Border Payments.
   i) Enable functional cross-border payments via card and account-to-account rails.

   ii) Support Fintech-led cross-border wallets with regulated forex liquidity frameworks.

   iii) Require the provision of CBN observer nodes into blockchain networks operating approved stablecoins.

g) Innovation and Emerging Technologies.
   i) All digital ID and payment systems will follow privacy-by-design principles, guaranteeing user consent and data rights.

   ii) Nigeria will lead in RegTech, SupTech, and AI compliance, exporting its digital payment frameworks and solutions internationally.

   iii) Through multi-stakeholder collaboration, ensure that 95% of financially active adults possess verified NIN-BVN digital IDs for secure digital financial access nationwide.

   iv) Biometric and invisible payment options will make secure, effortless transactions accessible to everyone, including the underbanked and those with limited connectivity.

   v) All G2P payments and subsidies will be digitally distributed through secure, programmable ch annels for greater transparency and reach.

11 Access to Financial Services in Nigeria (A2F): 2023 Survey Report

2.5. Guiding Principles

These principles underpin the design, implementation, and governance of PSV 2028 initiatives:

a) Interoperability.

i) Promote seamless integration across platforms, institutions, and borders.

ii) Enforce technical standards (e.g., ISO 20022, Open APIs) and commercial agreements to ensure compatibility.

b) Security.

i) Uphold the CIA triad (Confidentiality, Integrity, Availability) and CISA Cyber Performance Goals.

ii) Facilitate the establishment of a shared infrastructure for fraud detection, risk intelligence, and regulatory compliance.

c) Inclusion.

i) Establish policies and supervisory expectations that support the deployment of infrastructure and services to rural, remote, and underserved populations.

ii) Support low-cost, offline-capable, and micropayment solutions to reduce barriers to access.

d) Innovation.

i) Encourage Fintech participation, digital identity solutions, and emerging technologies like blockchain and AI.

ii) Foster experimentation through regulatory sandboxes and open development environments.

e) Trust.

i) Build trust through transparent dispute resolution, identity verification (e.g., BVN), and compliance enforcement.

ii) Ensure reliability and responsiveness in customer-facing systems.

f) Collaboration.

i) Engage stakeholders across governments, financial institutions, Fintechs, and infrastructure providers.

ii) Promote shared investment, collective pricing, and coordinated implementation Wroadmaps.

Appendix II illustrates the linkages between the expected outcomes and national impact targets in relation to the guiding principles.

Part 2: Defining PSV 2028.

3. Thematic Area 1: Infrastructure and Interoperability.

3.1. Background and Objective.

The infrastructure and interoperability thematic area focuses on driving initiatives and industry reforms aimed at developing and modernizing Nigeria's National payment infrastructure to support secure, interoperable and seamless digital payments. The theme addresses the foundational "plumbing" that makes Nigeria's payment ecosystem work: what citizens see (payment instruments) and what they do not see (the rails and systems underneath). It covers a broad range of components, including cards, wallets, and electronic transfers, as well as core payment infrastructures such as RTGS for high-value transactions, ACH for bulk low-value payments, real-time retail systems, and card/payment gateway networks that power ATMs, PoS, kiosks, mobile apps, and e-commerce.

The thematic area also encompasses the information and communications technology (ICT) backbone that supports payment operations, including servers, networks, switches, storage, and cloud-based environments, as well as emerging Artificial Intelligence systems such as chatbots, self-service tools, RPA and gamified interfaces that increasingly shape user experience.

These infrastructures are operated by wide range of financial and non-financial institutions (banks, PSBs, MMOs, MFBs, PMBs, DFIs, Fintechs, processors and other PSPs), anchored on robust identity systemsand securities-settlement platforms that provide trust, authentication, and safe asset settlement.

Interoperability is the glue that binds this complex ecosystem into a coherent, efficient whole. It is enabled by clear market arrangements (rules, regulations, and conventions), shared technical and operational standards (e.g. messaging, security, data formats), and strong regulatory oversight by the Central Bank of Nigeria, working alongside the Securities and Exchange Commission for securities settlement. By ensuring that instruments, infrastructures, identity systems, and participants can interact seamlessly and securely.

Theme 1 underpins financial stability, reduces transaction costs, enhances user trust, and creates the conditions for inclusive innovation and scale across all other themes of PSV 2028.

The systems and entities enumerated above work together to enable financial and related transactions varying from retail low-value payments and wholesale large-value interbank transfers among different economic agents; individuals, organizations, and government agencies. They facilitate domestic and cross-border payments and fund transfer transactions with underlying business dealings in most instances.

3.2. Overview: Past, Current, and Future-Looking

Nigeria's payment ecosystem has expanded rapidly, driven by innovation in instant payments, Fintech solutions, and digital banking. However, critical weaknesses in infrastructure and interoperability persist, threatening system resilience, efficiency, customer experience, and inclusion.

There is a deep and fast-growing digital payments ecosystem such as instant payments, card rails, QR codes; but there are bottlenecks across messaging standards, switching/clearing, agent/merchant infrastructure, connectivity and power, fragmentation of platforms, liquidity/settlement, and cyber/operational resilience.

Recent developments such as ISO 20022 migration, geo-location and geo-fencing of POS terminals and other acquiring devices, and National Payment Stack demonstrate how regulators and infrastructure providers are addressing many of the highlighted challenges.

3.2.1. Current State of Payments Infrastructure and Interoperability.

3.2.1.1. Key Statistics and Trends.

a) Overall Growth in E-Payments: Nigeria's e-payments ecosystem continues to scale rapidly, supported by active card schemes, as well as strong account-to-account rails. Total electronic payment value rose from ₦395.38 trillion in 2022 to ₦611.06 trillion in 2023[12] , and further to ₦1.07 quadrillion in 2024 while growth remained strong, with transaction value reaching ₦1.2 quadrillion in 2025[13].

b) Volume of Transactions: E-payment volumes more than doubled within one year, rising from 6.28 billion in 2022 to 11.05 billion in 2023, and reaching 2.21 billion transactions in Q1 20253. This continued growth highlights user confidence and the increasing relevance of interoperable digital channels.

c) Channels of Payment and Modes: As of mid-2024, retail non-cash payments were dominated by web and internet transfers (51.9%), followed by POS (28.5%), mobile (15.6 percent), and ATM (2.2%), with web and internet also accounting for 52.95% of value.

By Q1 2025, POS transaction value surged to ₦10.45 trillion, a 209% year-on-year increase3, supported by 26.54 million registered POS terminals as of October 2024 (up from 21.65 million in July 2023) and 5.90 million active POS terminals as of March 2025 (up from 2.6 million in March 2024). Nigeria also recorded over 2 million financial access points and agents nationwide[14].

d) Digital Identity: Digital identity is scalingalongside payments, with BVN enrolment increasing from 63.47 million by the end of 2024 to 66.23 million by July 2025, and NIN enrolment reaching about 123.9 million as at October 2025, according to NIMC[15] . This growing identity backbone is critical for secure KYC, fraud mitigation and seamless interoperability across rails.

e) National Payment System and Infrastructure Projects: The Central Bank of Nigeria and NIBSS are advancing the National Payment Switch and National Payment Stack to enable real-time digital payments, smoother interoperability, more efficient direct debits and stronger dispute management among payment actors[16] .

These projects are central to this thematic area's vision of a unified, fast and resilient national payments infrastructure that can support inclusive growth.

f) Financial Inclusion: Headline financial inclusion has improved, with 74% of Nigerian adults financially included in 2023 and formal inclusion at 64%, up from 54% in 2020, according to EFInA's A2F 2023 survey[17].

However, persistent gaps in power, internet connectivity, POS terminal deployment and financial literacy still constrain usage in rural and remote communities, making infrastructure and interoperability reforms essential to reach the remaining excluded 26%.

g) Digital Assets: Nigeria has emerged as a global leader in digital asset adoption, ranking 6th in the Chainalysis Global Crypto Adoption Index, with recent analyses estimating tens of millions of users and large cross-border inflows in the tens of billions of US dollars between July 2024 and June 2025[18].

This rapid uptake of crypto and other digital assets highlights both the innovation potential of Nigerian users and the need for interoperable, risk aware regulatory and payment system responses within PSV 2028.

12. NIBSS epayment Data 2022-2023
13. NIBSS epayment Data 2024-2025
14. NIBSS: POS transactions grew by 40%
15. NIN Enrolment Report
16. How NIBSS Innovation Drives Services in GDP Expansion
17. EFInA: A2F 2023 Survey Highlights
18. 2024 Global Crypto Adoption Index To build a secure, inclusive, innovative, and globally competitive payment ecosystem that empowers Nigeria's digital economy and enhances financial resilience.

3.2.1.2. Interoperability and Systems Strengths

The "instant payments" channels (including NIBSS Instant Payments, etc.) allow quick transfers across deposit money banks, mobile money operators, payment service banks, microfinance banks and licensed PSPs in seconds, enabling high frequency usage. Multiple channels (Web, USSD, mobile apps, POS, etc.) create choice, which helps users in different settings.

BVN (Bank Verification Number) facilitates digital identity authentication and verification. It also assists interoperability in identity / KYC across banks and payment service providers, greatly enhancing self-onboarding and self-service solutions with a myriad of Fintech offerings.

The adoption of Electronic Bill payments and collections solutions are growing rapidly and have become the de facto revenue collection platforms for corporate and government agencies at all levels. These leverage the cards rail and instant bank transfers with virtual bank account numbers.

3.2.2. Challenges and Gaps

a) The NIBSS Instant Payment (NIP) dominates domestic bank and wallet transfers, but the rapid growth of transactions year-on-year continues to threaten the resilience of the systems of some parties involved in the processing of transactions especially at peak periods.

b) Card schemes, mobile money operators/ Fintech wallets continue to grow but remain fragmented.

c) Regulatory frameworks are evolving (e.g., open banking, ISO 20022 adoption, geo-fencing/location/tagging, etc.).

d) Transaction growth is outpacing infrastructure investment in reliability, security, and scale.

e) There is a dearth of vital infrastructure and interoperability data to facilitate deep analytics.

f) Lack of functional Micropayment infrastructure.

g) High infrastructure costs given the high import content.

h) Inadequate monitoring and enforcement of payment guidelines/regulations.

3.3. Targets, KPIs, and Metrics.

The following key performance indicators are pursued under the infrastructure and interoperability thematic area.

a) 100% ISO 20022 migration by 2026.

b) 100% interoperability across licensed PSPs.

c) 99.999% system uptime (availability and reliability).

d) 95% Success rate (transactions processed successfully e.g. approved, insufficient funds, incorrect pin, etc.).

e) <= 30 second response time to financial messages from customer channels (TAT).

f) <= 10 second response time to financial messages from switch to issuer (TAT).

g) <= 1% chargeback-to-volume ratio for issuers and acquirers.

h) Continuous year-on-year improvement in service satisfaction level as measured by surveys carried out among licensed operators to assess collaboration effectiveness.

i) Continuous year-on-year improvement in customer satisfaction level as measured by surveys carried out among last-mile digital payments customers in the mold of CBN's.

Household Expectations Survey Report (CBN, August 2025), to assess general user experience and dispute resolution effectiveness.

j) Continuous year-on-year improvements in industry-wide CISA Cyber Performance Goals (CPGs) metrics (Identify, Protect, Detect, Respond, Recover)

k) The basic CIA triad (Confidentiality, Integrity, Availability) – to be determined quantitatively through available data and qualitatively through surveys.

3.4. Priority Initiatives.

a) Infrastructure Modernization for Reliability, Resilience, Scalability and overall Consumer Experience Enhancement.

i. Establish a mechanism for tracking ecosystem resilience, targeting: 99.999% uptime, 95% success rate, 85% approval rate, 30 second maximum response time for customers, 10 seconds maximum response time for switches to issuer, <= 1% chargeback-to-volume ratio for issuers and acquirers.

ii. Develop industry transactions and performance data (volume, value, on-us, off-us, disputes, TPS, latency, etc.) management system to facilitate reliable industry analytics for planning and research purposes, and compliance monitoring.

iii. Develop 24/7 (RTGS) Settlement Systems and modernize the financial market infrastructure including the Automated Clearing House.

iv. Develop annual/biennial PSPs satisfaction survey and Last-mile customer survey, with a focus on year-on-year improvement.

v. Encourage and entrench post-paid billing.

vi. Develop Dedicated National Payment Communication Channels e.g. MVNO strictly for the financial services industry.

b) Growing Inclusion.

i. Implement regular financial literacy & awareness programs covering basic banking habits, Complaints Handling and Redress, etc.

ii. Deployindustrymicropaymentsolution(s) e.g. free FT services up to a transaction value threshold.iii. Introduce offline-capable payment solutions (e.g., Bluetooth/NFC offline wallets) with proper risk assessment and adequate risk mitigation based on the ecosystem's past experience.

c) Cost and Efficiency: Pursue collective industry pricing with vendors based on assured FX-denominated costs.

d) Cybersecurity & Fraud Management.

i. Institute industry-wide CISA cyber performance tracking.

ii. Establish an Industry Security Operations Center (SOC) with a functional national. fraud and risk intelligence sharing platform.

e) Standards & Compliance for effective interoperability.

i. Localize the implementation of the ISO 20022 Standards for System-wide Compatibility and effective interoperability with a clear certification roadmap.

ii. Implementation of Open APIs.

iii. Review existing QR regulatory framework.

iv. Establish regulation monitoring and enforcement mechanisms to enhance compliance towards enhancing overall industry efficiency and customer experience e.g. monthly returns by licensed operators, mystery shopping, etc.

f) Cross-Border & Regional Payments

i. Enable functional cross-border payments leveraging the cards and account-to-account rails.

ii. Encourage Fintech-led cross-border wallets with regulated forex liquidity frameworks.

iii. Build infrastructure that enables the CBN to have observer nodes into blockchain infrastructures that operate approved stable coins.

3.5. Implementation Roadmap.

This implementation roadmap for Thematic Area 1 of the PSV 2028 will unfold in three progressive stages that move the ecosystem from foundational setup to full-scale interoperability and operational maturity. The roadmap is a coordinated action plan, focusing on five mutually reinforcing initiatives (and corresponding key actions) designed to achieve resilience in Nigeria's digital payments infrastructure and full scale interoperability.

PHASE 1: 0–12 MONTHS (FOUNDATION, DESIGN, AND EARLY PILOTS)

a) Establish foundational monitoring, data and resilience systems: Design industry uptime metrics targeting 99.999 percent availability, define data-governance models, launch MVP of industry data platform, initiate 24/7 RTGS architecture planning, and begin PSFM rule reviews.

b) Begin national customer-experience and inclusion programs: Develop PSP satisfaction survey protocol, execute baseline national survey, design financial literacy programs, and launch industry micropayment strategy.

c) Launch foundational interoperability and standards alignment: Define ISO 20022 localization roadmap; publish Open API profiles; commence QR regulatory review; design interoperability compliance monitoring mechanism.

d) Strengthen cybersecurity and fraud-management foundations: Adopt baseline CISA cyber performance measures; define SOC scope, architecture and resourcing; and initiate intelligence-sharing model.

e) Drive vendor cost efficiency and operational readiness: Conduct stakeholder consultations for FX-linked vendor pricing framework and agree post-paid billing model with operators; initiate feasibility studies for dedicated payment communication channels.

PHASE 2: 12–24 MONTHS (BUILD, INTEGRATE, AND EXPAND PRODUCTION SYSTEMS)

a) Operationalize ecosystem-wide uptime, tracking and analytics: Pilot ecosystem monitoring with selected operators, go-live with production data platform including latency and disputes, implement initial 24/7 RTGS build, and deploy revised rules for RTGS, ACH and EFT.

b) Scale customer experience, inclusion and micropayment offerings: Launch national literacy campaigns, roll out early micropayment pilots (free FT thresholds), execute first annual PSP survey and publish insights.

c) Implement key interoperability standards and certifications: Provide ISO 20022 certification support, enable developer testing for Open APIs, begin implementation of revised QR framework, and apply monitoring mechanisms across regulated entities.

d) Launch SOC initial operations and sector-wide cyber tracking: Begin SOC onboarding for PSPs, activate initial intelligence-sharing, and enforce CISA performance tracking across institutions.

e) Deploy efficiency and communication infrastructure: Execute FX-linked vendor pricing framework, expand post-paid billing across operators, and begin initial rollout of dedicated national payment communication channels (VMNO model).

PHASE 3: 24–36 MONTHS (OPTIMIZATION, INSTITUTIONALIZATION, AND FULL-SCALE INTEROPERABILITY)

a) Achieve full ecosystem resilience and real-time processing maturity: Roll out 99.999 percent uptime tracking industry-wide; stabilize 24/7 RTGS and optimize throughput; oper ationalize analytics for planning; maintain continuous review of FMI rules.

b) Institutionalize national survey systems, literacy, and micropayments: Scale literacy to underserved regions, maintain annual PSP surveys with YoY tracking, and optimize micro payment controls and nationwide usage.

c) Consolidate interoperability frameworks and regulatory harmonization: Achieve 100 percent ISO 20022 migration, broaden Open API implementations across PSPs, fully implement revised QR regulations, and maintain sector-wide compliance oversight.

d) Mature cybersecurity infrastructure and intelligence operations: Upgrade SOC to 24/7 mature operations, broaden fraud-intelligence network participation, and continuously refine tools and cyber processes.

e) Sustain operational efficiency and communications infrastructure: Continue application of FX vendor frameworks, optimize post-paid billing performance, and operate dedicated national communication channels to enhance payment reliability.

3.6. Responsibility Owners.

Priority Initiatives (PI)	Responsible (R)	Accountable (A)	Consulted (C)	Informed (I)
Infrastructure modernization for reliability, resilience, scalability and overall consumer experience enhancement.	CBN, Switches	CBN	Switches, OFIs, Payment Gateways, Card Schemes, e-Commerce Operators	Switches, Industry Associations, Consumer Groups
Grow Inclusion	CBN, FIs, PSPs	CBN	e-Commerce Operators, Payment Gateways, OFIs	**Switches**
Cost and Efficiency	DMBs, PSPs, OFIs, Payment Gateways, NIBSS, Switches	CBN	Super Agents, NCC, MNOs, FCCPC, Banks, Industry Working Groups	Merchants, Agents, Consumers, Civil Society Groups, SMEs, Development Partners
Cybersecurity and Fraud Management	CBN (BSD, PaSSD, OFISD) NIBSS (Fraud Monitoring & Analytics), PSPs, Banks, MMOs	**CBN**	EFCC (Cybercrime Unit), ONSA, NDPC, NFIU, NCC, NITDA, Fintech and Banks Groups	Consumers, Merchants, Agents, Media, Civil Society, Development Partners
Standards and Compliance for Effective Interoperability	CBN, NIBSS	CBN	NCC, NDPC, NITDA, Banks, MMOs, PSSPs, PTSPs, Card Schemes, Int'l Standards Bodies, e-Commerce Operators	e-Commerce Operators, Merchants, Agents, Consumers, Industry Associations, switches, Processors, POS terminal service Providers

3.7. Critical Success Factors

a) Stakeholders' buy-in: Broad stakeholder buy-in is essential because effective interoperability requires aligned commitments from regulators, operators, service providers and industry groups to ensure seamless adoption, coordinated implementation and sustained ecosystem cooperation.

3.8. Conclusion

Nigeria's payment ecosystem has expanded rapidly in recent years, driven by its fast-growing digital payments ecosystem, such as instant payments, card rails, QR codes, and agent banking. However, there are bottlenecks across messaging standards, switching/clearing, agent/merchant infrastructure, connectivity and power, platform fragmentation, liquidity/ settlement, and cyber/operational resilience.

These challenges must be addressed with bold, collaborative, and forward-looking reforms.

By investing in shared infrastructure, enforcing technical standards, and driving down costs, Nigeria can achieve a payment system that is Inclusive (reaching underserved populations), interoperable (seamless across platforms and borders), and Resilient (able to support innovation and future growth).

4. Thematic Area 2: Digital Financial Inclusion, Consumer Protection, and Financial Literacy.

4.1. Background and Objective

The PSV 2028 articulates the role Nigeria's payment ecosystem is expected to play in enabling inclusive growth and enhancing public trust in the digital economy. The goal of Pillar 2 – Digital Financial Inclusion, Consumer Protection, and Financial Literacy under the PSV 2028 is to deliver a system where every Nigerian adult can access and confidently use affordable digital payment services within a secure and transparent environment. This pillar consolidates progress achieved under PSV 2025 and re-anchors the national inclusion agenda around three interlinked objectives:

a) Expand Access and Usage by extending reliable, affordable digital financial services to underserved populations through interoperable infrastructure, agent networks, and inclusive KYC.

b) Build Trust and Confidence by strengthening consumer protection, data privacy enforcement, and redress mechanisms to ensure fairness and predictability in financial transactions.

c) Deepen Financial and Digital Literacy by equipping citizens with knowledge, skills, and confidence to use digital finance safely and productively.

Collectively, these measures will drive 95% financial inclusion by 2028, ensure that at least 60% of MSMEs transact digitally, achieve gender parity in access, achieve a good CSAT score (70% to 85% customer satisfaction rate), and all consumer complaints resolved within agreed SLA.

This strategic approach emphasizes interoperability, affordability, and accountability, embedding unified redress rails, transparent fee disclosures, and nationwide financial literacy campaigns delivered in local languages through schools, agents, and other media rollout of dedicated national payment communication channels (VMNO model).

4.2. Context and Rationale

Expanding access to affordable digital payments while reinforcing consumer confidence and safeguarding data remains central to Nigeria's journey toward broad based digital financial inclusion. Although PSV 2025 enabled significant growth in electronic payments and accelerated digital adoption across citizens, businesses, and government entities, several structural and operational gaps persisted. These include inconsistent service reliability, uneven quality of agent and merchant infrastructure, fragmented platform interoperability, insufficient rural access points, data privacy concerns, and pockets of low consumer trust in digital channels.

Against this backdrop, PSV 2028 represents a shift from expansion to system strengthening, focusing on addressing the critical gaps that limited the full realization of PSV 2025.
The renewed strategy emphasizes improved systemic reliability and innovative transaction channels, a more integrated and interoperable ecosystem, enhanced data privacy and cybersecurity, targeted last mile inclusion, enhanced consumer confidence, and stronger systemic trust anchored on improved regulatory oversight, clearer performance benchmarks, strengthened industry governance, and market enabling frameworks that support secure, resilient, and accessible digital payments nationwide.

This thematic area recognizes that financial inclusion is not merely about access to accounts, but about sustained and confident usage of safe, affordable, and reliable payment systems, as well as the ability of individuals to build resilience because of their use of available financial services. It aligns directly with Nigeria's aspiration to achieve a 95% financial inclusion rate by 2028, and the broader national digital economy blueprint.

The strategic imperatives for this pillar are defined by three realities:

a) Expanding Access, Unequal Reach: Formal financial inclusion has risen to 64% (EFInA A2F 2023)[19], yet the benefits remain unevenly distributed. Women, youth, rural residents, and informal-sector workers continue to face challenges due to barriers of cost, literacy, trust, and inadequate infrastructure. While mobile penetration exceeds 90%, the usability and reliability of digital financial services vary widely by geography and income level.

(b) Erosion of Consumer Confidence: Nigeria's electronic transaction continue to surge with significant growth recorded between 2024 and 2025. Total electronic payments processed reached ₦1.07 quadrillion in 2024, and with Q1 2025 reaching ₦10.45 trillion from the ₦3.62 trillion recorded in Q1 2024[20] .

Notwithstanding, cases of fraud, service failure, and poor redress remain rampant, with incidence of cyber fraud, phishing, and delayed refunds negatively impacting user trust.

An unresolved debit transaction can represent a month's earning for many low-income consumers and deter future digital engagement.

c) Low Financial and Digital Literacy: Less than one-third of Nigerian adults demonstrate sufficient understanding of financial concepts such as interest, risk, or inflation (EFInA 2023). Digital competence (knowing how to use mobile apps, USSD codes, or recognize online scams) remains low among rural users, older adults, and women.

These challenges illustrate that access without trust is fragile, and usage without literacy is unsustainable. PSV 2028, therefore, prioritizes not only expanding access points but also rebuilding trust in the financial system through enforceable consumer protection and nationwide financial education.

The rationale for this integrated approach is clear: sustainable inclusion must rest on three mutually reinforcing pillars; access, trust, and capability. Expanding digital access points (agents, wallets, USSD) will increase participation; enforcing transparent, efficient redress mechanisms will enhance trust; and integrating literacy programs into schools and communities will foster long-term financial capability.

19. *Access to Financial Services in Nigeria (A2F): 2023 Survey Report*
20. *How NIBSS Innovation Drives Service in GDP Expansion*

This thematic area, thus represents the human face of PSV 2028, translating digital infrastructure into economic empowerment, protection, and confidence for citizens and businesses alike. It operationalizes Nigeria's transition from an expanding but fragmented payments landscape to one that is inclusive by design, trusted by experience, and governed by accountability

4.3. Overview: Past, Current, and Future-Looking

The state of digital financial inclusion, consumer protection and financial literacy is highlighted below:

4.3.1. Financial Inclusion Trends (2008–2023)

Nigeria has made steady, though uneven, progress towards inclusion. As of 2023, 74% of adults were financially included. Formal financial inclusion grew from 21% in 2008 to 64% in 2023, while exclusion declined from 53% to 26%[21].

This improvement was driven by the expansion of agent banking networks, Fintech innovation, and the proliferation of mobile wallets. However, growth remains concentrated in urban centers and southern states. In the North-East and North-West, exclusion rates remain above 40%, with rural communities facing limited agent presence, poor connectivity, and security challenges.

Gender disparities persist. In addition to infrastructure, income volatility and inequalities have become the leading obstacles[22].

As of 2023, over 21 million women (about 20% of theadult population) remain excluded, reflecting constraints in phone ownership, literacy, and cultural norms[23] . While mobile money and payment service providers have driven adoption, the journey from access to sustained usage remains incomplete. Intermittent connectivity, limited product diversity, and cost barriers often promptusers to revert to cash.

21. *Access to Financial Services in Nigeria (A2F): 2023 Survey Report*
22. *Access to Financial Services in Nigeria (A2F): 2023 Survey Report*
23. *Cowrywise: A Large Number of Women are Excluded from Financial Services*

4.3.2. Barriers to Access and Usage

Four systemic barriers continue to limit inclusive growth and must be addressed through a coordinated strategy that links infrastructure upgrades with user education and enforcement of consumer rights.

a) Cost and Affordability: Hidden charges, high data costs, and repeated deductions for failed transactions discourage low-income users. EFInA's price sensitivity analysis shows that one-third of formal users have encountered unexpected fees, while the poorest quintile cites cost as the main deterrent to account ownership.

b) Agent Reach and Liquidity: Though the number of agents has grown beyond two million (SANEF, 2025)[24], liquidity gaps and unreliable cash-in/out services in rural areas undermine trust. Agents often lack capital buffers, operate in isolation, and face inconsistent settlement timelines, making cash conversion unpredictable.

c) Infrastructure and Reliability: Broadband penetration remains below 50%, and electricity outages disrupt PoS terminals and USSD sessions. Duplicated debits, failed transfers, and session drops are not merely technical failures; they translate into loss of confidence. A system that is unreliable at the point of need drives users back to cash.

d) Low Financial and Digital Literacy: Without accessible education, users are unable to navigate digital interfaces, detect scams, or pursue redress. Fraudsters exploit these gaps through phishing, smishing, and fake agent schemes. The result is reduced adoption and shorter product lifecycles.

4.3.3. Consumer Protection and Trust Deficits

The growth of digital payments has exposed weaknesses in Nigeria's consumer protection architecture. The Innovations for Poverty Action (IPA) 2024 survey[25] found that 84% of consumers experienced at least one challenge using digital financial services, ranging from poor network quality (44%) to unexpected charges (23%) and fraud (23%).

Even where resolution occurred, it was inconsistent or poorly communicated, often accompanied by delays. In rural communities, consumers typically rely on family or agents for help rather than official support lines.

4.3.4. Growing Fraud Incidents

Fraud losses reached N52.3 billion in 2024 (NIBSS)[26], with web and mobile channels accounting for most incidents. Card and identity fraud, especially through social engineering, and agent-related fraud such as fake agent locations, cloned POS terminals, and manipulation of USSD transactions, remain a threat. Industry collaboration on combatting fraud continues to yield positive results with a reported 51% decline in digital payment fraud, resulting in N25.85 billion fraud losses in 2025 when compared to N52.26 billion recorded in 2024[27]. The lack of a unified dispute portal, inconsistent SLAs, and opaque refund processes continue to erode trust. For many first-time users, one negative experience is enough to trigger permanent disengagement from digital channels. Global best practices

24. Tech Africa: Nigeria's E-Payment Transactions Hit $256 Billion, Marking a Cashless Economy Milestone
25. IPA: Consumer Protection in Digital Financial Services
26. Nigeria's Banking Fraud Hits N52bn in 4yrs – NIBSS
27. Digital Payment Fraud Drops 51% to N25.85 billion in 2024 - NIBSS

emphasize the importance of centralized, binding, and time-bound redress mechanisms. Nigeria's existing CBN Consumer Protection Regulations issued in 2019 provide a solid foundation but require modernization to meet the scale and complexity of today's digital ecosystem.

4.3.5. Financial Literacy Landscape

Despite rising connectivity, Nigeria's financial literacy remains among the lowest in Sub-Saharan Africa. EFInA (2023) reports that 33% of adults could answer three out of four financial knowledge questions correctly. Rural women, youth, and low-income adults are the least equipped to manage digital money, understand credit terms, or identify fraudulent messages. Most literacy programs are urban-based, fragmented, and donor-driven, lacking institutional sustainability.

Educational curricula have overlooked modern digital finance, and community awareness programs have reached only a small fraction of citizens. The gap between product complexity and user understanding has widened with the explosion of mobile apps, nano-credit, and embedded finance. Embedding financial literacy into school curricula, youth programs, and community structures; reinforced by digital nudges in USSD, mobile, and wallet applications is essential for sustaining long-term inclusion.

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4.3.6. Summary of Key Insights

The PSV progress review reveals that while Nigeria's digital payments ecosystem has expanded access and infrastructure, persistent gaps in trust, consumer protection, literacy, and gender inclusion continue to limit the depth, equity, and sustainability of financial inclusion (see Table 4.1).

Table 4.1: Dimensions, Current State vs, Required Shift

Dimension	Current State (2021–2025)	Required Shift under PSV2028
Access	64% inclusion; uneven rural reach	Expand affordable agent coverage and interoperability
Trust	Weak redress; N52bn annual fraud losses	Unified redress, binding SLAs, fraud refunds
Literacy	33% of adults are financially literate	Integrate curricula and nationwide campaigns
Gender Gap	21m women excluded	Women-centered design and agent networks
Infrastructure	Less than 50% broadband penetration; unreliable USSD	Resilient connectivity and QoS enforcement

Global benchmarks (see Table 4.2) highlight that clarity, enforceability, and independence remain the hallmarks of effective consumer protection.

Table 4.2: Global Benchmarks

Country	Key Reform	Required Shift under PSV2028
India (UPI/RBI ODR)	Unified Dispute Resolution portal with T+1 refunds	Centralized complaint hub, transparent SLAs
UK (Financial Ombudsman	Independent, binding dispute-resolution decisions	Unified redress, binding SLAs, fraud refunds
EU (PSD2/ GDPR)	Liability cap € 50 and 72-hour breach notification	Quantitative refund rules and privacy enforcement
Kenya (CBK)	Aggressive enforcement and fines for non-compliance	Deterrent-based supervision model

In all, Nigeria's PSV 2025 expanded digital access but exposed weaknesses in redress, literacy, and high fraud losses, showing that inclusion without trust is fragile. Global leaders, such as India, the UK, and Kenya, demonstrate that binding redress mechanisms, quantitative refund rules, and deterrent enforcement are the backbone of sustained consumer confidence and inclusive growth. For PSV 2028, Nigeria must transition from a principle-based to a rules-based and outcome-driven framework that prioritizes redress timelines, with clearly defined consumer liability limits, and while institutionalizing an independent ombudsman mechanism.

In summary, the situational analysis reveals that Nigeria's inclusion challenge is no longer about opening accounts but building systems that people trust enough to use. PSV 2028 must therefore move from expansion to deepening; ensuring that digital financial services are accessible, affordable, reliable, and understandable to every citizen.

4.4. Targets, KPIs & Metrics

a) ≥ 95% Universal access via agents and wallets.

b) ≥ 80% of MSMEs use digital payments by 2028.

c) Gender parity in access to finance by 2028.

d) 95% national service uptime in agent reliability.

e) 95% of complaints resolved within defined SLAs.

f) 99% of FSPs' compliance with SLA targets.

g) 99.9% auto-reversal deployment

h) 95.5% customer satisfaction rate by 2028.

i) ≥ 80 High Trust Index score leading to repeat usage.

j) ≥ 80% nationwide financial literacy by 2028.

4.5. Priority Initiatives

The following priority initiatives will drive the achievement of the KPIs under this pillar.

a) Implement the 95% Formal Financial Inclusion Roadmap (2028) to extend affordable and reliable digital financial access to all adult Nigerians, achieving near-universal inclusion with balanced gender and geographic reach.

Key Actions

i) Strengthen the BVN as the default functional identity in Nigeria's digital payments industry, while operators continue to take advantage of other biometric-based identity systems to further improve the authentication such as National Identity Number (NIN), International Passport, National Driver License, and Voters Registration.

ii) Facilitate the coordinated expansion of agents across all super-agent structures and other relevant initiatives.

iii) Support the development and sustainability of women agents as a critical driver to closing women's exclusion gap.

iv) Enforce transparent fee-disclosure mandates across all provider categories.

b) Strengthen Agent Banking Networks and Mobile Wallet Interoperability to improve last-mile service reliability, agent liquidity, and seamless user experience across channels with 100% LGA agent coverage, and consistent transaction reliability nationwide.

Key Actions

i) Develop and launch a National Agent Quality Framework that defines liquidity and uptime SLAs, coverage mapping, and agent-training standards, including principal-sponsored certification of Agents in alignment with the new exclusivity clause of the 2025 Guidelines for the Operations of Agent Banking in Nigeria[28].

ii) Establish shared cash-management corridors and small working-capital lines for rural agents.

iii) Standardize network structure, pricing, and service delivery.

iv) Monitor quality through mystery shopping and enforcement.

28. CBN (2025). Guidelines for the Operations of Agent Banking in Nigeria

c) Launch of a National Financial Literacy and Consumer Awareness Program (aligned with Roadmap for 'Awareness Strategies for Safe Digital Payments') to build nationwide capability and trust through sustained financial and digital-literacy education with a 60 % national financial literacy rate by 2028; active safety awareness among youth, women, and MSMEs.

Key Actions

i) Implement multi-channel campaigns using radio, television, social media, WhatsApp, and in-app USSD nudges ("Never Share Your OTP"). Campaigns should also be in local languages for better understanding.

ii) Integrate financial education and literacy into the primary and secondary school curriculum up to the NYSC orientation service level in collaboration with critical stakeholders, including the National Orientation Agency (NOA), the Ministry of Education (MoE), and the Nigerian Educational Research and Development Council (NERDC), among other stakeholders.

iii) Deploy Village Square Roadshows, agent forums and community workshops in all senatorial zones using local languages and trusted community leaders.

iv) Institutionalize periodic fraud-awareness updates and community feedback dashboards.

v) Facilitate the development and launch of new products/enhancement of existing products to include consumer protection and anti-fraud measures, using on-channel images or videos to sensitize customers about financial security best practices in local languages.

d) Affordable and Accessible Digital Payment System that supports payment and acceptance, regardless of location, instrument or device, facilitated through interoperable payment systems.

Key Actions

i) Develop measures/initiatives that facilitate the expansion of QR/NQR merchant acceptance to 5 million outlets by 2028 through simplified onboarding, interoperability across banks and Fintechs, and incentives for SMEs.

ii) Enable offline-capable POS terminal and feature-phone fallback to sustain service continuity in areas with weak connectivity or power instability.

iii) Leverage ISO 20022 migration for real-time data analytics, fraud detection, and inclusive product design.

iv) Integrate financial health dashboards into mobile wallets and apps (such as spending summaries, savings goals, and financial wellbeing scores) to encourage responsible usage.

e) Establishment of a National Consumer Redress Portal and Ombudsman Framework to create a unified, transparent, and time-bound mechanism for complaint handling and restitution with 90% complaints resolved within SLA; transparent dispute statistics published quarterly; improved trust index to ≥ 80 by 2028.

Key Actions

i) Develop Unified Redress Portal integrating CBN, FCCPC, and industry complaint channels (API-linked).

ii) Set up a National Financial Ombudsman Service (NFOS), providing binding decisions and compensation powers.

iii) Where auto-reversals are not feasible, ensure that reversals are completed within the T+1 window, based on agreed-upon SLAs for failed transactions, and publish quarterly redress-performance scorecards.

iv) Introduce a consumer-liability cap (through fraud insurance) and a 72-hour refund rule aligned with EU PSD2 standards.

f) Enhance Transparency, Trust and Consumer Protection to make and trust performance visible and actionable, with an open data ecosystem established; performance benchmarked and publicly tracked.

Key Actions

i) Create a National Anti-Fraud Consortium (CBN-NIBSS-EFCC-Industry).

ii) Launch quarterly public scorecards and National Payments Trust Index that deepens public trust and confidence in the regulator and financial services providers.

Across all priorities, disability inclusion will be mainstreamed, as this is crucial for ensuring the full representation of people with disabilities in the design, delivery, and access to financial services. This includes:

a) Accessible Product Design: ensure that all digital platforms operate seamlessly with assistive technologies, including screen readers, voice prompts, and simplified interfaces.

b) Inclusive Agent Networks/Financial Service Delivery: Train agents and financial service providers to serve PWDs with dignity, respect, and professionalism, particularly in rural and underserved regions.

c) Policy Alignment: Ensure that all policies go beyond merely having a financial inclusion perspective and consistently reflect the principles of equity and accessibility.

Furthermore, emphasis should be placed on financial health. Initiatives that support financial well-being and resilience need to be strengthened.

4.6. Implementation Roadmap

This Implementation Roadmap translates the PSV 2028 Pillar 2 vision into a coordinated action plan, focusing on six mutually reinforcing initiatives (and corresponding key actions) designed to expand access, establish trust, and enhance financial literacy across Nigeria's digital payments ecosystem.

Phase 1: 0–12 Months (Foundation and System Set-Up)

a) Strengthen foundational identity, agent expansion and fee transparency, launch nationwide agent recruitment, deploy Women Agent 2.0 pilots, and issue fee-disclosure mandates.

b) Establish quality, liquidity and interoperability standards for last-mile access: Develop the National Agent Quality Framework, initiate shared cash-management corridor design, and begin alignment of wallet interoperability rules.

c) Launch national financial-literacy and fraud-awareness campaigns: Roll out multi-channel campaigns (radio, USSD, TV, social media), initiate curriculum-integration planning, deploy initial community roadshows and build prototype fraud-awareness dashboards.

d) Begin expansion of interoperable, low-cost payment acceptance: Set merchant QR/NQR onboarding targets, start offline-POS and feature-phone fallback development, and strengthen ISO 20022 migration readiness.

e) Establish core consumer-protection infrastructure: Develop the Unified Redress Portal prototype, draft NFOS framework, begin enforcing T+1 reversals, and prepare National Anti-Fraud Consortium criteria and Trust Index methodology.

Phase 2: 12–24 Months (Scale-Up and System Integration)

a) Expand agent coverage, strengthen identity usage and deepen women-focused inclusion: Scale agent footprint across all LGAs, operationalize BVN–NIN data usage, and extend Women Agent 2.0 to additional states.

c) Scale literacy, community education and product-embedded protection: Roll out school–NYSC financial-literacy curriculum, expand Village Square Roadshows nationwide, deploy fraud-awareness dashboards, and enforce anti-fraud UX enhancements across digital products.

d) Scale interoperable merchant acceptance and data-driven payments: Expand QR/NQR adoption toward mid-target (2–3 million merchants), deploy offline-payment capability in low-connectivity LGAs, and complete ISO 20022 migration for major PSPs.

e) Activate national redress mechanisms and transparency systems: Launch Unified Redress Portal, operationalize NFOS with binding decisions, publish quarterly T+1 compliance scorecards, launch National Payments Trust Index and activate National Anti-Fraud Consortium operations.

Phase 3: 24–36 Months – Consolidation, Optimization and Institutionalization

a) Achieve universal, inclusive financial access and fully integrated identity: Reach ≥95 percent financial inclusion, achieve gender-balanced access, and institutionalize BVN–NIN as the unified digital identity standard for PSPs.

b) Institutionalize a certified, fully interoperable national agent and wallet ecosystem: Achieve 100 percent LGA agent coverage, maintain liquidity and uptime SLAs, and publish annual Agent Quality and Reliability Reports.

c) Sustain national financial-literacy systems and community trust platforms: Achieve ≥60 percent literacy, institutionalize school and NYSC curricula, and maintain real-time fraud-awareness and community-feedback dashboards.

d) Complete nationwide merchant acceptance and universal offline-payment capability: Reach 5 million active QR/NQR merchants, fully institutionalize offline-POS terminal and feature-phone fallback, and embed ISO 20022 analytics into fraud and product-design operations.

e) Consolidate national consumer-protection and transparency frameworks: Maintain ≥90 percent complaints resolved within SLA, institutionalize NFOS operations, sustain quarterly public scorecards and Trust Index, and embed open-data transparency in regulatory operations.

4.7. Responsibility Owners

The implementation of this roadmap is contingent on a strong collaboration among diverse stakeholders, as shown in Table 4.5.

Table 4.5:

Priority Initiative	Responsible (R)	Accountable (A)	Consulted (C)	Informed (I)
Implement the 95% Formal Financial Inclusion Roadmap (2028)	Lead: CBN (CPFID, PaSSD). Support: MMOs, Super Agents, Principal FIs (2028)	CBN	NIMC, NCC, NDPC, State Govts, MoWSD, Banks, MMOs, Super Agents, EFInA	PSPs, Banks, Agents, Merchants, Consumers
Strengthen Agent Banking Networks and Mobile Wallet Interoperability	CBN (PaSSD, CPFID), NIBSS, MMOs, Super Agents, Principal FIs (2028) rural reach	CBN	NCC, FCCPC, Super Agents, MMOs, Banks, Telcos (ATLTON)	Agents, Merchants, PSPs, Consumers, CeBIH, CHBO Merchants, Consumers
National Financial Literacy and Consumer Awareness Program	NOA, CBN (CPD), NERDC, Ministry of Education	NOA, Permanent Secretary (MoE)	NCC, FCCPC, Super Agents, MMOs, Banks, Telcos (ATLTON)	Schools, Students, Teachers, Communities, Consumers Merchants, Consumers
Affordable & Accessible Digital Payment System (Interoperable, Low-Cost Acceptance)	CBN (PaSSD, FPRD), NIBSS, PSPs	CBN	Banks, Fintech, NCC, MMOs	Merchants, SMEs, Agents, Consumers
National Consumer Redress Portal and Ombudsman Framework	CBN (CPFID), FCCPC, NIBSS, Banks, PSPs	CBN	NDPC, NFIU, Banks, Fintechs, Insurers	Consumers, Media, PSPs, Civil Society
Enhance Transparency, Trust and Consumer Protection (Open Data and Scorecards)	CBN (CPFID, PaSSD), NIBSS	CBN	EFCC, NDPC, NFIU, FCCPC, EFInA	PSPs, Banks, Fintechs, Media, General Public

4.8. Why the Roadmap will Succeed

This roadmap will succeed because of the following:

1. It addresses real barriers of income irregularity, agent liquidity, trust, and dormant usage.

2. It leverages existing infrastructure: Builds on NIN/BVN, agent networks, and USSD rails rather than new systems.

3. It ensures transparency through public scorecards that empower citizens, regulators, and policymakers to enforce accountability.

4. It is contextually adapted with clearly defined strategies designed for Nigeria's nuances with respect to geographies, gender dynamics, and informal economy realities.

4.9. Conclusion

Nigeria's journey to 95% financial inclusion is bold but achievable. This roadmap combines vision with pragmatism: it is structured, resourced, and monitored as a delivery program. While the PSV2028 targets 2028, the proposed National Financial Inclusion Strategy (NFIS) 4.0 extends the horizon to 2030, providing a complementary framework for sustained progress. With disciplined execution, Nigeria can close its inclusion gaps and unlock broad-based financial resilience and growth.

5. Thematic Area 3: Innovation, Digital Assets, and Emerging Technologies

5.1. Background and Objective

This thematic area sets the vision for Nigeria's next wave of payments innovation, balancing speed and usability with security, privacy, and inclusion. The objective is to translate emerging technologies into practical, interoperable solutions that strengthen trust, expand access, and lower the cost of transacting for households, businesses, and government. This theme is considered in four parts (sub-themes) vis-vis:

a) Advancing Innovation and Next-Generation Technologies: Curate and pilot high-impact technologies (e.g., AI, RegTech/SupTech, tokenization) under clear governance, with evidence-based scale-up paths.

b) Enabling Seamless Biometric-Driven and Invisible Payments: Define safe, user-controlled experiences that reduce friction at point of use, prioritizing POS/agent reach, on-device biometrics, and strong consumer safeguards.

c) Diversifying Payment Rails in Nigeria: Harmonize standards and accelerate adoption of QR, tap-to-phone/contactless, offline/mesh, and programmable rails, with fair fee structures and cross-rail interoperability.

d) Digital ID for Payment Security: Improve data quality, and enable privacy-preserving, risk-based authentication and consent so identity works reliably across banks, Fintechs, wallets, and government services.

5.2. Sub-Theme: Advancing Innovation and Next-Generation Technologies

Harness emerging technologies such as the CBDC, blockchain, AI, RegTech, and digital identity systems to drive inclusive innovation, strengthen regulatory efficiency, and position Nigeria as a global standard-setter in digital finance by 2028. Nigeria's strategic imperative is to evolve from regulatory experimentation to systemwide integration.

5.2.1. Overview: Past, Current, and Future-Looking

Nigeria's PSV 2025 laid the groundwork for innovation by introducing early frameworks for Open Banking, the eNaira, and the Fintech Sandbox, but progress remained limited to pilots, with interoperability gaps and a stronger emphasis on compliance than market-wide innovation. Open Banking is gaining structure through operational guidelines, and the sandbox expanding to 30 companies while identity systems such as NIN surpass 100 million enrolments [29] but remain fragmented in authentication.

PSV 2028 will shift toward scale and integration of stablecoin frameworks and programmable CBDC features[30] , with plans to institutionalize RegTech and SupTech, expand CBDC adoption through G2P, merchants, and remittances, operationalize the National Open Banking Standards and Payment Stack, unify digital ID systems, and ultimately position Nigeria by 2030 to export its regulatory and interoperability frameworks as a global leader in inclusive digital finance.

29. National Identity Management Commission (NIMC) – NIN enrollment Statistics
30. Bank for International Settlements (BIS) – CBDC Programmability and Global Pilots

5.2.2. Priority Initiatives

a) Innovation Sandbox and PPP Cluster (NPIC) Acceleration Framework: Establish a National Payment Innovation Cluster (NPIC) under a PPP model for piloting AI, blockchain, and RegTech innovations, enabling rapid testing and scale-up.

b) Expansion of CBDC and Stablecoin Frameworks with Defined Use Cases: Revisit the existing CBDC implementation and framework to better meet the needs of operators and the market realities. On this basis, transition CBDC from pilot to core payment rail through defined use cases:

   i) Local use cases would include G2P payments, payroll, offline payments, and micro-enterprise enablement. Very importantly, the "programmable money" feature of digital currency could have additional features such as time-limits, purpose-specific usage, splitting payments, sub-wallets, etc. On a more institutional level, CBDC could improve the infrastructure for banks, settlement systems, tokenized financial assets (bonds, securities), making settlement faster and cheaper.

   ii) Drive non-local use case of CBDC for efficient cross-border transfers: reduce costs, speed up settlements and lower reliance on many intermediaries

c) Launch stablecoin regulatory framework with licensed issuers and daily proof-of-reserve attestations.

d) Mainstream interoperability between CBDC and regulated NGN-backed stablecoins.

e) Explore Blockchain applications beyond CBDC, such as tokenized trade, cross-border rails, and digital securities settlement, etc.

f) Open Banking and the API Economy Implementation

   i) Implement the National Open Banking Registry (NOBR) and standardized APIs that enable licensed financial institutions to share customer permissioned data in line with the Open Banking Framework

   ii) Strengthen data governance, consent management, and customer protection standards to build trust in data sharing arrangements

   iii) Enforce full ISO 20022 and Open Banking compliance by Q2 2026 with reciprocal data-sharing standards.

iv) Support the establishment of open-banking regulatory standards and appropriate industry-driven API governance arrangements for conformance testing. Lay the foundational structures under open banking that can progressively support wider data-sharing use cases such as insurance, pensions, credit, and investments, as the ecosystem evolves toward open finance• Establish secure, that enable licensed financial institutions to share customer permissioned data in line with the Open Banking Framework.

v) Promote interoperability among banks, payment service providers, and other regulated entities to improve service delivery and customer experience.

g) Establish a National RegTech and SupTech Lab for Automated Compliance.

i) Establish a permanent lab for automated compliance and real-time supervisory analytics.

ii) Enable 90% of institutions to deliver automated compliance feeds to CBN by 2028.

iii) Introduce continuous risk dashboards and AI anomaly detection.

h) Deploy AI-driven fraud monitoring and predictive analytics

i) Implement AI and ML tools for fraud detection, AML, and personalized customer experience.

ii) Build real-time credit scoring systems leveraging open banking data.

iii) Promote ethical AI adoption through NDPC-aligned governance guidelines.

5.2.3. Implementation Roadmap

a) Phase 1 (0–12 months)

i) Enforce ISO 20022 compliance[31] and establish national AML/fraud data taxonomy.

ii) Mandate Open Banking API standardization across all Tier-1 and Tier-2 banks

b) Phase 2 (12–24 months)

i) Operationalize RegTech & SupTech Lab for automated compliance reporting.

ii) Publish CBN Regulatory Rulebook 1.0 in machine-readable formats (JSON/XML)

c) Phase 3 (24–36 months)

i) Deploy AI-enabled supervisory dashboards with anomaly detection and incident management.

ii) Establish cross-border sandbox partnerships (ECOWAS+ Innovation Corridor in focus, but open to the world).

iii) Pilot programmable CBDC and NGN-backed stablecoin interoperability.

31. SWIFT ISO 20022 Standards – Payment Messaging Compliance

5.2.4. Targets, KPIs and Metrics

a) 100% of G2P payments processed via CBDC.

b) 100% financial service providers connected via Open Banking APIs.

c) 100% of regulated institutions using automated compliance tools.

d) 70% adoption of biometric-enabled payment authentication.

e) 100% real-time regulatory reporting achieved for critical data.

f) Qualitative (proposed).

g) Reduced time-to-approval for sandbox participants.

h) Cross-border sandbox collaboration open to Africa and global counterparties.

i) Increased financial inclusion among underbanked demographics.

5.2.5. Responsibility Owners

Priority Initiative (PI)	Responsible (R)	Accountable (A)	Consulted (C)	Informed (I)
Sandbox & PPP Cluster (NPIC) Acceleration Framework	Central Bank of Nigeria (CBN), FI Innovation Hubs, NIBSS	Central Bank of Nigeria (CBN	Organized Fintech Associations ALMPO, CeBIH	NIMC, NDPC, SEC, FIRS, NCC, NASENI
Expansion of CBDC and Stablecoin Frameworks with Defined Use Cases	Central Bank of Nigeria (CBN), Licensed FIs, Fintechs and Innovation Office, SECs	Central Bank of Nigeria (CBN)	NIBSS, NDPC, FIRS, NCC, NASENI, Organized Fintech Associations	SEC, NIMC, NDPC, SEC, FIRS, NCC, NASENI
Open Banking and the API Economy Implementation	Central Bank of Nigeria (CBN), NIBSS, CeBIH	Central Bank of Nigeria (CBN)	Organized Fintech Associations ALMPO, CeBIH, Bankers Committee	NIMC, NDPC, SEC, FIRS, NCC, NASENI
Deploy AI-driven fraud monitoring and predictive analytics	Central Bank of Nigeria (CBN), NIBSS, CeBIH	Central Bank of Nigeria (CBN)	Organized Fintech Associations ALMPO, CeBIH	NIMC, NDPC, SEC, FIRS, NCC, NASENI

5.3. Sub-Theme: Enabling Seamless Biometric-Driven and Invisible Payments

Biometric-driven payments are payment experiences where a person confirms a transaction using a unique trait such as a fingerprint, face, iris, or palm/vein pattern instead of (or in addition to) traditional methods like entering a PIN or one-time code. The aim is to make payments faster, simpler and more secure, while keeping individuals in control of consent, privacy and cost. There are two common ways biometric payments are implemented:

a) On-device verification (privacy-preserving) that allows biometric to be stored and checked on the phone, card, or wearable.

b) Server/terminal-side verification (central matching) that allows biometric (or a mathematical template of it) to be sent to a trusted system or checked at a device (e.g., an agent terminal). This model can work across many devices and locations, but it demands stronger privacy, security, and governance controls (clear consent, data minimization, secure storage, retention/deletion rules, and fast redress).

Biometric-driven payments can power a range of experiences:

a) Everyday taps on phones, cards, and wearables at transit gates and retail checkouts.

b) "Invisible" or background payments where a user has pre-approved a safe pattern (e.g., transit, subscriptions, utility bills) and still receives clear alerts and receipts.

c) Assisted transactions at agents, POS/micro-ATMs, and ATMs, where a biometric can replace or reinforce a PIN; especially helpful where literacy or card/PIN management is a barrier.

d) Government-to-Person (G2P) disbursements, fee payments and targeted subsidies, including offline options in low-connectivity areas.

Invisible payments allow an individual to travel, buy, or renew a service without stopping at a checkout or re-entering details, while still staying in control. The user sees what will be charged and can easily cancel or cap it. Benchmarks show this works best when identity checks are quick and private (e.g., on your phone or watch), receipts are instant, and recurring debits give advance notice and easy pause/cancel. Common types of Invisible Payments:

a) **Pre-authorized, recurring payments**: Subscriptions, billers, or lenders auto-charge on schedule after one consent/method on file (commonly referred to as paper mandate).

b) **Context-triggered (sensor/biometric/IoT):** Payment fires because a sensor or biometric confirms you and the event (e.g., leaving a store, fueling a car, geo-fencing). Examples include Amazon One palm-pay; "Just Walk Out" checkout-free stores; in-car fueling/parking with fingerprint.

c) **Account-based ticketing (ABT) / Transit tap-through:** You tap a card/phone/watch at gates; fare calculation & capping happen later in the back office, no top-ups or buying tickets. Examples include London Contactless PAYG with daily/weekly capping[32], Singapore Simply Go (contactless cards & wearables), Cowry (Touch & Pay) for Lagos BRT/Rail etc.

32. Transport for London (TfL) – Contactless PAYG Model

5.3.1. Overview: Past, Current, and Future-Looking

In the past, Nigeria's payment ecosystem focused on building and scaling national rails such as EFT, cards, and USSD, with strong innovation around instant payments, recurring transactions, and direct debit solutions. The BVN framework was established as the base functional identity layer for the financial system, while early contactless and transit payment pilots were emerging. Direct debit and subscription patterns also took shape, laying the groundwork for more automated and seamless payment experiences.

Currently, the ecosystem has been characterized by patchy data use and a wide diversity of devices that affect consistency in user experience and risk management. Biometric authentication is available but limited, primarily through biometric ATMs deployed in selected branches rather than at scale. Also, consumers now have heightened privacy expectations around the collection and use of biometric data, demanding stronger safeguards and transparency. Recurring payments, however, are already fully live and functional through Nigeria's existing direct-debit platforms.

The vision, however, is to enable "invisible" payments built primarily on on-device biometrics (e.g., fingerprint, facial recognition) anchored in clear user controls and consent. BVN-NIN alignment will help reduce false rejects and strengthen transaction integrity, while PoS terminals (at merchant and agent locations) will serve as the first-line hubs for biometric acceptance, augmented over time with contactless and facial recognition options where adequate safeguards exist. These capabilities can be extended in a complementary manner to ATMs, wearables, and small-format walk-out retail environments. To reinforce trust and accountability, public scorecards must be introduced to track performance and consumer-protection metrics across providers.

To realize these future potentials, there is need to further:

a) Analyze challenges impacting the full deployment of biometric authentication for payments.

b) Define a future state that incorporates a full scope invisible payments mode, leveraging global benchmarks like Apple Pay, Amazon Go (Just Walk Out), India UPI AutoPay, WeChat/Alipay, etc[33].

c) Define strategies for demystifying user trust, particularly on privacy concerns and fear of hidden charges.

d) Define initiatives for mainstreaming biometric authentication and supporting subscription/ wearable-based payments.

e) Define strategies for embedding agility and fostering a culture of continuous innovation in the digital payment ecosystem.

f) Define strategies for driving adoption by leading with government use cases.
Appendix V further illustrates Nigeria's 5-Model Journey (with Global anchors) and applicable use cases.

5.3.2. Challenges

a) **Legal and privacy expectations are high:** Nigeria's data-protection law treats biometric data as sensitive. That means organizations must obtain clear consent, collect only what is necessary (data minimization), keep data secure, report any breaches, and complete a Data Protection Impact Assessment (DPIA) before launching higher-risk processing.

b) **Connectivity, device, and access reality:** Many people live within mobile coverage but do not use mobile internet regularly because of affordability, device capability, or skills. USSD (basic phone menus) still carries a large share of financial activity for low-data users, but reliability has sometimes been affected by commercial disputes or platform downtime. Public awareness and public understanding of how biometric technology and payment function.

33. Apple Pay Transit Documentation – Express Mode Benchmarks].

c) **Trust and consumer protection:** People worry about "hidden charges" and misuse of biometrics. Programs need to prove they are user-centered by providing simple consent at enrolment, clear receipts for every transaction, advance alerts before any recurring debit, and easy dispute and reversal routes with clear timelines.

d) **Security and fraud risk specific to biometrics:** If anti-spoofing is weak, attackers can use fake fingerprints or face images to impersonate customers, especially at agent locations and cash-out points. Experience from other markets shows that cloned biometrics and transactions without proper consent can occur when controls and grievance handling are weak. Nigeria needs to plan for these risks from the start. Regulator driven POS terminal certification initiatives have provided safeguards to establish secure terminals; however, biometric enabled POS devices are not widely available.

e) **Operational cost and market fragmentation:** Rolling out across many POS terminals, agents, and phone types exposes differences in sensor quality and software versions. Realistic budgets are needed for terminal upgrades, staff/agent training, privacy assessments, customer support, and complaints handling. Skimping on these items raises legal, reputational, and adoption risks.

f) **Foundational identity data quality:** Nigeria's identity rails have advanced with the Bank Verification Number (BVN) and the National Identification Number (NIN). To support biometric payments at scale, further work is required to address residual misalignments across systems (e.g., incomplete linkages and occasional record/biometric inconsistencies) that can contribute to verification failures and service friction.

g) **Operational resilience and synchronization across the NIN, BVN and Telco ecosystem:** Intermittent outages, inconsistent synchronization between NIN, BVN, and Telco KYC systems, and incomplete BVN linkages across accounts create operational friction for biometric-dependent flows. These breaks manifest as verification failures at point of service, repeated re-enrolments, and user attrition.

5.3.3. Priority Initiatives

a) POS/Agent Enablement with Offline Policy: Biometric-capable POS/ micro-ATMs; PAD/liveness; firmware readiness; agent training; store-and-forward policies; conformance registry.

b) On-Device Biometric Payments: Standardized phone/watch approvals; receipts/dispute APIs; caps/self-suspension; corridor merchant enablement.

c) National Device Programs for Inclusion: Locally manufactured/ assembled secure smartphones, PoS and Other Devices; pre-loaded SDKs/wallet/consent apps; assisted onboarding; USSD fallbacks; service/ repair network.

d) Biometric ATM Program: Deploy ATMs with biometric authentication (fingerprint/ facial recognition, and liveness detection) integrated with multi-factor authentication and fraud detection to enhance security and user convenience.

e) Replicate ATM biometric authentication success across PoS operations.

f) Enable digital ID frameworks, QR-based withdrawals, and tokenized payments.

g) Utilize performance data to inform national biometric standards and future device specifications.

h) Recurring-Payments Control Pack: Mandate APIs; pre-debit alerts; pause/modify/cancel; itemized receipts; channel-equivalent controls.

5.3.4. Implementation Roadmap

Phase 1:0–12 Months (Piloting towards Validating Viability and Trust)

a) POS terminal/Kiosks: Biometric-capable devices (including contactless/facial where DPIA permits), offline/low-bandwidth modes, agent training and conformance checks.

b) On-device biometrics (phones/watches): Standardize approvals and receipt/dispute hooks; caps and self-suspension; merchant enablement in priority corridors.

c) Biometric ATMs (supportive pilots): Limited pilots to validate PAD/firmware and redress; feed lessons into POS terminal rollout.

d) Recurring control pack: Pre-debit alerts (24-48hr), one-tap pause/modify/cancel, itemized receipts across participating billers.

e) National device program (planning and pilots): Finalize procurement, local assembly partnerships, security baselines; pilot device distribution and assisted onboarding for targeted cohorts.

Evidence Gates (End of Phase):

a) BVN–NIN linkage in pilot corridors ≥ 90%.

b) Interface availability SLO ≥ 99.5%; identity sync p95 ≤ 1 minute.

c) Authentication success ≥ 98%; approval time (average and p95) within channel targets.

d) Trust: receipt timeliness, pre-debit coverage, complaint rate, refund turnaround within published standards.

e) Offline: cache-expiry breach rate ≤ 1%.

Phase 2: 12–36 Months (Expansion/ Scale-up of Proven Models)

a) Scale merchant and biometric acceptance across corridors meeting evidence gates; expand contactless/facial only where PAD performance and DPIA pass.

b) Roll out government device program nationally in waves (with service/repair network and USSD fallbacks).

c) Extend on-device biometrics to more wallets/wearables; broaden recurring-payments coverage and merchant compliance.

d) Incremental ATM enablement aligned to POS terminal outcomes; maintain conformance registry and firmware governance.

Phase 3: 36–60 Months (National Scale-up towards Ubiquity and Interoperability)

a) Ubiquitous biometric POS terminal coverage: ATMs and wearables complement reach; invisible payments mature (recurring, on-device, walk-out retail).

b) Continue public scorecards; periodic DPIA refresh; resilience drills; data-quality reviews.

5.3.5. Targets, KPIs and Metrics

a) Biometric POS terminal coverage: Share of active POS/agent points upgraded and certified (corridor and national).

b) Authentication success: ≥ 98% (corridor monthly average).

c) Decision speed: Average and p95 approval time within channel targets.

d) On-device adoption: Share of transactions approved with on-device biometrics (phone/watch) by corridor.

e) Government device program: Devices issued; activation; 90-day retention; device/ service complaint rate.

f) Identity readiness: BVN-NIN linkage ≥ 90% in pilot corridors pre-expansion; monthly data-quality dashboards (accuracy, completeness, timeliness).

g) Service reliability: Identity/switch interface SLO ≥ 99.5%; identity sync p95 ≤ 1 minute.

h) Trust signals: Receipt timeliness (share < 5 minutes); pre-debit coverage (share of recurring with alerts); complaint rate; refund turnaround reported monthly by channel (POS/agent, ATM, wallet/wearable).

i) Offline integrity: Cache-expiry breach rate ≤ 1% in designated corridors < 5 minutes); pre-debit coverage (share of recurring with alerts); complaint rate; refund turnaround reported monthly by channel (POS/agent, ATM, wallet/wearable).

j) Offline integrity: Cache-expiry breach rate ≤ 1% in designated corridors.

5.3.6. Responsibility Owners

Priority Initiative	Responsible (R)	Accountable (A)	Consulted (C)	Informed (I)
POS terminal/ Agent Enablement with Offline Policy	CBN, NIBSS, Market Stakeholders (Banks/MMOs/ PTSPs/Fintech's, POS terminal Vendors, Agents, Merchants)	CBN, NIMC, NCC,	NIMC, NCC, Telcos, ALMPO	NDPC, CeBIH
On-Device Biometric Payments	Market Stakeholders (Banks/MMOs/ PTSPs/Fintech's)	CBN, NIMC, NCC,	NIBSS, NIMC, CeBIH	NDPC
National Device Program for Inclusion Recurring-Payments Control Pack	NIBSS, Market Stakeholders (Banks/MMOs/ PTSPs/Fintech's)	CBN, NIMC, NCC,	NIBSS, Market Stakeholders (Banks/ MMOs/PTSPs/ Fintech's, POS Vendors, Agents,	NDPC, Telcos
Recurring-Payments Control Pack	NIBSS, Market Stakeholders (Banks/MMOs/ PTSPs/Fintech's)	(CBN)	NIMC, CeBIH	Merchants
Biometric ATM Program (Supportive Channel)	CBN, NIBSS, Banks, ATM Vendors)	(CBN)	NIMC, CeBIH	Committee NDPC, Bankers

5.4. Sub-Theme: Diversifying Payment Rails in Nigeria

A resilient and inclusive financial system requires multiple secure and efficient pathways for moving money at scale. Nigeria's next phase of payments modernization must therefore prioritize the diversification of payment rails, building an ecosystem where cards, QR codes, NFC/contactless solutions, mobile money, CBDCs, wearables, and value-based digital instruments operate seamlessly together. The vision is to establish interoperable, multi-platform payment networks that ensure payment finality, universal acceptance, low transaction costs, and resilience. By enabling seamless transactions across diverse channels, Nigeria can empower individuals, enterprises, and government institutions alike, driving financial inclusion, strengthening trust, and positioning the country as a leader in next-generation payments infrastructure.

5.4.1. Overview: Foundational Analysis

Nigeria's payment landscape is diversifying rapidly across multiple channels. Growth in instant payments, POS terminal, NQR, mobile wallets, and eNaira has expanded financial access, yet significant interoperability and inclusion gaps remain, particularly in informal and rural markets.

Key Highlights (2025):

a) Over N1 quadrillion processed via NIBSS Instant Payments (NIP)[34]

b) Millions of POS/contactless terminals deployed nationwide.

c) QR/NQR upgraded to support instant merchant settlement.

d) CBDC (eNaira) adoption is slow

e) USSD continues to bridge access for unbanked populations.

Challenges:

a) Persistent fragmentation across payment channels.

b) Network reliability issues affect transaction confidence.

c) High merchant fees limiting adoption.

d) Vendor lock-ins restrict interoperability.

e) Limited consumer trust in emerging payment instruments

5.4.2. Priority Initiatives

a) Multi-Rail Acceptance Expansion: Ensure universal acceptance across cards, QR, NFC, mobile money, CBDC etc.

b) Asset-Backed Payment Systems: Leverage tokenized assets as collateral for digital transactions.

c) Smart Device & Wearable Integration: Expand payments through IoT devices and wearables.

d) National Open API Ecosystem: Build interoperable APIs for cross-rail innovation and compliance.

e) Anti-Lock-In & Affordability Policy: Prevent vendor lock-ins and reduce transaction costs for merchants and consumers.

f) Escrow and payment insurance schemes: Strengthen consumer protection and trust in emerging payment channels.

5.4.3. Innovations and Emerging Opportunities

Innovation	Description	Strategic Impact
Asset/Certificate-Based Payment & Lending	Permits individuals to tokenize academic certificates, land titles, or intellectual property rights as digital collateral	Unlocks non-traditional assets for credit access and value exchange.
Escrow and Payment Insurance Scheme	Escrow and Payment Insurance Schemes are mechanisms that provide financial security and risk mitigation in transactions by involving a neutral third party to manage funds and ensure contractual obligations, including insurance premium payments, are met. Escrow is a process, while payment insurance is the coverage.	Enhances confidence, trusts and opens the rails for formal and non-formal businesses to embrace the rails than cash ultimately reduces disputes emanating from payments for goods and services

34. Nigeria Inter-Bank Settlement System (NIBSS) – Instant Payments Transaction Vol umes

AI-Powered Interoperability Engine	Uses artificial intelligence to optimize transaction routing and detect anomalies across multiple rails	Enhance resilience, fraud detection, and real-time decision-making
Programmable Payment Flows (Smart Contracts)	Automates payment triggers for escrow, micro-insurance, or supply-chain finance via blockchain protocols	Supports trustless, transparent financial contracts

5.4.4. Implementation Roadmap

Phase 1: 0–6 Months (Laying the Foundations for Multi-Rail Innovation)

a) Establish National Stakeholder Forum (CBN, NIBSS, PSPs, Telcos, Fintechs, Merchant Groups) to coordinate multi-rail adoption.

b) Develop a Baseline Scoreboard tracking adoption, latency, fees, and interoperability indicators.

Phase 2: 6–18 Months (Piloting and Scaling Next-Generation Payment Channels)

a) QR Unification & Scale-up: Harmonize NQR standards across PSPs and Fintechs.

b) Contactless/Tap-to-Phone Pilots: Deploy in urban transit and retail corridors.

c) Offline Mesh Payment Pilots: Implement Bluetooth/LoRa store-and-forward gateways in rural markets.

d) Programmable Payment Sandboxes: CBN-NIBSS-Fintech testbed for new rails.

e) CBDC Integration Pilot: Expand eNaira merchant onboarding with easy QR enablement.

Phase 3: 18–36 Months: (Institutionalizing Diversified Rails and Ensuring Systemwide Adoption)

a) Asset-Backed Digital Finance Framework: Establish an Asset-Backed Digital Finance Framework to enable tokenization of certificates, intellectual property, and movable assets as collateral for credit and payments.

b) Cross-Rail Settlement Hub: Operationalize a Cross-Rail Settlement Hub, positioning NIBSS as the central clearing layer for all emerging payment stores.

c) Fee Reform & Affordability Programs: Implement Fee Reform & Affordability Programs, capping micro-transaction fees and subsidizing Tap-to-Phone deployment.

d) Continuous Monitoring: Introduce Continuous Monitoring through annual innovation audits and public adoption dashboards.

5.4.5. Targets, KPIs and Metrics

Indicator	Target (by 2028)
Retail acceptance points supporting ≥2 rails	90%
Average merchant fee for micropayments	≤0.5%
Sharable/interoperable and reliable KYC Average	90%
% of transactions processed offline and reconciled	≥70%

5.4.6. Responsibility Owners

Priority Initiative (PI)	Responsible (R)	Accountable (A)	Consulted (C)	Informed (I)
Laying the Foundations for Multi-Rail Innovation	CBN, NIBSS, PSPs, Telcos, Fintechs, Merchant Groups)	CBN	CAC	NCC
Piloting and Scaling Next-Generation Payment	CBN, NIBSS, PSPs, Telcos, Fintechs, Merchant Groups)	CBN	CAC	NCC
Institutionalizing Diversified Rails and Ensuring Systemwide Adoption	CBN, NIBSS, PSPs, Telcos, Fintechs, Merchant Groups)	CBN	CAC	NCC

5.5. Sub-Theme: Digital ID for Payment Security

A trusted, portable digital identity is the foundation of safe, inclusive, and efficient payments. By linking customers, devices, and accounts to verified identities and by doing so with strong privacy controls, Nigeria can reduce fraud, cut false declines, accelerate onboarding, and enable seamless experiences across authorized FIs and government services. This sub-theme focuses on the following objectives:

a) Analyze current National ID (NIN) coverage and challenges.

b) Define frameworks and guidelines for ensuring compliance and security.

c) Develop a roadmap for BVN-NIN linkage and target KPIs for a nationally accepted digital ID for secure payment processing.

5.5.1. Overview: Past, Current and Future-Looking

The formal framework for Nigeria's National Identity Number (NIN) system was established through the enactment of the National Identity Management Commission (NIMC) Act in 2007. Formal enrolment commenced in September 2010, and as of September 2025, over 122.8 million NINs have been issued[35] .

This progress has been driven by the mandatory-use policy for NIN across key sectors such as SIM registration, banking, passports, education, and public services.

It has also been supported by ecosystem partnerships and recent technological innovations introduced by NIMC, including NINAuth, the MobileID app, secure verification APIs, and a Self-Service Modifications portal for updating personal information such as name, phone number, address, and date of birth. These enablers have significantly boosted enrolment levels and enhanced verification efficiency.

The Bank Verification Number (BVN) initiative, launched by the Central Bank of Nigeria (CBN) on 14 February 2014, serves as a foundational element of the nation's financial identity framework. As of December 2025, approximately 68 million BVNs had been enrolled, covering more than 320 million active bank accounts across Nigeria's financial system.

This represents steady growth from 61.2 million BVNs recorded in March 2024 and reflects continued progress in strengthening customer identification, deepening financial inclusion, and enhancing the integrity of the banking system.

Comparing the difference between the outcomes of the NIN enrollment and BVN shows a huge gap especially for the vulnerable populations which have been deprived of government services.

However, a sizable, unregistered population remains, and progress is constrained by operational capacity, access, inclusion gaps, and funding. The lessons from the BVN rollout show that regulatory mandates and sector integration can rapidly create demand, but must be paired with robust privacy, inclusion pathways, technical resilience, and well-governed public-private partnerships.

5.5.2. Core Challenges

The key constraints to NIN enrolment efforts include:

a) **Operational capacity limits:** The National Identity Management Commission (NIMC) currently operates only a few thousand enrolment kits nationwide, far below what is required for full national coverage, limiting the speed and reach of NIN issuance.

b) **Inclusion gaps:** Many rural and remote communities lack convenient access to NIN enrolment centers and reliable internet or transport infrastructure, leaving large segments of the population effectively excluded from registration opportunities[36] .

c) **Financial gaps:** Underfunding of NIMC's operations and insufficient revenue for expanding infrastructure and capacity have hampered efforts to scale up NIN enrolment and sustain widespread registration campaigns[37] .

d) **Enforcement: Weak regulatory** enforcement and inconsistent follow-through on mandatory NIN-based verification across sectors undermine uptake incentives and reduce compliance momentum among individuals and institutions[38].

35. NIMC Enrolment Dashboard Report: September 2025
36. Digital ID: Millions of Nigerians in Rural Areas are still Lacking Identification Number
37. Techcabal: NIMC must enroll 3.3 million Nigerians monthly to hit 2026 target
38. Nigeria's National ID Verification System Faces Persistent Disruptions Despite Upgrade

Driver / Policy Tool	Impact)	Challenges / Risks
Mandatory use of NIN policy (SIM registration, bank accounts, passports, Education, Driver's License, other government services)	Rapid enrolment surges; strong demand creation; access to government services.	1. Risk of exclusion for rural/low documentation populations. 2. Service disruption due to access to technology. 3. Enforcement without sufficient access to enrollment centers.
Ecosystem partnerships (Banks, Telcos, state Govts/LGA, Front End Partners (FEPs)	Expanded reach and shared resources; accelerated enrollment of hard-to-reach places.	Coordination issues, uneven service quality, weak oversight of third parties.
Technological innovations (NINAuth platform & app, MobileID, Self-Service Modifications portal, APIs, Diaspora enrolment services and Biometric enhancements)	Streamlined enrolment and improved user experience; supports diaspora access.	Digital divides (smartphone/data gaps), need for continuous upgrades, cyber security risks.
Financial & Operational	Increase enrollment centers, effective operation, well trained staff.	Dependence on irregular funding; logistics bottlenecks.

5.5.3. Lessons from BVN Rollout

The Bank Verification Number (BVN) was launched in 2014 by the Central Bank of Nigeria in collaboration with the Bankers' Committee to provide a unique digital identity for financial services consumers, strengthen KYC compliance, reduce fraud, and promote financial inclusion. As of December 2025, the initiative has achieved about 68 million enrolments, representing 92.2 percent of financially included Nigerians, and stands as a model of effective public-private collaboration.

Under the Payments System Vision 2028, lessons from the BVN rollout and similar international initiatives will inform the continued development of Nigeria's digital identity ecosystem.

Nigeria's experience with the BVN rollout offers clear lessons for strengthening national identity systems and enabling a more secure, inclusive, and interoperable digital economy.

The BVN succeeded because it addressed a clearly defined problem, standardized data and biometric requirements across all banks, and established unambiguous stakeholder roles that allowed the CBN to provide oversight while banks and industry partners executed enrolment and compliance. Trust was built through strong data-protection controls and public awareness efforts, while later adoption of tiered KYC and mobile or remote enrolment options expanded coverage to underserved populations.

The next phase of identity modernization must build on these lessons by embedding innovation such as remote e-KYC and consent-based data sharing and strengthening DPI components that enable interoperability across sectors. Global examples such as Aadhaar, PIX, NADRA and Malaysia's NDID show that when identity, payments, and data exchange infrastructure are designed for everyone and supported by industry-wide collaboration, the result is a trusted system that scales rapidly and drives financial inclusion, security, and economic growth.

5.5.4. Integration of Digital ID into Payment Flows

Integrating digital identity into payment journeys enables faster onboarding, lower fraud, and consistent user experiences across channels. By verifying identity at the point of transaction, applying risk-based checks, and using tokenized identifiers that interoperate across payment and government systems, providers can protect privacy while improving approval rates and service reliability.

Integration steps include:

1) Identity verification at transaction points;

2) Identity-based risk scoring, tokenized identifiers; and 3) Interoperability across payment and government systems. Expected outcomes include:

a) A clear governance structure, regulatory alignment, and a secure technical foundation for system integration.

b) Full national coverage and interoperability across financial and identity systems.

c) Fully functional identity-driven payment ecosystem that is secure, interoperable, and inclusive.

d) A single, trusted digital identity per citizen for use across financial and government platforms.

e) Streamlined KYC processes reducing duplication, onboarding costs, and fraud.

f) Improved access to digital financial services, particularly for underserved populations.

g) Foundation for interoperable digital payments, e-Government, and social protection programs.

5.5.5. Defining Digital KYC, Shared Services Infrastructure and National Digital ID Frameworks

As Nigeria moves toward a fully digital and inclusive payments landscape, working with stakeholders to establish a national framework for Digital KYC and Shared Services Architecture within the financial sector is essential. Drawing lessons from international experiences such as Singapore's NDI[39] , India's Aadhaar[40] , and Estonia's eID[41] , the framework will provide a unified digital identity and verification system to enable seamless onboarding, risk-based authentication, and secure cross-sector data exchange.

5.5.5.1. Digital KYC (eKYC) Framework Future-Looking

Digital Identity (Digital ID) has emerged as central to financial inclusion, service delivery, and national development, considering the advancement toward a digitally integrated payments ecosystem. Digital ID is core authentication and security.

Over the past decade, Nigeria has made significant strides in building a robust digital identity infrastructure, anchored by the National Identity Management Commission (NIMC)[42] and supported by global partners such as the World Bank[43] , EU, and AFD.

Key aspects of the framework governing the use of digital ID would include:

a) **Objective and Scope of Use of the Digital ID:** Clearly defines the purpose, boundaries, and permissible applications of the digital ID system, ensuring alignment with national priorities such as financial inclusion, e-governance, secure payments, and access to public services.

b) **Restrictions on Sharing Information:** Establishes strict access controls and permission protocols for third-party entities, ensuring that personal identity data is only shared with Consent-Driven Data Sovereignty explicit user consent and for clearly defined, lawful purposes.

c) **Data Integration and Interoperability:** Promotes secure and standardized exchange of verified identity data across public and private platforms, enabling seamless service delivery while maintaining data integrity and consistency.

d) **Data Storage and Management:** Specifies how digital ID data should be securely collected, stored, retained, and disposed of, in line with national standards and international best practices for data lifecycle management.

e) **Security and Confidentiality of Information:** Mandates robust technical and organizational safeguards, including encryption, multi-factor authentication, access monitoring, and breach response protocols to protect against unauthorized access or misuse.

39. Singapore National Digital Identity (NDI) - GovTech Singapore Overview
40. India Aadhaar System - Unique Identification Authority of India
41. Estonia eID System
42. Nigeria's Digital Identity Ecosystem
43. World Bank ID4D Project: World Bank Allocates $45.5M to Nigeria's National Digital ID . Program - MSME Africa

f) **Roles, Responsibilities, and Accountability of the Managing Authority:** Defines the governance structure, outlining the duties of NIMC, regulators, service providers, and verification agents to ensure transparency, oversight, and compliance.

g) **Grievance Mechanisms and Escalation**: Provides accessible and responsive channels for individuals to report misuse, errors, or violations, supported by clear redress procedures and escalation pathways to regulatory bodies.

h) **Special Measures for Inclusion:** Introduces tailored provisions for vulnerable populations, including forcibly displaced persons (FDPs), persons with disabilities, and residents in remote areas, such as mobile registration units and alternative biometric modalities like iris scans.

5.5.6. Finalize Frameworks and Guidelines for Ensuring Compliance and Security

To ensure these frameworks meet Nigeria's regulatory expectations and global best practices, finalization must centre on legal alignment, technical safeguards, and institutional accountability. The following are to be considered when finalizing the frameworks:

a) **Regulatory Compliance Alignment -** To ensure frameworks are legally enforceable and institutionally trusted, alignment with existing laws and regulatory mandates is essential. Outlined below are the legal and compliance foundations required to operate these frameworks effectively:
   i) Map to Existing Regulations: Align with NDPA, CBN Risk-Based Cybersecurity Framework, CBN AML/CFT Guidelines[44], NIMC Act[45] (identity), NIBSS and EFCC compliance protocols.
   ii) Draft Compliance Guidelines covering data collection and processing, identity verification protocols, KYC tiering and risk-based onboarding, and shared infrastructure governance.
   iii) Secure Regulatory Approvals/Endorsements: Obtain formal approvals/endorsements from CBN, NIMC, NCC, and other regulators to operationalize the frameworks.
   iv) Mandate Compliance Audits: Require periodic compliance audits including third-party audits, for institutions using these frameworks, subject to any necessary endorsements or approvals from relevant regulatory authorities

b) **Security Architecture -** The integrity of digital identity and shared infrastructure systems depends on robust, end-to-end security. Below are the minimum-security requirements needed to protect sensitive data, prevent fraud, and ensure resilience across all platforms implementing these frameworks:
   i) Define Minimum Security Standards: Enforce encryption (AES-256), secure APIs (OAuth2, TLS), and biometric authentication for identity and KYC flows.
   ii) Implement Role-Based Access Controls (RBAC): Ensure only authorized personnel can access sensitive data across shared infrastructure.
   iii) Mandate Penetration Testing & Vulnerability Scans: Require periodic security assessments for all integrated platforms.
   iv) Establish Incident Response Protocols: Define breach notification timelines, containment procedures, and forensic investigation standards.
   v) Leverage existing National Cybersecurity Oversight functions: These agencies/organizations such as the National Cybersecurity Coordination Centre (NCCC) and the Financial Services Industry CSIRT are tasked with monitoring threats, issuing advisories, and coordinating responses across financial institutions.

44. CBN AML/CFT/CPF Regulations 2022
45. National Identity Management Commission (NIMC) Act of 2007

c) P**rivacy & Data Protection Enforcement -** As digital identity systems scale, protecting user privacy and ensuring ethical data use becomes paramount. Privacy safeguards and user rights that must be embedded in the design and operation of the frameworks include:

i) Privacy-by-Design Principles: Ensure all systems minimize data collection, anonymize where possible, and require explicit user consent.

ii) Standardize Consent Management: Finalize protocols for opt-in/opt-out, data sharing permissions, and audit trails of consent.

iii) Define Data Retention and Deletion Policies: Align with NDPA and global standards (e.g., GDPR) for retention limits and right to erasure requests.

iv) Enable Data Portability and User Control: Allow users to view, export, and revoke access to their identity and KYC data.

v) Create a Privacy Compliance Dashboard: Institutions must report privacy metrics, breaches, and user complaints to NDPC (data protection regulator) and, where applicable, to CBN for supervised financial institutions.

d) **Publish and Enforce Guidelines -** To drive consistent implementation and regulatory oversight, the finalized frameworks must be codified into clear, enforceable guidelines. These would include the following steps:

i) Publish Relevant Frameworks and Guidelines: Include technical specs, compliance checklists, and implementation timelines.

ii) Issue Compliance Certification Criteria: Define what qualifies an institution as compliant, including audit scores and security benchmarks.

iii) Set Enforcement Deadlines: Define phased compliance timelines with penalties for non-adherence.

5.5.7. Priority Initiative: Harmonizing BVN and NIN

The integration of the Bank Verification Number (BVN) with the National Identification Number (NIN) is a strategic initiative to establish a unified and trusted digital identity ecosystem in Nigeria. It seeks to enhance financial inclusion, simplify KYC and AML compliance, and strengthen the security and interoperability of digital payments and public service delivery. Efforts to interlink both systems began in 2017, and by 2021, about 14 million NINs had been generated from BVN records through NIBSS.

However, successful harmonization requires deeper collaboration among critical stakeholders and a sustainable public–private partnership (PPP) approach. The National Identity Number (NIN) shall remain the foundational identity as provided in law, while the Bank Verification Number (BVN) shall serve as the functional identity for the financial ecosystem.

5.5.8. Implementation Roadmap

The priority initiatives for the BVN-NIN integration have been structured into 4 (four) phases to ensure coordinated execution and measurable outcomes.

Phase 1: 0–6 months (Establish a Governance and Policy Framework)

a) Establish a Joint Governance and Operational Steering Committee (CBN, NIMC, NIBSS, NITDA and financial institutions).

b) Develop legal and policy frameworks for data sharing, and privacy protection in compliance with the NDPR, Digital ID infrastructure.

c) Define unified data architecture, API standards, and security protocols.

d) Validate existing BVN and NIN data standards and compatibility in line with international standards for Identity.

e) Define standards for identity validation and consent management.

f) Conduct readiness and interoperability assessments for existing systems.

Phase 2: 6-12 Months (System Integration and Infrastructure Upgrade)

a) Establish secure API interfaces between NIMC and NIBSS.

b) Functional BVN–NIN linkage system and tested integration.

c) Upgrade financial institution KYC platforms for linked BVN-NIN validation and verification.

d) Conduct pilot linkages in select banks.

e) Establish process for new enrollments for NIN and BVN (with NIN as the foundational ID and BVN layered as the functional ID for financial services)

Phase 3: 12-24 Months (Nationwide Linkage Rollout)

a) Enable self-service BVN–NIN linkage via web portals, mobile apps, USSD, and physical enrollment centers.

b) Extending integration with all authorized financial institutions.

c) Enable automated real-time verification for new account openings.

d) Launch public awareness, assisted and self-service linkage portals 80–90% linkage coverage across all active bank accounts.

e) Enforce linkage as a prerequisite for new financial account creation

Phase 4: 24-36 Months (Post-Linkage Optimization & Analytics)

a) Clean up duplicate records.
b) Deploy analytics for fraud detection and identity intelligence.

c) Integrate with credit bureau and payment service providers.

d) Embed identity verification into digital payment processes for real-time authentication.

e) Conduct periodic audits and performance optimization

5.5.9. Target, KPIs and Metrics

a) 95% of financially active adults with verified Digital ID (linked NIN–BVN): By 2028, the goal is to ensure that nearly all financially active Nigerians have a verifiable and trusted digital identity linked to both the National Identification Number (NIN) and Bank Verification Number (BVN). This will form the foundation for secure identity verification across payment channels and digital financial services.

b) 90% of financial institutions integrating Digital ID for payment authorization and KYC: Financial institutions will be required to integrate with the national digital ID infrastructure to streamline Know Your Customer (KYC) processes and enable identity-based payment authentication. This will enhance transaction security, reduce onboarding friction, and promote interoperability across the financial ecosystem.

c) 50% reduction in identity-related payment fraud incidents across regulated entities: Through the adoption of a unified digital ID system, biometric verification, and AI-driven fraud monitoring, the initiative aims to halve identity-related fraud cases in digital payments, protecting consumers and reinforcing trust in the payment system.

d) 80% adoption of biometric or token-based multi-factor authentication for digital payments: To strengthen payment security, the initiative targets widespread use of advanced authentication methods such as biometrics, one-time tokens, and secure digital ID credentials. This will ensure safer transactions and align Nigeria's digital payment landscape with global best practices.

5.5.10. Responsibility Owners

Priority Initiative (PI)	Responsible (R)	Accountable (A)	Consulted (C)	Informed (I)
Establish a Governance and Policy Framework	CBN, NIMC, NITDA, NIBSS	CBN, NIMC, NITDA, NIBSS	Banks, PSPs, MMOs, CeBIH, Fintechs	Telcos, Agents, NCC
System Integration & Infrastructure Upgrade	CBN, NIMC, NITDA, NIBSS	CBN, NIMC, NITDA, NIBSS	Banks, PSPs, MMOs, CeBIH, Fintechs	Telcos, Agents, NCC
Nationwide Linkage Rollout	CBN, NIMC, NITDA, NIBSS	CBN, NIMC, NITDA, NIBSS	Banks, PSPs, MMOs, CeBIH, Fintechs	Telcos, Agents, NCC
Post-Linkage Optimization and Analytics	CBN, NIMC, NITDA, NIBSS	CBN, NIMC, NITDA, NIBSS	Banks, PSPs, MMOs, CeBIH, Fintechs	Telcos, Agents, NCC

6. Thematic Area 4: Cross-Border Payments and CBDC Integration

6.1. Background and Objective

Nigeria is strategically poised for regional dominance in cross-border payment ecosystem. As the continent's largest economy, a leading remittance recipient, and a major Fintech hub, it has the foundations to become a regional digital settlement leader.

CBN reforms (National Financial Inclusion Strategy 2022[46], eNaira, Open Banking, Regulatory Sandbox[47], and PSV 2025[48]) have modernized domestic payments and interoperability, while Nigerian Fintech firms have expanded digital solutions across Africa.

Regional integration for payments remains limited. Nigeria's engagement with PAPSS and the AfCFTA digital trade framework is at an early stage, while regulatory uncertainty around stablecoins, digital assets, and crossborder fintech operations continues to slow crossborder payments integration. Remittance costs remain high against the UN SDG target of 3%[49], constraining competitiveness and formal flows. The eNaira has potential for cross-border use but is not yet interoperable with other CBDCs or regional corridors.

Cross-Border Settlements and PSV 2028 set out to close these gaps by harmonizing regulatory standards within ECOWAS/AU, advancing bilateral CBDC corridors, upgrading digital infrastructure for secure real-time settlement, and deepening partnerships. By aligning NIBSS and the eNaira with PAPSS and AfCFTA and leveraging over $20 billion in annual diaspora remittances;[50] Nigeria can emerge as a core regional hub for trade settlement and remittances.

Nigeria's domestic digital payment maturity far exceeds its regional connectivity. Bridging this gap requires targeted reforms and partnerships to enhance cross-border interoperability and regulatory alignment. Key integration gaps have been identified as limited interoperability with regional platforms such as PAPSS and

46. CBN National Financial Inclusion Strategy 2022 (3.0)
47. CBN (2021). Framework for Regulatory Sandbox Operations
48. CBN PSMD - Nigeria Payments System Vision 2025
49. United Nations, "Remittances and the SDGs"
50. National Information Technology Development Agency, "National Digital Economy Policy and Strategy (2020–2030)"

AfCFTA digital trade frameworks, fragmented regulatory approaches to stablecoins, CBDCs, and digital assets, high transaction costs and operational inefficiencies in intra-African remittance corridors and the absence of a unified cross-border policy alignment framework with ECOWAS/AU. This can be achieved by leveraging Nigeria's $500B digital economy potential, Fintech leadership, and AfCFTA membership to position Lagos as West Africa's settlement hub by 2028.

6.2. Overview: Past, Current, and Future-Looking

To evaluate opportunities, it's important to understand where Nigeria currently stands on the following:

a) **Domestic Payment Infrastructure:** Nigeria operates a Real-Time Gross Settlement (RTGS) system that utilizes secure VPN connectivity and is fully compliant with the ISO 20022 messaging standard for high-value payment processing

b) **SWIFT GPI:** Some Nigerian banks have implemented SWIFT Global Payments Innovation (GPI), signaling initial progress toward modernizing cross-border payment transparency and speed.

c) **CBDC**: Nigeria launched eNaira in October 2021: Adoption has been slow, barriers include limited stakeholder engagement and buy-in in design and implementation, limited adoption and integration drive, limited resources and capacities for retail CBDC implementation, undertook awareness creation, onboarding, use case development which are not core CBN functions, etc.

d) **Stablecoin Adoption:** Nigeria has high adoption rates of digital assets/stablecoins among individuals, especially as hedging instruments against Naira volatility and for remittances. However, most activity is off-ramp, informal or P2P.

e) **Regional Initiatives:** Nigeria is home to the largest domestic card scheme in Africa Verve, which has achieved issuance and acceptance across more than 27 African countries. Nigeria also participates in the Pan-African Payment and Settlement System (PAPSS). In parallel, domestic Fintech innovations, are expanding local capabilities in digital settlement, interoperability, and transaction processing.

f) **Regulatory Environment:** The Central Bank of Nigeria (CBN) and other regulators have been active; payment system visions like PSV2025 (Payments System Vision 2025) chart strategic targets.

g) **Challenges:** Key gaps include high remittance and agent banking costs, currency risk and foreign exchange constraints, limited adoption of digital infrastructure in rural regions, interoperability concerns, occasional delays, insufficient transparency, and underdeveloped legal or regulatory frameworks for emerging technologies such as tokenization, cross-border digital identity, and privacy protection.

6.2.1. State of Nigeria's Payment Integration

Nigeria's payment integration agenda is progressing, but remains uneven across domestic schemes, regional platforms, digital assets, and emerging settlement infrastructures. While domestic initiatives provide strong foundations, fragmented standards, regulatory divergence across borders, and liquidity constraints still limit Nigeria's full participation in integrated African and global payment ecosystems.

Highlighted below is a snapshot of the current state of Nigeria's payment integration across six integration areas: domestic schemes, PAPSS, (3) AfCFTA protocols (digital trade and payments), CBDCs (eNaira and bilateral corridor pilots), stablecoins and international digital assets, and settlement systems and international standards which sets the foundation for identifying where structural and policy gaps persist and what alignment is needed for Nigeria to achieve full regional interoperability.

Integration Area	Current State	Key Challenges	Opportunities / Next Steps
Domestic Schemes	Deep domestic rails with >100m domestic cards; strong NIP performance; growing NQR and POS footprint.	Limited cross-border use; liquidity and FX settlement barriers; inconsistent terminal standards; low value-added cross-scheme interoperability	Harmonize certification standards; scale domestic card schemes for regional acceptance; design FX liquidity backstops; expand domestic APIs forprogrammable and exportable use cases.
PAPSS (Pan-African Payment and Settlement System)	Nigeria connected through CBN and select banks; PAPSS supports local-currency cross-border settlement under AfCFTA.	Low transaction volumes; Fintechs not fully onboarded; limited merchant awareness; incomplete operational readiness across banks	Scale onboarding of banks and PSPs; embed PAPSS into bank channels and trade platforms; provide incentives for MSMEs/exporters to use PAPSS.PAPSS. across banks. AfCFTA.
AfCFTA Protocols (Digital Trade and Payments)	Nigeria is committed to the AfCFTA and aligning its policies with digital trade and payment protocols; early coordination efforts are emerging.	Fragmented domestic implementation; limited cross-regulator alignment; weak MSME awareness; lack of harmonized KYC/digital invoicing standards.	Establish Nigeria AfCFTA Digital Trade & Payment Taskforce; harmonize cross-border KYC and invoicing; embed AfCFTA-compliant payments in export and e-commerce platforms.
CBDCs (eNaira + Bilateral Corridor Pilots)	eNaira has millions of wallets and ~~₦~~22B transactions; corridor discussions (e.g., Ghana) are exploratory.	Low usage in real-economy use cases; limited merchant value proposition; weak integration into banking/Fintech apps; no live CBDC corridors	Reposition eNaira for G2P, remittances, trade settlement; open APIs for Fintech integration; launch bilateral CBDC corridor pilots with priority trade/remittance partners.
Stablecoins and International Digital Assets	High national adoption of stablecoins and crypto; used informally for remittances and commerce; early regulatory signaling.	Regulatory uncertainty; AML/CFT risks; unclear integration pathways into domestic or regional rails; consumer-protection gaps.	Develop risk-tiered stablecoin framework; set rules for licensing, reserve backing, redemption and disclosures; run controlled stablecoin pilots for low-value trade or remittances.
Settlement Systems & International Standards (ISO	Strong domestic RTGS and retail systems; ISO 20022 migration ongoing	Divergent technical standards; incomplete ISO 20022 adoption across all PSPs; weak cross-border dispute and chargeback	Complete ISO 20022 adoption; standardize dispute processes; integrate with regional settlement/messaging systems;
20022, RTGS/ CSD alignment)	partial alignment with regional schemes.	processes; limited shared AML/CFT utilities.	enhance data-quality standards for RegTech/ SupTech analytics.

6.2.2. Key Insights

a) Infrastructure and Policy: The National Digital Economy Policy and Strategy[51] (NDEPS 2020-2030) targets $10B+ Fintech FDI. PSV2028 aims for 95% digital payment adoption, though broadband coverage (45%) and power gaps remain structural constraints.

b) The vision to establish Nigeria as the nucleus of regional digital settlement can also be achieved by developing a shared infrastructure, the Nigeria Settlement Cloud (NSC). The NSC would host APIs for domestic schemes, PAPSS, eNaira, SWIFT, and other retail schemes while integrating diaspora remittance providers and trade digitization platforms.

c) Competitive Landscape: Nigeria leads Africa in remittances ($21.8B in 2025)[52] and Fintech investment, outpacing Egypt and South Africa. The African Trade Centre's Digital Gateway (2025) positions Nigeria as a pilot node for regional settlements.

51. Federal Min. of Comms, Innovation & Digital Economy (2019).
52. National Digital Economy Policy and Strategy (2020-2030)

d) Global Models: Singapore's 24/7 RTGS and CBDC rails offer a blueprint for Nigeria's next-gen settlement architecture through NIP–eNaira integration.

6.2.3. Stablecoin Integration Compliance Framework

The policy objective of an integration compliance framework is to regulate the issuance, management, and cross-border use of fiat-backed stablecoins to promote safe, efficient payments and innovation while ensuring financial stability, consumer protection, and AML/CFT compliance. CBN will work collaboratively with SEC and other critical stakeholders to guide the development and implementation of this framework, ensuring coherence across the regulatory ecosystem.

As Nigeria seeks to modernize its payments system under its upcoming vision period 2026-2028, being integrated into the international payment systems is a critical lever. Integration here refers to connecting Nigeria's domestic payment infrastructure with other countries, regions, and global financial networks in ways that enhance speed, reduce cost, increase transparency, support trade, remittances, foreign investment, and align with emerging global models.

Despite significant advancements in Nigeria's domestic payments landscape, several integration challenges persist, limiting the country's effectiveness in regional and global payment ecosystems. These gaps span technical, regulatory, operational, and strategic dimensions, each constraining Nigeria's ability to achieve seamless cross-border interoperability, cost efficiency, and leadership in Africa's emerging digital financial architecture. Addressing these challenges requires coordinated reforms across infrastructure development, regulatory harmonization, and strategic positioning within the ECOWAS, AfCFTA, and Pan-African Payment and Settlement System (PAPSS) frameworks.

Appendix iv summarizes the key integration gaps, their implications, and proposed policy responses prioritized by impact and implementation urgency.

6.2.3.1. Classification of Stablecoins

Within the context of Nigeria's Payments System Vision 2028, stablecoins shall be classified based on their underlying reserve structure, regulatory risk profile, and functional use cases across the financial system. PSV 2028 recognizes three primary categories[53]: fiat-backed stablecoins, will be fully collateralized with Naira or foreign currency assets and therefore suitable for regulated remittances, trade facilitation, and tokenized deposits; asset-backed stablecoins, backed by commodities or securities and requiring stricter transparency and valuation oversight[54].

This classification provides a structured basis for licensing, reserve auditing, redemption guarantees, consumer protection, and interoperability with national infrastructures such as the eNaira, Open Banking APIs, and eventual cross-border corridors under AfCFTA, thereby ensuring that innovation in digital assets aligns with financial stability, regulatory clarity, and inclusion goals under PSV 2028[55] .

53. Financial Stability Board (FSB, 2020). Regulation, Supervision and Oversight of Global Stablecoin Arrangements.
54. International Organization of Securities Commissions (IOSCO) – "Crypto and Digital Assets Roadmap (2022–2023)
55. Bank for International Settlements (BIS) – Project Dunbar (multi-CBDC interoperability)

Type Backing Mechanism	Regulatory	Treatment
Fiat-Backed	1:1 reserves in fiat currency held in regulated custodians.	Shall be permitted under CBN oversight
Commodity Backed	Backed by gold or equivalent assets.	Restricted – subject to SEC approval.
Algorithmic	Price stability via algorithms and arbitrage.	Prohibited for use as backing mechanism for monetary instrument

6.2.3.2. Policy Recommendations for Stablecoins

a) Work with SEC and other stakeholders to develop policies that recognize fiat collateralized stablecoins as monetary instruments.
b) Stablecoin Issuers should be CBN-licensed.
c) Reserves must be fully segregated, bankruptcy-remote, and audited monthly.
d) Daily reserve attestations and real-time balance disclosure to regulators.
e) Full integration with Local schemes, PAPSS and Local switches for interoperability and redemption.
f) AML/CFT adherence, including Travel Rule compliance and transaction traceability.
g) Mandatory T+0 /T+1 redemption and transparent consumer disclosures.

6.2.3.3. CBDC Integration Framework

Central banks worldwide are increasingly recognizing the transformative potential of Central Bank Digital Currencies (CBDCs) and are actively exploring avenues to introduce them into their respective financial ecosystems. In Europe, lawmakers across member states continue to push for a digital euro, while the United Arab Emirates expects to roll out the digital dirham by the end of 2025.

Many pilot projects on CBDC cross-border integration between many partner countries are highlighted below:

S/N	Project	Description	Type of CBDC	Central Banks
1	Jura	A CBDC project was implemented primarily to demonstrate the atomic settlement of tokenized securities and foreign exchange transactions using wholesale CBDCs.	Wholesale	Banque de France (BdF) Swiss National Bank (SNB)
2	Dunbar	A CBDC interoperability project for central banks, designed to prove that multiple central banks could issue and transact CBDCs on a shared platform.	Wholesale	Reserve Bank of Australia (RBA) Central Bank of Malaysia (BNM) Monetary Authority of Singapore (MAS) South African Reserve Bank (SARB)

S/N	Project	Description	Type of CBDC	Central Banks
3	mBridge	A CBDC cross-border project aimed at establishing a digital bridge between different central banks, facilitating instantaneous and secure cross-border transactions using CBDCs.	Wholesale	Hong Kong Monetary Authority (HKMA) Bank of Thailand (BoT) People's Bank of China (PBoC) Central Bank of UAE (CBUAE) However, Bank of International Settlement have withdrawn its participation.
4	Ice breaker	A CBDC initiative focused on breaking down barriers in cross-border payments, aiming to streamline processes, enhance transparency, and reduce transaction costs for participants. initiative focused on breaking down barriers in cross-border payments, aiming	Retail	Central Bank of Sweden (SBSE) Central Bank of Norway (CBNO) Central Bank of Israel (CBIS)
5		A CBDC cross-border project aimed at fostering financial inclusion and facilitating remittances across borders, leveraging blockchain technology to ensure security and efficiency in transactions.	Wholesale	Banque de France (BdF) Swiss National Bank (SNB) Monetary Authority of Singapore (MAS)

6.2.3.4. Implications of Integration Gaps

Nigeria's integration shortfalls materially increase the cost of remittances and weaken trade settlement efficiency. In 2025, Nigeria received roughly US$21.8 billion in diaspora remittances[56], underscoring the scale of flows that could be routed more efficiently. High average transaction costs across Sub-Saharan corridors (around 6.6% in Q3 2024[57]) and corridor-specific outliers impose a significant drag on formal inflows and commercial competitiveness.

Limited adoption of PAPSS and slow operational alignment with AfCFTA digital trade protocols constrains intra-African settlement and forces continued reliance on correspondent banking and foreign currency clearing.

This reliance raises FX exposure and lengthens settlement cycles for exporters and traders, increasing working-capital requirements and trade friction. Recent Afreximbank and policy activity signal progress on PAPSS implementation, but practical uptake and integration remain limited.

Low real-world uptake of the eNaira (a very small share of currency in circulation as of early 2024) indicates that domestic CBDC readiness has not yet translated into cross-border utility; without bilateral corridor pilots and interoperability standards, the eNaira cannot materially reduce remittance or settlement costs.

56. CBN Statistical Bulletin 2024
57. World Bank – Remittance Prices Worldwide, Issue 49, March 2024

This gap reduces the near-term payoff from Nigeria's CBDC investment.

The regulatory and operational fragmentation has created unclear rules on stablecoins/ digital assets, inconsistent supervisory arrangements, and weak dispute resolution; creates opportunity costs: forgone innovation in low-cost remittance rails, limited integration of diaspora liquidity into formal markets, and reduced influence in setting regional standards under ECOWAS/AfCFTA. Closing these gaps would unlock lower remittance costs, faster trade settlement, and greater participation in emerging digital-asset settlement mechanisms.

6.2.4. Settlement Infrastructure Overview

Nigeria's cross-border payments rely heavily on correspondent banking and Fintech networks which are expensive and fragmented thereby resulting in longer settlement times and increased exposure to FX volatility.

Most cross-border payments rely heavily on foreign currencies such as USD for settlement thereby creating liquidity dependencies on those foreign currencies. This results in settlement-related liquidity constraints, leading to delays in payment processing and higher transaction costs. The table and recommendations below outline key settlement challenges and propose measures to strengthen liquidity management in cross-border payments

Thematic Area	Current Position	Alignment Actions
Cross-Border Settlement and Liquidity Management	1. Nigeria continues to rely heavily on USD correspondent banking for settlement, resulting in high foreign exchange exposure and transaction costs. 2. The Pan-African Payment and Settlement System (PAPSS) enable instant local-currency settlement, but adoption by Nigerian financial institutions remains limited. 3. Regional clearinghouses and payment switches such as NIBSS in Nigeria and SADC RTGS in Southern Africa, operate independently, creating fragmented regional interoperability.	1. Harmonize Real-Time Gross Settlement (RTGS) frameworks across ECOWAS central banks to enable seamless local currency clearing. 2. Establish a regional liquidity pool, backed by participating central banks, to reduce reliance on foreign correspondent networks. 3. Develop an interoperable collateral and guarantee framework to secure cross-border payment obligations. 4. Promote other Pan African Payment Service Providers to create resilience and avoid a single point of failure 5. Mandate time-bound settlement service-level agreements (SLAs) (e.g., T+0) for cross-border trade payments routed through Pan African Payment Service Providers.

6.3. KPIs and Targets

a) 50% YoY transaction growth through 2028.

b) 75% adoption rate by bank in the ECOWAS region by 2028.

c) Hub blueprint finalized by Q2 2026; pilot operations by Q4 2026.

6.4. Priority Initiatives

a) **Regional Regulatory Harmonization and Scheme Interoperability:** Align Nigeria's regulatory and technical frameworks with ECOWAS, AU, PAPSS and AfCFTA to make Nigeria the default clearing and settlement hub for regional digital payments.

Key Actions:

i) Encourage license passporting via bilateral agreements with key trade partners and promote the establishment of an ECOWAS-wide Mutual Recognition Framework for licensing and supervision of PSPs, IMTOs, and stablecoin issuers, harmonized with AfCFTA Digital Trade Protocols and AU Digital Transformation Strategy (DTS 2030).

ii) Promote regional interoperability between PAPSS and domestic card and payment schemes to strengthen regional payment integration and seamless cross-border transactions.

b) **FX Liquidity Deepening and Multi-Rail Settlement (Stablecoins, CBDCs, Cards and PSPs)** Broaden and diversify Nigeria's FX liquidity sources for cross-border payments by combining regulated stablecoins, expanded authorized dealers, card and alternative payment acceptance, and regional liquidity pools (see Appendix III on approaches to deepening foreign exchange liquidity for cross-border payments).

Key Actions:

i) Pursue targeted legislative amendments to provide clear statutory recognition of fiat-collateralized stablecoins as monetary instruments rather than securities. In parallel, collaborate with the SEC and other key stakeholders to develop a unified policy position that affirms their classification as digital representations of sovereign currency for payments, settlement, and value transfer within the Nigerian financial system.

ii) Stablecoin Regulatory Framework: Develop regulations that recognize fully fiat-collateralized stablecoins as monetary instruments, with CBN licensing, 100% high-quality reserve requirements, daily attestations, monthly audits, and real-time regulatory visibility via smart-contract "regtech nodes".

iii) Supervised Access for Stablecoin Off takers: Review existing regulatory guidelines to determine how fiat-collagenized stablecoin off takers may be granted supervised access to relevant payment system functions, including settlement and on/off-ramp operations, in a manner consistent with oversight requirements.

iv) Regional Liquidity Pools and Settlement Banks: Establish regional FX liquidity pools (backed by Pan-African banks and CBN) to support local-currency settlement via PAPSS and other Pan-African PSPs, reducing USD dependency in intra-African trade.

v) Card & Payment Wallet Acceptance as FX Inflows: Drive recertification of POS terminals and gateways for international cards (Visa, Mastercard, Amex, UnionPay, JCB) and alternative payment types (PayPal, Apple Pay, Alipay, UPI, PIX etc.), supported by:

1) Migration from capped MSC to a risk-based interchange model for merchant pricing.

2) Ongoing training on chargeback and risk management.

3) Targeted engagement with global issuers/schemes to remove Nigeria from risk grey-lists and unblock genuine spend on Nigerian merchants.

c) **CBDC and Stablecoin Corridor Pilots for Trade and Remittances:** Move eNaira and regulated stablecoins from conceptual tools to live cross-border corridors for trade flows and remittances.

Key Actions:

i) Bilateral CBDC Corridors: Launch 2–3 pilot CBDC corridors (e.g. Nigeria–Ghana, Nigeria–South Africa, Nigeria–Egypt) focused on trade settlement and remittances, aligned with BIS/IMF interoperability frameworks (messaging, identity, AML/CFT).

ii) CBDC & Stablecoin Sandbox: Expand the CBN regulatory sandbox to include cross-border eNaira and stablecoin products (e.g. trade finance tokens, programmable remittance flows, tokenized letters of credit).

iii) Global Interoperability Initiatives: Join BIS Innovation Hub's Africa CBDC Group and SWIFT's CBDC Linker and explore linkage to IMF's XC platform for wholesale FX and reserves settlement.

d) **Remittance Cost Reduction & Diaspora Digitization Programs**: Reduce average remittance costs to ≤5% and route the bulk of Nigeria's diaspora flows through digital, transparent, FX-efficient channels anchored on Nigerian infrastructure.

Key Actions:

i) Integrated Remittance Infrastructure: Connect IMTOs and diaspora-focused PSPs to NIBSS, PAPSS, Pan-African PSPs and (where relevant) eNaira / regulated stablecoins to remove unnecessary intermediaries and support local-currency settlement.

ii) FX Transparency & Pricing Rules: Enforce real-time FX disclosure with a maximum spread (e.g. ≤1%) for retail remittances and require clear display of all fees at point of initiation.

iii) Digital-First Incentives: Offer lower fees, utility, or micro-credit incentives for remittances received into bank accounts, wallets, or eNaira rather than cash payout. Encourage NiDCOM-led campaigns to educate diaspora on digital channels.

iv) Diaspora Trade & Investment Linkages: Create structured programs (e.g. "Diaspora Trade Ambassadors") that link diaspora capital to AfCFTA-aligned export SMEs via digital payment rails, blending remittance and trade flows.

v) Unified Compliance Utility: Develop a shared KYC/AML utility for low-value cross-border payments to reduce onboarding friction while maintaining FATF-aligned standards.

6.4.1. Country Case Studies

a) **Ghana**: In Ghana, BrijX, a Fintech company focused on improving cross-border payments, is a prime example of how technology can streamline international transactions. BrijX connects financial institutions, enabling them to exchange payments in real time, which lowers transaction costs and enhances the speed of international payments. BrijX's partnership with financial institutions across West Africa is particularly significant considering the Memorandum of Understanding (MoU) between Ghana and Morocco to improve bilateral economic relations. By leveraging Fintech, Nigeria can strengthen its position as a financial hub for cross-border trade in the region, which also enhances the economic cooperation between African countries.

b) **Kenya and Rwanda:** The Bank of Kigali (Rwanda) and KCB Group (Kenya) integrated PAPSS into their mobile banking platforms, enabling direct cross-border transactions without forex conversion. This makes it easier for businesses and individuals in both countries to send and receive payments. The initiative was enabled by Fintech solutions, which have helped overcome barriers related to high transaction fees, exchange rate fluctuations, and slow processing times. Specifically, the partnership utilizes the Pan-African Payment and Settlement System (PAPSS), launched by African Export-Import Bank (Afreximbank) in collaboration with the African Union Commission (AUC) and the AfCFTA. Fintech companies in both countries, such as M-Pesa in Kenya and Mobile Money in Rwanda, have played a crucial role in simplifying the payment process, enabling citizens to make instant and cost-effective cross-border payments. These kinds of partnerships are vital for regional economic integration in Africa.

c) Ghana and Rwanda: The CBN could execute MOUs with African countries, like the MOU between Ghana and Rwanda for passporting, which facilitates easier cross-border operations for FinTech, to ensure easier regulatory compliance and faster cross-border transactions between countries, under the AfCFTA.

6.5. Responsibility Owners

Priority Initiative	Responsible (R)	Accountable (A)	Consulted (C)	Informed (I)
Regulatory Sandbox for Cross-Border Payments and CBDC Innovations	CBN (PSPD, TED) NIBSS, FI Innovation Hubs	CBN	SEC; NDPC; NITDA; FCCPC; Industry Associations (FintechNGR); PSPs; Banks	Consumers; Industry Stakeholders; Development Partners
CBN (PSPD, PaSSD, TED)	CBN	AfCFTA Secretariat; Afreximbank (PAPSS); ECOWAS; WAEMU; Commercial Banks; NIBSS	Cross-border merchants; PSPs; Regional partners	PSPs; Merchants; Banks; Agents
CBN (PSPD, MPD, RSD)	CBN	Central Banks of Ghana, China and other counterparties; BIS Innovation Hub; NIBSS	Financial institutions; Cross-border merchants; PSPs	
CBN (FMD, TED, BSD)	CBN	FIRS; Nigerian Customs; Banks; IMTOs; NFIU	Businesses; PSPs; Merchants	
CBN Financial Policy Regulation Department; NFIU; NDPC	CBN	EFCC; ONSA; SEC; PSP Compliance Teams; IMTOs	Banks; PSPs; Consumers	
CBN (PSPD, PaSSD); NIBSS; Licensed Switches	CBN	Banks; Fintechs; PTSPs; Terminal Manufacturer	Merchants; PSPs; Public	
National Payments Trust, Transparency Dashboards & Reporting Systems	CBN (PSPD, CFFID); NIBSS	CBN	EFInA; FCCPC; Industry Associations	Public; Media; PSPs; Operators

7. Thematic Area 5: Regulation, Risk Management and Cybersecurity

7.1. Background and Objective

The central objective of Thematic Area 5 is to strengthen regulatory clarity, enhance risk resilience, and embed cybersecurity protections that guarantee universal acceptance, low-cost payments, and system-wide stability. This includes ensuring that payment system operators, PSPs, and FMIs operate within a secure, interoperable, and innovative environment that supports inclusion and financial empowerment across all sectors of the economy.

While Nigeria has made remarkable progress with about ₦1.07 Quadrillion processed through NIBSS Instant Payments in 2024, millions of POS/contactless terminals deployed, expanding QR/NQR uptake, and USSD serving as a critical access rail, significant gaps remain.

Fragmentation across payment channels, inconsistent interoperability, network unreliability, high merchant fees, vendor lock-ins, and limited consumer confidence continue to constrain the system's ability to scale equitably, particularly in informal, rural, and low-literacy markets. Emerging rails, such as the eNaira, demonstrate potential, but adoption remains modest, underscoring the need for stronger ecosystem coordination, better regulatory alignment, and enhanced cyber-risk management practices.

To address these gaps, PSV 2028 sets ambitious regulatory, risk, and cybersecurity targets. These include achieving a 70% reduction in fraud losses by 2028, progressing toward full CPMI-IOSCO compliance across FMIs by 2027, ensuring zero major disruptions in Tier-1 FMIs annually, and driving ≥80% PSP adoption of biometric or vein-based authentication for stronger customer verification.

7.2. Overview: Past, Current, and Future-Looking

a) **Regulatory Oversight:** Regulatory oversight of digital payments in Nigeria involves several agencies such as CBN, NDIC, SEC, NDPC, FCCPC, and others. There is appreciable collaboration among the agencies towards strengthening the soundness and safety of digital finance and the overall economy. Also, it is noteworthy that CBN conducts regular inspection audits on licensed operations. NDIC does the same for all insured deposit-taking institutions.

b) **Cybersecurity Frameworks:** The CBN has developed and issued the 2024 CBN Cybersecurity Framework[58] which is specifically designed for Payment Service Providers (PSPs). It is taking the lead to drive and oversee the implementation of the framework to ensure full compliance by PSPs. There is an ongoing effort to keep the payments ecosystem by enforcing compliance to the cybersecurity framework.

c) **Incident Reporting and Collaboration:** Historically, incident reporting was reactive, with government agencies collaborating on an informal basis.
The National Cybersecurity Policy and Strategy[59] (NCPS) 2021 led to the establishment of the National Cybersecurity Coordination Centre (NCCC) under the Office of the National Security Adviser (ONSA). The NCCC is tasked with facilitating cross-agency coordination for cyber incident management. Pursuant to its mandate, the NCCC, through ngCERT, oversees and coordinates the actions of all sectoral CERTs/CSIRTs involved in incident response, including the Financial Sector CERT. Furthermore, the Law Enforcement Agency CERT (NPF-NCCC) and the EFCC are instrumental in investigating and managing cyber incidents such as online fraud and theft, across Nigeria.

d) **Consumer Protection:** The Central Bank of Nigeria issued the Consumer Protection Regulations in 2019 which provides minimum standards required of institutions on fair treatment of consumers, disclosure and transparency, business conduct, complaints handling and redress to protect the rights of consumers and to hold the institutions accountable. Also, FCCPC is actively focused on consumer protection, especially against microlenders' unethical tactics in loan recovery. However, more needs to be done to enforce compliance with regulations as the current state of things leaves consumers vulnerable and this undermines trust in the digital payment system.

58. The 2024 CBN Cybersecurity Framework
59. National Cybersecurity Policy and Strategy (NCPS) 2021

e) **Compliance with International Standards:** Compliance with CPMI-IOSCO Principles for Financial Market Infrastructures (PFMI) is only partial. Notable gaps exist in governance structures, cyber resilience, and oversight of cross-border transactions, limiting the sector's ability to meet global best practices.

f) **Escalating Fraud Threats and AML Concerns in the Financial Sector**: The payments ecosystem faces rising SIM-swap incidents, account takeover fraud, insider collusion, and social engineering. It is noteworthy that Nigeria exited the FATF grey list in 2025. However, how the ecosystem will maintain the current level of AML/CFT/CPF compliance to prevent being grey-listed again remains an area of concern.

7.2.1. KPIs and Targets

Indicator	Target (by 2028)
Adequacy of regulation	Satisfactory
Compliance with regulation and standards	Satisfactory
Industry-wide risk assessment	Satisfactory
Industry cybersecurity incidents	Nil
Annual Industry-wide Vulnerability and Penetration Test	Satisfactory
Loss to fraud	50% reduction year-on-year

7.2.2. Quantified Baseline Indicators (2025)

Fraud Metric	Key Insights
Current Fraud Loss Baseline - ₦25.85billion as at 2025	In 2025, financial losses from fraud totaled ₦25.85 billion. Enhanced prevention measures, regulations, and monitoring activities resulted in the decline of fraud losses from the previous year, showing industry progress in fighting fraud.
Fraud Growth Rate (5-Year) – 350.2% increase over five years (2020 -2024)	Fraud losses declined by 51% in 2025 due to transaction monitoring activities and exploitation of fraud intelligence to tackle major fraud attempts. The 2025 results highlight a turning point toward stronger resilience and improved safeguards. halting the steady growth in fraud losses recorded in past 8 years.
Dominant Fraud Channels - Mobile & Online	With the rapid expansion of mobile device usage and internet access, most fraud cases in 2023 were concentrated on mobile and online platforms, where heightened activity exposed certain vulnerabilities exploited by fraudsters. As transactions increasingly moved online, fraudsters adapted quickly to these channels.
Declining Channels - ATM & POS	Fraud cases involving ATM and POS channels have slightly decreased, due to stronger security, improved authentication, and enhanced transaction monitoring. These channels now record fewer incidents compared to the more vulnerable mobile and online platforms.
Common Fraud Techniques - Phishing, SIM swap, account takeover, insider collusion	Persistent threats across digital platforms include techniques such as phishing, SIM swap, account takeover, and insider collusion. Through broader stakeholder collaboration, strengthened regulatory frameworks, and the deployment of enhanced countermeasures, the Central Bank of Nigeria and its industry partners are steadily mitigating risks and reinforcing the resilience of the payments ecosystem.
Seasonal Patterns - Festive seasons & quarter-end spikes	Higher fraud activity is consistently observed during festive seasons and at quarter-end periods. These spikes underline the need for heightened vigilance and proactive measures during these times.
Geographic Concentration - Lagos	Given Lagos's large population and its role as Nigeria's foremost commercial hub, the state continues to account for the largest share of fraud-related losses, representing **63%** of the total in 2025. This concentration reflects both the scale of transactions processed in the region and the associated risk exposure.

Table 7.2: Total Fraud and amount Lost in Nigeria between 2020 and 2025.

Year	Attempted Fraud Amount	Amount Involved/Lost (₦)	Major Channels	Notes
2020	13,258,786,608.00	11,609,439,240.73	Across Counter, ATM, Cheque, e Commerce Internet Banking, Mobile, Non Electronic POS, Web	In 2020, losses linked to fraudulent activities were recorded across various banking and payment channels, reflecting the adaptability of bad actors. The diversity of channels indicates that fraudsters targeted both physical and electronic avenues, exploiting weaknesses wherever possible.
2021	14,475,843,986.44	12,771,615,946.06	Across Counter, ATM, e Commerce Internet Banking, Mobile, Non Electronic POS, Web	In 2020, web-based fraud declined by **43%**, yet overall losses rose marginally by **10%**, driven primarily by a surge in reported incidents through the POS channel, which increased by **276%** compared to the prior year.
2022	16,406,941,028.02	14,320,597,280.18	Across Counter, ATM, Cheque, e Commerce Internet Banking, Mobile, Non Electronic POS, Web	Industry fraud losses grew by 12% from 2021 to 2022, driven mainly by large fraud losses affecting major corporate card accounts. Fraud declined in Mobile, POS, and Web channels, but ATM fraud rose by over 2000%.
2023	19,724,517,105.69	17,666,836,033.70	Across Counter, ATM, Cheque, e Commerce Internet Banking, Mobile, Non Electronic POS, Web	Fraud losses rose by **23%**, largely due to a spike in e-Commerce incidents, which escalated by **1,961%**. Mobile, POS, and Web channels recorded moderate increases.
2024	86,355,145,016.17	52,264,833,818.16	Across Counter, ATM, e Commerce Internet Banking, Mobile, Non Electronic POS, Web	In 2023, fraud amounts in Internet Banking, Mobile, and POS channels declined, yet overall losses rose by **196%**, primarily due to a major internal case involving **₦30bn**. Web fraud incidents also increased by **169%**.
2025	37,566,138,350.45	25,847,112,364.59	Across Counter, ATM, Cheque, e Commerce Internet Banking, Mobile, Non Electronic POS, Web	In 2025, electronic payment fraud declined by 51%, demonstrating the success of stricter regulations, increased industry cooperation, enhanced prevention strategies, and improved monitoring. The Central Bank of Nigeria, working with industry stakeholders, has since reinforced oversight and introduced collaborative safeguards that continue to reduce vulnerabilities and strengthen resilience across payment platforms in line with Payments Vision 2028.

7.3. Gap Assessment

Although new frameworks and sector initiatives aim to strengthen the payment ecosystem, challenges persist, and the perceived low compliance with extant regulations remains an area of concern. Other areas requiring more focus are expanding cybersecurity oversight to Fintechs and agent networks, resolving regulatory overlaps with VASPs, and enhancing consumer protection by increasing awareness and streamlining dispute processes. Risk management is still fragmented, lacking comprehensive stress testing.

Ongoing evaluation and targeted solutions are essential for a resilient payments landscape. These gaps highlight the importance of continuous evaluation and targeted interventions to ensure a resilient and inclusive payments landscape.

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Table 7.4: Key Gaps in Nigeria's Cybersecurity Architecture

Area	Identified Gap
Cybersecurity Coverage	Limited compliance by licensed FIs and Fintechs, aggregators, and agent networks.
VASP Regulation	Effective collaboration between the CBN and other relevant MDAs e.g. SEC, NCC, FCCPC
Consumer Protection	Low awareness and an inadequate redress mechanism resulting from weak compliance monitoring
Risk Management	Fragmented frameworks and lack of sector-wide stress testing.
Incident Response	Low national-level coordination or weak mandatory reporting compliance.
Cross-Border Standards	Partial adoption of ISO 20022 and FATF Travel Rule.

7.4: Priority Initiatives

a) **National Payment Security Operations Centre (P-SOC) and Cyber Resilience Architecture:** Establish a National Payment Security Operations Centre (P-SOC) as the technical nerve-Centre for real-time monitoring, detection, and containment of security threats across payment infrastructures, supported by a Cyber Resilience Architecture that provides system-level protocols for threat hunting, incident containment, business continuity, and post-incident forensics. Unlike the *National Payments Cyber Defense, Intelligence Sharing, and Coordinated Response Program*, this initiative focuses on core operational security, including 24/7 surveillance of critical payment rails, advanced analytics for anomaly detection, automated fraud-response triggers, and resilience standards that ensure payment systems can withstand, absorb, and rapidly recover from cyberattacks and fraud disruptions.

b) **National Payments Cyber Defense, Intelligence Sharing, and Coordinated Response Program:** Create a national cyber-defense program for the payments ecosystem that consolidates all incident reporting, threat intelligence management, and coordinated-response mechanisms into a single platform. This program will deliver real-time monitoring dashboards, a standardized crisis-management/incident-response playbook, a unified escalation.c) AML/CFT/CPF Compliance: Ensure compliance across payment service providers, ensuring robust monitoring and reporting capabilities

d) **Automated Supervisory Technology (SupTech) Tools:** The deployment of automated Supervisory Technology (SupTech) tools will facilitate real-time regulatory oversight of payment activities. SupTech solutions will support data-driven decision-making, improve compliance monitoring, and enhance the efficiency of supervisory processes.

e) **Inter-Agency Coordination Enhancement:** Efforts to enhance inter-agency coordination will involve key institutions such as the Office of the National Security Adviser (ONSA), Economic and Financial Crimes Commission (EFCC), Nigerian Financial Intelligence Unit (NFIU), National Data Protection Commission (NDPC), Securities and Exchange Commission (SEC), and Federal Competition and Consumer Protection Commission (FCCPC). Improved collaboration will enable joint investigations, information sharing, and coordinated enforcement actions against financial crimes.

f) **Cybersecurity Sandbox for Defense Tool Testing:** The creation of a cybersecurity sandbox will provide a controlled environment for testing and validating new defense tools. This initiative will enable stakeholders to assess the effectiveness of innovative security solutions before deploying them into production systems, reducing risks and supporting continuous improvement. into production systems, reducing risks and supporting continuous improvement.

g) **Big Data and AI for Predictive Fraud Analytics:** Leveraging Big Data and Artificial Intelligence (AI) will enable predictive fraud analytics, allowing for proactive detection and prevention of fraudulent activities. Advanced analytics will support risk assessment, trend analysis, and real-time fraud mitigation strategies.

h) **Enhancing the CBN Risk-Based Cybersecurity Framework:** The CBN Risk-Based Cybersecurity Framework[60] will be updated to comprehensively address all licensed PSPs and emerging technology channels. This update will specifically incorporate requirements and controls for application programming interfaces (APIs), cloud-based systems, and mobile-first

60. The CBN Risk-Based Cybersecurity Framework

platforms. These enhancements are aimed at strengthening the resilience of payment systems and ensuring that all platforms, regardless of technology stack, adhere to robust cybersecurity standards.

i) **Enablement of Real-Time Collateral Management Systems:** The payment system infrastructure will be enhanced with real-time collateral management capabilities. This will ensure more effective and immediate risk mitigation for payment and settlement obligations, improving overall system safety and efficiency.

7.5. Implementation Roadmap and Resource Requirements

Phase 1: 0–12 Months (Quick Wins)

a) National Payments Cyber Defense, Intelligence Sharing, and Coordinated Response Program.

b) Inter-Agency Coordination Enhancement.

c) Establish an appropriate Regulatory Technology solution (RegTech, SupTech) which provides a digital library of digital payment regulations and compliance checklist for easy reference by operators, geared towards enhancing education and capacity, and the reduction of regulatory fragmentation.

Phase 2: 12-24 Months (Short Term)

a) Big Data and AI for Predictive Fraud Analytics

b) AML/CFT/CPF Compliance

c) Enhancing the CBN Risk-Based Cybersecurity Framework.

d) Cybersecurity Sandbox for Defense Tool Testing.

Phase 3: 24-36 Months (Medium-Long Term)

a) National Payment Security Operations Centre (P-SOC) and Cyber Resilience Architecture.

b) Automated Supervisory Technology (SupTech) Tool.

c) Enablement of Real-Time Collateral Management Systems

7.6. Responsibility Owners Matrix

Priority Initiative	Responsible (R)	Accountable (A)	Consulted (C)	Informed (I)
National Payment Security Operations Centre (P-SOC) and Cyber Resilience Architecture	CBN (PSPD, ITD); NIBSS	CBN	ONSA; EFCC Cybercrime Unit; NDPC; NCC; PSPs; MNOs, MMOs	Banks; MMOs; Switches; Super-Agents; Consumers
National Payments Cyber Defence, Intelligence Sharing and Coordinated Response Program	CBN (Consumer Protection & FI Dept; Information Security Dept); NIBSS	CBN	EFCC; NFIU; ONSA; NDPC; FCCPC; Industry CERT Teams; FintechNGR	All PSPs, Payment Processors, Law-enforcement Agencies, General Public
Automated Supervisory Technology (SupTech) Tools	CBN (RMD, PaSSD, BSD, OFID)	CBN	NIBSS; NDPC; NFIU; EFInA; Dev Partners (e.g. FSD Africa, IMF TA)	PSPs; Fintech Associations; Reporting Entities
Inter-Agency Coordination Enhancement	CBN, ONSA	ONSA	EFCC; NFIU; NDPC; SEC; FCCPC; NITDA	PSPs; Banks; FintechNGR; Civil Society; Consumers
Cybersecurity Sandbox for Defense Tool Testing	CBN (PSPD, ITD), NITDA	CBN	NDPC; ONSA; Academia; CERT Teams; Private Cybersecurity Firms	PSPs; Fintech Innovators; Testbed Participants
Big Data and AI for Predictive Fraud Analytics	NIBSS (Fraud Management & Analytics); CBN (ITD)	CBN	NDPC; EFCC; NFIU; NCC; MNOs	Banks, PSPs; Fraud-Desk Teams; Consumers
Enhancing the CBN Risk-Based Cybersecurity Framework	CBN (PSPD, BSD, PaSSD, RMD, ITD, OFIs, CMD)	CBN	NDPC; NITDA; NCC; SEC; Industry Cyber Experts; Standards Bodies (ISO, NIST)	PSPs; Banks; Fintechs; Cloud Service Providers
Enablement of Real-Time Collateral Management Systems.	CBN	CBN	All licensed PSPs	All licensed PSPs

PART 3: IMPLEMENTATION

The implementation framework translates PSV 2028 from a strategic vision into a coherent, sequenced program of action. It defines how institutions will work together, resources mobilized, progress tracked, and how risk will be managed to deliver an inclusive, trusted, and innovative payment ecosystem by 2028.

8. Implementation Framework

8.1. Governance Structure

The governance structure for PSV2028 will be constituted at three levels:

8.1.1. PSV 2028 Steering Committee (SteerCo)

SteerCo will provide overall strategic direction, approve annual action plans and budgets, resolve high-level bottlenecks, and ensure alignment with national economic and financial inclusion goals (e.g. 95% inclusion by 2028, $1 trillion economy ambition). The SteerCo will be chaired by the CBN, Governor, with representation drawn from licensed banks and payment service providers, key public sector institutions, industry associations, and development partners that reflect critical dependencies. The SteerCo shall meet at least biannually, with ad-hoc meetings convened during major policy inflexion points.

8.1.2. Technical Working Groups (TWGs)

The TWGs will mirror PSV 2028 thematic areas, with the inclusion of a special working group on strategic communications. Each TWG will have its objectives distilled from the overall objectives as defined in the body Part 2 of the PSV 2028. Every TWG will have clear TORs, and deliverable timelines. The TWGs will report to the Steering Committee through a PSV 2028 Secretariat housed within CBN's Payments System Policy Department.

The objectives of the special TWG on strategic communications include:

a) Designing and coordinating a unified, data-driven and segment-inclusive communications and awareness agenda.

b) Ensuring consistent, citizen-centric messaging on safe digital payments, consumer rights, and ecosystem reforms across all PSV 2028 stakeholders.

c) Institutionalizing feedback and learning loop where consumer insights, fraud trends, and complaints directly inform policy, supervision, and market conduct.

d) Convening and coordinating stakeholders to deliver "one national voice" on PSV 2028.

8.1.3. Ecosystem Partners

Ecosystem Partners consist of critical implementation partners: regulators (NFIU, SECCBN, NCC, NITDA, NDPC, FCCPC), banks, NIBSS, payment system operators, non-bank FSPs, and Fintechs, MNOs, consumer and MSME groups, law enforcement (EFCC, Police), and the academia.

8.2. Policy Coordination and Stakeholder Engagement Framework

The PSV 2028 Secretariat shall serve as the central coordination hub, ensuring coherence across policies, guidelines, and initiatives, and shall provide a single interface for stakeholders. Stakeholder engagement shall follow one or more of the following approaches:

a) An Inter-Agency Policy Coordination Forum (CBN, MDAs, regulators) set up to meet quarterly to harmonize payments-related regulations, align timelines, manage overlaps, and issue joint circulars or communiqués where appropriate.

b) Annual National Payments and Inclusion Forum to review progress and obtain high-level feedback.

c) Bi-annual "Ask the Regulator" townhalls and consumer clinics focused on fraud, dispute resolution, and complaints handling.

d) Sector or issue-specific dialogues to surface implementation issues early.

8.3. Funding and Resource Mobilization Plan

The CBN and the Bankers Committee will serve as the primary funding body for the overall implementation of PSV 2028, while the Steering Committee and TWGs will, from time to time, identify specific funding requirements for priority initiatives and determine how these will be mobilized through a mix of public resources, private sector contributions, and development partnerships.

8.4. Monitoring, Evaluation, and Learning (MEL) Framework

8.4.1. Annual Action Plan and Progress Review Cycle

PSV 2028 implementation operates on a rolling three-year implementation plan, translated into detailed Annual Action Plans (AAPs) for each pillar, TWG, and implementing partner. Each AAP clearly specifies objectives, activities, timelines, responsible entities, resource requirements, and MEL indicators. A standard annual cycle is adopted:

a) Q4 (Prior Year): Joint planning; update of risk registers and MEL plans.
b) Q1: Finalization and publication of AAPs; formal launch of annual programs.
c) Q2: Mid-Year Stocktaking at TWG Level; Course Corrections where necessary.
d) Q3–Q4: Consolidated progress review by the Steering Committee, including segment-level inclusion analysis; Development of a PSV 2028 Progress Report and next-year priorities.

8.5. Risk Mitigation and Contingency Planning

A structured risk management approach underpins the implementation of PSV2028 to safeguard system stability, protect consumers, and maintain public confidence. This includes systematic risk identification, prioritization, mitigation, and incident response, with clear roles for ecosystem actors.

8.5.1. Risk Identification Matrix

The PSV 2028 Secretariat shall maintain a Risk Identification Matrix that classifies and ranks risks across four dimensions:

Strategic Risks 1. Misalignment between PSV 2028 and broader macroeconomic or fiscal policies. 2. Inadequate political support or changes in leadership priorities. 3. Insufficient buy-in from key ecosystem actors (e.g. dominant providers, major regulators).	**Operational Risks** 1. Weak implementation capacity within MDAs, regulators, and providers. 2. Ineffective dispute resolution, fraud-management processes, andconsumer redress mechanisms. 3. Delays in projects (e.g.infrastructure rollout,data integration, awareness campaigns).
Regulatory Risks 1. Conflicting or overlapping regulations across agencies (e.g.data protection, competition, cybersecurity). 2. Unclear or slow approval processes for innovative products and models. 3. Legal challenges or litigation arising from new rules.	**Technological Risks** 1. Cyberattacks, data breaches, and system intrusions affecting payments infrastructure. 2. Large-scale outages or interoperability failures across schemes and channels. 3. Rapid technological changes outpacing regulatory frameworks and supervisory capacity.

8.5.2. Mitigation and Response Plans

For priority risks, TWGs and responsible institutions develop Mitigation and Response Plans following a Prevent, Prepare, Respond, and Recover logic:

a) Prevent: Strengthen controls (e.g. security standards, redundancy requirements, clear SLAs, robust KYC and AML/CFT, strengthened dispute processes).

b) Prepare: Develop and regularly test business continuity plans (BCPs), backup systems, and incident playbooks (e.g. for outages, fraud spikes, data breaches).

c) Respond: Establish rapid response teams and protocols for coordinated multi-institution actions, including real-time information sharing and consumer communications.

d) Recover: Conduct post-incident reviews, compensation where appropriate, and remedial measures (e.g. system upgrades, process redesign, regulatory adjustments).

The Secretariat consolidates mitigation plans into a PSV 2028 Risk Register, updated at least annually or whenever major new risks emerge.

8.5.3. Escalation and Incident Reporting Framework

Escalation will follow a tiered escalation framework defines the thresholds and timelines for reporting incidents:

a) Tier 1 (Provider-Level Incidents): Managed by individual institutions; reported to regulators through routine channels within agreed timelines.

b) Tier 2 (Systemic or Multi-Provider Incidents): Coordinated via NIBSS and relevant regulators and will triggers joint incident response, rapid communication to the public, and interim directives where needed.

c) Tier 3 (National-Level or Cross-Sector Incidents): Involving significant financial stability or national security implications; escalated to the Steering Committee and relevant national crisis structures.

Escalation will also include the use of a standardized incident reporting template to ensure consistency, speed, and data completeness. PSV2028 will leverage a clear RACI (Responsible-Accountable-Consulted-Informed) mapping that specifies who does what during an incident, who communicates with consumers and the public, and how lessons learned are integrated back into policies and systems.

The Strategic Communication TWG will develop mechanisms for maintaining trust and enhancing stakeholder understanding of what actions to take when incidents occur.

9. Communication and Awareness Framework

Behavior change relies on sustained, long-term social interventions such as education, orientation, and sustained public awareness. Within this context, the framework defines how PSV2028 is communicated to citizens, market actors, and partners, ensuring sustained awareness of safe and inclusive digital payments. Its objectives are to:

(i) build trust and understanding of Nigeria's payment system vision.

(ii) embed safe-digital-payments behaviors across all user segments; and

(iii) ensure consistent, coordinated messaging across regulators, providers, and communication channels.

9.1. Tiered Awareness Campaigns by User Segment

PSV2028 will deploy tiered, behavior-focused campaigns that integrate the "Awareness Strategies for Safe Digital Payments" under Thematic Area 2 and are tailored to segment-specific risks and needs:

a) Youth and Y ung Professionals: Social-first campaigns (short videos, challenges, influencers) to address fraud, fake investments, data/privacy risks, and responsible digital money use.

b) MSMEs and Informal Traders: Agent/merchant-focused toolkits and market outreach on PoS safety, chargeback handling, record-keeping, and separating personal vs business accounts.

c) Rural, Low-Income and Low-Literacy Users: Local-language radio, community forums, and agent-led micro-sessions on basic digital payment use, fraud red flags, and how to seek redress.

d) Elderly and First-Time Digital Users: Simple, repeatable messages via branches, faith/community centres and radio call-ins on safely using ATMs, USSD, mobile apps, and avoiding impersonation scams.

9.2. Industry Collaboration and Engagement Approach

Communication and awareness under PSV2028 shall be coordinated through a Strategic Communications TWG and a broader Partner Ecosystem to ensure "one national voice" on safe, inclusive digital payments. This collaborative approach will make communication on PSV2028 co-owned, consistent, and credible, reinforcing trust and accelerating adoption across all segments. Coordination mechanisms may include:

a) Joint annual National Digital Payments Safety and Inclusion Campaign Calendar (e.g. "Digital Payments Safety Week/ Month").

b) Co-branded content library (scripts, prompts, infographics, jingles) for use by all providers.

c) Quarterly ecosystem roundtables and issue-specific taskforces (fraud, digital literacy, vulnerable consumers, cross-border remittances).

PART 4: ANNEXURES

APPENDIX I: Glossary of Terms

Ajo / Adashi: This is a communal system for pooling money and providing access to credit.

AML (Anti-Money Laundering): Measures, regulations, and procedures designed to prevent the illegal generation of income through financial systems by disguising the origins of illegally obtained money.

API (Application Programming Interface): A set of protocols and tools that allow different software applications to communicate and share data securely and efficiently.

Asset Tokenization: The process of converting physical or non-physical assets (such as land titles, certificates, or intellectual property) into digital tokens that can be traded or used as collateral.

BCP (Business Continuity Planning): Strategies and procedures that ensure critical business operations can continue during and after a disruptive event, such as cyberattacks or natural disasters.

Biometric Authentication: Identity verification using unique biological characteristics such as fingerprints, facial recognition, or vein patterns.

CBDC (Central Bank Digital Currency): A digital form of a country's sovereign currency issued and regulated by its central bank (e.g., eNaira in Nigeria).

CBN (Central Bank of Nigeria): The primary regulatory authority for Nigeria's financial sector, responsible for policy, licensing, and oversight of payment systems.

CPMI-IOSCO (Committee on Payments and Market Infrastructures – International Organization of Securities Commissions): Global standards and principles for the safety, efficiency, and resilience of financial market infrastructures.

Cross-Border AML MoU: Mutual agreements between countries (e.g., ECOWAS nations) to cooperate on anti-money laundering monitoring and enforcement across borders.

Cybersecurity Framework: A set of policies, standards, and guidelines designed to manage and reduce cybersecurity risks within an organization or sector.

Data Governance: The management of data availability, usability, integrity, and security in compliance with policies and regulations.

eNaira: Nigeria's Central Bank Digital Currency (CBDC), representing a digital version of the Naira issued by the CBN.

FIDO2: A set of authentication standards that enable strong authentication using devices such as security keys, biometrics, or PINs.

FMIs (Financial Market Infrastructures): Systems that facilitate the clearing, settlement, and recording of monetary and other financial transactions (e.g., payments, securities, derivatives).

Fraud Fusion & Intelligence Centre (N-FFIC): A centralized hub for real-time sharing and analysis of fraud data across banks, telcos, and payment providers to rapidly detect and prevent fraudulent activities.

Interoperability: The ability of different payment systems and technologies to work together seamlessly, enabling transactions across diverse platforms and providers.

KYC (Know Your Customer): Processes used by financial institutions to verify the identity of their clients and assess potential risks of illegal intentions for the business relationship.

Mean Time To Acknowledge (MTTA): The average time taken to acknowledge a reported incident, such as a cyber threat or fraud alert, within an organization or sector.

Mean Time To Detect (MTTD): The average time it takes to detect a cyber incident or security breach after it occurs.

Mean Time To Remediate (MTTR): The average time required to resolve or remediate a security incident or system disruption after detection.

Mobile Money: Financial services and transactions conducted via mobile devices, often targeting populations without traditional banking access.

NIBSS (Nigeria Inter-Bank Settlement System): The central infrastructure for settlement and clearing of financial transactions among Nigerian banks and payment service providers. Offline-First Micro-Payment Mesh: A payment network design that allows transactions to be initiated and processed without real-time internet connectivity, using technologies like USSD, NFC, and QR codes.

P-SOC (Payment Security Operations Centre): A centralized security operations hub dedicated to monitoring, detecting, and responding to payment-related cyber threats and fraud within the national payment ecosystem.

PFMI (Principles for Financial Market Infrastructures): International standards issued by CPMI-IOSCO to promote the safety and efficiency of payment, clearing, settlement, and recording systems.

Programmable Payment Flows (Smart Contracts): Automated payment instructions executed based on predefined conditions using blockchain technology, enabling trustless and transparent transactions.

PSP (Payment Service Provider): Entities that facilitate electronic payment services, including banks, Fintech firms, mobile money operators, and others.

QR/NQR (Quick Response/Nigeria Quick Response): QR codes used for quick, secure, and contactless payments, with NQR being Nigeria's standardized QR payment platform.

RegTech (Regulatory Technology): Technology solutions that help financial institutions comply with regulations efficiently and effectively, often through automation and real-time reporting.

Risk-Based Cybersecurity Framework: An approach to cybersecurity that prioritizes resources and controls based on the assessment of risks to the organization or sector.

SIM Swap: A type of fraud where an attacker tricks a mobile provider into switching a victim's phone number to a new SIM card, gaining access to authentication codes and sensitive information.

Stablecoin: A digital currency pegged to a stable asset (such as a fiat currency) to minimize volatility, used for payments and settlements, especially in cross-border transactions.

SupTech (Supervisory Technology): Technology tools used by regulators to enhance oversight, compliance monitoring, and risk assessment of financial institutions.

Tier 1/Tier 2 Systems: Critical payment infrastructure (Tier 1) and secondary systems (Tier 2) essential for the national financial ecosystem's functioning.

TLP (Traffic Light Protocol): A system for classifying and sharing sensitive information, especially in cybersecurity, to control how widely information is distributed.

USSD (Unstructured Supplementary Service Data): A communication protocol used by mobile phones to interact with a service provider's computers, widely used for mobile banking and payments without internet access.

VASPs (Virtual Asset Service Providers): Entities that facilitate transactions involving digital assets like cryptocurrencies, subject to regulation for anti-money laundering and consumer protection.

Vein Authentication: Biometric verification technology using unique patterns of veins in a person's finger or palm for secure identity validation.

APPENDIX II: Chart of Expected Outcomes and National Impact Targets vs. Guiding Principles

Thematic Area (Pillar)	Expected Outcomes and National Impact Targets	Guiding Principles (Interoperability, Security, Inclusion, Innovation, Trust, Collaboration)
Thematic Area 1: Infrastructure and Interoperability: **Objectives:** The Payment System Vision 2028 aims to transform Nigeria's national payment infrastructure into a world-class platform that is universal, secure, interoperable, and efficient.	• Universal Access: Ensure at least 85% of Nigerians, especially in underserved areas, have access to formal financial services by 2028. • Data-Driven Decision Making: Establish robust industry-wide data management and analytics capabilities for planning, compliance, and innovation. • Interoperability: Achieve full compatibility among all licensed payment service providers. • Infrastructure: Upgrade payment systems for 99.999% uptime, faster transactions (≤30s for customers, ≤10s for switch-to-issuer), and real-time settlement. • Efficiency: Maintain a 95% transaction success rate and keep chargeback ratio at or below 1%. • Cost Reduction: Lower digital payment costs through shared services and group negotiation. • Cybersecurity: Improve industry cybersecurity annually per CISA metrics and regular audits. • Satisfaction: Increase satisfaction levels among all users and providers based on surveys. • Cross-Border Payments: Support trade, remittances, and regulated digital assets through efficient card and A2A cross-border payments.	• **Interoperability:** Enable smooth transactions across payment systems using open standards, APIs, and aligned regulations. • **Security:** Protect payment systems with strong cybersecurity, real-time checks, and adherence to global best practices. • **Inclusion:** Expand digital payment access for all demographics by investing in infrastructure, financial education, and solutions like offline wallets and micropayments. • **Innovation:** Use new technologies such as AI, blockchain, and cloud computing to improve efficiency and develop new services. • **Trust:** Strengthen public confidence through transparency, reliability, dispute resolution, and secure identity management. • **Collaboration:** Foster cooperation among stakeholders to meet common goals and manage risks through joint actions and engagement.
Thematic Pillar 2: Digital Financial Inclusion, Consumer Protection, and Financial Literacy	• Achieve 95% formal financial inclusion for all adults by expanding digital access, agent networks, and inclusive KYC.	• **Interoperability:** Enable seamless transactions between banks, Fintechs, wallets, and payment channels with open APIs, ISO

Objectives: The Payment Systems Vision 2028 (PSV2028) Pillar 2 aims to transform Nigeria's digital payment landscape into one that is inclusive, equitable, secure, and trusted. The guiding principles will underpin every aspect of the roadmap, shaping policies, product development, stakeholder engagement, and monitoring. They ensure that Nigeria's digital payments ecosystem is not only technologically advanced but also human-centered, secure, and sustainable for all.	• Transparent and Accountable Ecosystem: Performance will be publicly tracked through open data scorecards and the National Payments Trust Index, empowering stakeholders and fostering accountability. • Eliminate the gender gap in financial access with a 1:1 female-to-male ratio via targeted programs and products. • Digitize at least 60% of MSMEs through QR/NQR adoption, merchant incentives, and easy onboarding. • Resolve ≥90% of consumer complaints promptly through a unified portal and ombudsman, boosting confidence to ≥80%. • Raise national financial and digital literacy rates to ≥60% using integrated curricula, media campaigns, and outreach. • Cut annual fraud losses by at least 60% (≤₦21 billion) via anti-fraud efforts and better dispute resolution. • Keep transaction failure rates at agent points below 5% with improved liquidity, quality standards, and settlements. • Ensure all licensed FSPs achieve full NDPC data compliance, zero major breaches, and stronger data trust. • Make all digital platforms and agents fully accessible to people with disabilities using assistive tech and inclusive protocols.	20022 standards, and streamlined onboarding. • **Security:** Strengthen cybersecurity and privacy using continuous monitoring and swift incident response. Protect users with liability caps, insurance, and anti-fraud measures. • **Inclusion:** Make digital financial services accessible for all groups by tailoring products and outreach to local languages, cultures, and needs. • **Innovation:** Encourage development of new solutions through analytics, digital nudges, real-time feedback, and support for offline and adaptive technologies. • **Trust:** Maintain public confidence with transparent dispute mechanisms, performance metrics, and consumer protection enforcement via unified portals and public scorecards. • **Collaboration:** Facilitate cooperation among regulators, industry, communities, and partners with shared governance, infrastructure, and coordinated initiatives.
Thematic Area 3: Innovation, Digital Assets, and Emerging Technologies **Objectives:** The PSV2028 Pillar 3 aims to Harness emerging technologies such as the CBDC, blockchain, AI, ReaTech. and digital identity systems to drive	• 95% of financially active adults will have verified digital IDs (NIN–BVN) to access secure digital financial services nationwide. • Operational Excellence and Public Trust: Service reliability targets (≥99.5% availability),	• One uniquely and nationally acceptable foundation digital Identity for different functional IDs for use cases. Interoperability: Systems and platforms should interact seamlessly, allowing users to transact and

inclusive innovation, strengthen regulatory efficiency, and position Nigeria as a **global standard-setter in digital finance** by 2030. Nigeria's strategic imperative is to evolve from regulatory experimentation to systemwide integration. By 2030, Nigeria's payment ecosystem will be transformed into a globally competitive, inclusive, and secure digital financial landscape, underpinned by innovative technologies, robust regulatory frameworks, and seamless interoperability.	real-time regulatory reporting, and transparent public scorecards will drive accountability, resilience, and user confidence in the payment ecosystem. • All regulated financial service providers will connect via Open Banking APIs and interoperable digital ID for seamless transactions across payment methods. • Nigeria will lead in RegTech, SupTech, and AI compliance, exporting its digital payment frameworks and solutions internationally. • Biometric and token-based multi-factor authentication, plus AI-driven fraud monitoring, will cut identity-related payment fraud by at least 50%. • Biometric and invisible payment options will make secure, effortless transactions accessible to everyone, including the underbanked and those with limited connectivity. • All G2P payments and subsidies will be digitally distributed through secure, programmable channels for greater transparency and reach. • 90% of retail points will support multiple payment rails, with three or more new value rails piloted by 2028. • Micropayment merchant fees capped at ≤0.5%, with 70% of transactions in select areas processed offline to improve accessibility. • All digital ID and payment systems will follow privacy-by-design principles, guaranteeing user consent and data rights.	authenticate across providers using standardized APIs, unified identity protocols, and shared infrastructure. • Security: Enforce strong end-to-end security with multi-factor authentication, encryption, AI fraud detection, regular audits, and incident response procedures for all participants. • Inclusion: Solutions must serve underserved groups, supporting accessibility features like offline transactions, agent assistance, and alternative authentication to ensure everyone can participate. • Innovation: Encourage ongoing improvement with technologies like AI, blockchain, digital identity, and regulatory sandboxes to support safe, scalable development. • Trust: Build trust through transparency, privacy measures, clear consent, timely notifications, dispute resolution, and consistent regulatory oversight. • Collaboration: Coordinate efforts among regulators, financial institutions, Fintechs, telcos, merchants, and user groups by establishing joint governance, shared standards, and open communication.
THEMATIC AREA 4: CROSS-BORDER PAYMENTS & CBDC INTEGRATION: **Objectives:** The integration of cross-border payments and	• Cut cross-border remittance costs to ≤5% (from 8.37%) for Nigerians and ECOWAS. • Increased Innovation and Market Competitiveness:	• Interoperability: Payment systems and digital assets should connect and settle transactions seamlessly across all networks through

Central Bank Digital Currency (CBDC) systems within Nigeria's financial ecosystem is poised to deliver transformative outcomes at both national and regional levels. By adhering to the guiding principles and pursuing measurable national impact targets, Nigeria will enhance its position as a regional leader in digital payments, drive down transaction costs, promote financial inclusion, and unlock new opportunities for trade and economic growth across Africa.	Foster a vibrant environment for Fintech innovation, with at least $10B in Fintech FDI targeted and Nigeria recognized as a pilot node for regional and cross-border payment solutions. • Raise formal, digital remittances to 75% by 2027, capturing $5–7B more annually. • Make Nigeria the digital settlement hub for ECOWAS/AfCFTA, with 50% of intra-African trade payments digital and $500M diaspora trade by 2028. • Reach ≥70% payment corridor interoperability, 95% system uptime, and full API/ISO 20022 compliance by 2026. • Connect domestic and regional/global systems (PAPSS, SWIFT, AfCFTA platform, major CBDCs, stablecoins) by 2028. • Reduce cross-border settlement times to same day with harmonized RTGS and liquidity pools. • Diversify FX liquidity through tokenized instruments, stablecoins, and wider PSP participation. • Expand digital payment use to 95% of adults, especially in rural and underserved areas. • Align ECOWAS/AU licensing, KYC/AML, and supervisory standards for unified regional payments.	open standards, unified protocols, and collaboration. • Security: Adhere to top cybersecurity standards (ISO 27001, NIST) and monitor for threats to ensure data and operational integrity. • Inclusion: Ensure accessible digital finance for underserved, rural, and diaspora groups by supporting digital literacy, affordability, and participation. • Innovation: Regulations will support pilots and new technologies (CBDCs, stablecoins, tokenization) via sandboxes, partnerships, and flexible compliance. • Trust: Build ecosystem trust with strong consumer protections, real-time audits, regulatory oversight, and transparent reporting. • Collaboration: Integration relies on coordination among CBN, regulators, banks, Fintechs, regional bodies, and the diaspora through joint groups and ongoing dialogue.
Thematic Area 5: Regulatory, Risk Management and Cybersecurity **Objectives:** Strengthen regulatory oversight, risk resilience, and cyber protection for a secure digital economy.	• Reduce fraud losses by at least 70% across digital payment channels, potentially eliminating fraud entirely in inactive or fake accounts, through enhanced verification and real-time intelligence sharing. • Achieve full compliance with global standards (CPMI-IOSCO PFMI, ISO 20022, ISO	• Interoperability: Enable seamless transactions across all payment platforms and technologies with universal acceptance. • Security: Ensure strong cybersecurity, fraud prevention, real-time monitoring, and compliance with global standards. • Inclusion: Expand financial access for all Nigerians using

	27001, FIDO2) for governance, risk, and operations. • Aim for zero major disruptions in Tier 1 payment systems by strengthening business continuity and incident response plans. • Ensure 80% of PSPs adopt advanced authentication methods like biometrics and liveness detection to bolster security. • Establish at least three ECOWAS cross-border AML agreements by 2026 to improve regional anti-money laundering collaboration. • Ensure 90% retail acceptance of multi-rail payments and onboard 60% of informal merchants, supporting inclusion and interoperability. • Cut onboarding time by 90% and add 20–25 million users via unified digital IDs and authentication wallets. • Detect critical fraud incidents within one hour and resolve them within 24 hours using centralized security centers. • Cap micropayment merchant fees at ≤0.5%, expand offline transaction processing to at least 70%, and reform micro-transaction fees. • Pilot new payment rails, enable programmable aid with CBDC/stablecoins, and integrate open banking with telecoms and utilities to boost access and value.	offline micro-payments and mobile money solutions. • Innovation: Drive ongoing development of new products and services through regulatory sandboxes and collaboration. • Trust: Enhance consumer protection, transparent dispute resolution, and integrated digital identity systems. • Collaboration: Strengthen coordination between agencies and stakeholders through unified governance and shared intelligence.

Appendix III: Approaches to Deepening Foreign Exchange Liquidity for Cross-Border Payments

Persistent FX scarcity continues to constrain Nigeria's participation in international trade and the competitiveness of cross-border payment systems. The current FX liquidity framework concentrated within a limited pool of authorized dealers has proven inadequate to meet the transactional demands of trade, medical payments, education remittances and supply chain obligations.

To improve resilience, transparency, and efficiency, Nigeria must diversify its FX liquidity architecture while maintaining robust prudential safeguards and regulatory oversight.

a) Fiat-Collateralized Stablecoins: The Bank is assessing the formal recognition of tokenized instruments, such as fiat-collateralized stablecoins as a distinct category of digital monetary instruments. When fully backed by fiat reserves, such tokens function as on-chain representations of sovereign currency and must therefore be subject to monetary oversight distinct from e-money or crypto-assets.

   As part of this assessment, the Bank is evaluating the potential development of a bespoke regulatory framework for fiat-collateralized stablecoins, taking into account emerging technologies in jurisdictions such as Hong Kong, the European Union (MiCA), Japan, and the United States. The potential scope of such a framework, may include:

   - The establishment of a license regime for fiat-collateralized stablecoin issuers.
   - Prudential, operational, technological and disclosure standards including smart contract-related requirements.
   - Parameters relating to interoperability, redemption processes, and supervisory access requirements.

   In this context, the Bank is also reviewing approaches for the oversight of entities that may seek to issue fiat-collateralized stablecoins intended for use within the Nigerian financial system.

b) Custody Reserve Requirements and Attestations: As part of this evaluation, the Bank is reviewing approaches to reserve management and transparency for fiat-collateralized stable coins, including the expectation that such instruments be fully backed 1:1 by reserves denominated in the corresponding fiat currency. Areas under consideration include:

   i) 100% of reserves for stable coins denominated in NGN should be domiciled in cash, T-Bills or other cash equivalent instruments with approved custodians (licensed commercial banks).
   ii) Daily reconciliation and attestation of outstanding tokens against reserve holdings.
   iii) Monthly publication of audited reserve reports by independent third parties.
   iv) Localization of Reserve Holdings for FCY-collateralized stablecoins:
      1. To safeguard consumer confidence and ensure systemic visibility
      2. A minimum percentage of total fiat reserves backing approved stablecoins denominated in foreign currencies (e.g. USD) should be held domestically in approved custodians (licensed commercial banks).
      3. The remainder may be held in approved foreign custodians/jurisdictions, including short-term sovereign instruments (e.g. US treasuries) to enhance stability and liquidity.

c) Regulatory Visibility via Smart Contracts: The Bank is evaluating technology-driven mechanisms for direct, real-time, regulatory visibility in the supervision of fiat-collateralized stablecoins, including the potential use of smart-contract-based infrastructure. Such mechanisms would enable the monitoring of issuance, redemption, and reserve positions without relying solely on periodic self-reporting. As part of this evaluation, the Bank is assessing a RegTech Node architecture, which the Bank could operate as a read-only observer node connected to the blockchain (s)

on which approved stablecoins are issued or represented.

Each licensed stablecoin issuer would implement:

i) Smart-contract transparency hooks, emitting verifiable on-chain events for every mint, burn, or redemption activity.
ii) Regulator access addresses within contract code to provide non-intrusive, read-only data access.
iii) Reserve-oracle integrations, posting cryptographically signed proofs of reserve from approved custodians to the blockchain for reconciliation against token supply.

iv) Source-code disclosure and whitelisting, ensuring CBN-approved contract versions cannot be upgraded or modified without re-certification.

Where multiple public blockchains are utilized for issuance, the Bank's observer node may connect through a regulated intermediary network, aggregating mint/burn data from external chains, wrapping approved stablecoins into compliant representations, and exposing a single, permissioned visibility layer to the Bank. This could be provided by approved payment technology infrastructure providers.

This architecture would give the CBN continuous, tamper-evident insight into stablecoin supply, reserve adequacy, and transaction flow; transforming compliance from periodic audits into real-time supervisory oversight consistent with international best practice in Hong Kong, the EU, and the BIS mBridge framework.

PSP Liquidity Sources

Beyond tokenized monetary instruments such as fiat-collateralized stablecoins, the domestic payment system itself can be leveraged as a supplementary source of foreign exchange (FX) liquidity. This can be achieved through targeted regulatory inclusion and transparent oversight mechanisms that integrate licensed non-bank participants into official FX channels.

Key Recommendations:

- Expand Authorized Dealer Eligibility in the Nigerian Foreign Exchange Market (NFEM): The Bank is assessing the broadening of access to the official FX window by including regulated Payment Service Providers (PSPs) as eligible participants. This would enable qualified PSPs to act as authorized liquidity providers for verified trade and remittance transactions, subject to prudential and compliance thresholds.
- Establish a Transparent Reporting Framework for PSP FX Activities: Introduce a standardized reporting and settlement protocol requiring PSPs to disclose inflows, outflows, and counterparties associated with legitimate cross-border payment flows. This framework should ensure traceability, AML/CFT compliance, and alignment with balance-of-payments reporting while giving the CBN enhanced visibility into aggregate FX liquidity supplied through digital channels.

Generating Liquidity from the Acceptance of International Cards and Alternative Payment Types in Nigeria

- Promoting the acceptance of foreign cards (like Visa, Mastercard, Amex, JCB, UnionPay, etc. and alternative payment types (like PayPal, Alipay, Google pay, Apple pay, etc.) as well as instant payment schemes (like PIX, UPI, etc.) across physical and online merchants in Nigeria will boost the formal inflow of foreign currency into the Nigerian economy while also stimulating business and leisure tourism and promoting the export of Nigerian goods and services. Cultural phenomena like Detty December and Calabar Carnival Festival can be leveraged. However, the major hindrances to the acceptance of international cards and alternative payment types in Nigeria must be addressed and overcome.
- Adopting an Interchange model for merchant payments: Merchant pricing must be changed from the current regulated MSC model to an interchange model. This will ensure that the current situation where the fees charged to merchants such as MSC cannot cover the interchange fees charged for international cards. The interchange model will allow acquirers to set the fees

for their merchants based on their risk profiles and the portfolio of local and international cards they accept while protecting license entities like switches, processors and PTSPs.

- Recertification of all terminals and payment gateways for international acceptance: All terminals and online merchants must be recertified to accept international cards and alternative payment types. This will ensure that when merchants ask for international acceptance, their POS terminals and payment gateways will be able to accept the cards and process them correctly to the respective international schemes in compliance with defined standards. This will ensure that visitors using their cards and payment types in Nigeria will have a good experience and their cards will be accepted wherever they want to spend them.
- Continual training in chargeback and risk management: Acquiring banks and their merchants must be trained and continually retrained in the chargeback processes and various risks for acceptance of international payment instruments and must ensure strict compliance with the rules of the various schemes to avoid incidents of fraud.
- Post-Grey List Restoration of International Issuer Authorization for Nigerian Transactions: International issuers and the schemes to which they are members must be engaged to remove Nigeria, Nigeria merchants and IP addresses from any blanket blocks or restrictions so that their customers can carry out genuine transactions in Nigeria and on Nigerian merchants. The fact that Nigeria has been removed from the FATF grey list would be communicated and promoted. The schemes would work with the Nigeria Fraud Forum (operated by the CBN) to set benchmarks and standards for acceptable chargeback to sales ratios and other metrics to ensure that both the schemes and the country are protected.
- Tokenization of payment cards which will improve security and reduce the risk of chargebacks

Harmonization of regulatory frameworks with ECOWAS and AU payment systems

This framework provides a roadmap for aligning Nigeria's domestic payments ecosystem with regional and continental initiatives under ECOWAS and the AU. It focuses on five core pillars: technology and infrastructure, settlement systems, common standards, competitive benchmarking, and dispute resolution.

The goal is to enable Nigeria's seamless participation in the Pan-African Payment and Settlement System (PAPSS), promote adoption under the African Continental Free Trade Area (AfCFTA), and position Nigeria as a leading regional payment hub while ensuring alignment with emerging innovations such as stablecoins and central bank digital currencies (CBDCs). Nigeria must also promote Pan African Payments Service providers of African origin, create resilience for PAN African Payments and avoid a single point of failure.

Technology and Infrastructure Scan

Current Position:

a) Nigeria is integrated with PAPSS through the Central Bank of Nigeria (CBN), licensed banks, and Fintech but coverage is still limited relative to total transaction volumes.

b) AfCFTA payment support is nascent, with Nigeria still negotiating trade facilitation protocols.

c) Nigeria is home to several domestic schemes with international aspirations that have over 100 million cards issued and accepted in more than 27 African countries.

d) Nigeria is also home to several Pan African Payment Service providers with a footprint in several African countries capable of providing rails for pan-African cross-border payments

e) The eNaira pilot positions Nigeria ahead of many African peers on CBDC deployment, though interoperability with other CBDCs and PAPSS remains limited.

f) Stablecoin ecosystem exists (mostly private sector-led, e.g., USDT/USDC for remittances) but lacks regulatory clarity for intra-African usage.

Alignment Actions

a) PAPSS Integration and Synergy: Expand commercial bank and Fintech onboarding; mandate transaction routing via PAPSS for regional corridors. Operational in Nigeria since 2022, PAPSS enables instant local-currency settlements across 15+ African countries, cutting costs by up to 50% and reducing processing times to under 120 seconds. The eNaira's integration with NIBSS Instant Payments (NIP) supports fiat–to–CBDC conversions, while the CBN's April 2025 guidelines[CBN (2025). Review of Documentation Requirements for PAPSS Transactions in Nigeria] now permit direct connections by banks and switches, boosting intra-African trade efficiency under the AfCFTA.

b) AfCFTA Context: Covering 54 African nations and a $3.4 trillion market, AfCFTA faces persistent payment frictions that constrain up to 30% of potential trade volume. Nigeria's leadership in AfCFTA's digital trade protocols (September 2025) provides a unique opportunity to embed interoperable CBDC frameworks, positioning the eNaira as a scalable settlement tool.

c) Promote Other Pan African Payment Service Providers and Card Schemes: Expand commercial bank and Fintech onboarding on domestic schemes. Enable capable Pan-African payment service providers to provide interconnectivity and interoperability across various countries. Enable interconnectivity between Nigeria's instant payment network, NIBSS, and other instant payment networks in Africa and across the world.

d) CBDC Interoperability: Develop bilateral pilots between eNaira and other CBDCs (South Africa's Project Khokha, Ghana's e-Cedi). This enables seamless cross-border payments using the eNaira by integrating with the Pan-African Payment Service Providers, AfCFTA protocols, and global CBDC linkages to reduce costs, enhance trade, and promote interoperability.

e) Global Opportunities: Bank of International Settlements (BIS)'s mBridge and SWIFT's CBDC Linker initiatives offer viable models for eNaira's international interoperability; targeting up to 40% reduction in remittance costs. With only three retail CBDCs operational globally, Nigeria enjoys a first-mover advantage in regional CBDC experimentation.

Policy Recommendations

a. Pan African Payment Service providers–eNaira Pilot Corridors: Launch trade-focused pilots with high-volume AfCFTA partners (e.g., Ghana, Kenya) to settle $2B+ in annual flows by 2027. Deploy ISO 20022-compliant APIs for real-time, transparent settlements.

b. AfCFTA Payment Protocols: Advocate for eNaira-based settlement standards under AfCFTA's Guided Trade Initiative, prioritizing agro-export sectors (e.g., sesame, cocoa, and textiles). Partner with Afreximbank and AfCFTA Secretariat to develop joint technical frameworks.

c. International Linkages: Join BIS Innovation Hub's Africa CBDC Group and pilot eNaira–SWIFT corridor integration (e.g., UK–Nigeria remittance corridor) by Q3 2026.

d. Regulatory Harmonization: Establish a Mutual Recognition Framework (MRF) for licensing and supervision of PSPs and IMTOs under ECOWAS, aligned with AU's Digital Transformation Strategy (DTS 2030).

e. Data Governance: Align with the AU Data Policy Framework (2022) to ensure lawful data exchange, privacy, and interoperability for cross-border payments.

f. FX Policy: Create convertibility corridors between regional currencies using

Payment Service providers and CBDC interoperability.

g. Standards: Mandate ISO 20022 compliance and open API adoption by 2026.

Standards Member Countries Must Adhere to:

a) ISO 20022 messaging standards for payments, remittances, and securities settlement.

b) API standardization across banks, Fintechs, and switches for interoperability (aligned with AU Digital Transformation Strategy).

c) AML/CFT harmonization: adopt FATF-aligned but regionally simplified due diligence thresholds to reduce frictions in low-value remittances.

d) Data protection & privacy: align with AU Convention on Cybersecurity and Personal Data Protection.

e) Cyber security resilience standards: NIST-aligned baseline for infrastructure operators (switches, PSPs, Fintechs)

DEVELOP A REGIONAL REMITTANCE COST REDUCTION FRAMEWORK (≤5%)

Sub-Saharan Africa (SSA) remains the world's most expensive remittance region, with an average cost of 8.37% in Q2 2024 (World Bank RPW). Nigeria's formal inflows reached $20.93 billion in 2024, representing 38% of SSA's total. More than half of transactions rely on cash payouts, inflating costs through agent commissions and settlement delays.

Cost Reduction Levers

Lever	Mechanism	Expected Cost Impact
Infrastructure Interoperability	Integrate Nigeria's Instant Payment network and other country's instant payment networks to remove intermediaries.	↓1.5–2%
Shared FX Liquidity Pools	Regional netting via PAPSS or CBDC corridors.	↓0.8–1%
African Currency Exchange Network	Pan Africa Banks using their network and liquidity pools to create a market for African Currencies in a regulated fiat and digital currency marketplace.	↓1.5–2%
Digital Disbursement Incentives	Lower fees for wallet/account credits; discourage cash payout.	↓0.7–1%
Regulated Fintech On-Ramp	Simplify PSP licensing under ECOWAS MRF.	↓0.5%
Stablecoin/Tokenized Rails	Enable fiat-backed stablecoin corridors under CBN.	↓0.5–1%
Unified Compliance Utility	Shared AML/KYC verification node.	↓0.3%
Connection to PAPSS and other African PSPs	IMTOs can reduce cost for terminating transactions	↓0.3%

Policy Instruments

a) FX Transparency Rule: Enforce real-time FX rate disclosure with ≤1% margin.
b) Infrastructure Fund: Support smaller PSPs with subsidized Payment system access.
c) Regulatory Harmonization: Adopt ECOWAS Mutual Recognition for IMTOs.

Indicator	2024 Baseline	2028 Target
Average cost (USD200)	8.37%	≤5%
Digital receipts	45%	≥70%
Settlement time	T+1–T+5	≤60s
Corridor interoperability	30%	≥70%

Expected Outcomes (by 2028)

a. Formal inflows +25–35% (+$5–7B annually)
b. Transaction cost ≤5%
c. Cash share <30%
d. Nigeria recognized as ECOWAS settlement hub.

Policy Recommendations.

Reducing remittance costs demands structural efficiency through shared infrastructure, transparent FX pricing, and digital-first incentives. With coordinated reforms and Payment systems integration, Nigeria can deliver affordable, interoperable cross-border remittances across ECOWAS

Expansion of Correspondent Linkages for Instant FX and Digital Trade Settlement.

Digitize and leverage Nigeria's $21B+ annual remittances and harness diaspora capital for AfCFTA-linked trade, targeting 80% formal remittance flows by 2028. Key insights include:

a) **Diaspora Potential:** Nigeria's 17M+ diaspora contributes 6% of GDP, yet 40% of remittances remain informal due to high fees (7–10%). eNaira's integration with NIP and zero-fee CCT programs have already raised formal flow capture to about 60%.

b) **Digital Trends:** Sub-Saharan Africa's $49B remittance market grows 10% annually. Nigeria's 150M+ banked adults with USSD access to eNaira wallets represent a massive digitization base.

c) Policy Support: CBN's 2024 diaspora incentive programs and NiDCOM's engagement portals offer infrastructure for scaling formal digital remittance networks.

d) **Refined Initiatives**

e) **Digital Remittance Incentives:** Collaborate with leading PSPs to provide eNaira wallets with 2% trade credit or utility bonuses for diaspora remitters, aiming for 80% digital remittance adoption by 2028.

f) D**iaspora Trade Networks:** Launch a NiDCOM-led "Diaspora Trade Ambassadors" initiative to link diaspora investors in the US/UK with Nigerian SMEs in AfCFTA export sectors (e.g., agro-processing, fashion, and creative industries).

g) **Formal Channel Expansion:** Scale agency banking in underserved rural areas and license diaspora-focused MTOs integrated with Pan African Payment System providers and E-naira for frictionless Naira–USD/GBP conversions.

Targets, KPI's & Metrics

1. 50% Intra-African Trade Payments Routed Digitally by 2028

Metrics

a. Adopt ISO 20022 as a standard for Cross-Border payments by 2026.

b. Intra-Africa Payments System Passport licensing by 2028.

c. African Digital KYC and Identity by 2028.

d. Set up the Africa Inter-Governmental Agency Committee for policy reviews.

e. Establish a CBN–NITDA–Afreximbank task force (Q1 2026) for interoperability and cybersecurity standards aligned with the NDPA.

2. Remittance Costs Reduced to ≤5%

Metrics.

a) Formal remittance share: 75% by 2027.

b) Interconnect Nigeria with African and other global Instant Payment Systems (IPS) by Q1 2027 to facilitate Cross-Border Account-to-Account (A2A) Payments.

c) Fintech wallet incentive rollout: Q3 2026.

d) Ambassador program launch: Q1 2027.

e) Quarterly CBN–NiDCOM reviews for impact assessment.

f) Regulated stablecoins and CBDC transactions by 2026.

g) 20% increase in cross-border transaction volume by 2027.

h) 95% system uptime and API interoperability by 2026.

i) To move from a merchant service charge model to an interchange model by 2026.

3. Nigeria Recognized as a Regional Settlement Hub Under AfCTA

Metrics.

a) $500M in diaspora-brokered trade by 2028.

b) Enable Pan-African Banks as settlement banks and African currency liquidity providers.

c) African Currency exchange live for fiat and digital currency by 2028.

d) Align trade settlement flows with Pan-African Payments Service Providers to reduce USD-dependency in intra-African trade invoicing.

4. Facilitate Integration and Interconnection to CBDCs and Stablecoins

Metrics.

a) Regulated stablecoin cross-border payments by 2026.

b) Connect eNaira to other CBDCs by 2026.

c) Promote other capable Pan-African Payment Service Providers (PSPs) by 2026

d) Join BIS Innovation Hubs Africa CBDC Group by 2026.

e) Develop ECOWAS/AU guidelines on licensing, reserve management, and KYC/AML obligations for cross-border stablecoin issuers.

f) Ensure that cryptocurrency transactions adhere to international best practices for AML and KYC standards.

Appendix IV: Integration with PAPSS, AfCFTA Digital Trade Platform, Major CBDCs and Stablecoins

The table below summarizes the key integration gaps, their implications, and proposed policy responses prioritized by impact and implementation urgency.

Category	Specific Gap	Description/ Implication	Impact Level	Proposed Policy Responses
Technical Gaps	Limited interoperability with PAPSS and AfCFTA systems	Domestic systems, such as NIBSS Instant Payments and the eNaira. are not yet fully integrated with regional platforms, which limits real-time cross-border settlement.	High	1. Accelerate PAPSS integration through NIBSS–PAPSS API linkage. 2. Establish a CBN–Afreximbank working group for full operational connectivity. 3. Promote other Pan African Payments and Settlement Providers to create resilience and avoid a single point of failure
	Inadequate digital infrastructure for real-time settlements	Insufficient connectivity, standardization, and messaging alignment impede scalable cross-border operations.	High	1. Invest in regional payment gateways and shared RTGS infrastructure 2. Adopt common API and ISO 20022 compliance frameworks across ECOWAS. 3. Advocate for the creation of a national digital addressing system to enable digital payments.
	Cybersecurity and data protection weaknesses	Inconsistent regional standards expose cross-border systems to operational and data risks.	Medium	1. Develop harmonized regional cybersecurity and data governance frameworks. 2. Establish joint threat intelligence and resilience protocols within ECOWAS.
Regulatory Gaps	Lack of harmonized policies with ECOWAS and AU	Nigeria's payment regulations remain nationally focused, creating misalignment with continental initiatives.	High	1. Align CBN regulations with ECOWAS Payments and Settlement Framework. 2. Participate in AU-led standard-setting for digital financial services. 3. Prioritize cross-Border Regulatory Harmonization for Digital Payment Systems in line with the AfCFTA digital trade protocols
	Unclear stance on stablecoins and CBDC cross-border usage	Lack of clarity on digital asset use hinders innovation and pilot corridor development.	Medium	1. Issue a joint CBN–SEC policy statement on cross-border digital currencies. 2. Pilot cross-border CBDC corridor with Ghana or South Africa.
	Weak dispute resolution mechanisms	Limited regional supervisory coordination slows resolution of cross-border payment disputes.	Medium	1. Establish an ECOWAS-wide dispute resolution and supervisory MoU among central banks.

				2. Create a centralized arbitration mechanism for cross-border financial transactions.
Operational Gaps	High remittance costs	Average remittance costs to Nigeria remain 7–8%, above the UN SDG target of 3%.	High	1. Expand participation in Pan African Payment service providers (e.g. PAPSS, etc) for remittance service providers. 2. Introduce cost transparency rules and competition incentives for cross-border transfers.
	Delays in intra-African trade settlements	Absence of regional RTGS systems results in slow, costly trade payments.	High	1. Implement time-bound settlement SLAs (T+0/T+1). 2. Establish regional liquidity pools for faster clearing and settlement.
	Limited participation of Nigerian banks and Fintechs in global/regional hubs	Low engagement in regional clearing systems restricts Nigeria's role in cross-border ecosystems.	Medium	1. Incentivize Nigerian banks and FIs to join PAPSS and AfCFTA platforms. 2. Incentivize Nigerian banks and FIs to use domestic schemes for cross border payments across Africa. 3. Facilitate regional partnerships and licensing reciprocity agreements.
Strategic Gaps	Nigeria not positioned as a regional settlement hub	Despite scale and infrastructure, Nigeria lacks a defined strategy for regional payment leadership.	High	1. Define a National Cross-Border Payment Strategy within PSV2025. 2. Promote Nigeria as the ECOWAS digital settlement hub through CBN–AfCFTA coordination.
	Low adoption of cross-border CBDC corridors	The eNaira remains domestically focused with no active corridor use cases.	Medium	1. Launch bilateral CBDC pilots (Nigeria–Ghana, Nigeria–South Africa). 2. Establish regional standards for CBDC interoperability through BIS/IMF frameworks.
	Limited use of diaspora remittance networks for digitization	Over $20 billion in annual remittances still flow through traditional channels.	High	1. Digitize diaspora remittance channels via licensed FI partnerships. 2. Integrate diaspora networks into Pan African Payment Service providers enabled corridors for liquidity and FX stability.

Appendix V: Nigeria's Five Model Journey Nigeria (with Global Anchors) and Applicable Use Cases

Use Cases	Experience	Why it Works	Nigeria's Journey
Transit "express tap"	Tap phone/watch/card at a gate; it opens immediately; a fare receipt lands in your app/email.	No unlock needed in Express mode for transit; identity and payment authorization stay on the device (Apple describes this for Apple Pay).	Started with busy corridors (e.g., BRT buses, Lekki Toll Gates etc.), extend to accept bank cards and major wallets; publish a receipt standard.[8]
Recurring bill "auto-debit" with user control	You set a mandate for electricity/data/tolls with limits (amount, frequency). You get a pre-debit alert 24–48 hours before charge; you can pause/modify/cancel in one click.	This is essentially an autopay and service continuation process. The *pause/modify/revoke* controls and pre-debit alerts; caps are common.	In Nigeria today, the strongest live patterns are subscriptions/direct debit (platforms.
Biometric Transactions at Bank ATMs	Customers authenticate at participating bank ATMs using biometrics to complete withdrawals and account services; ATMs validate against national and switching infrastructure (e.g., BVN-linked verification).	Expand as a supportive channel (not priority) via phased certification and incentives.	Biometric-enabled ATMs exist in selected branches; adoption has been limited to date due to upgrade costs and poor interoperability, hence the need for phased certification and targeted incentives.
Small-format "walk-out" retail	Scan to enter a mini store, pick items, walk out; a receipt arrives instantly.	Amazon's Just Walk Out combines sensors and computer vision; Amazon is expanding with third-party venues even as some large stores switch to smart carts due to shopper preferences and receipt visibility.	This has not been introduced in Nigeria. Conduct Pilot in controlled, closed-loop locations such as stadiums, campuses, airports; with immediate e-receipts and a "one-tap refund" option
Wearables & in-app "background approval"	Wear a watch/ring to tap for small payments; in apps, renewal happens in the background with a heads-up alert and easy undo.	Wallets and wearables rely on tokenized payment credentials and quick on-device checks; Chinese super-apps show auto debit flows once users authorize. (WeChat's recurring support varies by provider; Alipay documents its Auto Debit model.)	Nigeria already supports "invisible" payment patterns (e.g., direct debits for subscriptions/bills and tap-through transit pilots). Wearables and in-app renewals extend these patterns to contactless devices and app-managed mandates with clear controls. This advances the PSV 2028 goals of speed, choice of rails, and user control while maintaining privacy and consumer protection.

Design Pillars for Invisible Payments

a) Tap-and-go speed, not surprise: For transit and other "pass-through" gates, a card or device can be set to express mode, so you don't have to unlock each time; still with receipts and controls. (Apple's transit model is a proven blueprint.)

b) Always a receipt (fast): Every invisible payment should produce a clear, itemized receipt within minutes. (Retailers found delayed receipts erode trust.)

c) Recurring charges with guardrails: For subscriptions/utility debits, send advance "pre-debit" alerts, let people pause/modify/cancel, and set value/frequency limits the heart of India's UPI AutoPay success.

d) Clear privacy choices: Where a provider uses biometrics (e.g., palm scanning), publish simple deletion/opt-out rules and inactivity deletion. Amazon's palm service is a live example.

e) Small-format "walk-out" retail only: Checkout-free works best in stadiums, airports, campuses; large supermarkets often need hybrid approaches (e.g., smart carts).

f) Choice of wallets and rails: Support contactless cards and digital wallets (phones, watches) and keep options open so users aren't locked into one provider. (Transit systems like New York's One Metro New York (ONMY) already accept multiple wallets.)

Consumer Safeguards for Safe Biometric and Invisible Payments.

a) Receipts: Send within minutes; show merchant, amount, items/time, and a dispute button. (Amazon's retail shift underscores how real-time visibility boosts trust.)

b) Pre-debit alerts for recurring: Standardize 24-48 hours before charge (Industry wide operating practice for all Direct Debit service providers).

c) Easy stop/undo: One-tap pause/cancel for mandates; "charge pending" window for walk-out stores to correct errors.

d) Privacy basics, in writing: Short notices; links to delete or unenroll (Amazon's One's deletion & inactivity policy is a blueprint).

Mainstreaming Biometric Authentication and Supporting Invisible Payments.

a) POS/Agent device uplift:

   i) Deploy biometric-capable POS/micro-ATMs at agents, including contactless options (e.g., facial/IRIS where approved) with liveness/PAD, offline/low-bandwidth modes, agent training, firmware readiness, and field audits.

   ii) Maintain a neutral conformance profile and firmware registry; require receipt and dispute hooks.

b) On-device biometric payments (phones/watches)

   i) Standardize NFC/in-app approvals (fingerprint/Face ID) and receipts/dispute APIs; include velocity/amount caps and easy self-suspension.

   ii) Government device program: Procure and issue locally manufactured/assembled secure smartphones (with secure element and pre-loaded ID/wallet/consent apps) to underserved users (e.g., G2P beneficiaries, low-income cohorts, students). Provide assisted onboarding, USSD fallbacks, and a service/repair network.

c) Biometric ATMs

   i) Expand biometric authentication at ATMs in a targeted, supportive role for card-optional cash-out and account services in bank-controlled environments.

   ii) Prioritize high cash-out and G2P corridors; align with national identity interfaces; Incorporate lessons learned into Point of Sale (POS) standards.

d) Recurring-payments control pack (Leveraging on Open Banking Designs)

i) Standardize mandate APIs and templates for pre-debit alerts, one-tap pause/ modify/cancel, and itemized receipts.

ii) Leverage on existing direct debit/ subscription rails to ensure transparency and control.

e) Inclusion via biometric cards.

i) Target cohorts and use cases: For populations with limited smartphone access or intermittent connectivity (e.g., pensioners, smallholder farmers, students), deploy dual offline-capable biometric cards/devices to support G2P disbursements and routine cash-out, with assisted options at agent locations.

ii) Interoperability and coverage: Ensure seamless use across bank ATMs, agent POS/micro-ATMs, and merchant POS, with consistent authentication and receipt standards irrespective of channel.

iii) Program anchor: Leverage the NIMC-AfriGO partnership as an initial implementation pathway, expanding through open onboarding criteria and conformance checks to enable nationwide participation.

f) Operational enablers.

i) Industry wide certification exercises and firmware readiness for POS fleets; agent training on anti-spoofing and redress; monitoring for outlier locations and devices.

ii) Identity data quality & linkage program (BVN-NIN): Establish a joint workstream (NIMC, NIBSS, Banks/MMOs, major PSPs) to deliver:

1) Linkage coverage targets (e.g., ≥95% BVN-NIN linkage in pilot LGAs within 12 months).

2) Golden record rules and automated deduplication.

3) Data-quality dashboards (accuracy, completeness, timeliness) with monthly publication.

iii) Exception handling for disputed identities, including assisted resolution at agents.

iv) Reliability & synchronization workstream: Define and enforce:

1) SLOs for identity and switching interfaces (e.g., ≥99.5% monthly availability, RPO ≤ 15 minutes, RTO ≤ 60 minutes for priority services);

2) Bi-directional sync playbooks (NIN - BVN - telcos), with auto-retries and reconciliation windows.

3) Controlled offline verification at agents/POS/ TMs using signed, time-limited caches.

4) DR/chaos testing cadence and post-incident reviews with corrective-action tracking.

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